Cisco Unified Web and E-Mail Interaction Manager Administration Console User's Guide

For Unified Contact Center Enterprise and Hosted and Unified ICM

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Preface

- About this guide
- Document conventions
- Acronyms and initialisms
- Other learning resources

Welcome to Cisco® Interaction Manager™, multichannel interaction software used by businesses all over the world to build and sustain customer relationships. A unified suite of the industry's best applications for web and email interaction management, it is the backbone of many innovative contact center, customer service, and helpdesk organizations.

Cisco Interaction Manager includes a common platform and one or both of the following applications:

- Cisco Unified Web Interaction Manager (Unified WIM)
- Cisco Unified E-Mail Interaction Manager (Unified EIM)

About this guide

Cisco Unified Web and E-Mail Interaction Manager Administration Console User's Guide introduces you to the Administration Console and helps you understand how to use it to set up and manage various business resources.

Document conventions

This guide uses the following typographical conventions.

Convention	Indicates
Italic	Emphasis. Or the title of a published document.
Bold	Labels of items on the user interface, such as buttons, boxes, and lists. Or text that must be typed by the user.
`Monospace`	The name of a file or folder, a database table column or value, or a command.
Variable	User-specific text; varies from one user or installation to another.

Document conventions

Acronyms and initialisms

Acronyms and initialisms used in this document are listed here:

- ACD: Automatic Call Distributor
- ARM: Agent Reporting and Management
- CSA: Cisco Security Agent
- CTI: Computer Telephony Integration
- EAAS: External Agent Assignment Service
- ICM: Intelligent Contact Manager

- IPCC: Internet Protocol Contact Center
- IPTA: ICM-picks-the-agent
- JDBC: Java Database Connectivity
- MR: Media Routing
- MRD: Media Routing Domain
- ODBC: Open Database Connectivity
- PG: Peripheral Gateway
- PIM: Peripheral Interface Manager
- SNMP: Standard Network Management Protocol
- UI: User Interface

Other learning resources

Various learning tools are available within the product, as well as on the product CD and our web site. You can also request formal end-user or technical training.

Online help

The product includes topic-based as well as context-sensitive help.

Use	To view
Help button	Topics in *Cisco Unified Web and E-Mail Interaction Manager Help*; the Help button appears in the console toolbar on every screen.
F1 keypad button	Context-sensitive information about the item selected on the screen.

Online help options

Document set

The Cisco Unified Web and E-Mail Interaction Manager documentation is available in the `Documents` folder on the product CD. The latest versions of all Cisco documentation can be found online at http://www.cisco.com

- All Unified EIM documentation can be found online at http://www.cisco.com/en/US/products/ps7236/tsd_products_support_series_home.html
- All Unified WIM documentation can be found online at http://www.cisco.com/en/US/products/ps7233/tsd_products_support_series_home.html
- In particular, Release Notes for these products can be found at http://www.cisco.com/en/US/products/ps7236/prod_release_notes_list.html

- For general access to Cisco Voice and Unified Communications documentation, go to http://www.cisco.com/en/US/products/sw/voicesw/tsd_products_support_category_home.html

The document set contains the following guides:

- *Cisco Unified Web and E-Mail Interaction Manager System Requirements*
- *Cisco Unified Web and E-Mail Interaction Manager Installation Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Browser Settings Guide*

User guides for agents and supervisors

- *Cisco Unified Web and E-Mail Interaction Manager Agent Console User's Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Supervision Console User's Guide*

User guides for knowledge base managers and authors

- *Cisco Unified Web and E-Mail Interaction Manager Knowledge Base Console User's Guide*

User guides for administrators

- *Cisco Unified Web and E-Mail Interaction Manager Administration Console User's Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Reports Console User's Guide*
- *Cisco Unified Web and E-Mail Interaction Manager System Console User's Guide*
- *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide*

1 Console basics

- Important administration tasks
- Key terms and concepts
- Elements of the user interface

The Administration Console is the main management console in the system. It is designed to help managers set up various business entities such as users and resources such as calendars, workflows, and email aliases.

Important administration tasks

All business resources are set up and managed in the Administration Console. Some important tasks performed in this console include:

- Settings for system partition, business partition, and various departments
- User accounts
- Business calendars
- Queues, service levels, and workflows
- Email infrastructure (if Unified EIM is installed)
- Chat infrastructure (if Unified WIM is installed)
- Classifications
- Dictionaries
- Macros
- Archive jobs
- Products

The next section describes each of these concepts in detail.

Key terms and concepts

System and business areas

Broadly speaking, the installation has two areas:

- **System area:** Used by system administrators to set up and manage system resources such as host machines and services. It has two consoles:
  - Administration Console
  - System Console

  Very few users need access to this area, as it is used to perform only system administration tasks.
- **Business area:** The main part of the installation, used by business users to perform their tasks. It has all seven consoles:
  - Administration Console
  - Agent Console
  - Knowledge Base Console

- Reports Console
- Supervision Console
- System Console
- Tools Console

Partitions and departments

When Cisco Unified Web and E-Mail Interaction Manager is installed, a partition is created by the installation program, with one department in it. This department is called `Service` and can be renamed.

You can create additional departments to:

- Mirror your company's organization
- Create units with independent business processes

Customer information can be shared across all departments. Other resources such as agents and activities can also be shared between departments. Sharing of such resources is one-directional, which means that even if Department A shares its agents with Department B, Department B could decide not to share its agents with Department A.

Settings

Settings are selective properties of business objects and are used to configure the way system works. For example, security settings help you to configure the following properties of user password - the expiry time period for passwords, the characters allowed in passwords, etc. Settings are administered in groups. The available groups are:

- System settings group
- Partition settings group
- Department settings group
- User settings group

For more information, see "Settings" on page 31.

Users

A user is an individual—an administrator, manager, or agent—who has a distinct identification using which he logs in to Cisco Interaction Manager to perform specific functions. Users are assigned roles and permissions, which enable then to perform various tasks. To make it easier to administer a large number of users, users can be organized into named groups.

Users can be created at three levels:

- System level user: This user is typically the system administrator of the system who manages the system partition resources such as, services, loggers, handlers, etc.
- Partition level user: This user is typically the system administrator of the system who manages the business partition resources such as, services, departments, etc.

- Department level users: Department level users have many different types of functions in the system. For example, the administrator manages resources such as, chat infrastructure, email infrastructure, etc and the agents, handle customer interactions such as, chat, emails, phone calls, etc. Department level users are of three types — Standalone users, NIPTA integrated users, and IPTA integrated users.

Two users are created during the installation:

1. System Administrator: The first system user, created during installation, is a user called `System Administrator`. Assigned the System Administrator role, this user sets up system resources and creates one or more system-level users.
2. Partition Administrator: The first business user, created during installation, is a user called `Partition Administrator`. Assigned the Partition Administrator role, this user manages partition users and settings and creates more partition users as well as one or more department-level users to manage department resources.

For more information, see "Users" on page 103.

User roles

A role is set of permissible actions for various business resources. An agent's role, for instance, would include actions such as "View Agent Console," "Edit customer," and "Add notes." You can create user roles as per the needs of your organization, and assign these roles to your employees. To ease your task, the system comes with some default user roles. You can use these, and if required, create your own user roles. You can assign one or more roles to a group of users or an individual user.

For more information, see "Users" on page 103.

User groups

User groups are a collection of users that share similar functions or roles in the system. Groups make it much easier to manage user accounts. Like users, user groups can also be created in the system partition, business partition, and departments. A standard user group called **All Users in** *Department Name* is created in each department. Every new user in the department is automatically included in this group. Integrated users, who are managed through Unified CCE are not included in this group. In a department, you can create three types of user groups — Standalone user groups, NIPTA integrated user groups, and IPTA integrated user groups.

For more information, see "Users" on page 103.

Email infrastructure

The email infrastructure enables you to configure email addresses to which customers send messages to your company. It also helps you restricts the types of emails or attachments a user is allowed to receive or send.

The following objects can be configured for emails:

- **Aliases:** Aliases are email address that customers use to contact your company–typically something like support@yourcompany.com or sales@yourcompany.com. They function as entry and exit points for emails processed by the system. The Retriever Service monitors the specified aliases and retrieves emails from these aliases when they arrive in the email server. They are used by the inbound workflows to identify which emails to process through the workflows.

- **Blocked Addresses:** Administrators can block certain email addresses or domains. Any email from a blocked address or domain is treated as spam and directly deleted, stored in a separate file, or redirected to another address. This way you can filter out unwanted emails. This feature should supplement any spam or security software that may be running on your corporate email server. If spam is a major issue or concern, corporate email filtering software is recommended as a more permanent solution.
- **Blocked File Extensions:** This is a security feature, which allows you to selectively block certain types of attachments that may contain viruses. You can block attachments of such types from entering the system. (For example, .exe, .vbs, .js, etc.) Using settings for email attachments, the system can be configured to block all attachments, block incoming and outgoing attachments, and delete or quarantine blocked attachments.
- **Delivery Exceptions:** This feature allows you to handle bounced back emails. The system includes 144 common delivery exception scenarios. Other exceptions can be created as needed. You can set up different words and phrases for email subjects and email addresses of incoming email. Emails are treated as bounce backs, permanent or temporary, if any of these words or phrases are found in the subject or email address. A permanent bounceback indicates that an irreparable reason (such as invalid email address) caused the email to bounce back. A temporary bounceback indicates that a temporary reason (such as out of office reply, destination server down, etc.) caused the email to bounce back.

For more information, see "Email infrastructure" on page 170.

Chat and collaboration infrastructure

Chat and collaboration activities are created when customers click chat help links on your web site. The appearance of these links is configured with the help of templates. Each link is associated with an entry point and each entry point is in turn associated with a queue. A default entry point and template set is provided in each department.

The following objects should be configured for chat and collaboration activities:

- **Template sets:** The template sets consists of CSS (cascading style sheets) and JSP (JavaServer pages) files that control the look and feel of the chat pane that customers use to type in their messages. The templates are also used to determine what information is requested to identify the customer (e.g. name, email address, phone number). You can also compose messages that the customer will see under certain circumstances (e.g. if they request a chat session out of hours).
- **Entry points:** An entry point is the starting point for a customer to initiate a chat interaction. Every chat help link on a web site is mapped to an entry point. Each entry point in turn has a queue associated with it, so that any chat activity created, when the user asks for chat assistance, is routed to the queue.

For more information, see "Chat infrastructure" on page 176.

Data adapters

You may need to access data from external sources, and data links enable you to perform this function. They act like bridges between Cisco Unified Web and E-Mail Interaction Manager and external data sources. Data can be accessed through various mediums: phone, links, and data adapters.

The following objects should be configured for data adapters:

- **Data Access Links:** Enables you to create links to fetch data from external or internal sources.

- **Data Usage Links:** Allows you to define the format in which you want to display the data fetched by the data access links.

For more information, see "Data links" on page 298.

Workflows

Workflows allow you to implement business processes by defining and automating the progression of activities based on certain rules. A workflow lists the sequence of rules that are applied on an activity as it moves through the system. There are four types of workflows:

- Alarm workflows
- General workflows
- Inbound workflows
- Outbound workflows

For more information, see "Workflows" on page 196.

Queues

Queues hold incoming customer service activities such as emails and chat sessions that are waiting to be assigned to agents. A department can have any number of queues to map their business process. A single queue can hold multiple activity types like email, task, chat etc. Agent access to queues is controlled by permissions.

For more information, see "Workflows" on page 196.

Service levels

Some customers may be more valuable to your company than others. In order to provide good service, agents in your department need to know about the importance of every customer. For this, you can assign service levels to your customers and use them in your workflows. Service levels enable you to define the importance of a particular customer, thereby directing agents to respond immediately to customers with high importance.

For more information, see "Workflows" on page 196.

Calendars

You can create a business calendar for your organization. It allows you to set up working and non-working hours and days for employees in your department. To create your business calendar, it is essential that you first create shifts and day labels.

- **Shift labels:** According to the working hours of your company, you can organize various shifts for agents in your department. It also allows you to create shifts for holidays and extra working hours.
- **Day labels:** Day labels enable you to assign time slots to the shifts that you have created in the Shift label. You cannot create day labels, if you have not created shift labels first.

- **Calendars:** Use the day labels to form a calendar for the work days in a week. You can also specify exceptional days, such as holidays or an extra working day. Please note that you can have only one active calendar for each department.

For more information, see "Business calendars" on page 163.

Classifications

Classification is a systematic arrangement of resources comprising of categories and resolution codes. You can create and assign classifications to incoming activities or to knowledge base articles. Classifications are of two types:

- **Categories:** Categories are keywords or phrases that help you keep track of different types of activities.
- **Resolution codes:** Resolution codes are keywords or phrases that help you keep track of how different activities were fixed.

For more information, see "Classifications" on page 330.

Dictionaries

Dictionaries refer to a list of words stored in the system for reference. Agents use dictionaries to check spellings in outgoing emails. Each department comes with 12 predefined dictionaries and one of them is configured as the default dictionary. A department can have only one default dictionary and it can be changed according to the business requirements.

For more information, see "Dictionaries" on page 334.

Macros

Macros are shortcuts to perform oft-repeated tasks, such as, inserting customer names in emails, etc. Macros save the response time to customer queries. Instead of repeatedly typing the frequently used sentences or phrases, users can simply add the appropriate macro. When the mail reaches the customer, the macro expands into the whole text. Macros are of two types - business object macros and combination macros.

You can create business object macros for:

- Activity data
- Case data
- Chat session data
- Contact person data
- Contact point data
- Customer data
- Email address contact point data
- Phone address data
- Postal address data

- User data
- Website data

You can create combination macros with multiple definitions. That is, you can combine multiple macros within a single macro. Multiple macros can be selected from business objects macros to create a combination macro.

For more information, see "Macros" on page 337.

Products

Products allow you to efficiently manage, and organize the list of company's products. You can create a catalogue of all your products, and also attach files or web pages, and articles from the knowledge base, thereby, providing more information regarding those products. This is helpful for agents, as they can use it to associate products with customers. This adds to the details of a customer, thereby enabling the agent to know and serve the customer better.

For more information, see "Products" on page 341.

Archive jobs

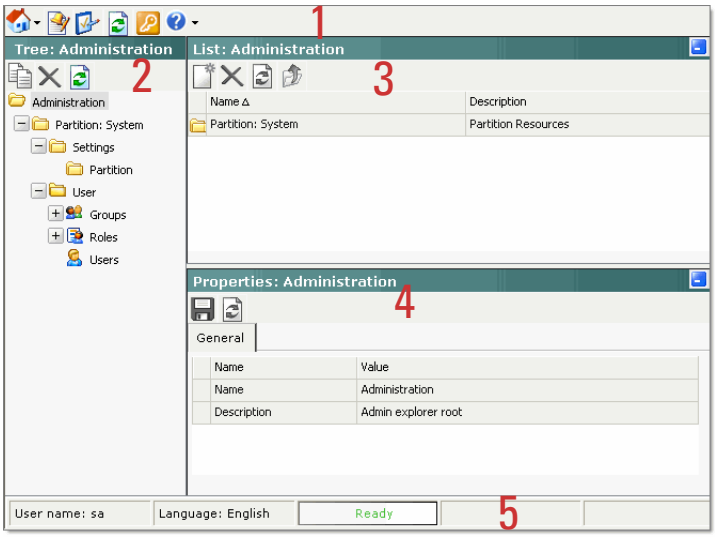
Old activities can be archived by setting up scheduled or on-demand archive jobs. For more information, see "Archive" on page 343.

Elements of the user interface

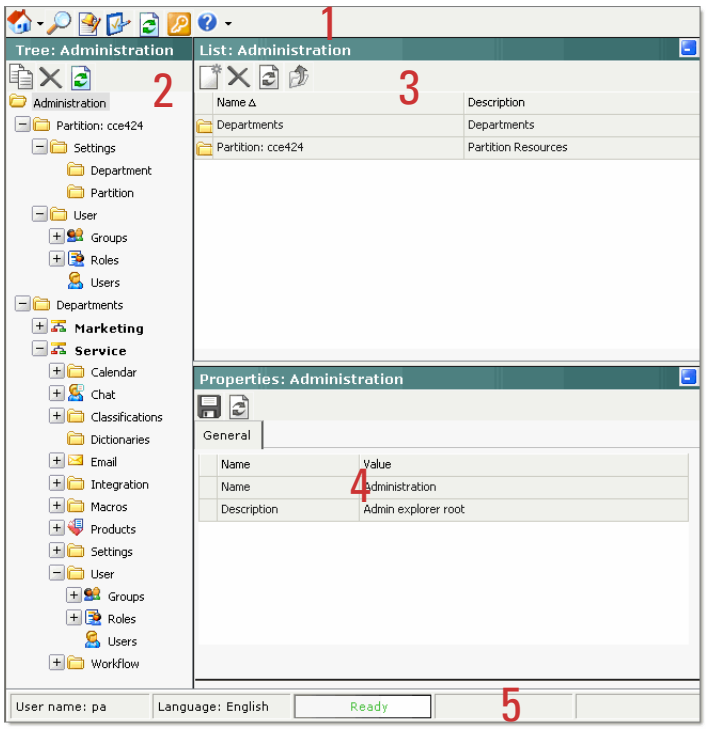
To get to know the console user interface better, let us begin by dividing it into five functional areas:

1. **Console toolbar:** The main toolbar of the console appears at the top of the screen. It allows you to access some frequent commands with a single click.
2. **Tree pane:** The Tree pane lists all the business objects in the application, allowing you to select the node (folder) that you wish to work in. When you select a folder, its first-level contents are displayed in the List pane. In the Tree pane, you can cut paste or copy paste folders, delete folders which you have created, manage bookmarks and print folder contents.

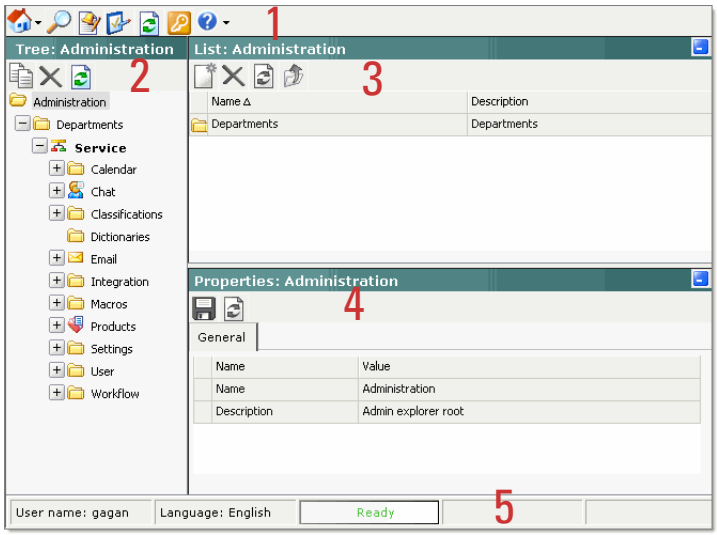
   To expand all first and second level nodes with a single click, shift + click the plus [+] button next to the topmost node. The contents of all first and second level nodes are displayed in the Tree pane.
3. **List pane:** The List pane displays first-level contents of the folder selected in the Tree pane. You can view the name, description, date of creation, etc., of the displayed items. In this pane, you can create items or select existing ones to modify or delete them.
4. **Properties pane:** The Properties pane displays the contents of the business object selected in the List pane. In this pane, you can edit the properties of the selected item.
5. **Status bar:** The status bar is present at the bottom of every screen. It displays the following information:
   - The user name with which the user has logged in the system.
   - The language currently in use.
   - The status of the system (**Loading, Ready,** etcetera).



Elements of the Administration Console available in the system partition



Elements of the Administration Console available in the business partition



Elements of the Administration Console available in a department

2 Settings

- About settings
- Configuring settings
- Creating user settings groups
- Unified CCE Integration settings
- User account settings
- User session settings
- Business calendar settings
- Customer information settings
- Services settings
- Incoming email settings
- Outgoing email settings
- Blocked attachments settings
- Workflow settings
- Activity assignment settings
- Monitor settings

- Activity handling settings
- Inbox settings
- Spelling and blocked words settings
- Search settings
- Knowledge Base settings
- Chat session settings
- Cobrowse settings
- Cache settings

This chapter helps you configure various aspects of the system with the help of settings.

About settings

Settings are selective properties of business objects and are used to configure the way system works. For example, security settings help you to configure the following properties of user password - the expiry time period for passwords, the characters allowed in passwords, etc.

Settings are administered in groups. The available groups are:

1. **System settings group:** This group is available to system administrators to control the system level resources. These settings cannot be reset at lower levels. This group includes dispatcher settings.
2. **Partition settings group:** This group is available to partition administrators to control the partition level resources. These settings cannot be reset at lower levels. This group includes:
    a. Activity settings
    b. Cache settings
    c. Common settings
    d. Dispatcher settings
    e. Retriever settings
    f. General settings
    g. Knowledge base settings
    h. Monitoring settings
    i. Workflow Engine settings
    j. Security settings
3. **Department settings group:** This group is available to administrators to control the department level resources. Department settings can be configured by partition administrators for all departments in the partition, by department administrators for individual departments, and by individual users as user preferences. This group includes:
    a. Activity settings
    b. Activity pushback settings
    c. Common settings
    d. Email blocked file extension settings
    e. General settings
    f. Knowledge base settings
    g. Monitoring settings
    h. Queue settings
    i. Security settings
    j. Spellchecker settings

k. User settings

4. **User settings group:** If administrators want settings within a department to have different values for different users, they can achieve it by configuring user settings groups. Only a subset of department settings is available as part of this group. A department comes with a default user settings group and all the users created in that department automatically become a part of the default group. Administrator can make these settings available to individual users as user preferences. Users can configure these settings according to their choice. This group includes:

   a. Activity settings

   b. Activity pushback settings

   c. General settings

   d. Monitoring settings

   e. Spellchecker settings

   f. User settings

Settings to configure after installation

In this section, we describe certain settings that should be configured soon after installation. These settings are of two types:

1. **Mandatory settings:** These settings must be configured before using the application.
2. **Optional settings:** Although it is not mandatory to change these settings, you are likely to feel the need to configure them for your business.

Mandatory settings

At the partition level

Make sure you configure the following settings:

- Application Instance
- MR Connection Port
- Default SMTP server
- Notifications mail SMTP Server
- Notifications mail redirection from address
- Notifications mail redirection to address

Configure the following partition-level settings only if you use ESMTP protocol for exception and spam emails and notifications.

- Exception mails SMTP user name
- Exception mails SMTP password
- SPAM mails SMTP user name

- SPAM mails SMTP password
- Notification mails SMTP user name
- Notification mails SMTP password

At the department level

Configure the following setting for each department.

- From email address for alarm

Optional settings

Although it is not mandatory to change these settings, you are likely to feel the need to configure them for your business.

At the partition level

- Customer departmentalization
- Deletion time out
- Exception email SMTP
- Exception mail redirection to address
- Exception mail redirection from address
- Expiry time for auto pushback
- Inactive time out
- SPAM mail SMTP Server
- SPAM mail redirection from address
- SPAM mail redirection to address

At the department level

- Business calendar time zone

Configuring settings

Configuring system partition settings

Login to the System partition (zero partition) of the application to access the system partition setting.

To configure a system partition setting:

1. Log in to the system partition and go to the Administration Console.

2. In the Tree pane, browse to **Administration > Partition: System > Settings > Partition**.
3. In the List pane, select the Partition settings group.

   The Properties pane refreshes to show the attributes of the group.
4. Next, in the Properties pane, go to the Attributes tab to configure values for settings. From the list, select a setting to modify. In the **Value** field provide a value for the setting.
5. Click the **Save** button.

Configuring business partition settings

Login to the Business partition of the application to access the business partition setting.

To configure a business partition setting:

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration >** *Partition_Name* **> Settings > Partition**.
3. In the List pane, select the partition settings group.

   The Properties pane refreshes to show the attributes of the group.
4. Next, in the Properties pane, go to the Attributes tab to configure values for settings. From the list, select a setting to modify. In the **Value** field provide a value for the setting.
5. Click the **Save** button.

Configuring department settings

To configure a department setting:

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to the Settings node.
   - If you want to configure the settings for all departments, then browse to **Administration >** *Partition_Name* **> Settings > Department.**
   - If you want to configure the setting for an individual department, then browse to **Administration > Departments >** *Department_Name* **> Settings > Department.**
3. In the List pane, select the department settings group.

   The Properties pane refreshes to show the attributes of the group.
4. Next, in the Properties pane, go to the Attributes tab to configure values for settings. From the list select a setting to modify and do the following:

   a. In the **Value** field provide a value for the setting.

   b. If you are configuring the setting for all departments in the partition or for all users in the department (for settings that can be configured at the user setting group level), then in the **Can be reset at lower level** field select **No**. Once it is set to **No**, the value of the setting cannot be changed at lower level. By default it is set to **Yes**.

If a setting is made unavailable for lower levels, the value set at the higher level is applicable. When the setting is reset to be available at lower levels, the setting is made available only at the next level and the administrator has to decide if the setting should be made available to levels lower than that. The value of the setting configured at the higher level is carried over to lower levels.

5. Click the **Save** button.

Configuring user settings

To configure a user setting:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Settings > User.**
2. In the List pane, select a user settings group.

   The Properties pane refreshes to show the attributes of the group.
3. Next go to the Attributes tab to configure the values for the settings. From the list select a setting to modify and do the following:

   c. In the **Value** field, provide a value for the setting.

   d. In the **Can be reset at lower level** field select **No**. Once the value is set to **No**, the value of the setting cannot be changed at user level. By default it is set to **Yes**.
4. Click the **Save** button.

Creating user settings groups

Administrator can allow a handful of department setting to be configured at user level. These settings can be configured using the user settings group or the user preferences. In the user settings group the administrator can configure settings for a group of users within the same departments to have different values.

Note that the user setting group is not the same as user group. A user can belong to multiple user groups but can belong to only one user settings group.

To create a user settings group:

1. In the Tree pane browse to **Administration > Departments >** *Department_Name* **> Settings > User**.
2. In the List pane click the **New** button.

   The Properties pane refreshes to show the attributes of the group.
3. In the General tab provide the name and description.

   The name of the group cannot be changed once the setting is saved.
4. Click the **Save** button. The Attributes and Relationship tabs are enabled only after the settings group is saved.
5. Next go to the Attributes tab to configure the values for the settings. From the list select a setting to modify and do the following:

   a. In the **Value** field provide a value for the setting.

b. If you are configuring the setting for all users in the group, then in the **Can be reset at lower level** field select **No**. Once it is set to **No**, the value of the setting cannot be changed at user level. By default it is set to **No**. If it is set to Yes then the users in that group can change the value of the setting from User Preferences.

6. From the Relationships tab select users for the group, from the list of available users. Only the users who are not a part of any other user settings group are displayed.
7. Click the **Save** button.

Unified CCE Integration settings

Application Instance

Use this setting to define the application instance which Cisco Interaction Manager uses to connect to Unified CCE. If the integration wizard is not run, this value needs to be configured manually. The name of the Application Instance can be obtained from the list available in the List Explorer of ICM Configuration Manager on the Unified CCE AW (Admin Workstation). You should configure a unique application instance to be used for Cisco Interaction Manager.

- Type: Partition settings group
- Subtype: Communication
- Data type: String
- Default value: —
- Value options: —

MR Connection Port

Use this setting to configure the port number that the External Agent Assignment Service (EAAS) uses to connect to Media Routing Peripheral Interface Manager (MR PIM) of Unified CCE to send new tasks information to ICM. The value provided in this setting should match the value that is used while configuring MR PIM in Unified CCE. As a best practice we recommend that you use a port number greater than 200.

- Type: Partition settings group
- Subtype: Communication
- Data type: Integer
- Default value: —
- Value options: —

Media Blender Connection

This setting is not in use.

User account settings

This set of settings allow administrators to configure and enforce login and password policies for agents and other users.

Important: **User name and password settings apply only to standalone users. For integrated users, this information is managed in Unified CCE.**

Login name minimum length

Use this setting to define the minimum number of characters that a user name must have. This user name is used to log in to the application.

- Type: Department settings group
- Subtype: Security
- Data type: Integer
- Default value: 2
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Login password maximum length

Use this setting to define the maximum number of characters that a user password can have.

- Type: Department settings group
- Subtype: Security
- Data type: Integer
- Default value: 50
- Minimum value: 0
- Maximum value: 255
- Can be reset at lower level: No

Login password minimum length

Use this setting to define the minimum number of characters that a user password must have. If the value of the setting is zero, then the password can be blank. The value for this setting should not be more than the value configured in the “Login password maximum length” setting.

- Type: Department settings group
- Subtype: Security

- Data type: Integer
- Default value: 0
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Login password allowed characters

Use this setting to specify the characters that are allowed in user passwords. Provide the values in this setting without comma or space because they are considered as characters, along with other special characters.

- Type: Department settings group
- Subtype: Security
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 200
- Can be reset at lower level: No

Login password disallowed characters

Use this setting to specify the characters that are not allowed in user passwords. Provide the values in this setting without comma or space because they are considered as characters, along with other special characters.

- Type: Department settings group
- Subtype: Security
- Data type: String
- Default value: —
- Value options: —
- Can be reset at lower level: No

Login password must have characters

Use this setting to specify the characters that are required in the user passwords. Provide the values in this setting without comma or space because they are considered as characters, along with other special characters.

- Type: Department settings group
- Subtype: Security
- Data type: String
- Default value: —

- Minimum value: 0
- Maximum value: 20
- Can be reset at lower level: No

Login password case sensitive

Use this setting to decide if you want the user password to be case sensitive.

- Type: Department settings group
- Subtype: Security
- Data type: Enumeration
- Default value: Yes
- Value options: Yes, No
- Can be reset at lower level: No

Password life time

Use this setting to determine the expiry time for user passwords. The expiry time is calculated from the time the password was created for the first time or from the time the password was last changed. Use the “Password lifetime unit” setting to define the time unit in seconds, minutes, hours, months, or years, for the value of this setting.

- Type: Department settings group
- Subtype: Security
- Data type: Integer
- Default value: 0
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Password life time unit

Use this setting to define the unit to be used to calculate the time after which the password expires. The actual value of time is defined in the “Password lifetime” setting.

- Type: Department settings group
- Subtype: Security
- Data type: Enumeration
- Default value: Second
- Value options: Second, Minute, Hour, Day, Month, Year

- Can be reset at lower level: No

Unsuccessful attempts time frame

Use this setting to decide the time frame within which, if a user makes the defined number of unsuccessful log in attempts, his account is disabled. The maximum number of allowed unsuccessful attempts are defined in the "Maximum number of unsuccessful timed attempts" setting.

- Type: Department setting group
- Subtype: Security
- Data type: Integer
- Default value: 0
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Unsuccessful attempts time unit

Use this setting to choose the unit of time to define the time frame in the "Unsuccessful attempts time frame" setting.

- Type: Department setting group
- Subtype: Security
- Data type: Enumeration
- Default value: Second
- Value options: Second, Minute, Hour, Day, Month, Year
- Can be reset at lower level: No

Maximum number of unsuccessful timed attempts

Use this setting to decide the number of login attempts a user is allowed in the defined time duration before his account is disabled. The time frame is defined in the "Unsuccessful attempts time frame" setting.

- Type: Department setting group
- Subtype: Security
- Data type: Integer
- Default value: 0
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: No

Maximum number of unsuccessful attempts

Use this setting to define the maximum number of unsuccessful attempts a user can make before the user account is disabled. If the value of this setting is zero, then no check is done to see the number of times the user has made unsuccessful log in attempts.

- Type: Department setting group
- Subtype: Security
- Data type: Integer
- Default value: 0
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: No

Maximum inactivity time frame

Use this setting to decide the time after which a account is disabled, if it has not been accessed in the specified time. Use the “Maximum inactivity time unit” setting to define the time unit in seconds, minutes, hours, months, or years, for the value of this setting.

- Type: Department setting group
- Subtype: Security
- Data type: Integer
- Default value: 0
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Maximum inactivity time unit

Use this setting to define the unit to be used to calculate the time after which a user account is disabled, if it has not been accessed in the specified time. The actual value of time is defined in the “Maximum inactivity time frame” setting.

- Type: Department setting group
- Subtype: Security
- Data type: Enumeration
- Default value: Second
- Value options: Second, Minute, Hour, Day, Month, Year
- Can be reset at lower level: No

User session settings

Applet host

When a user opens the login screen, an applet is downloaded and this applet maintains a persistent connection with the primary application server. In this setting, provide the fully qualified server name of the web server of the primary application server from where this applet is downloaded.

- Type: Partition settings group
- Subtype: Security
- Data type: String
- Default value: IP address of the web server of the primary application server
- Value options: —

Applet download time out (seconds)

A few applets are used during user sessions. These applets are downloaded when the login screen is opened. Use this setting to define the maximum time for which the system waits for the applets to download. If the download is unsuccessful then the users are advised to close the browser and try to launch the application. It is recommended that you do not set this value for more than 2-3 minutes (120 - 180 seconds).

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 60
- Minimum value: —
- Maximum value: —

Inactive time out (seconds)

Use this setting to define the time after which a user session is made inactive if the user does not do any activity in the application. Users can activate the session by providing their password. The session is resumed from the point where it was left.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 1800
- Minimum: 1499
- Maximum: —

Deletion time out (seconds)

Use this setting to define the time for which a user session is kept in the memory of the server after the user session has become inactive. Once this time is elapsed, the system deletes the session from the memory. Users have to login in to the application by providing their user name and password and a new user session is created.

- Type: Partition settings group
- Subtype: Security
- Data type: Integer
- Default value: 3600
- Minimum: 2999
- Maximum: —

Business calendar settings

Business calendar time zone

Use this setting to select the time zone to be used for business calendars.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: (GMT-05:00)Eastern Standard Time (US and Canada)
- Value options:

  (GMT-12:00) Eniwetok, Kwajalein

  (GMT-11:00) Midway Island, Samoa

  (GMT-10:00) Hawaii

  (GMT-09:00) Alaska-Standard

  (GMT-08:00) Alaska-Daylight

  (GMT-08:00) Pacific Standard Time (US & Canada)

  (GMT-07:00) Pacific Daylight Time (US & Canada)

  (GMT-07:00) Arizona

  (GMT-07:00) Mountain Standard Time (US & Canada)

  (GMT-06:00) Mountain Daylight Time (US & Canada)

  (GMT-06:00) Central America

  (GMT-06:00) Central Standard Time (US & Canada)

  (GMT-05:00) Central Daylight Time (US & Canada)

(GMT-06:00) Mexico City-Standard

(GMT-05:00) Mexico City-Daylight

(GMT-06:00) Saskatchewan

(GMT-05:00) Bogota, Lima, Quito

(GMT-05:00) Eastern Standard Time (US & Canada)

(GMT-04:00) Eastern Daylight Time (US & Canada)

(GMT-05:00) Indiana (East)

(GMT-04:00) Atlantic Standard Time (Canada)

(GMT-03:00) Atlantic Daylight Time (Canada)

(GMT-04:00) Caracas, La Paz

(GMT-04:00) Santiago-Standard

(GMT-03:00) Santiago-Daylight

(GMT-03:30) Newfoundland-Standard

(GMT-02:30) Newfoundland-Daylight

(GMT-03:00) Brasilia-Standard

(GMT-02:00) Brasilia-Daylight

(GMT-03:00) Buenos Aires, Georgetown

(GMT-03:00) Greenland-Standard

(GMT-02:00) Greenland-Daylight

(GMT-02:00) Mid-Atlantic Standard Time

(GMT-01:00) Mid-Atlantic Daylight Time

(GMT-01:00) Azores-Standard

(GMT) Azores-Daylight

(GMT-01:00) Cape Verde Is.

(GMT) Monorovia, Casablanca

(GMT) Greenwich Mean Time; Dublin, Edinburgh, London-Standard

(GMT+01:00) Dublin, Edinburgh, London-Daylight

(GMT+02:00) Dublin, Edinburgh, London-Double Summer

(GMT+01:00) Berlin, Stockholm, Rome, Bern, Vienna, Amsterdam-Standard

(GMT+02:00) Berlin, Stockholm, Rome, Bern, Vienna, Amsterdam-Daylight

(GMT+01:00) Prague, Belgrade, Bratislava, Ljubljana, Budapest-Standard

(GMT+02:00) Prague, Belgrade, Bratislava, Ljubljana, Budapest-Daylight

(GMT+01:00) Paris, Madrid, Brussels, Copenhagen-Standard

(GMT+02:00) Paris, Madrid, Brussels, Copenhagen-Daylight

(GMT+01:00) Lisbon, Warsaw, Sarajevo, Sofija, Skopje, Vilnius, Zagreb-Standard

(GMT+02:00) Lisbon, Warsaw, Sarajevo, Sofija, Skopje, Vilnius, Zagreb-Daylight

(GMT+01:00) West Central Africa

(GMT+02:00) Athens, Istanbul, Minsk-Standard

(GMT+03:00) Athens, Istanbul, Minsk-Daylight

(GMT+02:00) Bucharest-Standard

(GMT+02:00) Bucharest-Daylight

(GMT+02:00) Cairo-Standard

(GMT+03:00) Cairo-Daylight

(GMT+02:00) Harare, Pretoria

(GMT+02:00) Helsinki, Riga, Tallinn-Standard

(GMT+03:00) Helsinki, Riga, Tallinn-Daylight

(GMT+02:00) Israel

(GMT+03:00) Baghdad-Standard

(GMT+04:00) Baghdad-Daylight

(GMT+03:00) Kuwait, Nairobi, Riyadh

(GMT+03:00) Moscow, St. Petersburg-Standard

(GMT+04:00) Moscow, St. Petersburg-Daylight

(GMT+03:30) Tehran-Standard

(GMT+04:30) Tehran-Daylight

(GMT+04:00) Abu Dhabi, Muscat

(GMT+04:00) Baku, Tbilisi, Yerevan-Standard

(GMT+05:00) Baku, Tbilisi, Yerevan-Daylight

(GMT+04:30) Kabul

(GMT+05:00) Ekaterinburg-Standard

(GMT+06:00) Ekaterinburg-Daylight

(GMT+05:00) Islamabad, Karachi, Tashkent

(GMT+05:30) Bombay, Calcutta, Madras, New Delhi, Colombo

(GMT+05:45) Kathmandu

(GMT+06:00) Almaty, Novosibirsk-Standard

(GMT+06:00) Almaty, Novosibirsk-Daylight

(GMT+06:00) Astana, Dhaka, Sri Jayawardenepura

(GMT+06:00) Rangoon

(GMT+07:00) Bangkok, Jakarta, Hanoi

(GMT+07:00) Krasnoyarsk

(GMT+08:00) Beijing, Hong Kong, Chongqing, Urumqi

(GMT+08:00) Irkutsk, Ulaan Bataar

(GMT+08:00) Kuala Lumpur, Perth, Singapore, Taipei

(GMT+09:00) Tokyo, Osaka, Sapporo, Seoul

(GMT+09:00) Yakutsk

(GMT+09:30) Adelaide-Standard

(GMT+10:30) Adelaide-Daylight

(GMT+09:30) Darwin

(GMT+10:00) Brisbane

(GMT+10:00) Canberra, Melbourne, Sydney-Standard

(GMT+11:00) Canberra, Melbourne, Sydney-Daylight

(GMT+10:00) Guam, Port Moresby

(GMT+10:00) Hobart-Standard

(GMT+11:00) Hobart-Daylight

(GMT+10:00) Vladivostok

(GMT+11:00) Magadan, Solomon Is., New Caledonia

(GMT+12:00) Wellington, Auckland-Standard

(GMT+13:00) Wellington, Auckland-Daylight

(GMT+12:00) Fiji, Kamchatka, Marshall Is.

(GMT+13:00) Tonga

- Can be reset at lower level: No

Customer information settings

Customer departmentalization

Use this setting to decide if customers should be shared across departments. Enable this setting if you do not want to share customer history and customer information across departments.

Important: **This setting can be changed only till the time there is only one department in the partition. As soon as the second department is created in the partition, the setting becomes disabled and can never be changed.**

- Type: Partition settings group

- Subtype: Security
- Data type: Enumeration
- Default value: No
- Value options: No, Yes

Services settings

Common settings for services

Process start timeout (seconds)

When services are started in the system, the DSM monitors them to make sure that all the required services start properly. Use this setting to specify the maximum time for which DSM waits for the services to start. If the services do not start in the specified time, an error is logged in the log files. If the service is started from the System Console, an error message is also displayed to the administrator.

- Type: Partition settings group
- Subtype: General
- Data type: Integer
- Default value: 300
- Minimum value: —
- Maximum value: —

Archive service settings

Archive service failover delay (minutes)

The Archive Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Scheduler service settings

Scheduler service failover delay (minutes)

The Scheduler Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Agent Assignment Service settings

Number of queue processors

A queue processor is a worker threads that assigns chats to agents. Use this setting to define the maximum number of queue processors to be created in the Agent Assignment Service. For example, if there are six queue processors and twelve chat queues in the system, each queue processor will assign activities from two queues.

Important: **After changing the value of this setting, the Agent Assignment Service should be restarted.**

- Type: Partition settings group
- Subtype: General
- Data type: Integer
- Default value: 6
- Minimum value: —
- Maximum value: —

Incoming email settings

Retriever service failover delay

The Retriever Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Number of emails to retrieve

Use this setting to define the maximum number of emails to be picked by the Retriever Service for processing.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 10
- Minimum value: 0
- Maximum value: —

Maximum email size for retriever (bytes)

Use this setting to define the maximum size of emails that the Retriever Service can retrieve from the Mail Server. This size includes the email body, header, and attachments.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 2097152
- Minimum value: 0
- Maximum value: —

Maximum body size for retriever (bytes)

Use this setting to define the maximum size of the email body that the Retriever Service can retrieve from the Mail Server. This size does not include the header and attachments. If the body size exceeds the size specified in this setting, the body is saved as a text file and is attached to the email. A note is added to the email body that the original email content is available as an attachment. This note can be changed from the "Message note for large body" setting.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 102400
- Minimum value: 0
- Maximum value: —

Message note for large body

Use this setting to change the message added to emails, which exceed the allowed maximum body size for incoming emails.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: Email body was too large. It is saved as an attachment
- Minimum value: —
- Maximum value: 255

Invalid chars list

In this setting, list the characters (in the ASCII format) that are not allowed in the "From email address" of incoming emails. If an email address contains these characters, the Retriever Service replaces the email address with the text <Invalid Email Address>.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,34,40,41,44,58,59,60,62,64,91,92,93,127
- Minimum value: —
- Maximum value: —

Action for large email

Use this setting to decide what should be done with large emails coming in the system. An email is considered as large if it exceeds the size specified in the “Maximum email size for retrieval” setting.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Enumeration
- Default value: Skip and notify
- Value options:
  - Skip and Notify: Retriever skips the email and notifies the administrator about the same.
  - Delete and Notify: The email is deleted from the mail server and a notification is sent to the administrator.

Parse date in email header

When this setting is enabled, the Retriever Service gets the “Receive date” or “Send date” from the email header and stores the date in the email tables in the database. If the setting is disabled, the retriever stores the date when the activity for the email was created in the system.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Enumeration
- Default value: No
- Value options:
  - No: The Retriever Service stores the activity creation date in the email tables.
  - Yes: The Retriever Service stores the “Receive date” or “Send date” in the email table.

Buffer value for large email size (bytes)

Before downloading an email, the Retriever Service gets the size of the email from the mail server to make sure that emails bigger than the maximum allowed size are not retrieved. Due to technical limitations, the mail server does not report the exact size of the email to the Retriever. To account for this difference, you need to configure a buffer size to calculate the size of the email. An email is downloaded from the mail server only if the sum of the reported email size and the buffer value is less than the value specified in the “Maximum email size for retrieval” setting. The value in this setting should be 25% of what is configured in the “Maximum email size for retrieval” setting. For example, if the value in the “Maximum email size for retrieval” setting is 4 MB, the value in this setting should be 1 MB.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 1048576

- Minimum value: 0
- Maximum value: —

Spam emails settings

Spam emails are emails that are sent from the addresses (email address or domain address) that are blocked in a department. When the Retriever Services picks up emails from the Mail Server, it checks the "from address" and if the address matches a blocked email address or domain address, it is marked as a spam email and that emial is not retrieved. Use the settings described in this section to decide what you want to do with the spam emails.

Action on spam emails

Use this setting to decide what retriever should do with the spam emails coming in the system.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Enumeration
- Default value: Write to file
- Value options:
  - Delete: Emails are deleted.
  - Write to file: Emails are saved in the *Cisco_Home*`\eService\logs\RxSpamEmails.txt` file. The size of this file is defined in the "Spam mail maximum file size (megabyte)" setting.
  - Redirect: Emails are redirected to another email address configured in the "Spam mail redirection to address" settings.

Spam mail maximum file size (MB)

In this setting define the maximum size of the file in which the spam emails are saved. When the file reaches the maximum size, it is renamed and a new RxSpamEmails.txt file is created. An email is sent to the administrator to notify that a new file has been created. The value of this setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: Integer
- Default value: 2
- Minimum value: 1
- Maximum value: —

Spam mail redirection from address

Use this setting to specify the email address displayed in the "from" field of the redirected spam emails.

- Type: Partition settings group

- Subtype: Email retriever
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Spam mail redirection to address

Use this setting to specify the email address to which the redirected spam emails should be sent.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Spam mails auto BCC

Provide the email address to which the BCC copy of the spam email should be sent.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Integer
- Default value: —
- Minimum value: 0
- Maximum value: 255

Spam mail redirection SMTP preference

To be able to redirect spam emails to another email address, you need to configure the various properties of the mail server to be used to send the redirected emails. These properties are configured through a group of settings (called the SMTP preferences). In this setting, specify the set of SMTP preferences to be used for redirecting spam emails. If you do not specify a value in this setting, the “Default SMTP preferences” are used.

The SMTP preference set includes the following settings: Spam mails SMTP server, Spam mails SMTP protocol, Spam mails SMTP port, SMTP Flag, Spam mails SMTP user name, and Spam mails SMTP password.

You can choose to use the “Default SMTP preferences” to redirect the spam emails. If you want to do that, do not set any values in the settings that are part of the spam SMTP preferences and the system will automatically use the “Default SMTP preferences” to send out the redirected spam emails.

- Type: Partition settings group
- Subtype: Email retriever

- Data type: String
- Default value: Mail.SpamEmails
- Minimum value: 0
- Maximum value: 255

Spam mails SMTP server

In this setting provide the name of the outgoing server to be used to redirect the spam emails.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Value options: —

Spam mails SMTP protocol

In this setting select the protocol (SMTP or ESMTP). to be used for the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Enumeration
- Default value: SMTP
- Value options: SMTP, ESMTP

Spam mails SMTP port

In this setting provide the port of the outgoing server. The value of the setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Integer
- Default value: 25
- Value options: —

SMTP flag

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, this setting needs to be configured to decide if the SMTP protocol should be used if the authentication fails.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail

- Data type: Enumeration
- Default value: Never
- Value options:
  - Never: The switch to SMTP protocol (if ESMTP authentication fails) is not allowed.
  - If authentication fails: The switch to SMTP protocol (if ESMTP protocol fails) is allowed if the ESMTP authentication fails.

Spam mails SMTP user name

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the user name to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Spam mails SMTP password

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the password to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Encrypted
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception email settings

Exception emails are the emails which the Retriever Service fails to parse or store in the database.

Action on exception emails

Use this setting to decide what the Retriever Service should do with the emails it was unable to retrieve (such as, emails that could not be parsed, emails that could not be inserted in the database, etc.).

- Type: Partition settings group
- Subtype: Email retriever

- Data type: Enumeration
- Default value: Redirect and write to file
- Value options:
  - Delete: Emails are deleted.
  - Write to file: Emails are saved in the *Cisco_Home*`\eService\storage\1\mail\Exception Emails\RxExcepEmails.txt` file. The size of this file is defined in the "Exception mail maximum file size (megabyte)" setting.
  - Redirect and write to file: Emails are redirected to another email address configured in the "Exception mail redirection to address" settings and they are also saved in the *Cisco_Home*`\eService\storage\1\mail\Exception Emails\RxExcepEmails.txt` file. The size of this file is defined in the "Exception mail maximum file size (megabyte)" setting.

Exception mail maximum file size (MB)

In this setting define the maximum size of the *Cisco_Home*`\eService\storage\1\mail\Exception Emails\RxExcepEmails.txt` file in which the exception emails are saved. When the file reaches the maximum size, it is renamed and a new RxExcepEmails.txt file is created. An email is sent to the administrator to notify that a new file has been created. The value of this setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: 2
- Minimum value: 1
- Maximum value: —

Exception mail redirection from address

Use this setting to specify the email address displayed in the "from" field of the redirected exception emails.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception mail redirection to address

Use this setting to specify the email address to which the redirected exception emails should be sent.

- Type: Partition settings group
- Subtype: Email retriever

- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception mails auto BCC

Provide the email address to which the BCC copy of the exception email should be sent.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception mail redirection SMTP preference

To be able to redirect exception emails to another email address, you need to configure the various properties of the mail server to be used to send the redirected emails. The properties are configured through a group of settings (called the SMTP preferences). In this setting, specify the set of SMTP preferences to be used for redirecting exception emails. If you do not specify a value in this setting, the “Default SMTP preferences” are used to send out the redirected exception emails.

The SMTP preference set includes the following settings: Exception mails SMTP server, Exception mails SMTP protocol, Exception mails SMTP port, SMTP Flag, Exception mails SMTP user name, and Exception mails SMTP password.

You can choose to use the “Default SMTP preferences” to redirect the exception emails. If you want to do that, do not set any values in the settings that are part of the spam SMTP preferences and the system will automatically use the “Default SMTP preferences” to send out the redirected exception emails.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: Mail.ExcepEmails
- Minimum value: 0
- Maximum value: 255

Exception mails SMTP server

In this setting provide the name of the outgoing server to be used to redirect the exception emails.

- Type: Partition settings group

- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception mails SMTP protocol

In this setting select the protocol (SMTP or ESMTP). to be used for the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Enumeration
- Default value: SMTP
- Value options: SMTP, ESMTP

Exception mails SMTP port

In this setting provide the port of the outgoing server. The value of this setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Integer
- Default value: 25
- Value options: —

SMTP Flag

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, this setting needs to be configured to decide if the SMTP protocol should be used if the authentication fails.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Enumeration
- Default value: Never
- Value options:
  - Never: The switch to SMTP protocol (if ESMTP authentication fails) is not allowed.
  - If authentication fails: The switch to SMTP protocol (if ESMTP protocol fails) is allowed if the ESMTP authentication fails.

Exception mails SMTP user name

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the user name to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Exception mails SMTP password

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the password to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Encrypted
- Default value: —
- Minimum value: 0
- Maximum value: 255

Outgoing email settings

Number of new emails to dispatch

While sending out emails, the Dispatcher Service picks up some new emails and some retry emails (which it failed to send in the earlier attempts). Use this setting to define the maximum number of new emails to be picked by the dispatcher.

- Type: Partition settings group
- Subtype: Email dispatcher - Common
- Data type: Integer
- Default value: 100
- Minimum value: 0
- Maximum value: —

Number of retry emails to dispatch

While sending out emails, the Dispatcher Service picks up some retry emails (which it failed to send in the earlier attempts) and some new emails. Use this setting to define the maximum number of retry emails to be picked by the dispatcher.

- Type: Partition settings group
- Subtype: Email dispatcher - Common
- Data type: Integer
- Default value: 10
- Minimum value: 0
- Maximum value: —

Maximum body size for dispatcher (bytes)

Use this setting to define the maximum size of the email body of an undispatchable email that can be stored in the database. If the undispatchable email is bigger than the size defined here, it is saved as a text file in the *Cisco_Home*`\eService\storage\1\mail\attachments` folder and the administrator is notified of the same. This does not include the size of the header and attachments. The value of this setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher - Common
- Data type: Integer
- Default value: 102400
- Minimum value: 0
- Maximum value: —

Dispatcher service failover delay

The Dispatcher Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Mail default SMTP preference

In this setting specify the set of SMTP preferences to be used for sending out emails from email address for which properties have not been configured in the “Alias” node of the Administration Console. The value of the setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher - Mail
- Data type: String
- Default value: NotificationEmails
- Minimum value: 0
- Maximum value: 255

To: address for notifications from services

DSM sends out notifications when any error occurs in the functioning of services (example, retriever, dispatcher, etc). Use this setting to specify the email address to which notifications are sent by the DSM.

- Type: Partition settings group
- Subtype: Common
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

From: address for notifications from services

DSM sends out notifications when any error occurs in the functioning of services (example, retriever, dispatcher, etc). Use this setting to specify the email address displayed in the “from” field of the notifications sent by the DSM.

- Type: Partition settings group
- Subtype: Common
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Notification settings for the Retriever Service

Notification emails are sent to administrators when the Retriever Service is unable to retrieve emails because of some errors, including:

- Retriever fails to parse emails
- Retriever fails to insert emails in the database
- Retriever fails to connect to the Mail Server
- Retriever fails to retrieve attachments

Configure the settings described in this section to send out notifications to administrators.

The address to which these notifications are sent, is specified in the “To: address for notifications from services” setting and the from email address is specified in the “From: address for notifications from services” setting.

Notification mails auto bcc

Provide the email address to which the BCC copy of the notification email should be sent to.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Notification mail dispatching SMTP preference

To be able to send notification emails out of the system, you need to configure the various properties of the mail server to be used to send the emails. The properties are configured through a group of settings (called the SMTP preferences). In this setting, specify the set of SMTP preferences to be used for sending notification emails. If you do not specify a value in this setting, the “Default SMTP preferences” are used to send out the notification emails.

The SMTP preference set includes the following settings: Notification mails SMTP server, Notification mails SMTP protocol, Notification mails SMTP port, SMTP Flag, Notification mails SMTP user name, and Notification mails SMTP password.

You can choose to use the “Default SMTP preferences” to send out the notification emails. If you want to do that, do not set any values in the settings that are part of the notification SMTP preferences and the system will automatically use the “Default SMTP preferences” to send out the notification emails.

- Type: Partition settings group
- Subtype: Email retriever
- Data type: String
- Default value: Mail.NotificationEmails
- Minimum value: 0

- Maximum value: 255

Notification mails SMTP server

In this setting provide the name of the outgoing server to be used to send out notification emails.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Notification mails SMTP protocol

In this setting select the protocol (SMTP or ESMTP) to be used for the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Enumeration
- Default value: SMTP
- Value options: SMTP, ESMTP

Notification mails SMTP port

In this setting provide the port of the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Integer
- Default value: 25
- Value options: —

SMTP flag

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, this setting needs to be configured to decide if the SMTP protocol should be used if the authentication fails.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Enumeration
- Default value: Never

- Value options:
  - Never: The switch to SMTP protocol (if ESMTP authentication fails) is not allowed.
  - If authentication fails: The switch to SMTP protocol (if ESMTP protocol fails) is allowed if the ESMTP authentication fails.

Notification mails SMTP user name

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the user name to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Notification mails SMTP password

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the password to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher-Mail
- Data type: Encrypted
- Default value: —
- Minimum value: 0
- Maximum value: 255

Notification email settings

For various objects in the system, you can configure notifications to be sent to administrators. Some of the objects for which you can configure notifications are, Monitors (in the Supervision Console), Reports (in the Reports Console), Alarm workflows (in the Administration Console), Abandoned chats (in the Administration Console). The address to which these notifications are sent, is specified in the properties of the object and the from email address is specified in the “From: address for notifications from services” setting.

Also, notification emails are sent to administrators to notify about various conditions in the system (specifically services) that need attention. The address to which these notifications are sent, is specified in the “To: address for notifications from services” setting and the from email address is specified in the “From: address for notifications from services” setting.

The settings described in this section are not used for the Retriever Service as this service has its own separate set of settings for sending notifications. For more details, see “Notification settings for the Retriever Service” on page 64.

Default SMTP server

In this setting provide the name of the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 256

Default SMTP protocol

In this setting select the protocol (SMTP or ESMTP) to be used for the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Enumeration
- Default value: SMTP
- Value options: SMTP, ESMTP

Default SMTP port

In this setting provide the port of the outgoing server. The value of the setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: 25
- Value options: —

SMTP flag

If the “Default SMTP Protocol” setting is set as “ESMTP” this setting needs to be configured to decide if the SMTP protocol should be used if the authentication fails.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Enumeration

- Default value: Never
- Value options:
  - Never: The switch to SMTP protocol (if ESMTP authentication fails) is not allowed.
  - If authentication fails: The switch to SMTP protocol (if ESMTP protocol fails) is allowed if the ESMTP authentication fails.

Default SMTP user name

If the “Default SMTP Protocol” setting is set as “ESMTP”, provide the user name to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Default SMTP password

If the “Default SMTP Protocol” setting is set as “ESMTP”, provide the password to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Encrypted
- Default value: —
- Minimum value: 0
- Maximum value: 255

Blocked attachments settings

Email for scan

Use this setting to configure the criteria for blocking attachments. You can choose to block attachments for incoming emails, or for both incoming and outgoing emails.

Important: **After changing the value of the setting, you need to restart all retriever instances in the system.**

- Type: Department settings group
- Subtype: Email blocked file ext
- Data type: Enumeration
- Default value: Inbound emails only
- Value options: Inbound email only, Both inbound and outbound emails
- Can be reset at lower level: No

Block all attachments

Use this setting to block all attachments coming in the system.

Important: **After changing the value of the setting, you need to restart all retriever instances in the system.**

- Type: Department settings group
- Subtype: Email blocked file ext
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Action on blocked attachments

Use this setting to decide what should be done with all the block attachments. You can either save the attachments in the *Cisco_Home*`\eService\storage\1\mail\attachments` folder or you can delete them.

Important: **After changing the value of the setting, you need to restart all retriever instances in the system.**

- Type: Department settings group
- Subtype: Email blocked file ext
- Data type: Enumeration
- Default value: Quarantine
- Value options:
  - Quarantine: The attachment is saved in the *Cisco_Home*`\eService\storage\1\mail\attachments` folder and a notification email is sent to the administrator.
  - Delete: The attachment is deleted.
- Can be reset at lower level: No

Workflow settings

Alarm service failover delay (minutes)

The Alarm Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Alarm service delay

Use this setting to specify the time interval (in seconds) after which the system triggers the alarms configured in the alarm workflows.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 30
- Minimum value: 0
- Maximum value: —

From email address for alarm

Use this setting to configure the email address to be displayed in the “From” field of alarm notifications.

- Type: Department settings group
- Subtype: Common
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255
- Can be reset at lower level: No

BP rules service failover delay (minutes)

The Workflow Engine Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: No

Include original message for auto acknowledgement and auto reply

Use this setting to include the content of incoming emails in the auto-acknowledgement and auto-reply emails sent to customers in response to the incoming emails.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Enable
- Value options: Disable, Enable
- Can be reset at lower level: Yes

Auto response number

Use this setting to define the number of auto-acknowledgements and auto-responses to be sent to a customer in a specified time duration. The time duration is configured through the “Auto response time” setting. For example, if the value in this setting is three and a customer sends four emails in one hour (time duration configured through the “Auto response time” setting), the customer will get auto responses to three emails only.

- Type: Partition settings group
- Subtype: Workflow engine
- Data type: Integer
- Default value: 3
- Minimum value: 3
- Maximum value: 10
- Can be reset at lower level: No

Auto response time

In this setting define the time duration (in minutes) to be considered to decide the number of auto responses to be sent to a customer.

- Type: Partition settings group
- Subtype: Workflow engine
- Data type: Integer
- Default value: 1440
- Minimum value: 360
- Maximum value: 1440

Batch expiry duration

The Workflow Engine service picks a batch of activities for processing and from that batch, it processes one activity at a time. If the service is unable to process ten consecutive activities from a batch, the batch is marked as expired. Use this setting to define the time for which the Workflow Engine Service waits to pick up the expired batch for processing again.

- Type: Partition settings group
- Subtype: Workflow engine
- Data type: Integer
- Default value: 30
- Minimum value: 30
- Maximum value: 1440

Batch size

Use this setting to define the number of activities to be picked up by the Workflow Engine Service at a time for processing.

- Type: Partition settings group
- Subtype: Workflow engine
- Data type: Integer
- Default value: 200
- Minimum: —
- Maximum: —

Workflow engine service delay

Use this setting to define the time interval (in seconds) at which the Workflow Engine Service processes batches of activities. Batch processing includes, picking up a batch of activities, applying the workflow, and assigning the activity to users or queues.

- Type: Partition settings group
- Subtype: Workflow engine
- Data type: Integer
- Default value: 30
- Minimum: —
- Maximum: —

RT rules service failover delay (minutes)

This setting is not in use.

Work allocation failover delay (minutes)

In the Workflow Engine Service process, a workflow allocation thread runs and allocates work (activities) to the workflow Engine service instances. The workflow allocation thread needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the thread to report its status. If the status is not updated in this duration, the system assumes that the thread is not working and restarts the Workflow Engine Service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum: 0
- Maximum: —

Activity assignment settings

Mail user max load

This setting determines the maximum email activities that can be assigned to agents by workflows. When an agent reaches the maximum number, workflows cannot assign new activities to the agent, but the agent can pull activities and other agents can transfer activities to the agent.

- Type: Department settings group, User settings group

- Subtype: Activity
- Data type: Integer
- Default value: -1
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: Yes

Max load for all other activities

This setting determines the maximum activities, other than emails and chats, that can be assigned to agents by workflows. When a user reaches the maximum number, workflows cannot assign new activities to the agent but, the agent can pull activities and other agents can transfer activities to the agent.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Integer
- Default value: -1
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: Yes

Personalized activity assignment

Use this setting to enable the personalized activity assignment feature. This feature helps you to assign all the activities pertaining to a case to the same agent.

- Type: Department settings group
- Subtype: Queue
- Data type: Enumeration
- Default value: Logged in
- Value options:
  - Logged in: Activities are assigned to the agent only when the agent is logged in to the application.
  - Always: Activities are always assigned to the agent whether the agent is logged in or not.
  - Disable: Personalized activity assignment is disabled.
- Can be reset at lower level: No

Service status for autopushback

Use this setting to enable the auto-pushback feature for your department. Auto-pushback helps you to automatically pull back activities from logged out agents and assign these activities to other available agents. Pinned activities are not candidates for auto-pushback. Along with this setting, make sure you configure the time duration after which an activity should be considered for pushback and the criteria for activities to be pushed back from the agent's inbox.

- Type: Department settings group
- Subtype: Activity pushback
- Data type: Enumeration
- Default value: Enabled
- Value options: Disabled, Enabled
- Can be reset at lower level: No

Expiry time for autopushback (minutes)

In this setting, define the time duration after which an activity is pulled back from an agent and is sent back to the original queue to be reassigned to another agent.

- Type: Department settings group, User settings group
- Subtype: Activity pushback
- Data type: Integer
- Default value: 30
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: Yes

Activity type for autopushback

In this setting, determines the criteria for automatically pulling back activities from the agent's inbox.

- Type: Department settings group, User settings group
- Subtype: Activity pushback
- Data type: Enumeration
- Default value: New activities only
- Value options:
  - None: No activities will be pushed back to the queues.
  - New activities only: Only activities with substatus "New" will be pushed back to the queues.
  - Both new and incomplete activities: All the activities will be pushed back to the queues.
- Can be reset at lower level: Yes

Activities to pull first

This setting determines the criteria for pulling activities in the Agent Console. When the agent clicks the **Pull Next** button in the Agent Console, the activities based on this criteria are assigned to the agent.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Oldest
- Value options: Most overdue, Due Soonest, Highest Priority, Newest, Oldest
- Can be reset at lower level: Yes

Maximum activities to display for pull

Use this setting to specify the maximum number of activities that are displayed in the Pull activities window in the Agent Console.

- Type: Partition settings group
- Subtype: Activity
- Data type: Integer
- Default value: 50
- Minimum value: —
- Maximum value: —

Maximum activities to pull

This setting determines the maximum number of activities that are assigned to an agent when he clicks the **Pull Next** button in the Agent Console.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Integer
- Default value: 10
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: Yes

Automatically save pull activity queue

Use this setting to automatically decide the queues from which an agent is assigned activities when he clicks the **Pull Next** button. When the setting is enabled the agent is not allowed to select the queues from the Preferences window in the Agent Console. All the queues on which the agent has pull permission are selected automatically.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: No

Criteria for push based assignment

This setting determines the criteria for assigning activities from queues to agents.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Due soonest
- Value options: Most overdue, Due Soonest, Highest Priority, Newest, Oldest
- Can be reset at lower level: No

Chat user max load

This setting determines the maximum chat activities that can be assigned to a user at a given moment. When an agent reaches the maximum number, new chats cannot be assigned to the agent.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 4
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Chat - Override user max load setting for pull

Use this setting to allow agents to pull chat activities from queues after the agents have reached the maximum value defined in the “Chat user max load” setting.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Monitor settings

Common settings for monitors

Data capturing interval

Use this setting to decide the time interval after which the information in the supervision tables is updated in the database.

- Type: Partition settings group
- Subtype: Monitoring
- Data type: Integer
- Default value: 60
- Minimum: 0
- Maximum: —

Refresh interval (seconds)

Use this setting to define the time interval after which the information displayed in the monitors window (in the Supervision Console) is refreshed.

- Type: Department settings group, User settings group
- Subtype: Monitoring
- Data type: Integer
- Default value: 30
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: Yes

Number of activities to be monitored for service level

Use this setting to define the number of completed activities (emails and tasks) that should be considered for calculating while calculating the service levels for emails and tasks.

- Type: Department settings group
- Subtype: Monitoring
- Data type: Integer
- Default value: 10
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Chat - SLA threshold interval (seconds)

This setting is required for the, Chat - Current service level (%) and Chat - Daily service level (%), queue-monitoring attributes, viewed from the Supervision Console. With this setting you can decide the threshold interval (in seconds) that all in-progress sessions are checked against, to measure what percentage had a wait time lesser than the threshold. Any session picked up after a wait time lesser than this threshold is counted as having met the service level. The service level is shown as an aggregate percentage based on how many sessions have met the service level and gives an indication of the timely pick-up of sessions by agents. If this value is set to blank, then the “Chat - Current service level (%)” and “Chat - Daily service level (%)” attributes will show a value of 100% for all queues. The default value is 600.

- Type: Department settings group
- Subtype: Monitoring
- Data type: Integer
- Default value: 600
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: No

Chat - Daily service level sample set definition

This setting defines if the abandoned chat activities should be considered while calculating the daily service level for chats.

- Type: Department settings group
- Subtype: Monitoring
- Data type: Enumeration
- Default value: All chats handled including abandoned
- Value options: All chats handled including abandoned, All chats handled excluding abandoned
- Can be reset at lower level: No

Notification settings for system monitors

Use these settings to send out notifications for the monitors configured in the system partition. These settings are available in the Administration Console of the system partition.

Default SMTP server

Use this setting to specify the outgoing server to be used for sending out notifications for monitors configured in the system partition.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 256

Default SMTP protocol

In this setting select the protocol (SMTP or ESMTP). to be used for the outgoing server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Enumeration
- Default value: SMTP
- Value options: SMTP, ESMTP

Default SMTP port

In this setting provide the port of the outgoing server. The value of the setting cannot be changed from the UI.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: 25
- Value options: —

SMTP flag

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, this setting needs to be configured to decide if the SMTP protocol should be used if the authentication fails.

- Type: Partition settings group

- Subtype: Email dispatcher - Generic
- Data type: Enumeration
- Default value: Never
- Value options:
  - Never: The switch to SMTP protocol (if ESMTP authentication fails) is not allowed.
  - If authentication fails: The switch to SMTP protocol (if ESMTP protocol fails) is allowed if the ESMTP authentication fails.

Default SMTP user name

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the user name to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255

Default SMTP password

If the value selected in the “Default SMTP Protocol” setting is “ESMTP”, provide the password to be used to connect to the mail server.

- Type: Partition settings group
- Subtype: Email dispatcher - Generic
- Data type: Encrypted
- Default value: —
- Minimum value: 0
- Maximum value: 255

Activity handling settings

Common settings for activities

Notification for new activity

Use this setting to decide if notifications should be sent to agents when new activities are assigned to them. This setting does not apply to chat activities.

- Type: Department settings group, User settings group
- Subtype: Common
- Data type: Enumeration
- Default value: Never
- Value options:
  - Never: Email notifications will not be sent.
  - When Logged In: Email notifications will be sent only if the agent is logged in.
  - When not Logged in: Email notifications will be sent only if the agent is not logged in.
  - Always: Email notifications will always be sent whether the agent is logged in or not.
- Can be reset at lower level: Yes

Alert subject

Notifications can be sent to users when new activities are assigned to them. Use this setting to configure the subject of these notifications.

- Type: Department settings group
- Subtype: Common
- Data type: String
- Default value: You have received a new activity
- Value options: —
- Can be reset at lower level: No

Alert body

Notifications can be sent to users when new activities are assigned to them. Use this setting to configure the message displayed in these notifications.

- Type: Department settings group
- Subtype: Common
- Data type: String

- Default value: You have received a new activity (id = ``activity_id) from customer identified by ``contact_point_data
- Value options: —
- Can be reset at lower level: No

Force activity categorization

Use this setting to ensure that agents assign categories to each activity before completing it. This setting does not apply to chat activities.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: Yes

Force resolution code

Use this setting to ensure that agents assign resolution codes to each activity before completing it. This setting does not apply to chat activities.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: Yes

Email activity settings

Include message header in reply

With this setting you can decide the amount of header information that is displayed to agents in the Agent Console. This information is available in the Activity Body section of the Information pane.

- Type: Department settings group, User settings group
- Subtype: User
- Data type: Enumeration
- Default value: Basic
- Value options: None, Basic, Complete

- Can be reset at lower level: Yes

Show CC field

With this setting you can make the **CC** field available in the Reply pane of the Agent Console.

- Type: Department settings group, User settings group
- Subtype: User
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: Yes

Show BCC field

With this setting you can make the **BCC** field available in the Reply pane of the Agent Console.

- Type: Department settings group, User settings group
- Subtype: User
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: Yes

Add contact point on compose

In this setting you can decide if the email address specified in the **To** field of a composed email activity should be added to the customer profile associated with the case to which the activity belongs.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: Yes
- Value options: Yes, No
- Can be reset at lower level: Yes

Chat activity settings

Chat - Automatic case creation

Use this setting to decide if cases should be created automatically for chat activities.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Yes
- Value options: Yes, No
- Can be reset at lower level: No

Chat - Force activity categorization

Use this setting to ensure that agents assign categories to each chat activity before completing it.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Chat - Force resolution code

Use this setting to ensure that agents assign resolution codes to each chat activity before completing it.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Chat - Notification mail dispatching from address

Use this setting to define which email address should be used in the **From** field of the notifications sent for abandoned chats.

- Type: Department settings group
- Subtype: Common

- Data type: String
- Default value: —
- Minimum value: 0
- Maximum value: 255
- Can be reset at lower level: No

Chat - MeadCo download on Agent Console

Use this setting to decide if an agent should be prompted to download MeadCo when he logs in to the Agent Console for the first time from a user desktop.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: Enable
- Value options: Enable, Disable
- Can be reset at lower level: No

Inbox settings

Common settings for inboxes

Customer history view

In this setting, select the display option for the information shown in the Customer History section of the Information pane.

- Type: Department settings group, User settings group
- Subtype: General
- Data type: Enumeration
- Default value: Snapshot View
- Value options: Snapshot View, Tree View
- Can be reset at lower level: Yes

Number of activities per page

This setting determines the number of activities that are displayed on a page in the Main Inbox of the Agent Console.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Long
- Default value: 20
- Minimum value: 0
- Maximum value: —
- Can be reset at lower level: Yes

Enable auto save

Use this setting to ensure that the changes made by agents in the Reply and Information panes are not lost when agents switch between activities. When the setting is enabled, the changes made in the Information pane are saved automatically and for the Reply pane, the agent is prompted to save the changes.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: No
- Value options: No, Yes
- Can be reset at lower level: No

Agent inbox preference

Use this setting to choose if the Chat inbox or the Main inbox is displayed when an agent logs in the Agent Console.

- Type: Department settings group, User settings group
- Subtype: General
- Data type: Enumeration
- Default value: Chat
- Value options: Chat, Email
- Can be reset at lower level: Yes

Main inbox settings

Inbox sort column

In this setting, define the column that is used to sort items in the Activity and Cases folders in the Agent Console. Use the “Inbox sort order” setting to define whether the items are sorted in the ascending or descending order. This setting does not apply to the Chat Inbox.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Activity ID
- Value options: Activity ID, Activity Priority, Case ID, Contact point, Department name, Subject, When created, Activity type, Activity sub status
- Can be reset at lower level: Yes

Inbox sort order

Use this setting to define the order - ascending or descending, in which items appear in the Activity and Cases folders in the Agent Console. Use the “Inbox sort column” setting to determine the column by which items are sorted. This setting does not apply to the Chat Inbox.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Ascending
- Value options: Ascending, Descending
- Can be reset at lower level: Yes

Default editor

Use this setting to choose the default editor for activities in the Agent Console. This setting does not apply to chat activities.

- Type: Department settings group, User settings group
- Subtype: User
- Data type: Enumeration
- Default value: Plain
- Value options: Plain, HTML
- Can be reset at lower level: Yes

Chat inbox settings

Chat - Inbox sort column

In this setting, define the column that is used to sort items in the Chat Inbox in the Agent Console. Use the “Chat - Inbox sort order” setting to define whether the items are sorted in the ascending or descending order.

Important: **If you specify a column that is not part of the agent's inbox list or if there is a tie between two activities with the same value for the sorting column, the inbox will then be sorted by the shortcut key.**

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Shortcut key
- Value options: Shortcut key, Activity ID, Case ID, When Created, Customer name, Subject, Activity sub status, Queue name
- Can be reset at lower level: Yes

Chat - Inbox sort order

Use this setting to define the order - ascending or descending, in which items appear in the Chat Inbox in the Agent Console. Use the “Chat - Inbox sort column” setting to determine the column by which items are sorted.

- Type: Department settings group, User settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Descending
- Value options: Ascending, Descending
- Can be reset at lower level: Yes

Chat - Force inbox list change

Use this setting to decide if agents should be automatically taken to the Chat Inbox when new chat activities are assigned to them.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Manual
- Value options: Manual, Automatic
- Can be reset at lower level: No

Chat - Agent availability choice enabled

Use this setting to allow agents to change their availability in the chat inbox in Agent Console.

- Type: Department settings group

- Subtype: General
- Data type: Enumeration
- Default value: Yes
- Value options:
  - Yes: Agents can change their availability.
  - No: Agents become available automatically when they login and become unavailable when they logout.
- Can be reset at lower level: No

Chat supervisor inbox settings

Chat - My Monitor - Max join load

This setting determines the maximum number of chats a supervisor can join from the “My monitors” node in the Agent Console.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 4
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Chat - My Monitor - Activity refresh interval (seconds)

In this setting configure the time interval (in seconds) at which the chat activities are refreshed in the My Monitor’s folder of the supervisor’s Agent Console. The following details of chat activities are refreshed - the list of activities for the queue or agent being monitored; the transcript of chats that the supervisor has not joined and is monitoring passively.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 30
- Minimum value: 30
- Maximum value: —
- Can be reset at lower level: No

Spelling and blocked words settings

Ignore words in caps

With this setting you can decide if the spell checker should ignore misspelled words in upper case. For example, HSBC, TESTNG, etc.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: Yes

Ignore words with unusual mixture

With this setting you can decide if the spell checker should ignore words with unusual mixture of upper and lower case letters. For example, myFirstWord.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: Yes

Ignore words with numbers

With this setting you can decide if the spell checker should ignore words with digits in them. For example, 1234.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: Yes

Ignore words with digits mixed

With this setting you can decide if the spell checker should ignore words that have a mix of letters and digits. For example, name123, 123test!, etc.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: Yes

Ignore web addresses and file names

With this setting you can decide if the spell checker should ignore internet addresses and file names. For example, www.company.com, alias@companyname.com, text.pdf, etc.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: Yes

Auto spellcheck

Use this setting to enable automatic spell check for emails, tasks, etc. This setting is not used for chat activities.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: Disable
- Value options: Disable, Enable
- Can be reset at lower level: Yes

Auto blockcheck

Use this setting to check the content of emails, tasks, etc for blocked words. This setting is not used for chat activities.

- Type: Department settings group, User settings group
- Subtype: Spell checker

- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Preferred dictionary of the user

With this setting you can choose the dictionary that the spell checker should use.

- Type: Department settings group, User settings group
- Subtype: Spell checker
- Data type: String
- Default value: —
- Value options: Danish Dictionary, Swedish Dictionary, Finnish Dictionary, Norwegian (Bokmaal) Dictionary, Italian Dictionary, Dutch Dictionary, Portuguese Dictionary, French Dictionary, Spanish Dictionary, German Dictionary, English (UK) Dictionary, English (US) Dictionary
- Can be reset at lower level: Yes

Chat - Auto spellcheck

Use this setting to enable automatic spell check for chats. This setting is not used for emails, tasks, etc.

- Type: Department settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: Enable
- Value options: Disable, Enable
- Can be reset at lower level: Yes

Chat - Auto blockcheck

Use this setting to check the chat messages for blocked words.

- Type: Department settings group
- Subtype: Spell checker
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Search settings

Maximum number of records to display for search

Use this setting to specify the maximum number of search results to be displayed in the Results pane of the Search window.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 500
- Minimum value: —
- Maximum value: —

Maximum number of records to display for NAS search

Use this setting to decide the maximum number of search results to be displayed when an agent uses new activity shortcuts to create activities.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 9
- Minimum value: —
- Maximum value: —

Knowledge Base settings

KB external import service failover delay (minutes)

The KB Import Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15

- Minimum value: 0
- Maximum value: —

KB attachment content search service failover delay

The Attachment Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time (in minutes) for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Common
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Article rating service failover delay (minutes)

The Article Rating Service needs to report its status at regular intervals to the system. In this setting, specify the maximum time for which the system waits for the service to report its status. If the status is not updated in this duration, the system assumes that the service is not working and restarts the service process.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Integer
- Default value: 15
- Minimum value: 0
- Maximum value: —

Self-service article rating service failover delay (minutes)

This setting is not in use.

Update external attachment service update interval in minutes

Use this setting to determine the regular time interval at which the KB Import Service synchronizes the content of the external attachments of articles with the content of the files in the external location.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Long

- Default value: 6
- Minimum: —
- Maximum: —

Popular articles display count

Use this setting to specify the number of articles that are displayed in the “Most popular articles” folder in the Agent and KB Consoles.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Integer
- Default value: 10
- Minimum: —
- Maximum: —

Popular articles evaluation period in days

Use this setting to determine the number of days for which the article usage is evaluated before it is added to the “Most popular articles” folder.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Integer
- Default value: 10
- Minimum: —
- Maximum: —

Popular articles update interval in hours

Use this setting to determine the time period after which the system updates the list of popular articles displayed in the “Most popular articles” folder.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Long
- Default value: 1
- Minimum: —
- Maximum: —

Recently added articles evaluation period in hours

This setting determines the time period for which a new article is displayed in the “Recently added articles” folder in the Agent and KB Consoles.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Long
- Default value: 24
- Minimum: —
- Maximum: —

Recently changed articles evaluation period in hours

This setting determines the time period for which an updated article is displayed in the “Recently updated articles” folder in the Agent and KB Consoles.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Long
- Default value: 24
- Minimum: —
- Maximum: —

Article rating service delay in seconds

Use this setting to specify the time interval (in seconds) after which the system recalculates the ratings of the articles.

- Type: Partition settings group
- Subtype: Knowledge base
- Data type: Long
- Default value: 30
- Minimum: 1
- Maximum: 3600

Time to expire in days

Use this setting to specify the number of days for which an article should be displayed in the “Articles about to expire” folder before it expires.

- Type: Partition settings group

- Subtype: Knowledge base
- Data type: Integer
- Default value: 5
- Minimum: —
- Maximum: —

KB primary language

This setting is not in use.

Chat session settings

Chat agent session settings

Chat - Agent chat message maximum length

Use this setting to determine the maximum length of messages sent by agents to customers.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 800
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Chat - Display timestamp in agent chat console

Use this setting to decide if the timestamp should be displayed with the chat messages in the Agent Console. This setting applies to open chat activities only.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Chat - Display timestamp in completed chat transcript

Use this setting to decide if the timestamp should be displayed with the chat messages in the Agent Console. This setting applies to completed chat activities only.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: Yes
- Value options: Yes, No
- Can be reset at lower level: No

Chat - Customer intermittent interval (seconds)

In this setting, configure the time interval (in seconds) at which the customer's connection status is checked to see if it is slow or intermittent. If the condition is met, the customer connection status in the Agent Console is changed to "Slow, but still connected". When this setting is left blank, no check is done.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 30
- Minimum value: —
- Maximum value: —
- Can be reset at lower level: No

Chat - Customer offline interval

In this setting configure the time interval (in seconds) at which a check is made to see if the customer is connected to the chat session. If the customer is disconnected, the customer connection status in the Agent Console is changed to "Disconnected". When this setting is left blank, no check is done.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 10
- Minimum value: 2
- Maximum value: —
- Can be reset at lower level: No

Chat - Automatic session closure interval (seconds)

In this setting determine the maximum time (in seconds) for which a chat session can stay open. After the defined time, the chat session is closed automatically. When this setting is left blank, no check is done.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 14400 (i.e. 4 hours)
- Minimum value: —
- Maximum value: 60
- Can be reset at lower level: No

Chat - Disable typing area and web collaboration area on customer exit

Use this setting to disable the Web Collaboration section of the Information pane and the typing area of the Chat pane for agents and supervisors, when a customer leaves the chat session.

- Type: Department settings group
- Subtype: Common
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Chat customer session settings

Chat - Customer chat message maximum length

Use this setting to determine the maximum length of messages sent by customers to an agents.

- Type: Department settings group
- Subtype: Activity
- Data type: Integer
- Default value: 800
- Minimum value: 1
- Maximum value: —
- Can be reset at lower level: No

Chat - Display timestamp in customer chat console

Use this setting to decide if the timestamp should be displayed with the chat messages in the Customer Console.

- Type: Department settings group
- Subtype: Activity
- Data type: Enumeration
- Default value: No
- Value options: Yes, No
- Can be reset at lower level: No

Chat - MeadCo download on customer console

Use this setting to decide if a customer should be prompted to download MeadCo when the chat window is opened for the first time from a customer desktop.

- Type: Department settings group
- Subtype: General
- Data type: Enumeration
- Default value: Enable
- value options: Enable, Disable
- Can be reset at lower level: No

Chat - Customer console pop to front on new message arrival

Use this setting to decide if you want to draw the customer's attention to the chat window when a new message is sent to the customer. When this setting is enabled, the customer is alerted in the following ways - If the customer chat window is minimized, it is opened; If the customer chat window is open, it flashes.

- Type: Department settings group
- Subtype: Common
- Data type: Enumeration
- Default value: Yes
- Value options: Yes, No
- Can be reset at lower level: No

Cobrowse settings

Cobrowse server host name

This setting is not in use.

Cobrowse - Record cobrowse session form-field values into transcript

This setting is not in use.

Cache settings

Minimum idle time for the objects in minutes

Use this setting to periodically free-up the cache memory of servers. After the defined time, the unused data is removed from the cache memory.

- Type: Partition settings group
- Subtype: Cache
- Data type: Integer
- Default value: 300
- Minimum value: 100
- Maximum value: —

3 Users

- About users, groups, roles, and actions
- What are the actions assigned to the default roles?
- Managing user roles
- Managing user groups
- Managing users

This chapter will assist you in understanding users, groups, roles, and actions and how to set them up according to your business requirements.

About users, groups, roles, and actions

Users

A user is an individual—an administrator, manager, or agent—who has a distinct identification using which he logs in to Cisco Interaction Manager to perform specific functions. Users are assigned roles and permissions, which enable then to perform various tasks. To make it easier to administer a large number of users, users can be organized into named groups.

Users can be created at three levels:

- System level user: This user is typically the system administrator of the system who manages the system partition resources, such as, services, loggers, handlers, etc.
- Partition level user: This user is typically the system administrator of the system who manages the business partition resources, such as, services, departments, etc.
- Department level users: Department level users have many different types of functions in the system. For example, the administrator manages resources such as, chat infrastructure, email infrastructure, etc and the agents, handle customer interactions, such as, chat, emails, phone calls, etc. Department level users are of three types — Standalone users, NIPTA integrated users, and IPTA integrated users.
  - Standalone user: This is a Cisco Interaction Manager type of user and the routing of activities to this user is done by Cisco Interaction Manager.
  - NIPTA integrated user: A NIPTA user is a Cisco Interaction Manager group that is mapped to a NIPTA user (also known as Non-IPTA user). Activities to NIPTA users are assigned from NIPTA queues only. For more details on NIPTA queues, see “Managing queues” on page 197.
  - IPTA integrated user: A IPTA integrated user group is a Cisco Interaction Manager user group that is mapped to an IPTA skill group. Activities to users in this group are assigned from IPTA queues only. For more details on IPTA queues, see “Managing queues” on page 197.

Two users are created during the installation:

1. System Administrator: The first system user, created during installation, is a user called `System Administrator`. Assigned the System Administrator role, this user sets up system resources and creates one or more system-level users.
2. Partition Administrator: The first business user, created during installation, is a user called `Partition Administrator`. Assigned the Partition Administrator role, this user manages partition users and settings and creates more partition users as well as one or more department-level users to manage department resources.

User groups

User groups are a collection of users that share similar functions or roles in the system. Groups make it much easier to manage user accounts. Like users, user groups can also be created in the system partition, business

partition, and departments. A standard user group called **All Users in** *Department Name* is created in each department. Every new user in the department is automatically included in this group. Integrated users, who are managed through Unified CCE are not included in this group. In a department, you can create three types of user groups — Standalone user groups, NIPTA integrated user groups, and IPTA integrated user groups.

- Standalone user group: This is a Cisco Interaction Manager type of user group and the routing of activities to users in this group is done by Cisco Interaction Manager. You can only add standalone users to this group.
- NIPTA integrated user group: A NIPTA integrated user group is a Cisco Interaction Manager user group that is mapped to a NIPTA skill group (also known as Non-IPTA skill group). Activities to users in this group are assigned from NIPTA queues only. For more details on NIPTA queues, see "Managing queues" on page 197. For user groups that map to NIPTA skill groups, the agent list for the skill group is administered and managed in Cisco Interaction Manager. You can only add NIPTA users to this group.
- IPTA integrated user group: A IPTA integrated user group is a Cisco Interaction Manager user group that is mapped to an IPTA skill group. Activities to users in this group are assigned from IPTA queues only. For more details on IPTA queues, see "Managing queues" on page 197. For user groups that map to an IPTA skill group, the agent list for the skill group is administered and managed in Unified CCE. You cannot add users to this group from Cisco Interaction Manager.

User roles

A role is nothing but a set of permissible actions for various business resources. An agent's role, for instance, would include actions such as "View Agent Console," "Edit customer," and "Add notes." You can create user roles as per the needs of your organization, and assign these roles to your employees. To ease your task, the system comes with some default user roles. You can use these, and if required, create your own user roles. You can assign one or more roles to a group of users or an individual user.

The seven default user roles are:

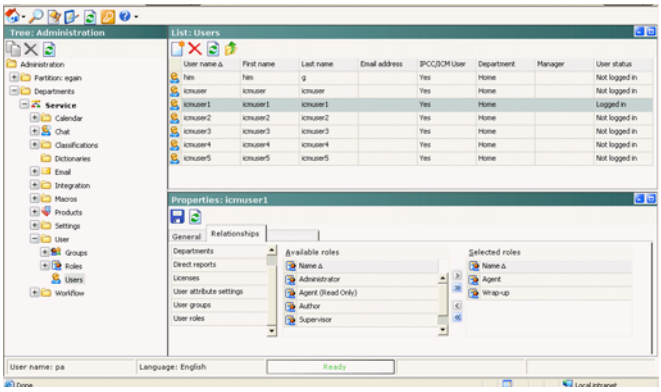
- **Administrator:** The administrator is the manager of the department, and has access to the Administration console. You will find that there are two types of administrators that the system allows you to create; Partition Administrator and Department Administrator. Let us see the difference between these two roles. A partition administrator has to be created while installing Unified WIM and Unified EIM. To know more about the role of a partition administrator, see "Partition Administrator" on page 107.

  A department administrator is created by the partition administrator, and has the authority to create all the resources for the department he administers. For example, setting rules for incoming and outgoing activities through workflows, creating classifications, dictionaries, users, and assigning permissions to the users to perform various tasks.

  Important: **At least one department administrator must be a standalone (not integrated) user.**

- **Agent:** An agent is a person who handles customer queries, who is directly in contact with the customer. He has access to the Agent console. Agents are created by the administrator of the department.
- **Agent (Read Only):** An agent (read only) will have access to the Agent console, but he will not be able to compose replies for the customer queries. He can only view them. This role can be assigned to trainees.
- **Author:** An author is the writer of all the articles that agents can use as replies for customer queries. An author has access to the Knowledge Base Console, which is a store house for all company articles.

- **Supervisor:** A supervisor has access to the Supervision Console, and creates monitors for queues, user groups, and users in a department. They can also create and run reports from the Reports Console.
- **Supervisor (Read Only):** A user with the supervisor (read only) role can create and run monitors. Such a user cannot create reports, but can run the reports for which the user has view and run permissions.
- **Wrap-up:** Along with the agent role, assign the wrap-up role to users or user groups that are mapped to agents and skill groups of Unified CCE. Agents with this role go in wrap-up mode after they send and complete an activity. After completing the wrap-up tasks, agents click the **End Wrap-up** button to complete the activity and change their mode to available.



Selecting user roles

Actions

When you create a user role, you need to specify the work that the person with that role can handle. Actions define this work. All default user roles have already been assigned certain actions. You can view these actions by clicking on any role and you can use these actions to create new roles.

What are the actions assigned to the default roles?

Now that you already know that every default role has a set of permissible actions assigned to them, you must be curious to find out what these actions are. To learn more about them look at the following tables.

System Administrator

The various actions assigned to the System Administrator role are listed in the following table.

Resource Name	Actions Permitted
System Resource	View Administrator, View System
User	Create, Own, View, Edit, Delete
User Group	Create, Own, View, Edit, Delete
User Role	Create, View, Edit, Delete

Resource Name	Actions Permitted
Partition	Administer, Own, View, Edit
Monitor	Create, Run, Edit, Delete
Messaging	Create message, Delete message
Instance	Create, View, Edit, Delete, Start, Stop
Process	Create, View, Edit, Delete, Start, Stop
Host	View, Edit, Delete, Start, Stop
Handler	Create, View, Edit, Delete
Logger	Edit, View
Preference group	View, Delete, Edit, Create

Partition Administrator

The various actions assigned to the Partition Administrator role are listed in the following table.

Resource Name	Actions Permitted
User	Create, Own, View, Edit, Delete
User Group	Create, Own, View, Edit, Delete
User Role	Create, View, Edit, Delete
System Attribute Profiles	View, Edit
Monitor	Create, Edit, Delete, Run
Report	Create, Delete, View, Run, Edit, Schedule
Activity Shortcuts	Create, Read, Edit, Delete
Department	Create, View, Own, Edit, Administer, Copy
Instance	Create, View, Edit, Delete, Start, Stop
Messaging	Create Message, Delete Message
Partition	Administer, View, Edit, Own
Preference Group	Create, View, Edit, Delete
Reference Objects	Create, View, Edit
System Resources	View Knowledge Base, View Reports, View Administration, View Tools, View System, View Supervision

Actions assigned to the Partition Administrator role

Administrator

The various actions assigned to the Administrator role are listed in the following table.

Resource Name	Actions Permitted
Administration Console	View
Supervision Console	View
Agent Console	View
Reports Console	View
System Console	View
Knowledge Base Console	View
Tools Console	View
User	Create, Own, View, Edit, Delete
Activity	Edit Subject, Create, Print, Complete, Unpin, Pull Selected Activities, Edit, Pull Next Activities, Transfer Activities, Add Footer, Add Greeting, Add Attachment, Add Header, Assign Classification, Add Signature, Pin
User Group	Create, Own, View, Edit, Delete
Role	Create, View, Edit, Delete
Access Links	Create, View, Edit, Delete
Usage links	Create, Own, View, Edit, Delete, Execute
System Attribute Profiles	View, Edit
User Attribute Profiles	Create, View, Edit, Delete
Screen Attributes Profiles	View, Edit
Category	Create, View, Edit, Delete
Customer	Create, View, Edit, Delete, Change
Contact Person	Create, Edit, Delete
Contact Details	Create, Edit, Delete
Association	Create, View, Edit, Delete
Inbox Folder	Create, Delete
Notes	View, Delete
Resolution Codes	Create, View, Edit, Delete
Customer Associations	Create, View, Edit, Delete
Macro	Create, View, Edit, Delete
Product Catalog	Create, View, Edit, Delete
Business Objects	Create, View, Edit, Delete

Resource Name	Actions Permitted
Case	Edit, Print, Close, Unarchive
Monitors	Create, Edit, Delete, Run
Reports	Create, Delete, View, Run, Edit, Schedule
Queue	Create, Own, View, Edit, Delete
Workflow	Create, View, Edit, Delete
Settings	Create, View, Edit, Delete
Shift Label	Create, View, Edit, Delete
Day Label	Create, View, Edit, Delete
Calendar	Create, View, Edit, Delete
Dictionary	Create, View, Edit, Delete
Global Search	Create, Edit, Delete
Service Levels	Create, Read, Edit, Delete
Personal Search	Create
Alias	Create, View, Edit, Delete
Blocked Addresses	Create, View, Edit, Delete
Delivery Exceptions	Create, View, Edit, Delete
Blocked File Extensions	Create, View, Edit, Delete
Email	Send Email, Resubmit supervised emails, Reject emails for supervision, Send and Complete Email, Edit Reply Type, Edit From field, Edit Reply To field, Edit To field, Edit CC field, Edit BCC field, Accept emails for supervision
Blocked Attachment	Restore
Incoming Attachment	Delete

Actions assigned to the Administrator role

Agent

The various actions assigned to the Agent role are listed in the following table.

Resource Name	Actions Permitted
Agent Console	View
User	View
Usage links	View, Execute
Category	View
Customer	Create, View, Edit, Delete, Change
Contact Person	Create, Edit, Delete
Contact Details	Create, Edit, Delete
Association	Create, View, Edit, Delete
Inbox Folder	Create, Delete
Notes	View, Add, Delete
Resolution Codes	View
Folder	View
Article	Suggest
Personal Folders	Manage
Macro	View
Product Catalog	View
Activity	Edit Subject, Create, Print, Complete, Unpin, Pull Selected Activities, Edit, Pull Next Activities, Transfer Activities, Add Footer, Add Greeting, Add Attachment, Add Header, Assign Classification, Add Signature, Pin
Case	Edit, Print, Close
Queue	View
Personal Dictionary	Create
Personal Search	Create
Email	Send Email, Resubmit supervised emails, Reject emails for supervision, Send and Complete Email, Edit Reply Type, Edit From field, Edit Reply To field, Edit To field, Edit CC field, Edit BCC field, Accept emails for supervision
Blocked Attachment	Restore
Incoming Attachment	Delete

Actions assigned to the Agent role

The following table describes some of the important agent actions in detail.

Resource Name	Actions Permitted	Description
Activity	Create	Enables the **Create activity** button in the Main Inbox toolbar. Integrated agents are not allowed to create new activities. Assigning this action to them will not allow them to do so.
	Complete	Enables the **Complete** button in the Reply pane toolbar when working on email activities, custom activities, or tasks. Also enables the **Send and complete** button in the Reply pane toolbar if the **Send Email** action is also assigned to the agent.
	Pin	Enables the **Pin** button in the in the Main Inbox toolbar.
	Print	Enables the **Print preview** button in the following toolbars: ▸ The Main Inbox toolbar ▸ The toolbar in the Activity Body section of the information pane ▸ The toolbar in the Case Details section of the information pane ▸ The Search Console toolbar, while searching for activities **Note:** In the Print Preview window (which opens on clicking the **Print preview** button), only the **Summary of activities assigned to me** and **Currently selected activity contents** options are enabled. The **Currently selected case contents** is enabled only when the **Print Case** action is assigned to an agent.
	Unpin	Allows an agent to pull the pinned activities from other agents.
	Pull Next Activities	Enable the **Pull Next** button in the Main Inbox toolbar. To be able to pull activities using this button, the agent needs: ▸ **Pull Activities** action for routing queues. ▸ **Pull Activities** permission on queues. For chats, the following action is also required: ▸ **Pull Next Chat Activity** action for chats.
	Pull Selected Activities	Enable the **Pull Activities** button in the Main Inbox toolbar. To be able to pull activities (other than chats) using this button, an agent needs: ▸ **Pull Activities** action for routing queues. ▸ **Pull Activities** action for users. ▸ **Pull Activities** permission on queues. ▸ **Pull Activities** permission on users.
	Transfer Activities	Enable the **Transfer** button in the Main Inbox toolbar, the Chat Inbox toolbar, and the Reply pane toolbar. To be able to transfer activities using this button, an agent needs: ▸ **Transfer Activities** action for routing queues. ▸ **Transfer Activities** action for users. ▸ **Transfer Activities** permission on queues. ▸ **Transfer Activities** permission on users.
	Assign Classification	Enables the **Save** button in the Classifications section of the Information pane, so that agents can assign categories and resolution codes to activities.

Resource Name	Actions Permitted	Description
Case	Edit	Allows an agent to edit the case details. Enables the **Save** button in the Information pane, Case Details section. The **Case status** field is enabled only if the agent has the **Close Case** action.
	Print	Enables the **Print preview** button in the following toolbars: ▸ The Main Inbox toolbar ▸ The toolbar in the Activity Body section of the information pane ▸ The toolbar in the Case Details section of the information pane ▸ The Search Console toolbar, while searching for cases ▸ Inbox Tree pane > My Work > Cases > My Cases > Open and Closed **Note:** In the Print Preview window (which opens on clicking the **Print preview** button), only the **Currently selected case contents** option is enabled. The **Summary of activities assigned to me** and **Currently selected activity contents** options are enabled only when the **Print Activity** action is assigned to an agent.
	Close Case	Allows an agent to close an open case. It enables the **Close Case** button in the Inbox pane toolbar (Inbox Tree pane > My Work > Cases > My Cases > Open). If the agent has the **Edit case** action, it also enables the **Case status** field in the Information pane, Case Details section.
	Change Case	Allows an agent to change the case of an activity and associate it with an existing case. It enables the **Change Case** button in the Information pane, Case Details section.
	Create Case	Allows an agent to create new cases. When a new case is created, the old case associated with the activity is closed and the activity is associated with the new case. It enables the **Create Case** button in the Information pane, Case Details section.
Chat	Complete Chat Activity	Enables the **Complete** button in the Chat pane toolbar.
	Leave Chat Activity	Enables the **Leave** button in the Chat pane toolbar. Allows an agent to leave a chat without completing the activity. The activity gets completed only when the customer closes the chat session.
	Pull Next Chat Activity	Allows an agent to pull chat activities from queues. To be able to pull chat activities the agent also needs: ▸ **Pull Next Activities** action for activities ▸ **Pull Activities** action for routing queues ▸ **Pull Activities** permission on queues
	Transfer Chat Activity	Enables the **Transfer** button in the Chat pane toolbar. Allows an agent to transfer chats to other agents, queues, and departments. To be able to transfer chats using this button, the agent needs: ▸ **Transfer Activities** action for routing queues ▸ **Transfer Activities** action for users ▸ **Transfer Activities** permission on queues ▸ **Transfer Activities** permission on users

Resource Name	Actions Permitted	Description
Customer	Create	Allows agents to create new customers. It enables the **Save** button when an agent creates a new customer (by clicking the **New Customer** button) from the Information pane, Customer section. Agents can also create new customers while creating new activities. In the New Activity Window (which opens on clicking the **Create Activity** button in the Inbox pane toolbar), it displays the **New** option in the **Customer** Field.
	Edit	Allows an agent to edit the details of a customer. It enables the **Save** button in the Information pane > Customer section toolbar.
	Delete	Allows an agent to delete a customer associated with an activity. It enables the **Delete** button in the Information pane, Customer section toolbar.
	Change Customer	Allows an agent to change the customer associated with an activity. Displays the **Change Customer** button in the Information pane, Customer section toolbar.
	Create Contact Person	Allows an agent to create a contact person for group and corporate customers. It enables the **New** button in the Information pane, Customer section toolbar when the Contact person node is selected. It is available for group and corporate customers only.
	Edit Contact Person	Allows an agent to edit the details of a contact person for group and corporate customers. It enables the **Save** button in the Information pane, Customer section toolbar when a contact person is selected.
	Delete Contact Person	Allows an agent to delete a contact person for group and corporate customers. It enables the **Delete** button in the Information pane, Customer section toolbar when a contact person is selected.
	Create Contact Details	Allows an agent to create contact details for a customer. It enables the **New** button in the Information pane, Customer section toolbar when the Contact details node is selected.
	Edit Contact Details	Allows an agent to edit the contact details of a customer. It enables the **Save** button in the Information pane, Customer section toolbar when a contact detail is selected.
	Delete Contact Details	Allows an agent to delete the contact details of a customer. It enables the **Delete** button in the Information pane, Customer section toolbar when a contact detail is selected.
	Create Association	Allows an agent to associate products, accounts, contracts, or other custom associations available in the system with a customer. It enables the **New** button in the Information pane, Customer section toolbar when an association is selected.
	Edit Association	Allows an agent to edit the associations associated with a customer. It enables the **Save** button in the Information pane, Customer section when an association is selected.
	Delete Association	Allows an agent to delete the associations associated with a customer. It enables the **Delete** button in the Information pane, Customer section when an association is selected.
Email	Send Email	Enables the **Send** button in the Reply pane toolbar. Also enables the **Send and complete** button in the Reply pane toolbar, if the **Complete** action is also assigned to the agent.
Email attachment	Restore	It allows agents to restore blocked attachments. It enables the **Restore** button in the View Attachments window, which opens when an agent clicks the **Attachment** button in the Information pane, Activity Body section toolbar.
	Delete	It allows agents to delete blocked attachments. Unblocked attachments cannot be deleted. It enables the **Delete** button in the View Attachments window, which opens when an agent clicks the **Attachment** button in the Information pane, Activity Body section toolbar.

Resource Name	Actions Permitted	Description
Filter Folder (Inbox folder)	Create	Enables the **New folder** and **Properties** buttons in the Inbox Tree pane toolbar. Using these buttons, agents can create and edit search folders and personal folders in their inbox.
	Delete	Enables the **Delete** button in the Inbox Tree pane toolbar. Using this button, agents can delete search folders and personal folders from their inbox.
KB Folder	Suggest Article	Allows an agent to suggest articles to the Knowledge Base. Agents can suggest articles to only those folders, on which they have the **Suggest Article** permission. All agents have permissions to suggest articles in the following standard folders and it cannot be removed - headers, footers, greetings, signatures, quick links, and quick responses. But, if any folders are created under these standard folders, then administrators can select not to give **Suggest Article** permission on those folders. It enables the **New article** button in the Information pane, Knowledge Base section. The button is enabled only when the agent selects a folder on which he has the **Suggest Article** permission. It also allows the agent to suggest articles from the reply pane.
	View Folder	Allows agents to view Knowledge Base folders in the Information pane, Knowledge Base section. This action is assigned to all agents with the **CIH Platform** license and it cannot be removed. But, the view access to articles in a folder can be controlled by permissions. Agents can only view articles in the folders on which they have the **View Folder** permission. All agents have permissions to view articles in the following standard folders and it cannot be removed - headers, footers, greetings, signatures, quick links, and quick responses. But, if any folders are created under these standard folders, then administrators can select not to give **View Folder** permission on those folders.
	View Personal Folder	Allows agents to create personal folders and articles. It displays the Personal folder in the Information pane, Knowledge Base section.
	Add Notes	Allows agents to view, delete, and add notes to the following types of Knowledge Base articles: personal articles, pending suggestions, and suggestions. It enables the **Notes** button.
Macro	View	Allows agents to view and use macros in emails, chats, tasks, phone logs, and custom activities. It enables the **Add macro** button in the reply pane.

Resource Name	Actions Permitted	Description
Notes	View	Allows an agent to view notes associated with cases, activities, customers, and customer associations. It enables the **View notes** option in the **Notes** button in the following panes: ▸ Main Inbox toolbar ▸ Chat Inbox toolbar ▸ Reply pane ▸ Chat pane ▸ Information pane, in the following sections: Activity Body, Activity Details, Case Details, Customer History, and Customer.
	Add	Allows an agent to add notes to cases, activities, customers, and customer associations. It enables the **Add notes** option in the **Notes** button in the following panes: ▸ Main Inbox ▸ Chat Inbox ▸ Reply pane ▸ Chat pane ▸ Information pane, in the following sections: Activity Body, Activity Details, Case Details, Customer History, and Customer. If an agent has the **View Notes** action, it also enables the **Add** button in the View Notes window. The View Notes window can be accessed by selecting the **View notes** option in the **Notes** button in the following panes: ▸ Main Inbox ▸ Chat Inbox ▸ Reply pane ▸ Chat pane ▸ Information pane, in the following sections: Activity Body, Activity Details, Case Details, Customer History, and Customer.
	Delete	Allows an agent to delete the notes associated with cases, activities, customers, and customer associations. It enables the **Delete button** in the View Notes window. The View Notes window can be accessed by selecting the **View notes** option in the **Notes** button in the following panes: ▸ Main Inbox ▸ Chat Inbox ▸ Reply pane ▸ Chat pane ▸ Information pane, in the following sections: Activity Body, Activity Details, Case Details, Customer History, and Customer. The View Notes window can only be accessed by agents with the **View Notes** action.
Routing Queue	Pull Activities	Allows agents to pull activities from routing queues. To be able to pull activities from queues, an agent needs: ▸ **Pull Next Activities** or **Pull Selected Activities** action for activities ▸ **Pull Activities** permission on routing queues For chats, the following action is also required: ▸ **Pull Next Chat Activity** action for chats
	Transfer Activities	Allows agents to transfer activities to routing queues. To be able to transfer activities to queues, an agent needs: ▸ **Transfer Activities** action for activities ▸ **Transfer Activities** permission on queues
System Resource	View Agent Console	Allows an agent to access the Agent Console.

Resource Name	Actions Permitted	Description
Usage links	Execute	This action can be assigned only to agents with the **Data Adapter** license. It enables the **Execute** and **Add results to reply** buttons in the Links section of the Information pane. These buttons are enabled only if the agent has **Execute** permission on atleast one usage link.
User	Pull Activities	Allows agents to pull activities from other agents. To be able to pull activities from other agents, an agent needs: ▸ **Pull Selected Activities** action for activities ▸ **Pull Activities** permission on users
	Transfer Activities	Allows agents to transfer activities to other agents. To be able to transfer activities to other agents, an agent needs: ▸ **Transfer Activities** action for activities ▸ **Transfer Activities** permission on users

Some important actions assigned to the Agent role

Agent (Read Only)

The various actions assigned to the Agent (Read Only) role are listed in the following table.

Resource Name	Actions Permitted
Agent Console	View
User	View
Usage links	View, Execute
Category	View
Customer	View
Inbox Folder	Create, Delete
Notes	View
Resolution Codes	View
Folder	View
Article	Suggest
Macro	View
Product Catalog	View
Activity	Print
Case	Print
Queue	View

Actions assigned to the Agent (read only) role

Author

The various actions assigned to the Author role are listed in the following table.

Resource Name	Actions Permitted
Reports Console	View
Knowledge Console	View
User	View
Category	View
Notes	View, Add, Delete
Resolution Codes	View
Folder	Create, Own, View, Edit, Delete
Article	Create, Edit, Print, Delete, Suggest
Suggestions	Manage
Personal Folders	Manage
Bookmarks	Manage
Macro	View

Actions assigned to the Author role

Supervisor

The various actions assigned to the Supervisor role are listed in the following table.

Resource Name	Actions Permitted
Supervision Console	View
Agent Console	View
Reports Console	View
User	View
Usage links	View, Execute
Category	View
Customer	Create, View, Edit, Delete, Change
Contact Person	Create, Edit, Delete
Contact Details	Create, Edit, Delete
Association	Create, View, Edit, Delete
Inbox Folder	Create, Delete
Notes	View, Add, Delete
Resolution Codes	View
Folder	View
Article	Suggest
Personal Folders	Manage
Macro	View
Product Catalog	View
Activity	Create, Complete, Transfer Activities, Pin, Print, Edit Subject, Pull Selected Activities, Edit, Pull Next Activities, Add Greeting, Add Attachment, Add Header, Add Footer, Unpin, Assign Classification, Add Signature
Case	Edit, Print, Close
Monitors	Create Edit, Delete, Run
Reports	Create, Delete, View, Run, Edit, Schedule
Queue	View
Personal Dictionary	Create
Personal Search	Create
Email	Send Email, Send and Complete Email, Edit Reply To field, Edit CC field, Edit From field, Edit BCC field, Edit To field, Edit Reply Type, Reject emails for supervision, Resubmit supervised emails, Accept emails for supervision

Actions assigned to the Supervisor role

Supervisor (Read Only)

The various actions assigned to the Supervisor (Read Only) role are listed in the following table.

Resource Names	Actions Permitted
Supervision Console	View
Agent Console	View
Reporting Console	View
User	View
Usage links	View, Execute
Customer	View
Association	View
Inbox Folder	Create, Delete
Notes	View
Resolution Codes	View
Folder	View
Article	Suggest
Macro	View
Product Catalog	View
Activity	Print
Case	Print
Monitor	Create, Edit, Delete, Run
Reports	View, Run
Queue	View

Actions assigned to the Supervisor (read only) role

Wrap-up

The various actions assigned to the Wrap-up role are listed in the following table.

Resource Names	Actions Permitted
Activity	Wrap Activity

Action assigned to the Wrap-up role

Managing user roles

This section talks about:

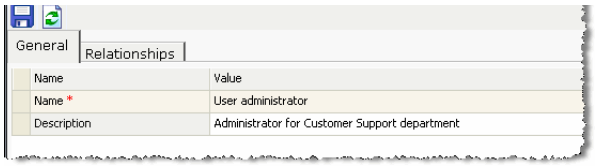
- Creating user roles on page 120
- Creating user subroles on page 121
- Deleting user roles and subroles on page 122

Creating user roles

Important: **User roles cannot be created in the Basic edition of Unified WIM and Unified EIM.**

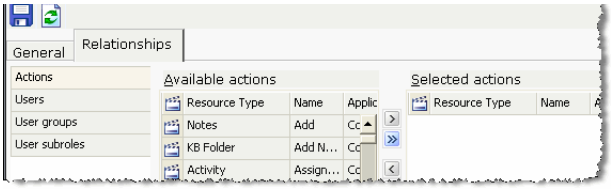
To create a user role:

1. In the Tree pane, browse to the **Users** node. Based on where you want to create a user role, do one of the following:
   - If you are a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Roles.**
   - If you are a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Roles.**
   - If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Roles.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide a name and description for the user role.



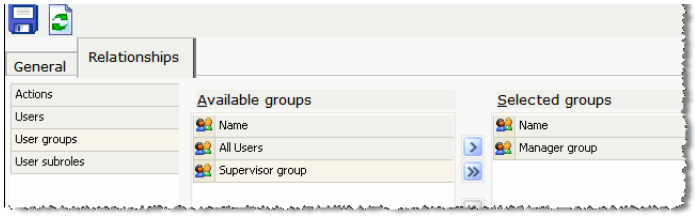
Set general properties

4. Next, go to the Relationships tab and do the following.
   a. In the Actions section, select the actions for the role. Make sure you select all the actions that are required to do a task. For example, if you want a user with this role to be able to manage resolution codes, then make sure you assign all the four actions, Resolution - Create, View, Edit, and Delete, to the role.



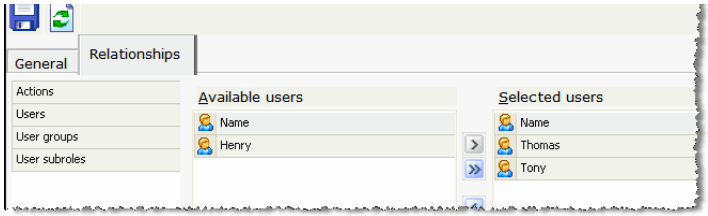
Select actions

b. Go to the User groups section, and assign the role to user groups. You can also choose to assign roles to users individually; however, it is recommended that you assign roles to user groups. It helps you manage your users better.



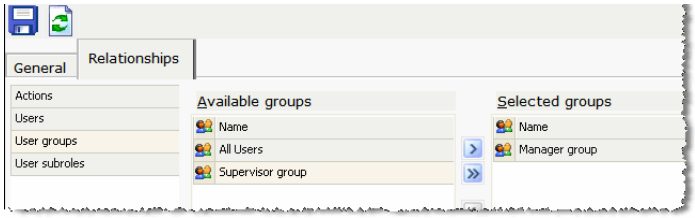
Assign the role to user groups

c. Next go to the Users section, and assign the role to users.



Assign the role to users

d. Now go to the User subroles section, and select the roles you want to associate with this role as subroles. You can even set default roles as subroles. To know more about subroles, see "Creating user subroles" on page 121.



Select user subroles

5. Click the **Save** button to save the role that you have created.

The role that you create is displayed in the List pane.

Creating user subroles

A sub role is a sub set of actions required by a user to function in the system. It is an advanced feature of user management and it helps you manage user actions in a better way. You can create task-based roles and use these roles as subroles of bigger roles in the system. For example, you want your supervisor and administrator to have some common actions. Instead of assigning individual actions to the user, you can create a role, with those actions, and associate that role as a sub role to the supervisor and administrator role.

A role can be a subrole of more than one roles.

To create a subrole:

1. In the Tree pane, browse to the **Users** node. Based on where you want to create a user subrole, do one of the following:
   - If you are a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Roles.**
   - If you are a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Roles.**
   - If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Roles.**
2. Select the role for which you want to create a subrole.
   - If you want to use an existing role as a subrole, go to Relationships tab and in the User subroles section, select from the available roles.

Select subroles

   - If you want to create a new subrole, follow steps 2 to 5 in "Creating user roles" on page 120. When you create a role under an existing role, it automatically becomes the subrole of the role.

   When a role with subroles is assigned, all its subroles are automatically assigned to the users.

Deleting user roles and subroles

Delete the user roles that are not needed anymore. Before deleting a role, make sure that it is not assigned to any user. The system does not check to see if the role is in use or not.

The system provided roles cannot be deleted. These roles are:

- In the system partition: System Administrator
- In the business partition: Partition Administrator
- In a department: Administrator, Agent, Agent (read only), Supervisor, Supervisor (read only), Author

To delete a user role or subrole:

1. In the Tree pane, browse to the **Users** node. Based on where you want to delete the user role from, do one of the following:
   - If you are a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Roles.**
   - If you are a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Roles.**

- If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Roles.**

2. In the List pane, select the role or subrole you want to delete.
3. In the List pane toolbar, click the **Delete** button.

   You will be prompted to confirm the deletion. Click **OK** to delete the role.

Managing user groups

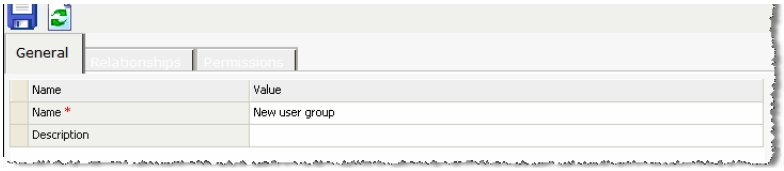
This section talks about:

- Creating user groups in system partition on page 123
- Creating user groups in business partition on page 125
- Creating user groups in departments on page 127
- Creating user subgroups on page 132
- Deleting user groups on page 133

Creating user groups in system partition

To create a group of system administrators:

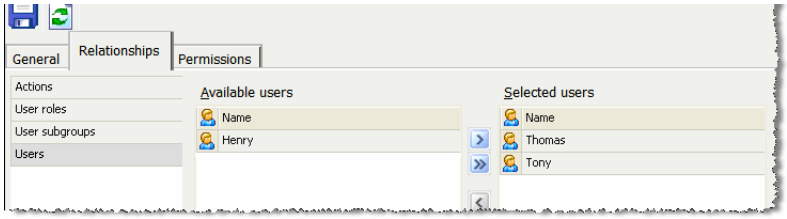
1. Log in to the system partition (zero partition) and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Partition: System > User > Groups.**
3. In the List pane toolbar, click the **New** button.
4. In the Properties pane, on the General tab, provide the name and description for the user group.



Set general properties

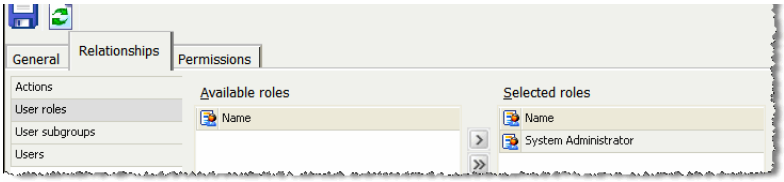
5. Click the **Save** button. The Relationships and Permissions tabs are enabled only after you click **Save**.
6. In the Relationships tab, do the following.

   a. Go to the Users tab and select the users who should be part of this user group.



Select users

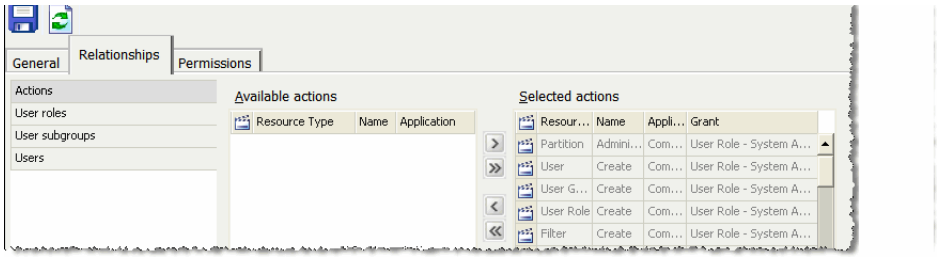
b. Go to the User roles tab and select the roles to be assigned to the user group. If you want to view the actions that come as part of the selected role, save the user group and go to the Actions tab to see the list of actions.



Select user roles

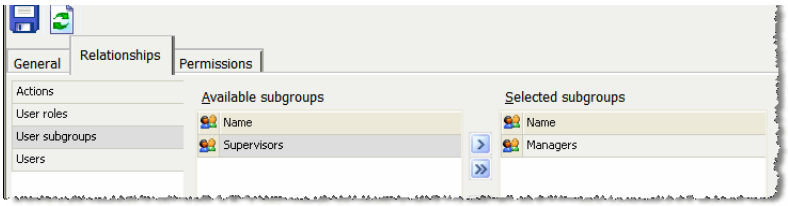
c. Next, go to the Actions tab, and view the list of actions assigned to the user group. Here you can also assign additional actions to the user group. From the Grant field in the Selected actions section, you can identify how actions are assigned to the user. The actions assigned as part of the role show the name of the role, and actions assigned explicitly show the value “Explicit”.

It is highly recommended that you do not assign actions directly to user groups. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see “Creating user roles” on page 120.



Select actions

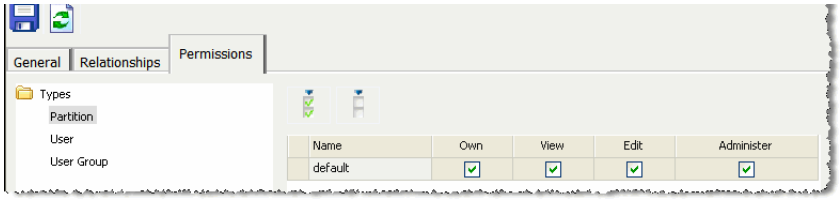
d. Next, go to the User subgroups section and select sub groups for the group. For more details on subgroups, see “Creating user subgroups” on page 132.



Select user subgroups

7. Click the **Save** button to enable the various options in the Permissions tab.

8. On the Permissions tab, assign permissions for the following objects.
   - **Partition:** Own, View, Edit, Administer
   - **User:** Own, View, Edit, Delete
   - **User group:** Own, View, Edit, Delete, Own, View Edit, Delete



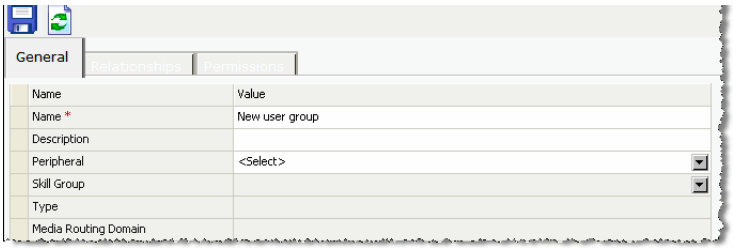
Assign permissions

9. Click the **Save** button.

Creating user groups in business partition

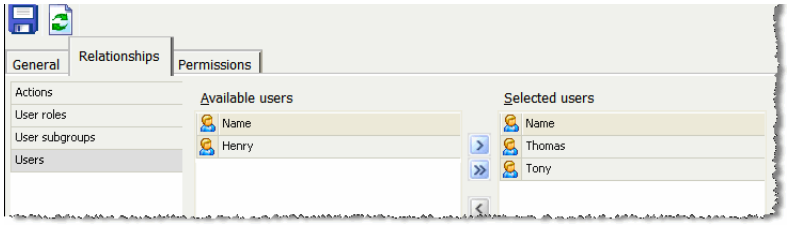
To create a group of partition administrators:

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Partition:** *Partition_Name* **> User > Groups.**
3. In the List pane toolbar, click the **New** button.
4. In the Properties pane, on the General tab, provide the name and description for the user group. Ignore the following fields as they do not need to be set - Peripheral, Skill group, Type, Media Routing Domain.



Set general properties

5. Click the **Save** button. The Relationships and Permissions tabs are enabled only after you click **Save**.
6. In the Relationships tab, do the following.
   a. Go to the Users tab and select the users who should be part of this user group.



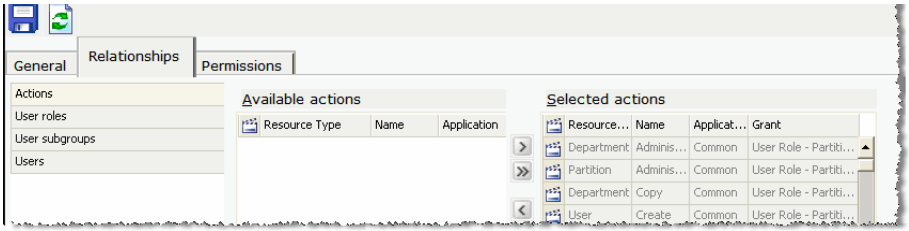
Select users

b. Go to the User roles tab and select the roles to be assigned to the user group. If you want to view the actions that come as part of the selected role, save the user group and go to the Actions tab to see the list of actions.

Select user roles

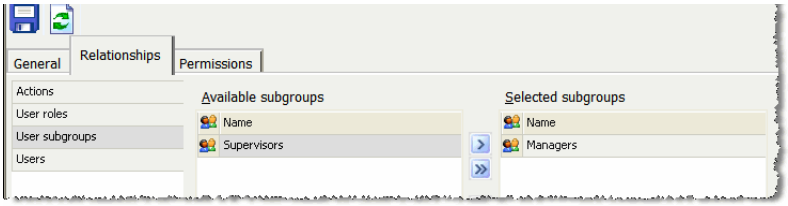
c. Next, go to the Actions tab, and view the list of actions assigned to the user group. Here you can also assign additional actions to the user group. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned as part of the role show the name of the role, and actions assigned explicitly show the value "Explicit".

It is highly recommended that you do not assign actions directly to user groups. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see "Creating user roles" on page 120.



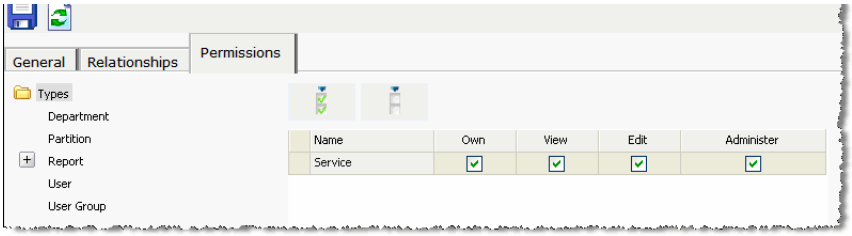
Select actions

d. Next, go to the User subgroups section and select subgroups for the group. For more details on subgroups, see "Creating user subgroups" on page 132.



Select user subgroup

7. Click the **Save** button to enable the various options in the Permissions tab.
8. On the Permissions tab, assign permissions for the following objects.
   - **Department:** Own, View, Edit, Administer
   - **Partition:** Own, View, Edit, Administer
   - **Report:** View, Run, Edit, Delete, Schedule
   - **User:** Own, View, Edit, Delete
   - **User group:** Own, View, Edit, Delete, Own, View Edit, Delete



Assign permissions

9. Click the **Save** button.

Creating user groups in departments

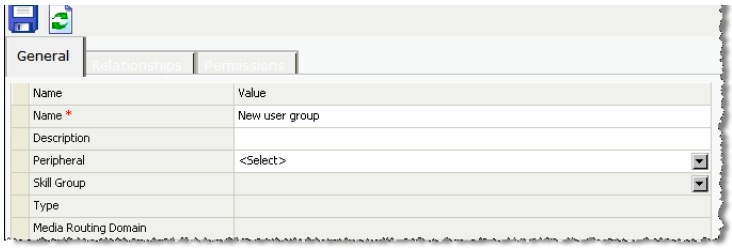
This section talks about:

- Creating groups of standalone users on page 127
- Creating groups of integrated users on page 130

Creating groups of standalone users

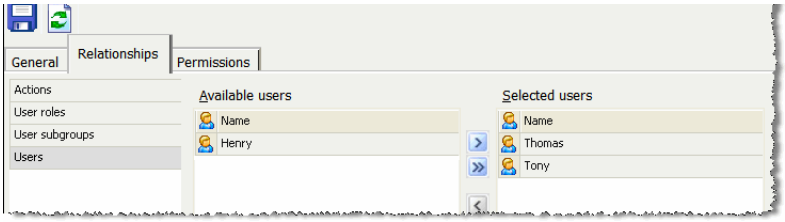
To create a group of standalone users:

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Groups.**
3. In the List pane toolbar, click the **New** button.
4. In the Properties pane, on the General tab, provide the name and description for the user group. Ignore the following fields as they do not need to be set for standalone user groups - Peripheral, Skill group, Type, Media Routing Domain.



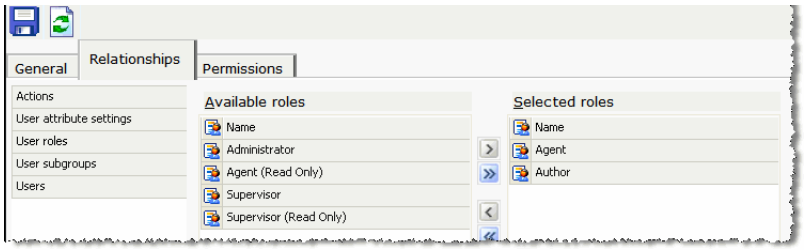
Set general properties

5. Click the **Save** button. The Relationships and Permissions tabs are enabled only after you click **Save**.
6. In the Relationships tab, do the following.
   a. Go to the Users tab and select the users who should be part of this user group. Only standalone users are displayed here.



Select users

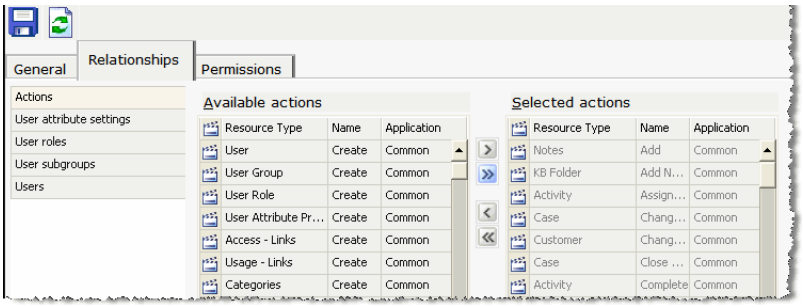
b. Go to the User roles tab and select the roles to be assigned to the user group. If you want to view the actions that come as part of the selected role, save the user group and go to the Actions tab to see the list of actions.



Select user roles

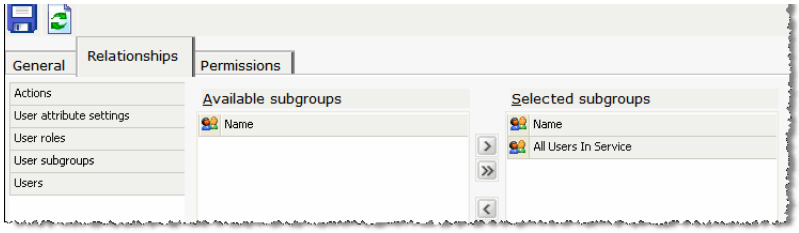
c. Next, go to the Actions tab, and view the list of actions assigned to the user group. Here you can also assign additional actions to the user group. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned as part of the role show the name of the role, and actions assigned explicitly show the value “Explicit”.

It is highly recommended that you do not assign actions directly to user groups. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see “Creating user roles” on page 120.



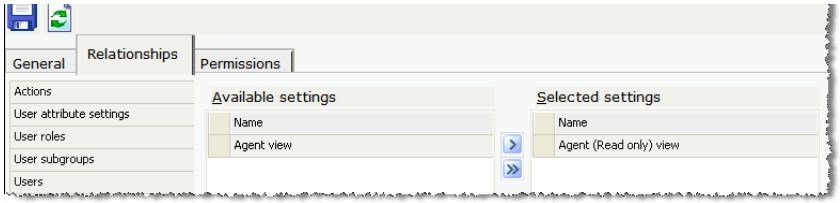
Select actions

d. Next, go to the User subgroups section and select sub groups for the group. For more details on subgroups, see Creating user subgroups on page 132.



Select user subgroup

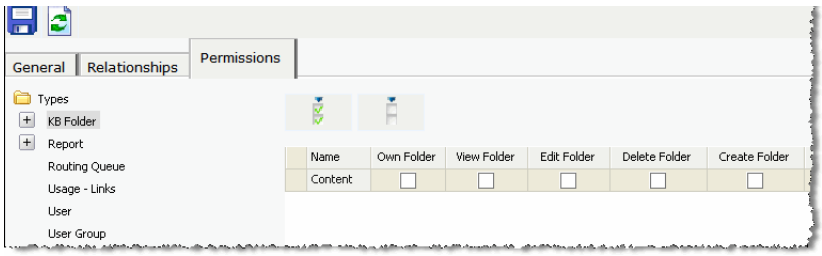
e. Next, go the User attribute settings tab and select a user attribute setting for the group. This lets you control the level of access a user has in the system. For more details on user attribute settings, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*



Select user attributes

Important: **User attributes settings cannot be created in the Basic edition of Unified WIM and Unified EIM.**

7. Click the **Save** button to enable the various options in the Permissions tab.
8. On the Permissions tab, assign permissions for the following objects.
   - **KB Folder:** Own folder, View folder, Edit folder, Delete folder, Create folder, Create article, Edit article, Delete article, Suggest article, Manage suggestions, View personal folder
   - **Report:** View, Run, Edit, Delete, Schedule
   - **Routing Queue:** Own, View, Edit, Delete, Transfer activities, Pull activities
   - **Usage - Links:** Own, View, Edit, Delete, Execute
   - **User:** Own, View, Edit, Delete, Transfer activities, Pull activities
   - **User group:** Own, View, Edit, Delete, Transfer activities, Pull activities



Set permissions

9. Click the **Save** button.

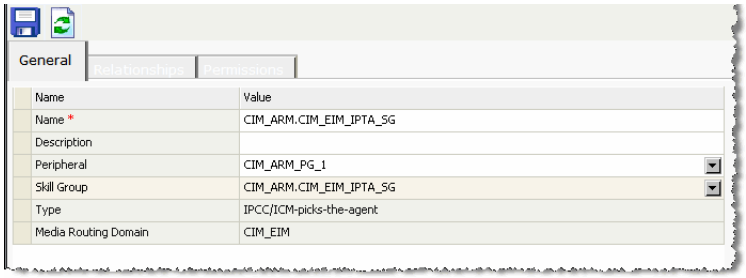
Creating groups of integrated users

To create a group of integrated users:

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Groups.**
3. In the List pane toolbar, click the **New** button.
4. In the Properties pane, on the General tab, provide the following details:
   - **Peripheral:** From the dropdown list, select the Unified CCE peripheral to which the skill group belongs. Every time the user group administration screen is loaded, the peripheral list is dynamically populated with the current list of peripherals that exist in Unified CCE.
   - **Skill group:** From the dropdown list, select the skill group to which the user group should map. All Unified CCE skill groups that belong to the selected peripheral are dynamically retrieved from Unified CCE. One skill group can be mapped to only one user group.

   When you select a skill group, a message is displayed that a Cisco Interaction Manager user group is getting mapped to an IPCC/ICM skill group and this would affect the reporting of the skill group. Once you click the **OK** button in the message, the following fields are populated automatically.
   - **Name:** The name of the user group is displayed. Do not change the value of this field.
   - **Type:** The type of skill group. If the user group is mapped to an IPTA skill group, the type would be "IPCC/ICM-picks-the-agent". If the user group is not mapped to a NIPTA skill group, the type would be "CIM-picks-the-agent". The value in this field cannot be changed.
   - **Media Routing Domain:** It displays the Media Routing Domain associated with the skill group selected in the **Skill group** field. The value in this field cannot be changed.

   In addition to these properties, you can also provide a brief description of the user group.
   - **Description:** Provide a brief description.

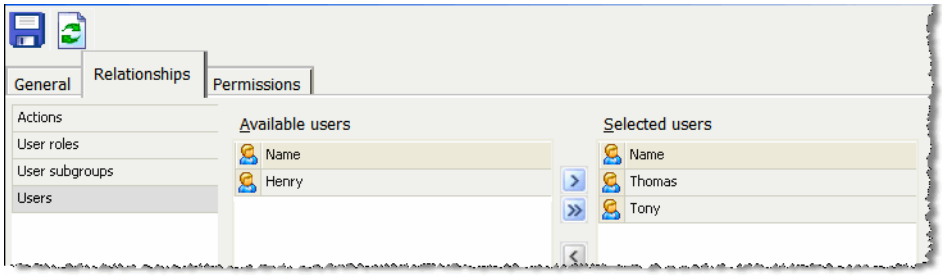


Set general properties

5. Click the **Save** button. The Relationships and Permissions tabs are enabled only after you click **Save**.
6. Next, on the **Relationships** tab, configure the following properties.

> Important: **The Relationships tab is not enabled for user groups mapped to IPTA skill groups.**

   a. Go to the Users section and select the users who should be part of this user group. Only NIPTA users are displayed here.



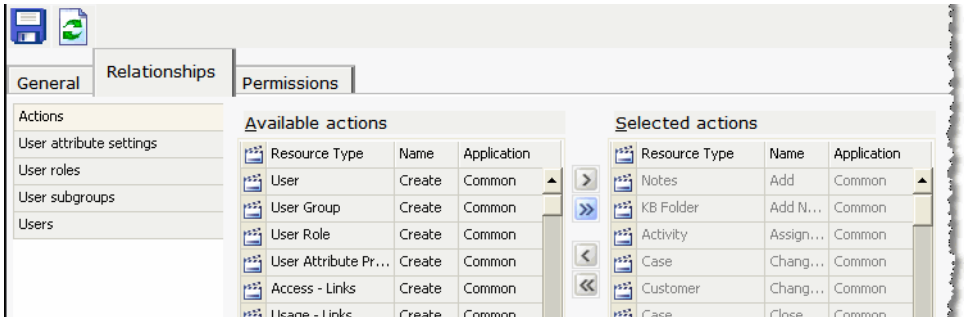
Select users

b. Go to the User roles section and select the roles to be assigned to the user group. If you want to view the actions that come as part of the selected role, save the user group and go to the Actions tab to see the list of actions.

Select user roles

c. Next, go to the Actions section, and view the list of actions assigned to the user group. Here you can also assign additional actions to the user group. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned as part of the role show the name of the role, and actions assigned explicitly show the value “Explicit”.

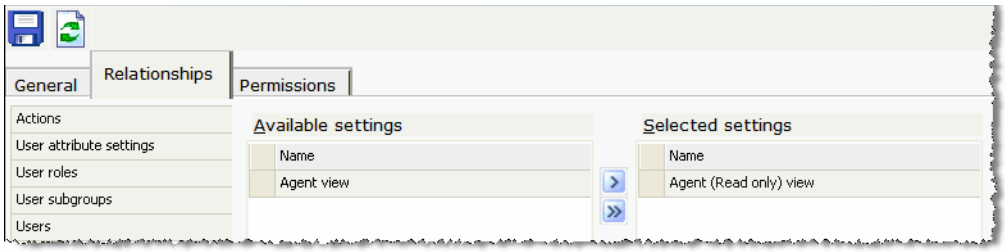
It is highly recommended that you do not assign actions directly to user groups. You should always create a user role, with the actions, and assign the role to the user group. This makes user management easier. For more details on creating user roles, see “Creating user roles” on page 120.



Select actions

d. Next, go the User attribute settings tab and select a user attribute setting for the group. This lets you control the level of access a user has in the system. For more details on user attribute settings, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*

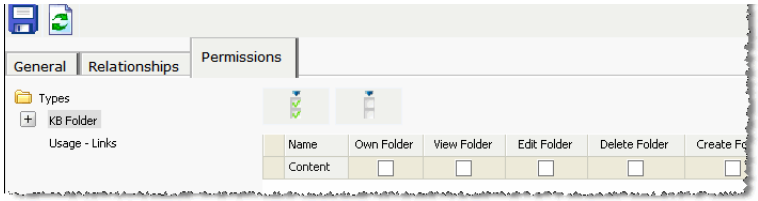
Important: **User attributes settings cannot be created in the Basic edition of Unified WIM and Unified EIM.**



Select user attributes

For integrated user groups, do not select any subgroups.

7. Click the **Save** button to enable the various options in the Permissions tab.
8. On the Permissions tab, assign permissions for the following objects.
   - **KB Folder:** Own folder, View folder, Edit folder, Delete folder, Create folder, Create article, Edit article, Delete article, Suggest article, Manage suggestions, View personal folder
   - **Usage - Links:** Own, View, Edit, Delete, Execute



Assign permissions

9. Click the **Save** button.

Creating user subgroups

A group can be added as a subgroup to another group, to assign additional privileges such as, roles, actions, permissions, etc. to the subgroup. For example, if you want the administrator group to also act as supervisors, you can add the administrator group as the subgroup of the supervisor group. Along with the privileges the administrator group already has, it also gets all the privileges of the supervision group.

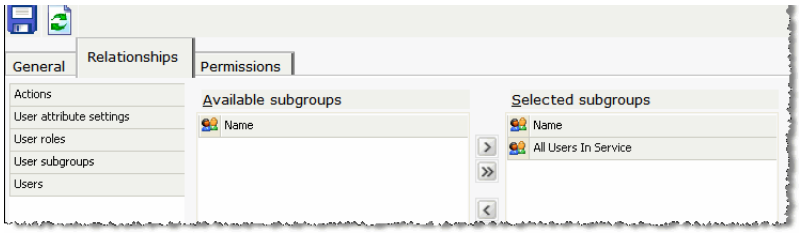
Do not create subgroups for integrated user groups.

To create a subgroup:

1. In the Tree pane, browse to the **Users** node. Based on where you want to create a user subgroup, do one of the following.

- If you are a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Groups.**
- If you are a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Groups.**
- If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Groups.**

2. Select the group for which you want to create a subgroup.
   - If you want to use an existing group as a subgroup, go to Relationships tab and in the User subgroups section, select from the available groups.



Select subgroups

   - If you want to create a new subgroup, follow steps 3 to 9 from one of the following sections: "Creating user groups in system partition" on page 123, "Creating user groups in business partition" on page 125, "Creating user groups in business partition" on page 125,"Creating groups of standalone users" on page 127, or "Creating groups of integrated users" on page 130. When you create a group under an existing group, it automatically becomes the subgroup of the group.

Deleting user groups

If a Cisco Interaction Manager user group is mapped to a Unified CCE skill group, and the Unified CCE skill group is deleted, when the Cisco Interaction Manager user group is clicked, a warning appears indicating that the user group will be unmapped in Cisco Interaction Manager.

To delete a user group:

1. In the Tree pane, browse to the **Users** node. Based on from where you want to delete the user group, do one of the following.
   - If you are a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Roles.**
   - If you are a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Roles.**
   - If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Roles.**
2. In the List pane, select the user group you want to delete.
3. In the List pane toolbar, click the **Delete** ✕ button.

Managing users

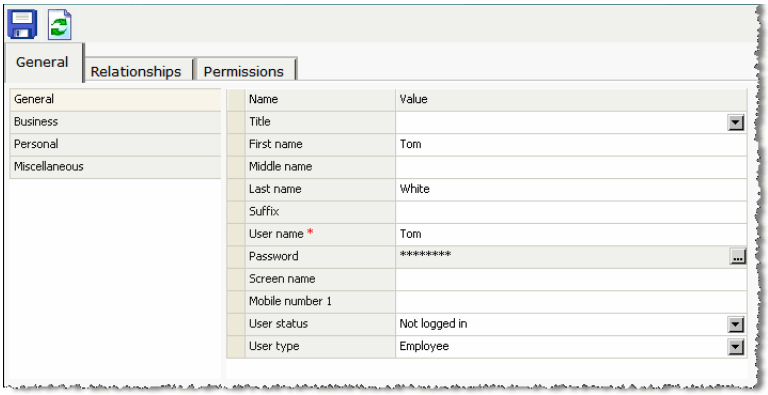
This section talks about:

- Creating system administrators on page 134
- Creating partition administrators on page 138
- Creating department users on page 142
- Deleting users on page 153
- Changing user status on page 154
- Assigning manager of users on page 155
- Sharing users with other departments on page 156

Creating system administrators

1. Log in to the system partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Partition: System > User > Users.**
3. In the List pane toolbar, click the **New** button
4. In the Properties pane, on the General tab, set the following:
   a. In the General section, provide the following details.
      - **User name**: Type a name for the user. This name is used by the user to log in to the application.
      - **Password**: Type the password.
      - **User status**: Select the status of the user. By default the new user's status is **Enabled**. Once the user is saved, the following four options are available: Enabled, Disabled, Logged in, and Not logged in. For more information, see "Changing user status" on page 154

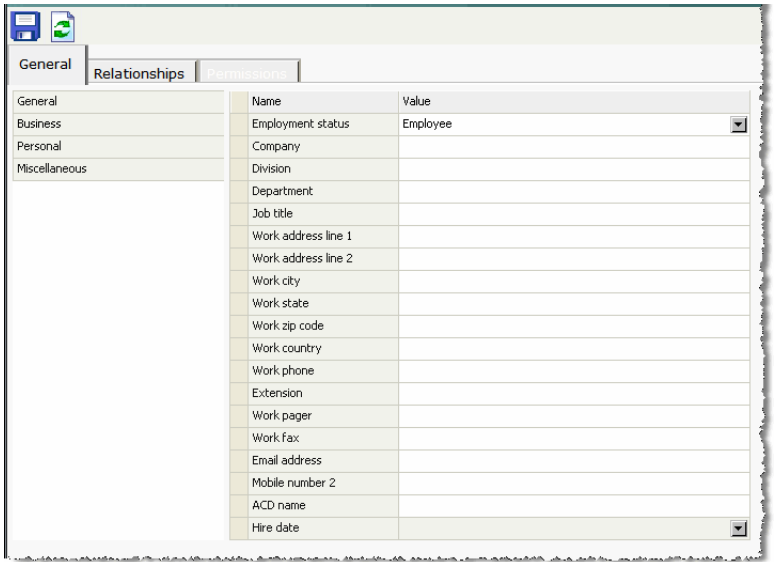
      The following fields are optional.
      - **Title**
      - **First name**
      - **Middle name**
      - **Last name**
      - **Suffix**
      - **Screen name:** This field is not in use.
      - **Mobile number 1**
      - **User type**



Set general properties

b. Next, go to the Business section, and provide the following information. All the fields are optional.

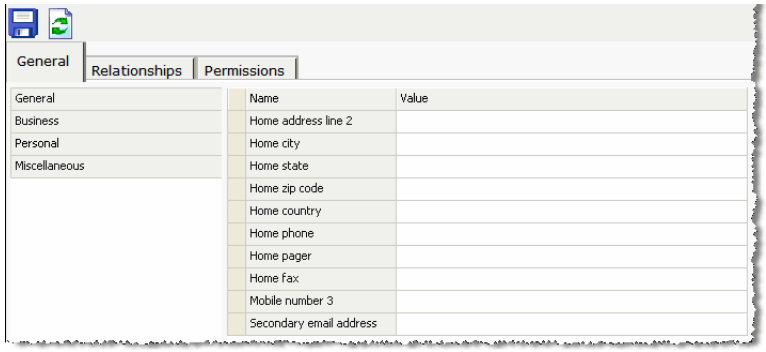
- **Employment status:** The options available are - Customer, Employee, Partner, and Reseller.
- **Company**
- **Division**
- **Department**
- **Job title**
- **Work address line 1**
- **Work address line 2**
- **Work city**
- **Work state**
- **Work zip code**
- **Work country**
- **Work phone**
- **Extension**
- **Work pager**
- **Work fax**
- **Email address**
- **Mobile number 2**
- **ACD name**
- **Hire date**



Set business properties

c. Next, go to the Personal section, and provide the following information. All the fields are optional.

- **Home address line 2**
- **Home city**
- **Home state**
- **Home zip code**
- **Home country**
- **Home phone**
- **Home pager**
- **Home fax**
- **Mobile number 3**
- **Secondary email address**

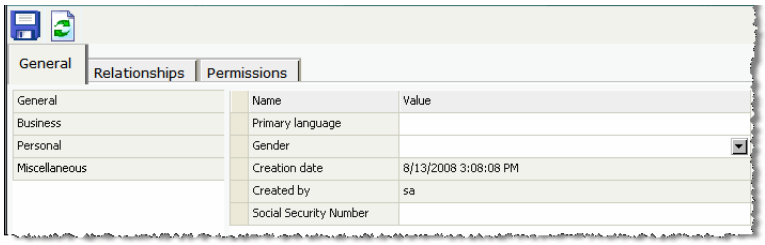


Set personal properties

d. Finally, go to the Miscellaneous section, and provide the following information. All the fields are optional.

- **Primary language**

- **Gender**
- **Creation date**: This field displays the name of the user who created the user. The value is populated automatically when the user is saved and it cannot be changed.
- **Created by**: This field displays the date and time when the user is created. The value is populated automatically when the user is saved and it cannot be changed.
- **Social Security Number**

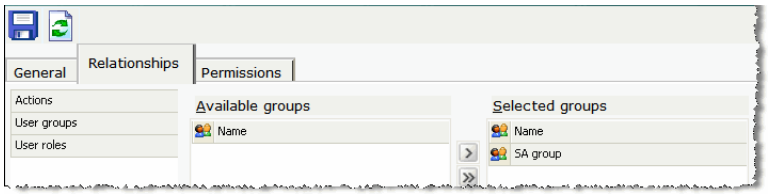


Set miscellaneous properties

5. Next, go to the Relationships tab, and set the following.

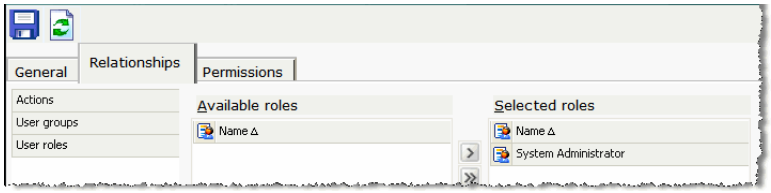
   a. Go to the User groups section and select the user group to which you want to add the user. If you have not created any user groups yet, you can create them and add the users later. For more details, see "Creating user groups in system partition" on page 123. Although it is optional to manage users through user groups, we highly recommend that you use groups as it makes user management easier.

   When a user is added to a group, he is automatically assigned the roles and actions of the group. You can also choose to assign actions and roles to users individually; however, it is not recommended.



Select user groups

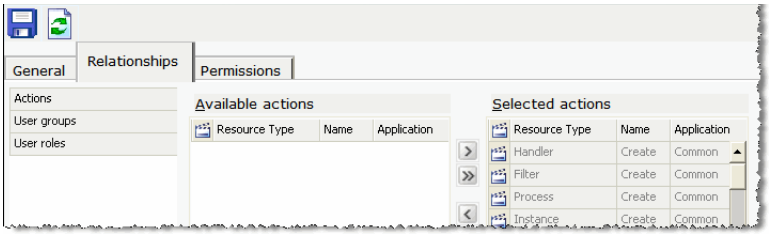
   b. Go to the User roles section and select the roles to be assigned to the user. If you want to view the actions that come as part of the selected role, save the user and go to the Actions tab to see the list of actions.



Select user roles

   c. Next, go to the Actions section, and view the list of actions assigned to the user. Here you can also assign additional actions to the user. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned explicitly show the value "Explicit".

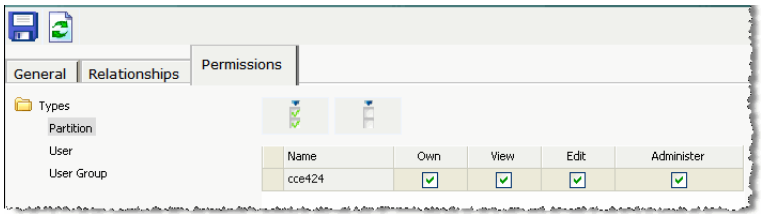
It is highly recommended that you do not assign actions directly to user. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see "Creating user roles" on page 120.



Select actions

6. Click the **Save** button to enable the various options in the Permissions tab.
7. On the Permissions tab, assign permissions for the following objects.
   - **Partition:** Own, View, Edit, Administer
   - **User:** Own, View, Edit, Delete
   - **User group:** Own, View, Edit, Delete, Own, View Edit, Delete

   If you have added a user to a user group, and the user group has permissions on various objects, then that permissions show selected and disabled. If you are using user groups for user management, you should assign permissions to user groups, and not to individual users.



Set permissions

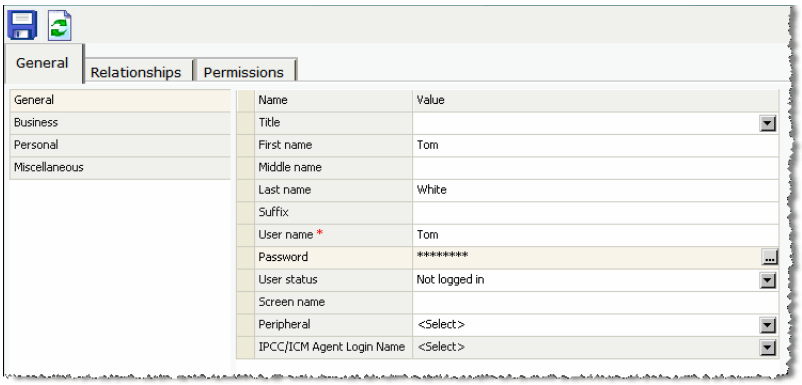
8. Click the **Save** button.

Creating partition administrators

1. Log in to the business partition and go to the Administration Console.
2. In the Tree pane, browse to **Administration > Partition:** *Partition_Name* **> User > Users.**
3. In the List pane toolbar, click the **New** button.
4. In the Properties pane, on the General tab, set the following:
   a. In the General section, provide the following details:
      - **User name**: Type a name for the user. This name is used by the user to log in to the application.
      - **Password**: Type the password.
      - **User status**: Select the status of the user. By default the new user's status is **Enabled**. Once the user is saved, the following four options are available: Enabled, Disabled, Logged in, and Not logged in. For more information, see "Changing user status" on page 154.

The following fields are optional.

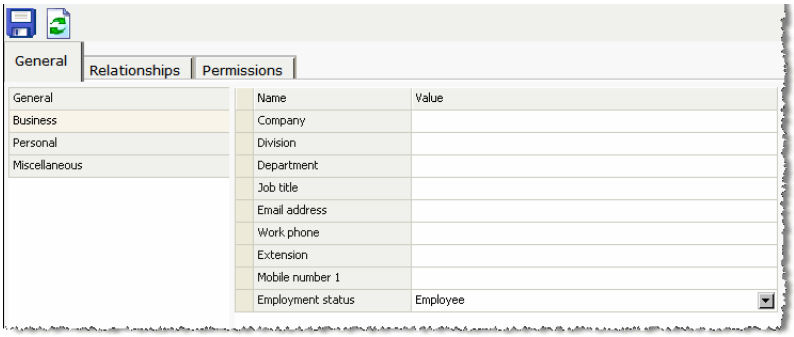
- **Title**
- **First name**
- **Middle name**
- **Last name**
- **Suffix**
- **Screen name:** This field is not in use.
- **Peripheral:** This field is not in use.
- **IPCC/ICM Agent Login Name:** This field is not in use.



Set general properties

b. Next go to the Business section, and provide the following information. All the fields are optional.

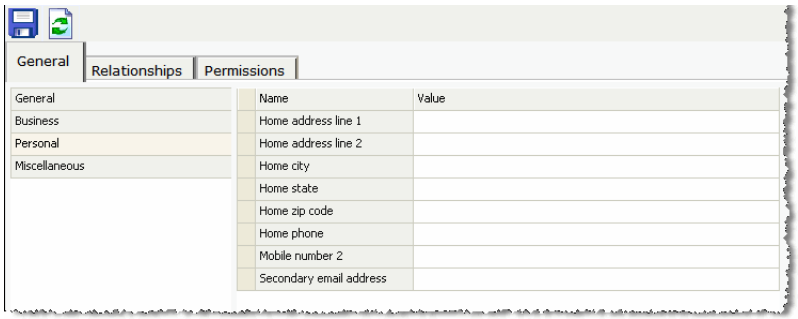
- **Company**
- **Division**
- **Department**
- **Job title**
- **Email address**
- **Work phone**
- **Extension**
- **Mobile number 1**
- **Employment status:** The options available are - Customer, Employee, Partner, and Reseller.



Set business properties

c. Next, go to the Personal section, and provide the following information. All the fields are optional.

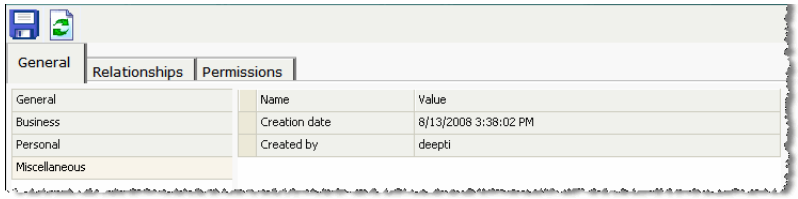
- **Home address line 1**
- **Home address line 2**
- **Home city**
- **Home state**
- **Home zip code**
- **Home phone**
- **Mobile number 2**
- **Secondary email address**



Set personal properties

d. Finally, go to the Miscellaneous section. The following information is displayed.

- **Creation date**: This field displays the name of the user who created the user. The value is populated automatically when the user is saved and it cannot be changed.
- **Created by**: This field displays the date and time when the user is created. The value is populated automatically when the user is saved and it cannot be changed.

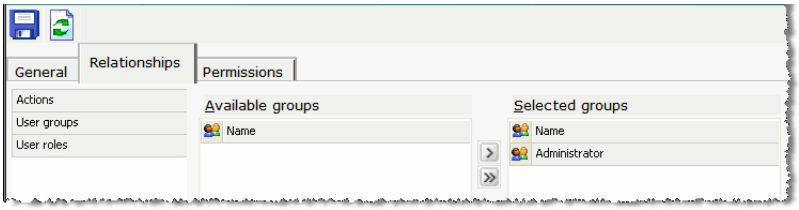


View miscellaneous properties

5. Next, go to the Relationships tab, and set the following.

a. Go to the User groups section and select the user group to which you want to add the user. If you have not created any user groups yet, you can create them and add the users later. For more details, see "Creating user groups in business partition" on page 125. Although it is optional to manage users through user groups, we highly recommend that you use groups as it makes user management easier.

When a user is added to a group, he is automatically assigned the roles and actions of the group. You can also choose to assign actions and roles to users individually; however, it is not recommended.



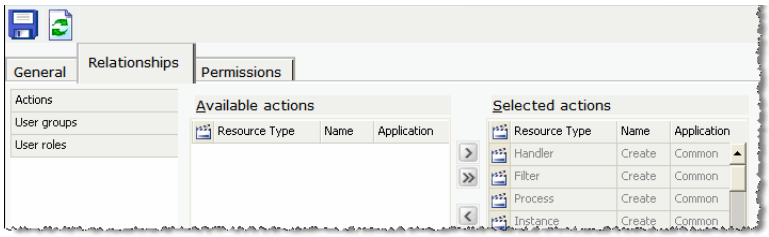
Select user groups

b. Go to the User roles section and select the roles to be assigned to the user. If you want to view the actions that come as part of the selected role, save the user and go to the Actions tab to see the list of actions.

Select user roles

c. Next, go to the Actions section, and view the list of actions assigned to the user. Here you can also assign additional actions to the user. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned explicitly show the value “Explicit”.

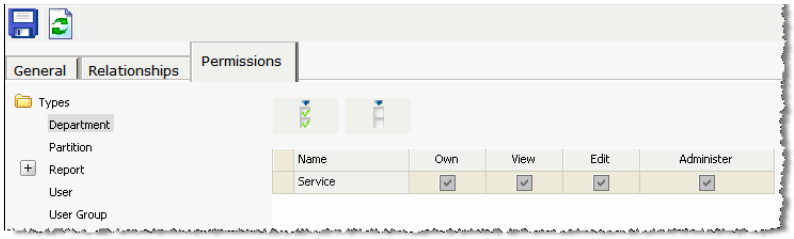
It is highly recommended that you do not assign actions directly to user. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see “Creating user roles” on page 120.



Select actions

6. Click the **Save** button to enable the various options in the Permissions tab.
7. On the Permissions tab, assign permissions for the following objects.
   - **Department:** Own, View, Edit, Administer
   - **Partition:** Own, View, Edit, Administer
   - **Report:** View, Run, Edit, Delete, Schedule
   - **User:** Own, View, Edit, Delete
   - **User group:** Own, View, Edit, Delete, Own, View Edit, Delete

   If you have added a user to a user group, and the user group has permissions on various objects, then those permissions show selected and disabled. If you are using user groups for user management, you should assign permissions to user groups, and not to individual users.



Set permissions

8. Click the **Save** button.

Creating department users

This section talks about:

- Creating standalone users on page 142
- Creating integrated users on page 148

Creating standalone users

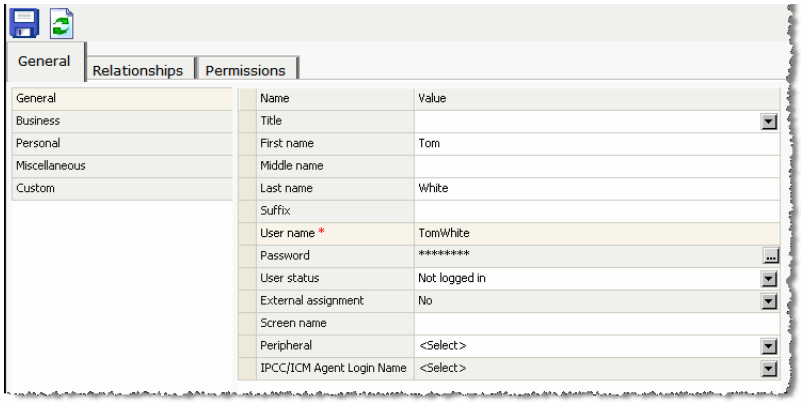
To create a standalone user:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Users.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, set the following.
   a. In the General section, provide the following details:
      - **User name**: Type a name for the user. This name is used by the user to log in to the application.
      - **Password**: Type the password. There are important setting related to setting up password. For more details, see "User account settings" on page 39.
      - **Screen name:** You need to set the screen name for a user who has the Unified WIM license. This is the name displayed to chat customers in the Customer Console. You can use the same screen name for more than one user in the system.
      - **User status**: Select the status of the user. By default the new user's status is **Enabled**. Once the user is saved, the following four options are available: Enabled, Disabled, Logged in, and Not logged in. For more information, see "Changing user status" on page 154.

      The following fields are optional.

      - **Title**
      - **First name**
      - **Middle name**
      - **Last name**
      - **Suffix**
      - **External assignment:** This field is not in use and the value of the field cannot be changed.

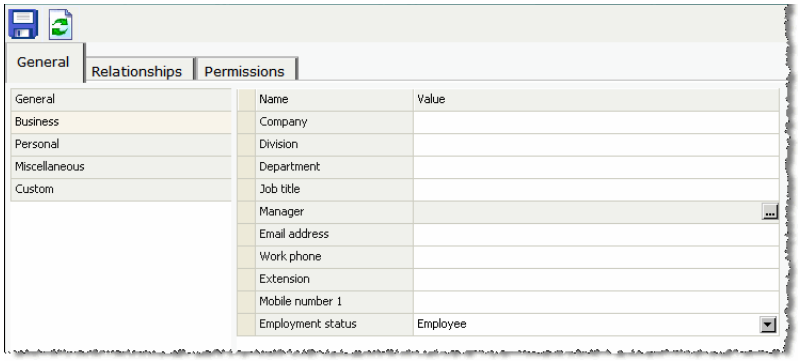
- **Peripheral:** Do not set this field for standalone users.
- **IPCC/ICM Agent Login Name:** Do not set this field for standalone users.



Set general properties

b. Next go to the Business section, and provide the following information. All the fields are optional.

- **Company**
- **Division**
- **Department**
- **Job title**
- **Manager:** Here you can set the manager of a user. For more details, see "Assigning manager of users" on page 155.
- **Email address**
- **Work phone**
- **Extension**
- **Mobile number 1**
- **Employment status:** The options available are - Customer, Employee, Partner, and Reseller.

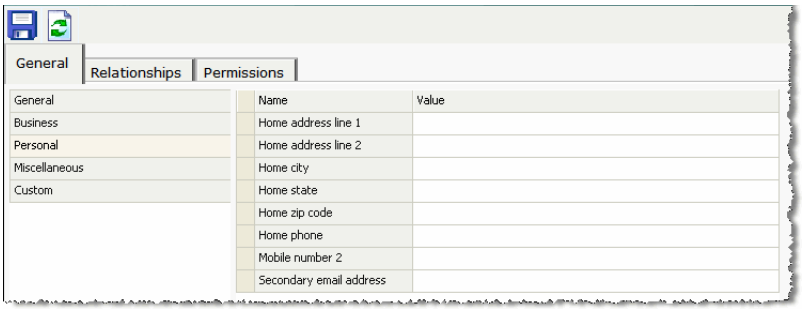


Set business properties

c. Next, go to the Personal section, and provide the following information. All the fields are optional.

- **Home address line 1**
- **Home address line 2**
- **Home city**

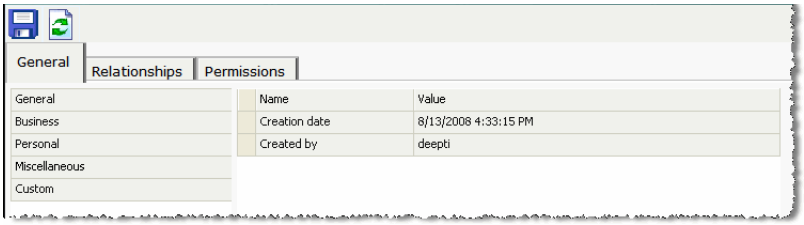
- **Home state**
- **Home zip code**
- **Home phone**
- **Mobile number 2**
- **Secondary email address**



Set personal properties

d. Next, go to the Miscellaneous section. The following information is displayed:

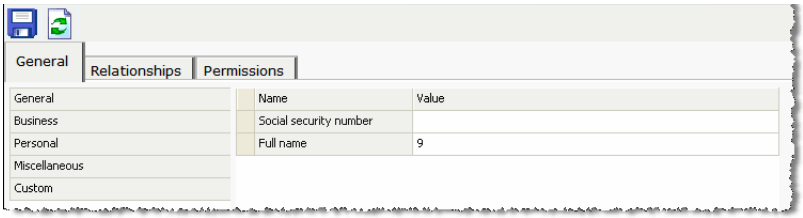
- **Creation date**: This field displays the name of the user who created the user. The value is populated automatically when the user is saved and it cannot be changed.
- **Created by**: This field displays the date and time the user is created. The value is populated automatically when the user is saved and it cannot be changed.



View miscellaneous properties

e. Finally, go to the Custom section. This displays the list of custom attributes created for users. You can add these custom attributes from the Tools Console. First, you need to create the custom attribute from **Tools > Partition:** *Partition_Name* **> Business objects > Attributes setting > System > User data.** Then, add the custom attribute to **Administration Console - Users - General - Custom screen** available at, **Tools > Departments >** *Department_Name* **> Business objects > Attributes settings > Screen.** For more details on custom attribute, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*

Important: **Custom attributes cannot be created in the Basic edition of Unified WIM and Unified EIM.**

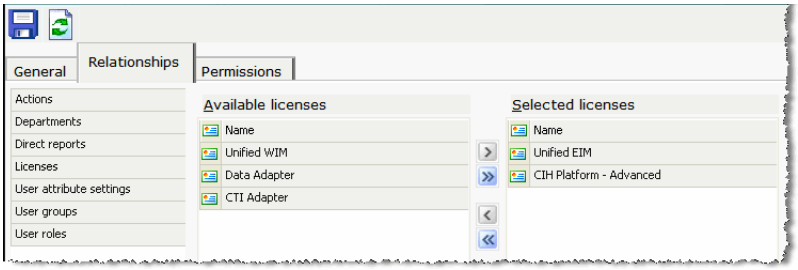


Set custom properties

4. Next, go to the Relationships tab, and set the following.

   a. First, go to the Licenses tab and assign licenses to the user. The following licenses are available:

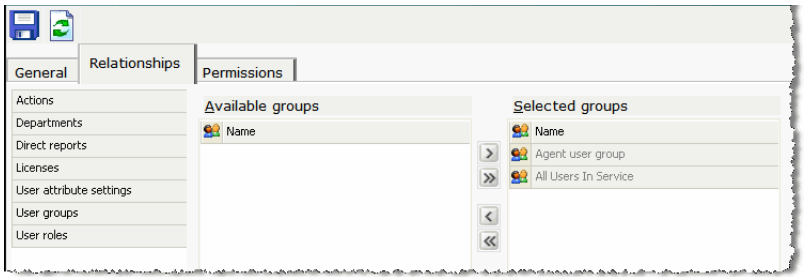
      - CIH Platform - Basic or CIH Platform - Advanced
      - Unified WIM (if Unified WIM is installed)
      - Unified EIM (if Unified EIM is installed)
      - Data adapters



Select licenses

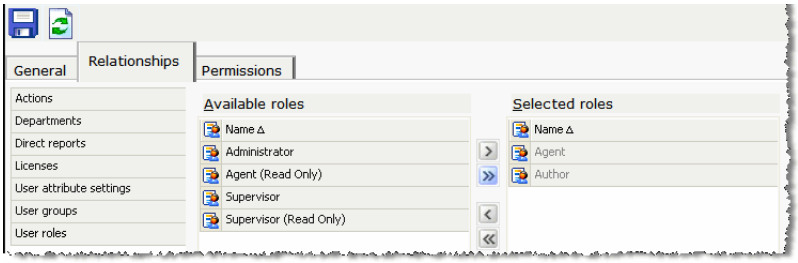
   b. Go to the User groups section and select the user group to which you want to add the user. If you have not created any user groups yet, you can create them and add the users later. For more details, see "Creating user groups in business partition" on page 125. Although it is optional to manage users through user groups, we highly recommend that you use groups as it makes user management easier.

      When a user is added to a group, he is automatically assigned the roles and actions of the group. You can also choose to assign actions and roles to users individually; however, it is not recommended.



Select user groups

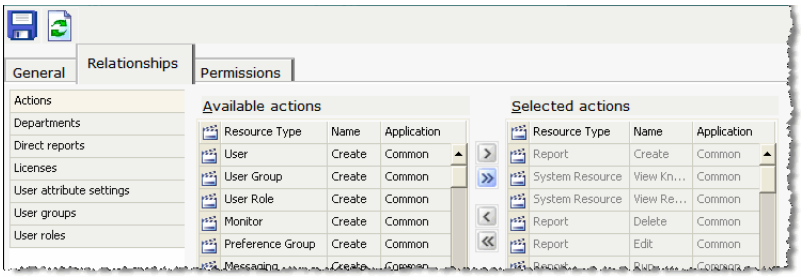
   c. Go to the User roles section and select the roles to be assigned to the user. If you want to view the actions that come as part of the selected role, save the user and go to the Actions tab to see the list of actions.



Select user roles

d. Next, go to the Actions section, and view the list of actions assigned to the user. Here you can also assign additional actions to the user. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned explicitly show the value "Explicit".

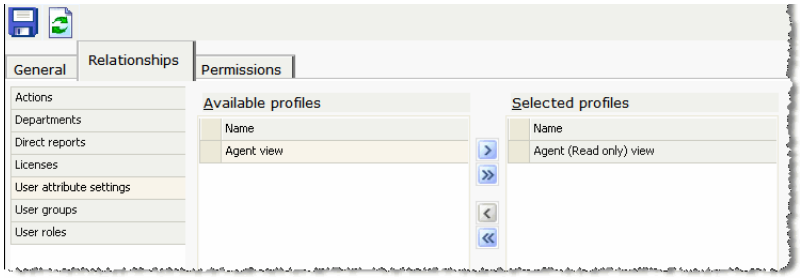
It is highly recommended that you do not assign actions directly to user. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see "Creating user roles" on page 120.



Select actions

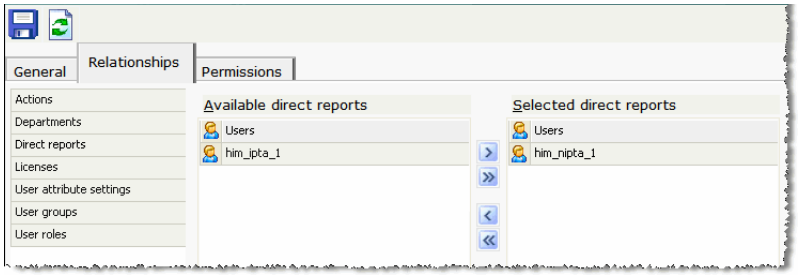
e. Next, go the User attribute settings tab and select a user attribute setting for the group. This lets you control the level of access a user has in the system. For more details on user attribute settings, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*

Important: **User attributes settings cannot be created in the Basic edition of Unified WIM and Unified EIM.**



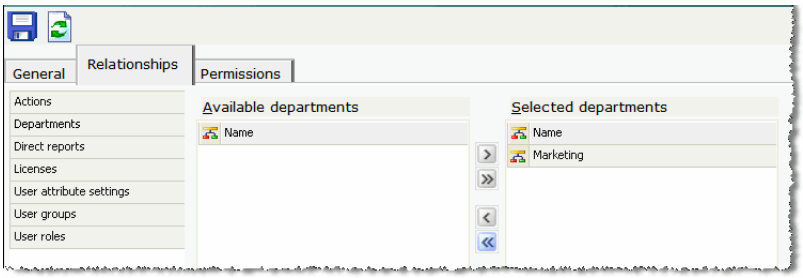
Select user attributes

f. Next, in the Direct reports section you can select the users who reports to this user. For more details, see "Assigning manager of users" on page 155.



Select users for direct reports

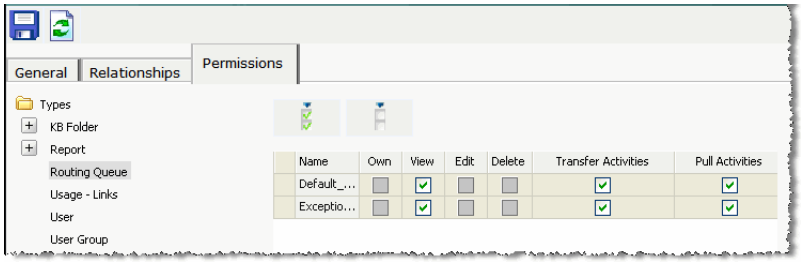
g. Next, in the Departments section you can share the user across departments. For more details, see "Sharing users with other departments" on page 156.



Select departments

5. Click the **Save** button to enable the various options in the Permissions tab.
6. On the Permissions tab, assign permissions for the following objects.
   - **KB Folder:** Own folder, View folder, Edit folder, Delete folder, Create folder, Create article, Edit article, Delete article, Suggest article, Manage suggestions, View personal folder
   - **Report:** View, Run, Edit, Delete, Schedule
   - **Routing Queue:** Own, View, Edit, Delete, Transfer activities, Pull activities
   - **Usage - Links:** Own, View, Edit, Delete, Execute
   - **User:** Own, View, Edit, Delete, Transfer activities, Pull activities
   - **User group:** Own, View, Edit, Delete, Transfer activities, Pull activities

   If you have added a user to a user group, and the user group has permissions on various objects, then that permission shows selected and disabled. If you are using user groups for user management, you should assign permissions to user groups, and not to individual users.



Set permissions

7. Click the **Save** button.

Creating integrated users

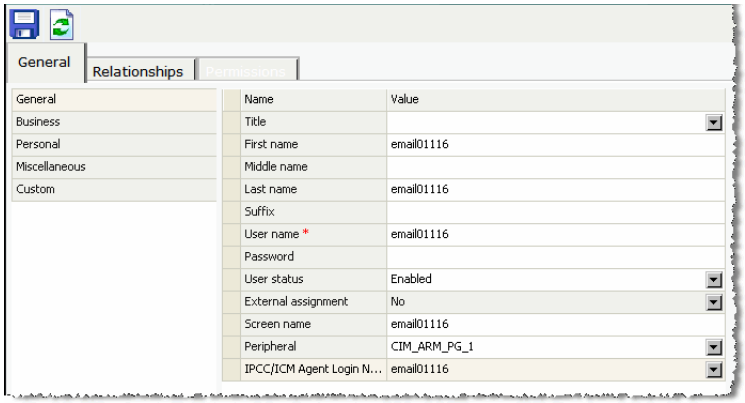
To create an integrated user:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Users.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, set the following.
   a. In the General section, provide the following details.
      - **Peripheral:** From the dropdown list, select the Unified CCE peripheral to which the agent belongs. Every time the user administration screen is loaded, the peripheral list is dynamically populated with the current list of peripherals that exist in Unified CCE.
      - **IPCC/ICM Agent Login Name:** From the dropdown list, select the agent to which the user should map. All Unified CCE agents that belong to the selected peripheral are dynamically retrieved from Unified CCE.

      When you select an agent login name, a message is displayed that a Cisco Interaction Manager user is getting mapped to an IPCC/ICM agent and this would affect the reporting on the agent. Once you click the **OK** button in the message, the following fields are populated automatically.
      - **User name**: This name is used by the user to log in to the application. Do not change the value of this field.
      - **First name:** First name of the user. Do not change the value of this field.
      - **Last name:** Last name of the user. Do not change the value of this field.
      - **Password**: Password of the user. Do not change the value of this field.
      - **Screen name:** The screen name of the chat agent. This is the name displayed to chat customers in the Customer Console. You can change the value in this field. This is a required field for users who have the Unified WIM license. You can use the same screen name for more than one user in the system.
      - **User status**: Select the status of the user. By default the new user's status is **Enabled**. Once the user is saved, the following four options are available: Enabled, Disabled, Logged in, and Not logged in. For more information, see "Changing user status" on page 154.

      If a Cisco Interaction Manager user group is mapped to a Unified CCE skill group, and the skill group attributes are modified in Unified CCE, when the Cisco Interaction Manager user group is clicked, the modifications are automatically retrieved and synchronized in Cisco Interaction Manager.

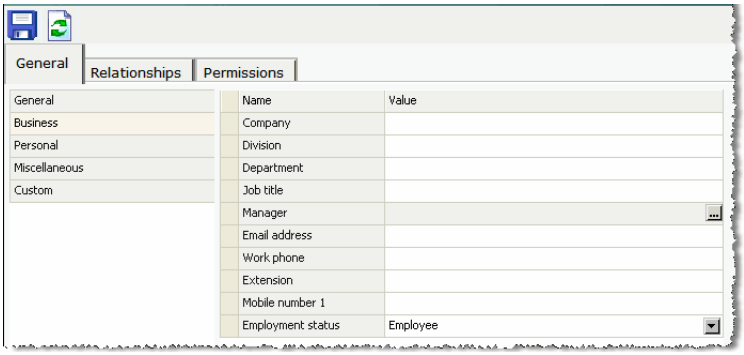
      The following fields are optional.
      - **Title**
      - **Middle name**
      - **Suffix**
      - **External assignment:** This field is not in use and the value of the field cannot be changed.



Set general properties

b. Next go to the Business section, and provide the following information. All the fields are optional.

- **Company**
- **Division**
- **Department**
- **Job title**
- **Manager:** Here you can set the manager of a user. For more details, see "Assigning manager of users" on page 155.
- **Email address**
- **Work phone**
- **Extension**
- **Mobile number 1**
- **Employment status:** The options available are - Customer, Employee, Partner, and Reseller.

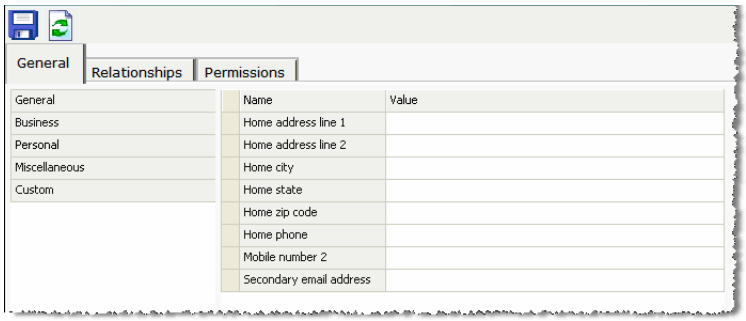


Set business properties

c. Next, go to the Personal section, and provide the following information. All the fields are optional.

- **Home address line 1**
- **Home address line 2**
- **Home city**
- **Home state**
- **Home zip code**

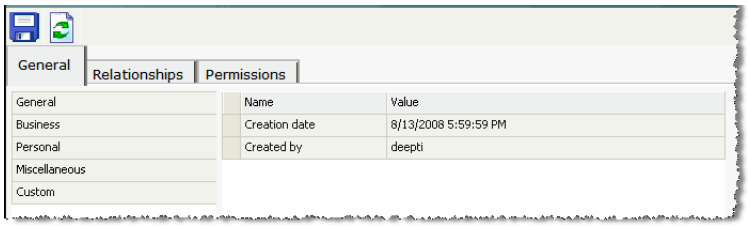
- **Home phone**
- **Mobile number 2**
- **Secondary email address**



Set personal properties

d. Next, go to the Miscellaneous section. The following information is displayed.

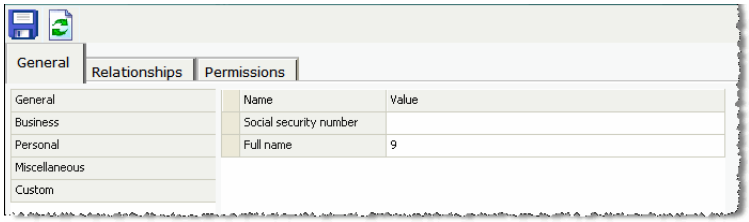
- **Creation date**: This field displays the name of the user who created the user. The value is populated automatically when the user is saved and it cannot be changed.
- **Created by**: This field displays the date and time the user is created. The value is populated automatically when the user is saved and it cannot be changed.



View miscellaneous properties

e. Finally, go to the Custom section. This displays the list of custom attributes created for users. You can add these custom attributes from the Tools Console. First, you need to create the custom attribute from **Tools > Partition:** *Partition_Name* **> Business objects > Attributes setting > System > User data.** Then, add the custom attribute to **Administration Console - Users - General - Custom screen** available at, **Tools > Departments >** *Department_Name* **> Business objects > Attributes settings > Screen.** For more details on custom attribute, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*

Important: **Custom attributes cannot be created in the Basic edition of Unified WIM and Unified EIM.**

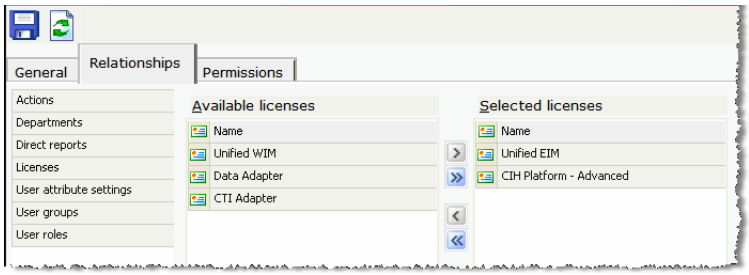


Set custom properties

4. Next, go to the Relationships tab, and set the following.

   a. First, go to the Licenses tab and assign licenses to the user. The following licenses are available:

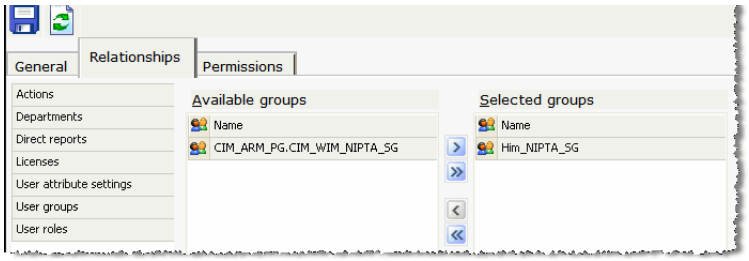
      - CIH Platform - Basic or CIH Platform - Advanced
      - Unified WIM
      - Unified EIM
      - Data adapters



Select licenses

   b. Go to the User groups section and select the user group to which you want to add the user. If you have not created any user groups yet, you can create them and add the users later. For more details, see "Creating user groups in business partition" on page 125. Although it is optional to manage users through user groups, we highly recommend that you use groups as it makes user management easier.

      When a user is added to a group, he is automatically assigned the roles and actions of the group. You can also choose to assign actions and roles to users individually; however, it is not recommended.

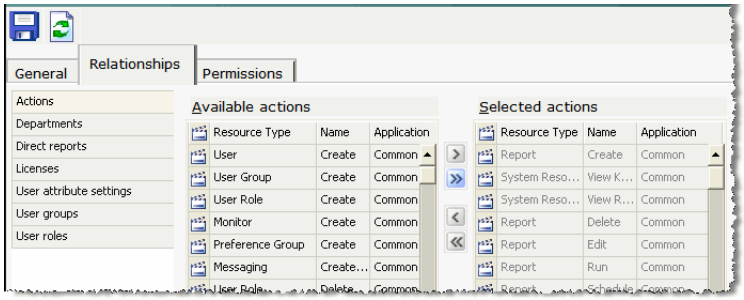


Select user groups

   c. Go to the User roles section and select the roles to be assigned to the user. If you want to view the actions that come as part of the selected role, save the user and go to the Actions tab to see the list of actions.

   d. Next, go to the Actions section, and view the list of actions assigned to the user. Here you can also assign additional actions to the user. You can identify how actions are assigned from the Grant field in the Selected actions section. The actions assigned explicitly show the value "Explicit".

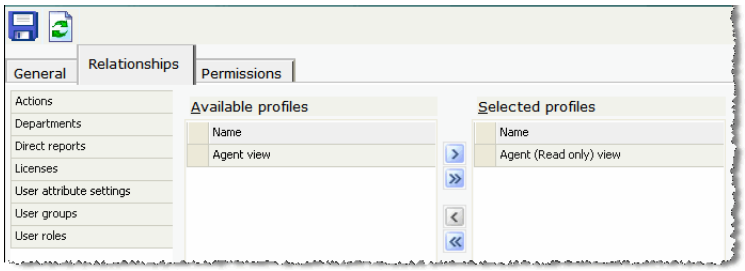
It is highly recommended that you do not assign actions directly to user. You should always create a user role, with the actions, and assign the role to the user. This makes user management easier. For more details on creating user roles, see "Creating user roles" on page 120.



Select actions

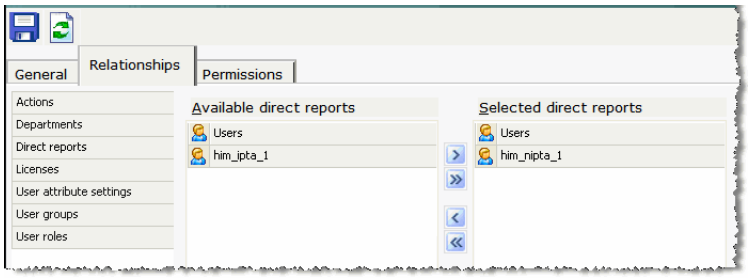
e. Next, go the User attribute settings tab and select a user attribute setting for the group. This lets you control the level of access a user has in the system. For more details on user attribute settings, see *Cisco Unified Web and E-Mail Interaction Manager Tools Console User's Guide.*

User attributes settings cannot be created in the Basic edition of Unified WIM and Unified EIM.



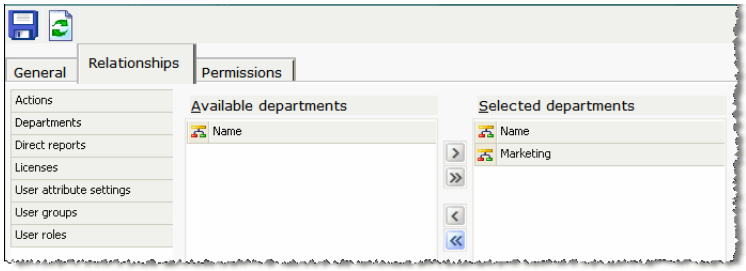
Select user attributes

f. Next, in the Direct reports section you can select the users who reports to this user. For more details, see "Assigning manager of users" on page 155.



Select users for direct reports

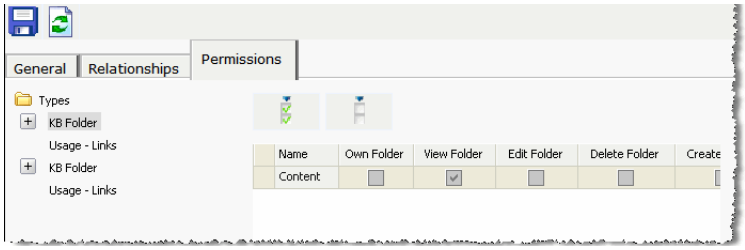
g. Next, in the Departments section you can share the user across departments. For more details, see "Sharing users with other departments" on page 156.



Select departments

5. Click the **Save** button to enable the various options in the Permissions tab.
6. On the Permissions tab, assign permissions for the following objects.
   - **KB Folder:** Own folder, View folder, Edit folder, Delete folder, Create folder, Create article, Edit article, Delete article, Suggest article, Manage suggestions, View personal folder
   - **Usage - Links:** Own, View, Edit, Delete, Execute

   If you have added a user to a user group, and the user group has permissions on various objects, then that permission shows selected and disabled. If you are using user groups for user management, you should assign permissions to user groups, and not to individual users.



Assign permissions

7. Click the **Save** button.

Deleting users

You can delete users which are not being used. However, if a user has any open activities or cases, or suggestions in feedback state, then such a user can't be deleted. You must reassign the cases and activities before deleting the user.

To delete a user:

1. In the Tree pane, browse to the **Users** node. Based on where you want to delete the user from, do one of the following:
   - If you are deleting a system administrator, go to the system partition and browse to **Administrator > Partition: System > User > Users.**
   - If you are deleting a partition administrator, go to the business partition and browse to **Administrator > Partition:** *Partition_Name* **> User > Users.**

- If you are a department administrator, browse to **Administration > Departments >** *Department_Name* **> User > Users.**

2. In the List pane, select the user you want to delete.
3. In the List pane toolbar, click the **Delete** button.
4. A message appears asking to confirm the deletion. Click **Yes** to delete the user.

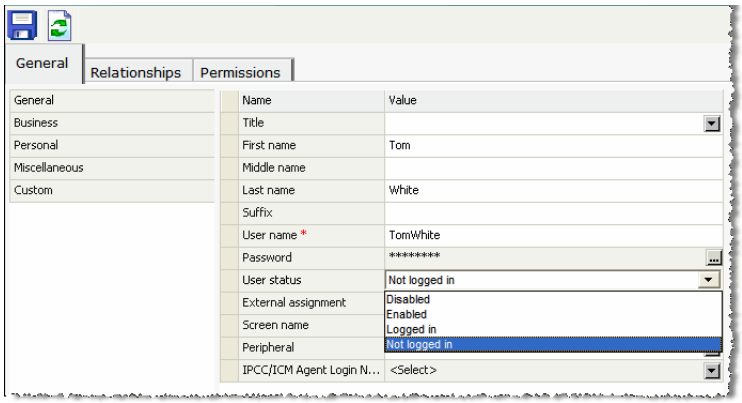
Changing user status

The user status feature allows you to enable or disable users in the system. It also helps you know which users are logged in to the application. A user can have one of the following status:

- **Enabled**: This status indicates that the user is enabled and can log in to the application.
- **Disabled**: This status indicates that the user is disabled. A disabled user cannot login to the application.
- **Logged in:** This status indicates that the user is logged in to the application.
- **Not logged in:** This status indicates that the user is not logged in to the application. If you want to end the session of a user, who is logged in to the application, you can use this option.

To change the status of a user:

1. In the Tree pane, browse to the **Users** node. Based on where the user is, do one of the following:
   - If you are in system partition, browse to **Administrator > Partition: System > User > Users.**
   - If you are in business partition, browse to **Administrator > Partition:** *Partition_Name* **> User > Users.**
   - If you are in a department, browse to **Administration > Departments >** *Department_Name* **> User > Users.**
2. In the List pane, select the user whose status you want to change.
3. In the Properties pane, go to the General tab.
4. Go to the General section, and in the User status field select the **Enabled** option to enable the user, or select the **Disabled** option to disable the user. If a user is logged in to the application, and you want to end his session, select the **Not logged in** option. The user session will be ended he will be displayed a message about the same.



Select status

5. Click the **Save** button.

Assigning manager of users

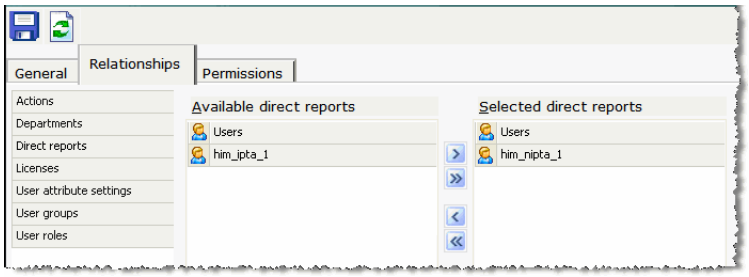
A manager can monitor the activities and cases assigned to agents from the Agent Console. A manager has a My Team folder in his Inbox tree, in the Agent Console, in which all the users who report to the user are listed. The manager has a read only view of the activities and cases assigned to the users reporting to him.

You can assign a manager of the user in two ways. Either edit the properties of the manager to assign direct reports to him. Or, edit the user properties to assign the manager to the user. Use the first option if all the users are already created in the system and you want to assign managers for all the users. Use the second option to assign a manager while creating the user.

You cannot assign managers of user groups.

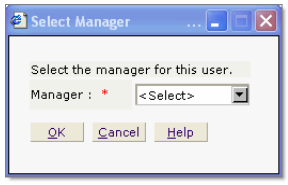
To assign a manager of a user:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Users**.
2. In the List pane, select a user and do one of the following:
   - If you are editing the properties of the manager, then in the Properties pane, go the Relationships tab and in the Direct reports section, select the users who report to the selected user. The user becomes the manager of the selected users.



Select the users reporting to this user

   - If you are assigning the manager of the user, then in the General tab, go to the Business section and in the Manager field click the **Assistance** button. The Select Manager window appears. Select a manager for the user and click the **OK** button.



Select a manager of the user

3. Click the **Save** button.

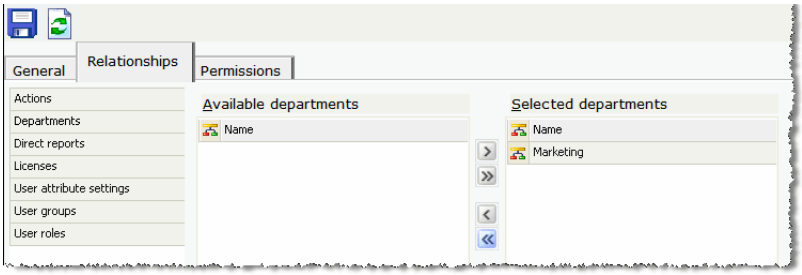
Sharing users with other departments

To be able to share users among departments, first the departments should be shared with each other. Only partition administrators can share departments. For more details see, "Sharing department resources" on page 160.

Shared users show as foreign users in the other departments.

To share a user with other departments:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> User > Users**.
2. In the List pane, select a user.
3. In the Properties pane, on the Relationships tab, go to the Departments section and select a department from the list. If you do not see any departments in the list, contact your partition administrator.



Select department

4. Click the **Save** button.

4 Departments

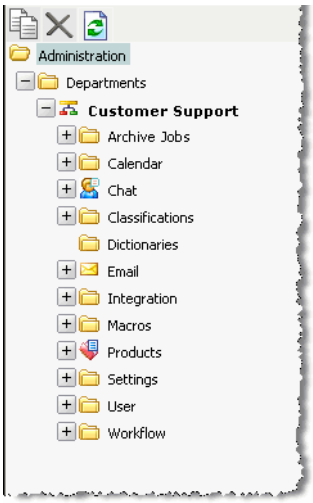
- About departments
- Creating departments
- Sharing department resources
- Copying departments

This chapter will assist you in understanding departments and how to set them up according to your business requirements.

About departments

Every organization needs to form various departments to meet their requirements, and divide their workforce accordingly. Departments enable you to form a mirror of the departments in your company. Departments and department administrators are created by the partition administrator. All departments that are created will be formed under a Partition.A partition level user will be able to view all departments under it. Whereas, a department level user can only view his own and shared departments.

As a department administrator, you have the power to control and manage your department. This is made possible via the resources available in each department. Each department has twelve types of resources for use in your department. The Administration tree has an individual node for each type of resource.



The Administration Console tree

The following business objects are available in departments:

- Archive jobs: For more information, see “Archive” on page 343.
- Calendars: For more information, see “Business calendars” on page 163.
- Chat: For more information, see “Chat infrastructure” on page 176.
- Classifications: For more information, see “Classifications” on page 330.
- Dictionaries: For more information, see “Dictionaries” on page 334.
- Email infrastructure: For more information, see “Email infrastructure” on page 170.
- Data adapters: For more information, see “Data links” on page 298.
- Macros: For more information, see “Macros” on page 337.
- Products: For more information, see “Products” on page 341.
- Settings: For more information, see “Settings” on page 31.

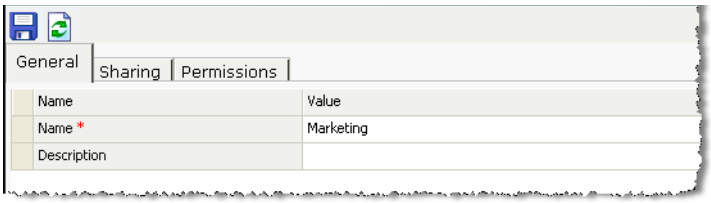
- Users: For more information, see "Users" on page 103.
- Workflows: For more information, see "Workflows" on page 196.

Creating departments

Only a partition administrator can create departments.

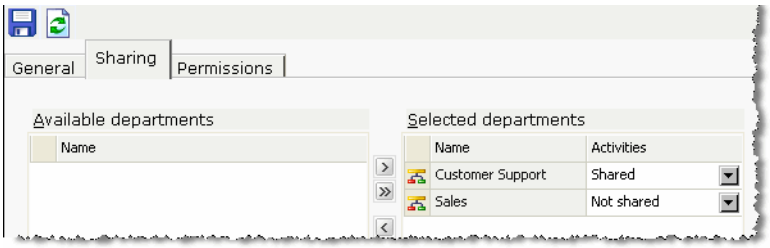
To create a department:

1. In the Tree pane, browse to **Administration > Departments.**
2. In the list pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the name and general description for the department.



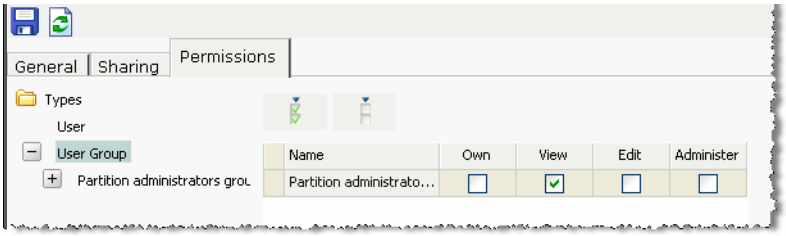
Set general properties

4. On the Sharing tab, select the departments that you want to share resources with from the list of available departments. Activities are not shared unless specified. To share activities with a particular department, locate it in the **Selected departments** list and change the value of the **Activities** column to **Shared** for this department.



Share department resources with other departments

5. Lastly, on the Permissions tab, assign permissions to the users and user groups to own, view, edit, and administer the department that you have created.



Assign permissions

6. Click the **Save** button, to save the department you have created.

Sharing department resources

Resources can be shared with other departments.

To share resources with other departments:

1. In the Tree pane, browse to the department whose resources are to be shared.
2. Now, go to the Properties pane. On the Sharing tab, select the departments that you want to share resources with from the list of available departments. Activities are not shared unless specified. To share activities with a particular department, locate it in the **Selected departments** list and change the value of the **Activities** column to **Shared** for this department.
3. Click the **Save** button.

Copying departments

You can copy an existing department. By copying a department, you get a ready structure, and you can edit any of the resources available in the department according to your requirements. This is a time saver and eases your task of creating multiple departments.

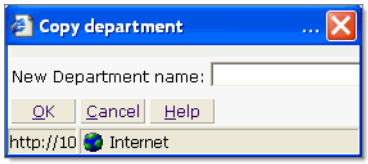
The following table describes how objects in a department get copied.

#	Object name	Notes
Objects in the Administration Console		
1.	Aliases	Copied as in original department with following exceptions: **Email address** is copied as *address_new_department_name* **Status** is always set as Inactive **User name** is copied as *username_new_department_name*
2.	Blocked Addresses	Copied as in original department
3.	Blocked file extensions	Copied as in original department
4.	Calendars, day labels, shift labels	Copied as in original department
5.	Classifications	Copied as in original department
6.	Customer Associations	Copied as in original department
7.	Data Adapter Links (Access and Usage)	Copied as in original department
8.	Delivery Exceptions	Copied as in original department
9.	Department share	Department shares and foreign users are copied
10.	Dictionaries	Copied as in original department

#	Object name	Notes
11.	Macros	Copied as in original department
12.	Monitors	Copied as in original department
13.	Products	Copied as in original department
14.	Queues	Copied as in original department
15.	Service levels	Copied as in original department
16.	Settings	Copied as in original department
17.	User groups	Copied as in original department
18.	User roles	Copied as in original department
19.	Users	Copied as in original department with following exceptions: **User name** is copied as username_new_department_name **Licenses** of users are not copied **Actions** and **Permissions** of users are not copied.
20.	Workflows	Copied as in original department with following exception: The **Active** field of workflows is set to **No**.
21.	Archive Jobs	Not copied
22.	Chat templates and entry points	Not copied
Objects in the Knowledge Base Console		
23.	Knowledge Base	Copied as in original department with following exception: User created folders and articles within is copied and same as original department. Personal folders are copied as *foldername_new_department_name.*
24.	Article bookmarks	Not copied
Objects in the Tools Console		
25.	Custom attributes in screen attribute profiles	Not copied

To copy a department:

1. In the Tree pane, browse to **Administration > Departments.**
2. In the Tree pane, select the department you want to copy.
3. In the Tree pane toolbar, click the **Copy** button.
4. In the Copy department window that appears, provide the name of the new department and click **OK** to create a copy of the department.



Provide a name for the department

Business calendars

- About business calendars
- Managing shift labels
- Managing day labels
- Managing business calendars
- Managing daylight saving changes

This chapter will assist you in understanding business calendars and how to set them up according to your business requirements.

About business calendars

Calendars are used to map working hours of the contact center. Calendars are primarily used in:

- Setting due dates for activities routed through workflow. When activities are routed through a workflow that has an SLA node, due date is set according to the calendar.
- Reports: Calendars are used in reports. For example, reports like Email volume by queue, Email age by queue, and Email volume by alias.

Important: **It is not mandatory to set calendars. If not set, the system considers the agent's work time as 24*7*365.**

In a calendar, you set up the working and non-working times of users. This enables the functioning of service levels. Service levels are used for setting due dates for activities, cases, and tasks, and trigger alarms to alert supervisors.

To configure a calendar, you need to create the following.

- Shift labels: A shift label describes the type of shift, and whether agents work in that shift or not. For example, you can create shift labels like:
  - Morning shift and Evening shift, when agents work.
  - Lunch break, Holidays, and Weekends, when agents do not work.
- Day labels: Day labels define the work time for each shift. Shift labels are used for creating day labels. For example, you can create day labels like:
  - Weekday

    8 am to 12 pm: Morning shift

    12 pm to 1 pm: Lunch break

    1 pm to 5 pm: Evening shift
  - Holiday

    12 am to 11.59 pm: Holiday

Use day labels to create calendars.

Managing shift labels

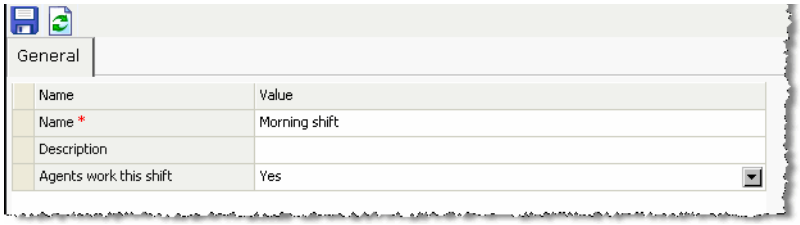
Creating shift labels

A shift label describes the type of shift, and whether the agents work in that shift or not. For example, morning shift, afternoon shift, lunch break, Christmas holiday, etc. Once created, shift labels are used in day labels.

To create a shift label:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Shift Labels.**
2. In the List pane toolbar, click the **New** button.

   The Properties pane refreshes to show the properties of the new shift label.
3. In the Properties pane, in the General tab, provide the following details.
   - **Name:** Type a name for the shift label.
   - **Description:** Type a brief description.
   - **Agents work this shift:** Specify if agents work in this shift or not. By default **Yes** is selected. Select **No** if agents do not work in this shift.



Set general properties

4. Click the **Save** button.

Deleting shift labels

You cannot delete a shift label if it is used in any day label. First, remove the shift label from the day label, where it is used, and then delete the shift label.

To delete a shift label:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Shift Labels.**
2. In the List pane, select the shift label you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Managing day labels

Creating day labels

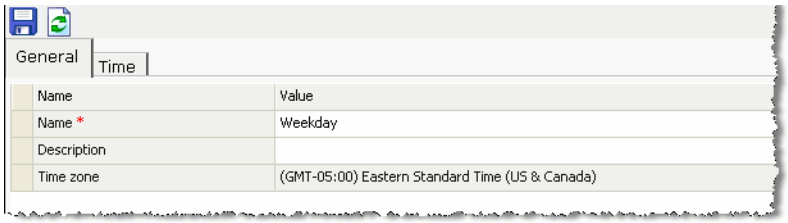
In day labels, you can set the work time for each shift. For example, you can divide the 24 hours available in a day into working shifts of eight hours each. Therefore, each day would have three shifts.

> Important: **Before creating day labels, first create the shift labels.**

To create a day label:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Day Labels.**
2. In the List pane toolbar, click the **New** button.

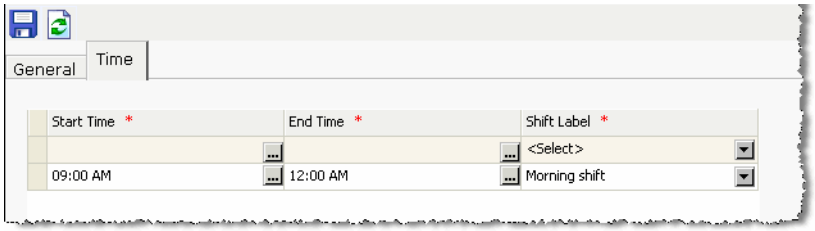
   The Properties pane refreshes to show the properties of the new day label.
3. In the Properties pane, go to the General tab and provide the following details.
   - **Name:** Type a name for the day label.
   - **Description:** Type a brief description.
   - **Time zone:** It shows the time zone selected for the department. This field is disabled. If you want to change the time zone for your department, you can do it by changing the **Business calendar timezone** setting**.** For details on how to change this setting, see, "Setting the time zone" on page 167.



Set general properties

4. Next, go to the Times tab and provide the following details.
   - **Start time**: Select the start time for the day label.
   - **End time:** Select the end time for the day label.
   - **Shift label:** From the dropdown list, select the shift label to be used.

   Likewise, specify the start time, end time, and shift labels for the whole day.



Set start times and end times for day labels

5. Click the **Save** button.

Deleting day labels

You cannot delete a day label if it is used in any calendar. First, remove the day label from the calendar, where it is used, and then you can delete it.

To delete a day label:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Day Labels.**
2. In the List pane, select the day label you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Managing business calendars

Setting the time zone

Before you create a calendar, determine the time zone when your agents work. Make sure that you select the appropriate time zone in the department setting, **Business calendar timezone.** If you configure the calendar first, and then change the time zone setting, the start time and end time in the day labels get changed.

For example, you create a day label with the start time as 8 am and end time as 4 pm, and the time zone selected is (GMT -5:00) Eastern Standard Time (US and Canada). After creating a day label, you change the time zone setting to, (GMT -8:00) Pacific Standard Time (US and Canada). The day label start time changes to 5 am, and end time changes to 1 pm and the time zone changes to (GMT -8:00) Pacific Standard Time (US and Canada).

Important: **It is recommended that you set the time zone first and then configure the calendars.**

To change the time zone setting:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Settings > Department.**
2. In the List pane, select the department settings group.
3. In the Properties pane, go to the Attributes tab.
4. In the Attributes tab, select the **Business calendar timezone** setting**.** From the available time zones, select the time zone for your department.
5. Click the **Save** button.

Creating business calendars

You can create business calendars for your department. At a time, only one calendar can be active. You can set calendars for all the days of the week, and the exception days, like holidays, weekends etc.

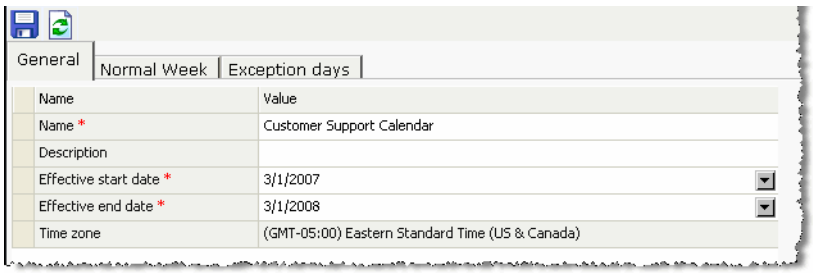
Important: **You need to create day labels before creating calendars.**

To create a calendar:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Calendars.**
2. In the List pane toolbar, click the **New** button.

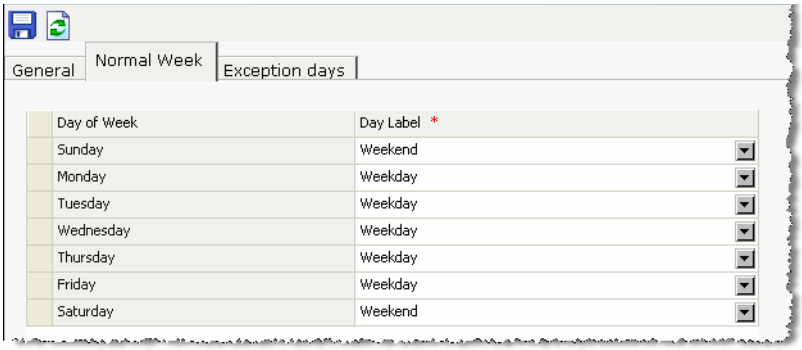
   The Properties pane refreshes to show the properties of the new calendar.
3. In the Properties pane, go to the General tab, and provide the following details.
   - **Name:** Type a name for the calendar.
   - **Description:** Type a brief description.
   - **Effective start date:** Select the date on which the calendar becomes active. Two calendars in a department cannot have overlapping dates. Also, the start date should be greater than the current date.
   - **Effective end date:** Select the date on which the calendar becomes inactive. Two calendars in a department cannot have overlapping dates. Also, the end date should be greater than the start date.

     On the set end date, the calendar becomes inactive. Once a calendar becomes inactive, the system considers the agents work time as 24*7*365, unless some other calendar becomes active automatically.
   - **Time Zone:** It shows the time zone selected for the department. This field is disabled. If you want to change the time zone for your department, you can do it by changing the **Business calendar timezone** setting. For details on how to change this setting, see, "Setting the time zone" on page 167.



Set general properties

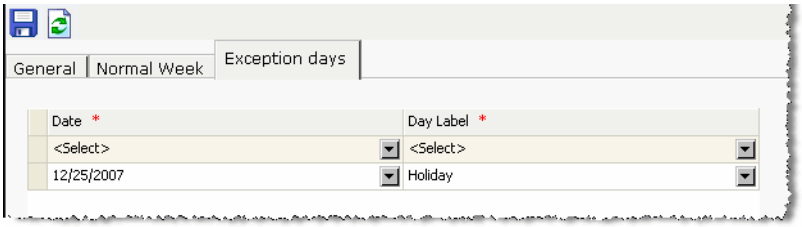
4. Now, go to the Normal Week tab, and select the day label to be used for each day of the week.



Configure the calendar for a normal week

5. Lastly, go to the Exceptions tab. Specify the day labels to be used for exception days, like holidays, weekends, etc. Select the date on which there is some exception, and then select the day label to be used for that day.

> Important: **The exception dates should be between the start date and end date of the calendar.**



Configure the calender for the exception days, like holidays

6. Click the **Save** button.

Deleting business calendars

To delete a calendar:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Calendar > Calendars.**
2. In the List pane, select the calendar you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Managing daylight saving changes

When changes in the day light saving occur, you need to make the following two changes in calendars.

- In the department setting, **Business calendar timezone,** change the time zone.
- In the day labels, in the Times tab, adjust the start times and end times for all shifts.

6 Email infrastructure

- Creating aliases
- Configuring blocked addresses
- Configuring blocked file extensions
- Configuring delivery exceptions

This chapter will assist you in understanding how to set up aliases and other email settings as per your business requirements. You will also learn of various mechanisms that help you optimize the system to ensure efficiency.

The email folder in the Administration Console comprises of four resources: Aliases, Blocked Addresses, Blocked File Extensions, and Delivery Exceptions. In this chapter, you will learn more about these resources and how you can use them to optimize system performance.

Creating aliases

Aliases are email addresses to which customers and other correspondents send messages to your company. Aliases usually have standard names such as customerservice@yourcompany.com.

The system monitors the specified aliases and retrieves emails from these aliases when they arrive in the email server.

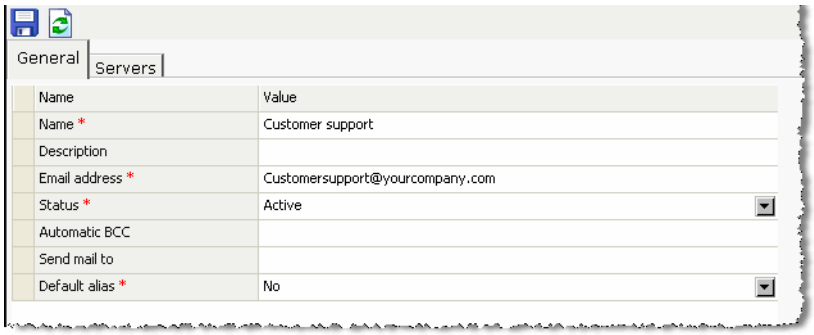
Aliases provide customers with a convenient method for communicating with the company. This helps in avoiding large number of email addresses that customers write to and enables you to have email addresses for specific products, services, sales, etc. You can have separate aliases for products, services, and departments. For example, a bank may decide to create separate aliases for the different kinds of services they provide such as banking accounts, home loans, car loans, mutual funds, credit cards, etc. Using aliases you can easily identify the type of customer and route the query to the concerned department. In this case, you could have aliases such as accounts@yourbank.com, loans@yourbank.com, mfunds@yourbank.com and so on.

To create an alias:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Email > Aliases.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, go to the General tab and provide the following details.
   - **Name:** Type the name of the alias. This is required information.
   - **Description:** Type a brief description of the alias.
   - **Email address:** Type the email address for the alias. This is required information.
   - **Status:** Select the status of the alias. The options available are:
     - **Active:** If set to active the application will send and pull email messages from this address.
     - **Inactive:** If set to inactive the application will not send and pull email messages from this address. The system can also automatically set an alias to be inactive. The retriever tries to connect to an alias three times, and after the third failed attempt, it sets the alias to be inactive. For example, in the following two conditions the retriever sets the alias to be inactive and it tries to connect to the alias after ten minutes, and if the problem is solved, the retriever makes the alias active and starts retrieving the emails – POP3 server is not available because of network problem, or if the server is stopped for maintenance; Some user is logged in to mailbox through telnet or through some other external client. For the following two conditions, the retriever sets the alias to be inactive and the administrator has to manually fix the problems, and make the alias active again – If POP3 or IMAP service is not started on the POP3 or IMAP servers; If the authentication details provided for the alias are incorrect.
   - **Automatic BCC:** Type the email address to which you want to send a BCC copy of the email. You can give more than one address here.

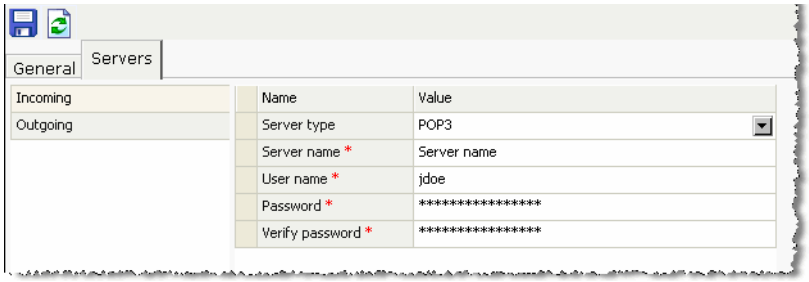
- **Send mail to:** Specify the email address to which the outgoing emails from this alias should go. Whenever an agent replies to a customer email, the reply is sent only to the email address specified in the send mail to field and not to the customer email address. You can use this option to test that the alias has been configured properly and to test the workflows. Make sure that after testing the alias you make this field empty.
- **Default alias:** Select **Yes** if you want this alias to be default alias for the department. You can edit this field only after you save the alias.

Important: **A default alias should also be active and for each department only one alias can be default.**



Set the general properties

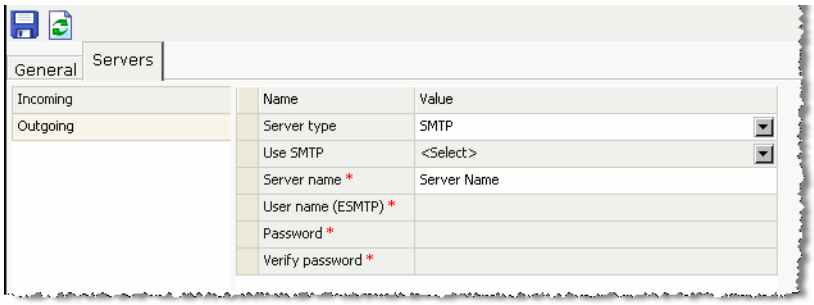
4. In the Properties pane, go to the Servers tab. On this tab, provide the details of the incoming and outgoing servers to be used for the alias.
   - In the Incoming section, provide the following details. All the fields are required in this section.
     - **Server type:** Select the server type you want to use. By default **POP3** is selected. The options available are **POP3** and **IMAP**.
     - **Server name:** Type the name of the server.
     - **User name:** Type the user name.
     - **Password:** Type the password.
     - **Verify password:** Verify the password.



Configure the incoming server for the alias

   - Next, in the Outgoing section, provide the following details.
     - **Server type:** Select the server type you want to use. By default **SMTP** is selected. The options available are **SMTP** and **ESMTP**.

- **Use SMTP when:** If your server type is ESMTP, then you can optionally use the SPTP server when the ESMTP server authentication fails. Select **Never** if you don't want to use the SMTP server. The options available are **Never** and **When authorization fails.**
- **Server name:** Type the name of the server.
- **User name (ESMTP):** Type the user name.
- **Password:** Type the password.
- **Verify password:** Verify the password.



Configure the outgoing server for the alias

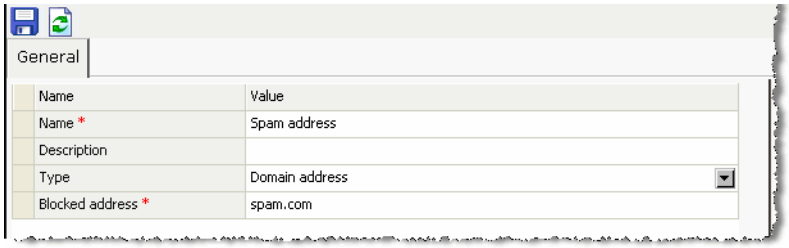
5. Click the **Save** button.

Configuring blocked addresses

You can block certain email address or email domains. Any email from such a blocked address or domain is treated as spam and directly deleted or stored in a separate file. This way you can filter out all unwanted emails from the mainstream.

To configure a blocked addresses:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Email > Blocked Addresses.**
1. In the List pane toolbar, click the **New** button.
2. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the blocked address.
   - **Description:** Type a brief description.
   - **Type:** Select the type of address you want to block. The options available are email address and domain address.
   - **Blocked address:** Specify the address you want to block. An example for an email address would be, `spam@spam.com` and for a domain address would be `spam.com`.



Set the general properties

3. Click the **Save** button.

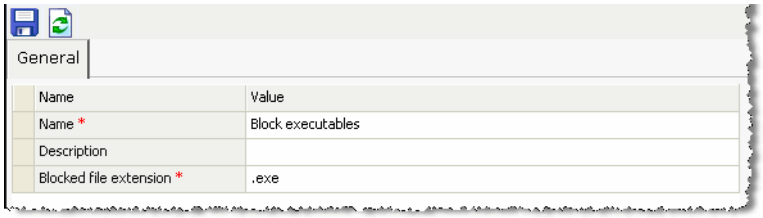
Configuring blocked file extensions

This is a security feature, which allows you to selectively block certain types of attachments. Most of the virus files have certain specific types of extension such as .exe, .vbs, .js, etc. Using this feature, you can block such attachment types from entering the system.

Using the settings for email attachments the system can be configured to block all attachments, block incoming and outgoing attachments, and delete or quarantine a blocked attachment.

To configure a blocked file extension:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Email > Blocked File Extensions.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, and provide the following details.
   - **Name:** Type the name of the blocked file extension.
   - **Description:** Type a brief description.
   - **Blocked file extension:** Type the file extension you want to block such as .exe, vbs, js.



Set the general properties

4. Click the **Save** button.

Configuring delivery exceptions

This feature allows you to handle bounced emails. You can set up different words and phrases for email subjects and email address of incoming email. Emails will be treated as bounced if any of these words and phrases are found in the subject or email address. Each of these words or phrases can be used to classify an email as a permanent bounce back or a temporary bounce back.

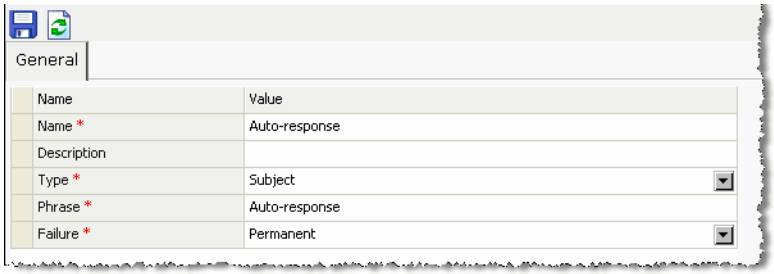
A permanent bounce back indicates that an irreparable reason (such as invalid email address) caused the email to bounce back. These are permanent failure conditions and any next emails sent to such email address would always bounce back.

A temporary bounce back indicates that a temporary reason (such as out of office reply, destination server down etc.) caused the email to bounce back. These being temporary conditions, if emails are sent again, there is a chance that they may not bounce back.

Cisco Unified Web and E-Mail Interaction Manager comes with default delivery exception instances. Should you need to create other instances of delivery exception you can easily do so.

To configure a delivery exception:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Email > Delivery Exceptions.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, and provide the following details.
   - **Name:** Type the name of the delivery exception.
   - **Description:** Provide a brief description.
   - **Type:** Select the type from the dropdown list. The options available are address and subject.
   - **Phrase:** Type the phrase you want the system to check for.
   - **Failure:** Select the type of failure from the dropdown list. The options available are **Permanent** and **Temporary**.



Set the general properties

4. Click the **Save** button.

In each of the above cases, you need to stop and restart the email Retriever instance from the System Console to update the system accordingly.

7 Chat infrastructure

- Managing template sets
- Managing entry points
- Setting up quick links and responses in queues
- Mapping users to queues for routing chats
- Routing chats transferred from other departments

This chapter will assist you in understanding how to set up web chat infrastructure according to your business requirements.

Managing template sets

A template set comprises a set of .jsp files used for different screens displayed at the customer's end. Each entry point must be mapped to a template set and multiple entry points can use the same template set. A default template set is shipped with the application and can readily be mapped to any number of entry points.

Important: **The default template set cannot be deleted.**

For every template set created, a directory with the same name is created in the file system. You can create a new template set and then customize the individual templates (.jsp files) for the desired look and feel.

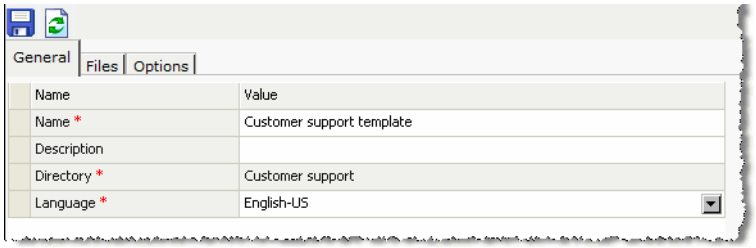
Creating template sets

To create a new template set:

1. In the Tree pane, browse to **Department >** *Your Department* **> Chat > Templates.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details:
   - **Name:** Type a name for the template set. This is required information.
   - **Description:** Type a brief description for the template set.
   - **Directory:** Type a name for the directory. This is required information.

Important: **A directory with this name gets created in the file system. You cannot change the directory once you click the Save button.**

   - **Language:** From the dropdown list, select a language for the template. The login page and all the system and template messages are shown in the language selected. The following six languages are available:
     - **Dutch**
     - **English (US)**
     - **French**
     - **German**
     - **Italian**
     - **Spanish**



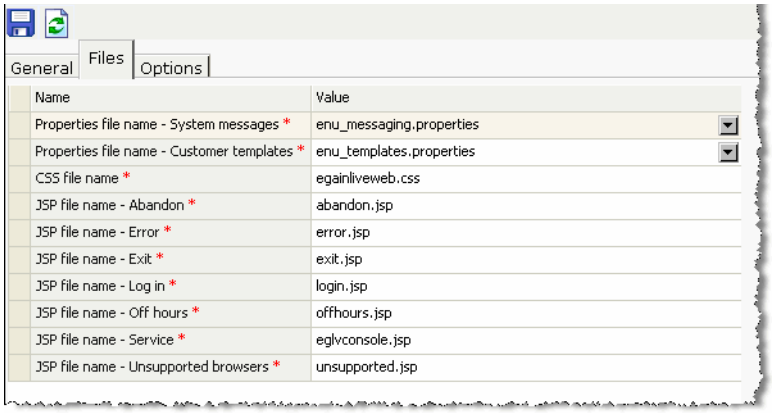
Set general properties

4. Click the **Save** button.

> Important: **The Options and Files tab are enabled only after you click the Save button.**

5. Next, go to the Files tab and provide the following information.
   - **Properties file name - System messages:** The value in the field changes automatically based on the language selected in the **Language** field on the General tab.
   - **Properties file name - Customer messages:** The value in the field changes automatically based on the language selected in the **Language** field on the General tab.
   - **CSS file name:** This is required information. The default value is *egainliveweb.css*. Type a valid CSS file name from the directory.
   - **JSP file name - Abandon:** This is required information. The default value is *abandon.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Error:** This is required information. The default value is *error.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Exit:** This is required information. The default value is *exit.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Login:** This is required information. The default value is *login.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Off hours:** This is required information. The default value is *offhours.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Service:** This is required information. The default value is *eglvconsole.jsp*. Type a valid JSP file name from the directory.
   - **JSP file name - Unsupported browsers:** This is required information. The default value is *unsupported.jsp*. Type a valid JSP file name from the directory.

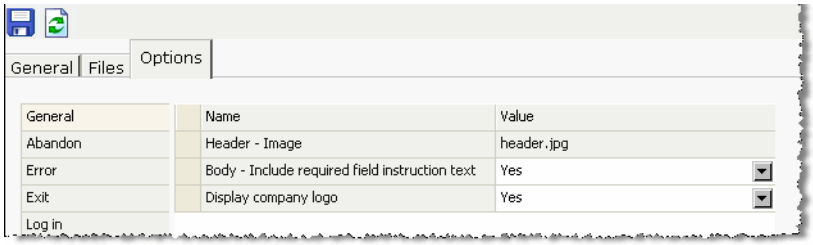
> Important: **The file names you give here should be present in the directory you are using for the template set. If you do not have these files in the directory you are using for the template set, an error message appears.**



Provide names of the files available in the template directory

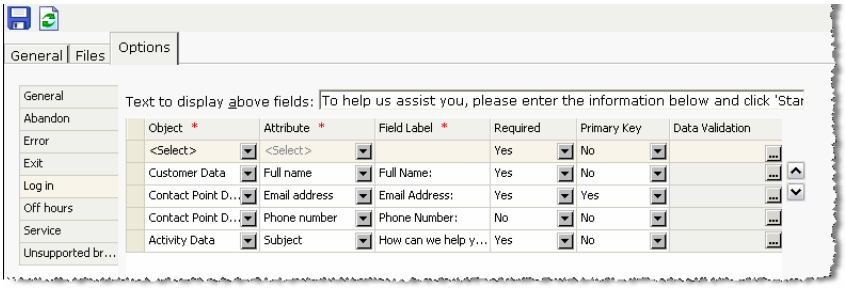
Next, go to the Options tab. Here, you can configure the settings of the templates. For example, you can decide what fields you want to show in the login page before the chat, how the messages should appear during the chat and what type of messages you want to show to the customers during off hours.

6. On the Options tab, go to the General section. These settings determine how the login page appears once the customer clicks the chat help button. Provide the following details:
   - **Header - Image:** The default value is *header.jpg.*
   - **Body - Include required field instruction text:** Specify if you want to show the required field instruction with the fields. By default **Yes** is selected. Select **No**, if you don't want to show the required field instruction text.
   - **Display company logo:** Select **Yes** if you want to show the Cisco logo on the various templates displayed to the users when they abandon or exit the chat.



Configure the general properties of the login page

7. Next, on the Options tab, go to the Abandon section. Type the message to display to the customers when they abandon a chat session.
8. Next, on the Options tab, go to the Error section. Type the message to display to the customers when an error occurs during the chat.
9. Next, on the Options tab, go to the Exit section. Type the message to display to the customers when they exit the chat.
10. Next, on the Options tab, go to the Log in section. Here, you decide what login fields the customer should fill before starting the chat session. Provide the following details.



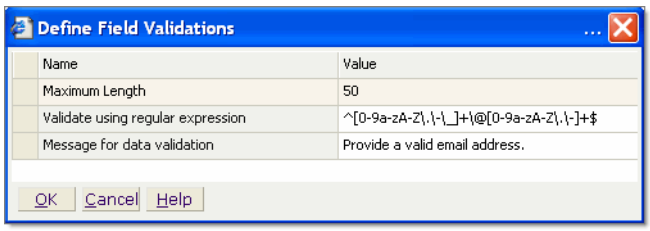
Configure the various properties of the fields to be displayed on the login page

- **Text to display above fields:** Type the text you want to display above the fields. The default value is *To help us assist you, please enter the information below and click 'Start Chat'.*
- **Object:** From the drop down select an object. This is required information. The following options are available.
  - **Customer Data**
  - **Contact Point Data**
  - **Activity Data**
- **Attribute:** Select the attributes you want the customers to fill at the time of login. By default full name, phone number, email address, and subject are selected and email address is selected as primary key. Same attribute cannot be selected twice. This is required information. The following options are available.
  - **For Customer Data: Full name**
  - **For Contact Point Data: Email address and Phone number**
  - **For Activity Data: Subject**
- **Field Label:** Type the name of the field as to be shown on the login page. This is required information.
- **Required:** Select **Yes** if you want to make a fields as required on the login page.
- **Primary Key:** With this option you can decide which field is to be marked as the primary key. At least one attribute has to selected as primary key and the attribute which is selected as primary key should also be selected as Required. There are two options available are Yes and No.

Important: **The attribute "Subject" cannot be selected as primary key.**

- **Data validation:** Using this option you can validate the information provided by the customer in the login page. Click the **Assistance** button. In the Define Field Validations window that appears, provide the following details.
  - **Minimum Length:** Type the number of minimum characters the customer needs to enter in the field.
  - **Maximum Length:** Type the number of maximum characters the customer needs to enter in the field.
  - **Validate using regular expression:** Provide the expression against which the information provided by the user is to be checked. For example, for phone number field you can give an expression like, ^\s*\(?\s*\d{3}\s*\)?\s*[-.]?\s*\d{3}\s*[-.]?\s*\d{4}\s*$. And for email field, ^[0-9a-zA-Z\.\-_]+\@[0-9a-zA-Z\.\-]+$, this expression refers to a format X@Y. Z (john@mycompany.com).

- **Message for data validation:** Type the message you want to show to the customer, when the information provided by the customer does not match the validation parameters set by you.
- Click the **OK** button.



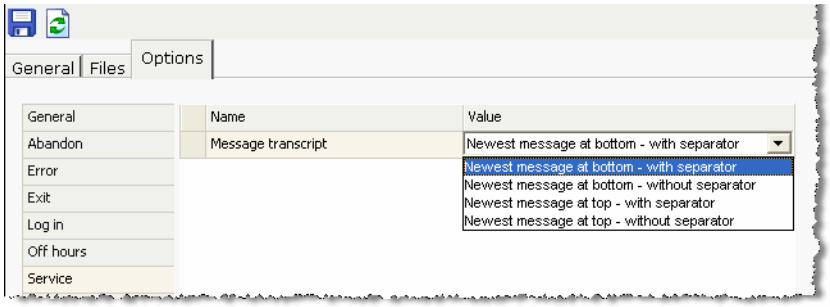
Define field validation properties

You can rearrange the order of the attributes as they will appear on the login page. By default the fields appear in the following order: Full name, Phone number, Email address and Subject. For example: you add the field First name to the form. By default the added fields appear in the end. But if you want the First Name field to appear below the Full name you can do that.To rearrange the fields, click on the left side of the row of the attribute you want to move. The row gets selected. Click the **Move up** or **Move down** button to move the attribute to the required position.

You can also remove any attribute from the login page. For example: Phone Number is selected by default to be shown on the login page, but if you don't want to show it you can remove it from the form. To remove an attribute, click on the left side of the row of the attribute you want to remove. The row will get selected. Press the Delete key on the keyboard. The field is removed.

11. Next, on the Options tab, go to the Off hours section. Type the message you want to show to the customers during the off hours, when no online chat is available.
12. Next, on the Options tab, go to the Service section. With this setting you can decide how the messages should appear. The following options are available.
    - **Newest message at bottom - with separator**
    - **Newest message at bottom- without separator**
    - **Newest message at top- with separator**
    - **Newest message at top- without separator**

Important: **The separator is a text message, Newest message, used to differentiate the latest message sent and received, from the rest of the chat transcript.**



Configure display properties of chat messages

13. Lastly, on the Options tab, go to the Unsupported browser section. Type the message you want to show to the customers when they try to chat from a browser which is not supported.

Deleting template sets

To delete a template set:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Templates.**
2. In the List pane, select the template set you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Managing entry points

An entry point is the starting point for a customer to initiate a chat interaction. Every chat help link on a web site will be mapped to an entry point. Each entry point will in turn have a queue associated with it, so that any chat activity created when the user asks for chat assistance is routed to the queue. A default entry point is provided with the application and it cannot be deleted.

Important: **More than one chat help link on web sites can point to the same entry point.**

Creating entry points

Before creating an entry point, create a queue and template set to be used for the entry point.

To create an entry point:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the entry point. This is required information.
   - **Description:** Type a brief description.
   - **Active:** Select **Yes** to make the entry point active.

Important: **For a customer to be able to chat, the entry point mapped to the chat help link should be made active, else the customer would be displayed a no service page.**

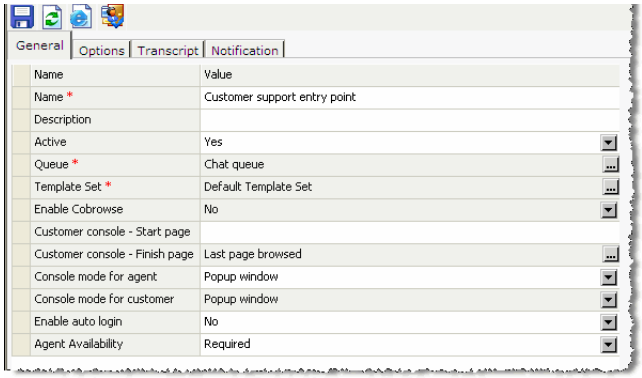
   - **Queue:** Select a standalone queue. This is required information. To select a queue, click the **Assistance** button. From the Select Queue window, select a queue. The queues available can be active or inactive. If the entry point is marked as active, then an active queue must be selected for the entry point.

Important: **An active entry point cannot be mapped to an inactive queue.**

- **Template Set:** Select a template set created for chats. This is required information. To select a template, click the **Assistance** button. From the Select Template Set window, select a template set.
- **Enable Cobrowse:** This field is disabled and is not in use.
- **Customer console - Start page:** This setting defines the first page which will be displayed in the customer's cobrowse pane, when chat session starts. If it is left blank, the customer's co-browse pane will show the page from which chat was invoked. Type a URL of the page which you want to set as the customer console start page. For example: http://www.mycompany.com.
- **Customer console - Finish page:** This setting defines the page which is displayed in the customer's viewport, when the chat session is closed. Click the **Assistance** button in the field and from the Finish page window, select from one of the following options – Last browsed page, Referrer page, and Pre-configured URL. If you select the **Pre-configured URL** option, type a URL of the page which you want to set as the customer console finish page. For example: http://www.mycompany.com. The default value is **Last browsed page**.
- **Console mode for agent:** This setting defines the mode for the agent viewport. The options available are – Popup window and Same window. If the Same window option is selected, the viewport opens in the Web collaboration section of the Information pane of the Agent Console. But, if the Popup window option is selected, a new window, the the viewport, opens for each chat session. If the agent is handling multiple chats at a time, the popup windows show the names of corresponding customers. By default **Popup window** is selected.

Important: **When you change this setting, ensure that there are no active chats going on at that moment, else it can result in errors in page pushing.**

- **Console mode for customer:** This field is disabled and is not in use.
- **Enable auto login:** Select **Yes** from the dropdown list if you want to enable auto login. By default **No** is selected. If **No** is selected, the log-in screen will be displayed irrespective of whether customer information has already been entered or not in the source page. If **Yes** is selected, customer information is passed on to the chat link form the source page. For example: When your customers start using your web site you authenticate them by using a login page. And while going through the web site if the customers click the chat help link and you want them to re-enter the same login information before beginning the chat then select **No**. If you do not want the customers to re-enter the login information then select **Yes** - in this case the information of the customer will be passed from the source page.
- **Agent Availability:** With this option you can decide, if the agent availability is to be checked, when the customer initiate a chat session. There are two options available:
  - **Required:** The customer will be able to initiate a chat session only if the agent availability setting is set to **Yes**, i.e. the agent is available for chat. If no agent is available, the No Service message is shown to the customer.
  - **Not required:** The customer will be able to initiate a chat session even if the agent availability setting is set to **No.** The customer is not shown the No Service message, even if no agent is available for chat.



Set general properties

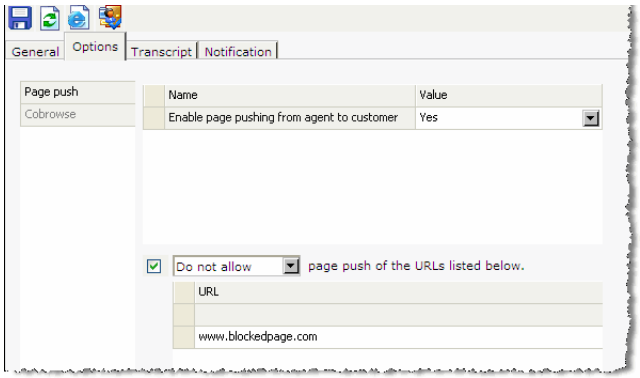
4. In the Properties pane, on the Options tab, go to the Page push section to enable page pushing. By enabling page pushing you can allow agents to send pages to customers.
   - **Enable page pushing from agent to customer:** Enabling this option allows the agents to send the current web page in their browser area to the customer. By default **Yes** is selected. Select **No** to disable it.

   If you want you can also block the URLs that you don't want the agents to send to the customers. Or you can configure to allow a limited number of URLs for page pushing.

   a. Select the **page push of the URLs listed below** option.

   b. From the dropdown list, select the option you want to use. The following options are available.
      - **Do not allow:** The URLs listed will not be allowed for page pushing.
      - **Allow:** Only the listed URLs will be allowed for page pushing.

   c. In the field, type the URL. Press enter and type the next URL.



Configure page push settings

   The Cobrowse tab is disabled and is not in use.

5. Click the **Save** button.

Viewing HTML code for entry points

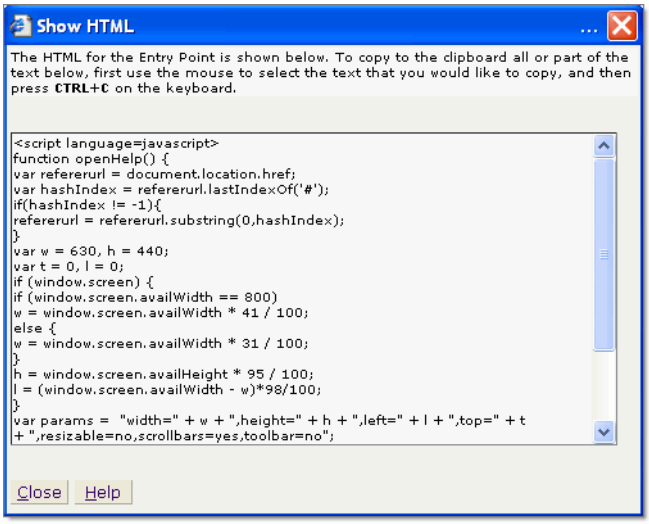
You can view the HTML code, and use it for pointing the chat help hyperlinks and buttons on your website to open chat sessions. In a web page, chat help can be invoked from either a hyperlink or from a form button, the HTML window displays code to be used for both these cases.

To view the HTML code of an entry point:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select an entry point.
3. In the Properties pane toolbar, click the **Show HTML** button.

   The Show HTML window appears. Here you can view the HTML code of the entry point.

> Important: **You can only view or copy the HTML. It cannot be edited or deleted. If you are creating a new entry point and want to view its HTML, you have to first save it to enable the Show HTML button.**



View the HTML code

4. Before adding the code to your web site ensure that you replace the server name in the following line of the code with the fully qualified domain name of the primary web server.

```
window.open(
'http://Server_Name/system/LiveCustomerServlet.egain?eglvcmd=CustEntry&entryPoint
Name=Customer Support
EntryPoint&eglvepid=1003&departmentid=999&eglvpartid=1&referer='+refererurl+'&e
glvrefname='+refererName,'',params)
```

   Change it to:

```
window.open(
'http://Server_Name.Domain_Name.com/system/LiveCustomerServlet.egain?eglvcmd=CustE
ntry&entryPointName=Customer Support
```

```
EntryPoint&eglvepid=1003&departmentid=999&eglvpartid=1&referer='+refererurl+'&e
glvrefname='+refererName,'',params)
```

5. If auto-login is enabled for an entry point, you need to modify the entry point code so that the customer information collected at the time of login to the web site is passed on the Cisco Interaction Manager application when the customer access the chat entry point where auto-login is enabled.

   In the chat link, you need to add the customer details, which were provided by the customer.

   For example, if the entry point is mapped to a template set which has Name, email ID, and phone number as the login page fields, the following parameters should be added to the URL:
   `&fieldname_1=<value1>&fieldname_2=<value2>&fieldname_3=<value3>`

   Locate the following lines in the code:

   ```
   (
   'http://Server_Name/system/LiveCustomerServlet.egain?eglvcmd=CustEntry&entryPoint
   Name=Default Entry
   Point&eglvepid=1003&departmentid=1002&eglvpartid=1&referer='+refererurl+'&eglvr
   efname='+refererName,'',params)
   ```

   Modify the URL to look like:

   ```
   ('http://Server_Name/system/LiveCustomerServlet.egain?eglvcmd=CustEntry&entryPoin
   tName=Default
   EntryPoint&eglvepid=1003&departmentid=1002&eglvpartid=1&referer='+refererurl+'&
   eglvrefname='+refererName&fieldname_1=Name&fieldname_2=EmailId&fieldname_3=Phon
   e-number,'',params)
   ```

Testing entry points

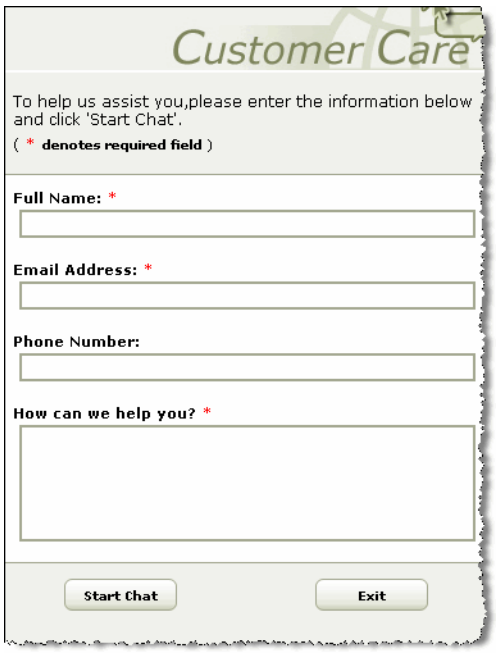
After configuring an entry point, you can test it immediately to see how the entry point looks like. Entry points for which auto login is enabled, cannot be tested using the test URL. You must turn off auto-login to be able to test the entry point.

To test an entry point:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select an entry point.
3. In the Properties pane toolbar, click the **Test Entry Point** button.

   A web page opens showing how your entry point looks like.

Important: **If you are creating a new entry point and want to test it, you have to save the entry point to be able to test it.**



A sample entry point

4. If you want users to test entry points without logging in to the Administration Console, you can publish the entry point on a web server and provide the link to users. To do that, do the following:

   a. In the Properties pane toolbar, click the **Show HTML** button and copy the HTML code for the entry point. For more details, see "Viewing HTML code for entry points" on page 185.

   b. Paste the HTML code in a text editor and save it as an `.html` file on the Cisco Interaction Manager web server, at the following location: *Cisco_Home*`\eService`.

   c. Launch the customer chat URL using the link:
   `http://` *Web_Server_Name.Domain_Name.com* `/system/` *File_Name* `.html`

Setting up transcripts and notifications

If you want, you can email the transcript of the chat to the customer. Transcripts can be sent for both serviced chats and abandoned chats. In the transcript email sent, the chat transcript is placed between the greeting article and the signature article. Sending transcripts is very useful as once customers closes the chat window they will have no record of the information that was given to them. But if they have a transcript in the email they can refer back to it in future. Also if because of some problem at the customers end the chat closes then the customer will have information to refer to from the emailed transcript. It is recommended that on the exit page of the chat you put a message that a transcript of the chat session will be sent to the customer. It reflects good customer service.

Serviced chats: Serviced chats are those chat sessions where the agent joins the chat session at least once (activity substatus changes to 'In Progress') before the customer exits the session. Serviced chats also include the chats which were not completed successfully because of any reason.

Abandoned chats: Abandoned chats are those chat sessions where the customer exits the chat before the activity substatus changes to 'In Progress' at least once. That means the customers leave the chat before agents could attend them.

Sending serviced chat transcripts

To email transcripts of serviced chats:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select an entry point.
3. In the Properties pane, on the Transcript tab, go the Serviced chats section and provide the following details.
   - If you want to send a chat transcript select the **Send email chat transcript to the customer** option. If you select the **Do not email chat transcript to the customer** option, all other options will be disabled.
   - **From:** Type the email address which you want to show in the **From** field in the email sent to the customer. This is required information. Any reply sent by the customer, in response to the chat transcript email goes to the address specified in the **From** field. So you can configure a standard email address such as "support@mycompany.com" as the From email address, and configure it as the alias to which customer reply-emails will be sent.
   - **To:** The transcript email will be sent to the email ID provided by the customer while logging into the chat. If the customer has not provided an email ID, then the contact point will be picked up from the existing email field for the customer of the chat; if a customer has multiple email IDs, the last updated email ID of the customer will be considered. However, if no email ID is found at all, no transcript mail will be sent out.

Important: **This field cannot be edited.**

   - **Subject:** Type subject of the email.
   - **Header:** To select a header, click the **Assistance** button. From the Select Article window that appears, select the header article you want to use.

Important: **If there are no headers available go in the Knowledge Base Console and create some header articles.**

   - **Greeting:** To select a greeting, click the **Assistance** button. From the Select Article window that appears, select the greeting article you want to use.

Important: **If there are no greetings available go in the Knowledge Base Console and create some greeting articles.**

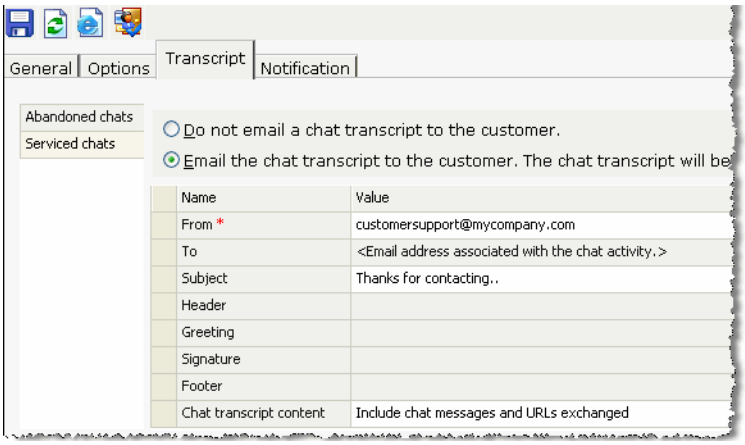
   - **Signature:** To select a signature, click the **Assistance** button. From the Select Article window that appears, select the signature article you want to use.

Important: **If there are no signatures available go in the Knowledge Base Console and create some signature articles.**

   - **Footer:** To select a footer, click the **Assistance** button. From the Select Article window that appears, select the footer article you want to use.

Important: **If there are no footers available go in the Knowledge Base Console and create some footers articles.**

- **Chat transcript content:** Specify what you want to include in the transcript. The following options are available.
  - **Include chat messages and URLs exchanged**
  - **Include only URLs exchanged**
  - **Include only chat messages exchanged**



Configure transcript options for serviced chats

4. Click the **Save** button.

Sending abandoned chat transcripts

To email transcripts of abandoned chats:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select an entry point.
3. In the Properties pane, on the Transcript tab, go to the Abandoned chats section and provide the following details.
   - If you want to send a chat transcript select the **Send email chat transcript to the customer** option. If you select the **Do not email chat transcript to the customer** option, all other options will be disabled.
   - **From:** Type the email address which you want to show in the **From** field in the email sent to the customer. This is required information. Any reply sent by the customer, in response to the chat transcript email will go to the address specified in the **From** field. So you can configure a standard email address such as “support@mycompany.com” as the **From** email address and configure it as the email alias to which customer reply emails will be sent.
   - **To:** The transcript email will be sent to the email ID provided by the customer while logging into the chat. If the customer has not provided an email ID, then the contact point will be picked up from the existing email field for the customer of the chat; if a customer has multiple email IDs, the last updated email ID of the customer will be considered. However, if no email ID is found at all, no transcript mail is sent out.

Important: **This field cannot be edited.**

- **Subject:** Type subject of the email.
- **Header:** To select a header, click the **Assistance** button. From the Select Article window that appears, select the header article you want to use.

> Important: **If there are no headers available go in the Knowledge Base Console and create some header articles.**

- **Greeting:** To select a greeting, click the **Assistance** button. From the Select Article window that appears, select the greeting article you want to use.

> Important: **If there are no greetings available go in the Knowledge Base Console and create some greeting articles.**

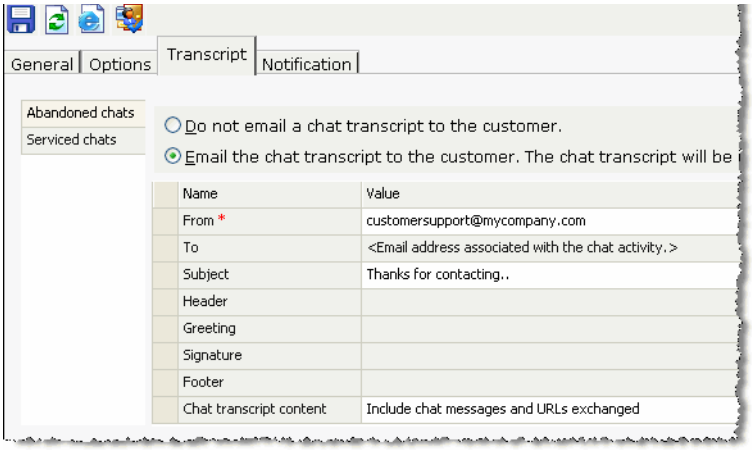
- **Signature:** To select a signature, click the **Assistance** button.From the Select Article window that appears, select the signature article you want to use.

> Important: **If there are no signatures available go in the Knowledge Base Console and create some signatures articles.**

- **Footer:** To select a footer, click the **Assistance** button. From the Select Article window that appears, select the footer article you want to use.

> Important: **If there are no footers available go to the Knowledge Base Console and create some footer articles.**

- **Chat transcript content:** Specify what you want to include in the transcript. The following options are available.
  - **Include chat messages and URLs exchanged**
  - **Include only URLs exchanged**
  - **Include only chat messages exchanged**



Configure transcript options for abandoned chats

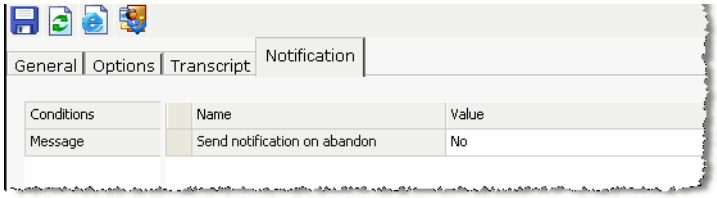
4. Click the **Save** button.

Setting up notifications

Notifications are messages sent to internal users, using the messaging infrastructure. You can send a notification when a chat gets abandoned or an error occurs during a chat. Along with the notification, the transcript of the chat can also be sent. The notification can be sent to internal users as well as to external email addresses. The difference between transcript and notification is that transcript is sent to the customer with whom the chat session is held and notification is sent to internal users of the organization when a chat is abandoned or when an error occurs. You can create an entry point without selecting the option of sending transcript or notification.

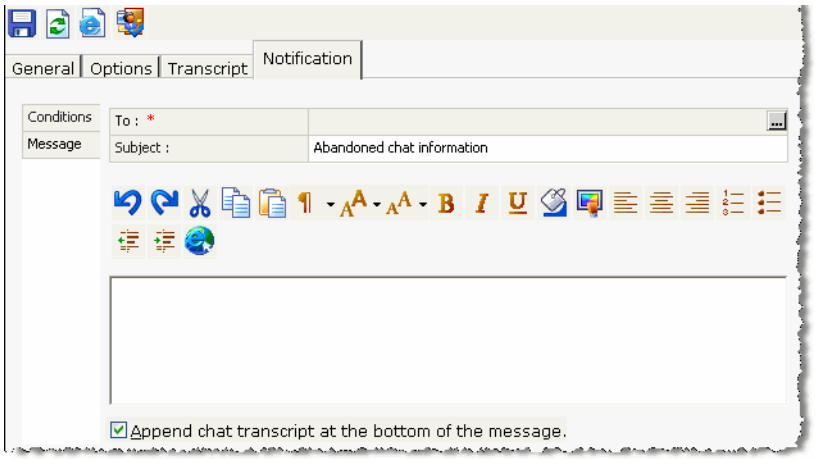
To send a notification:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select an entry point.
3. In the Properties pane, on the Notification tab, go the Conditions section and specify if you want to send notifications for abandoned chats.



Set the conditions for sending notifications

4. Next, on the Notification tab, go to the Message section, and provide the following details.
   - **To:** Select to whom you want to send the notifications. You can send notification to internal users and also to external email addresses. This is required information.
   - **Subject:** Type a subject for the notification to be sent.
   - **Text box:** Type a message in the text box. You can use the text box toolbar to edit the text.
   - **Append chat transcript at the bottom of the message:** Select this option if you want to send the chat transcript with the notification.



Set the message for sending notifications

5. Click the **Save** button.

Turning off active entry points

You can temporarily turn off all the entry points for your department. This is useful when the agents are available for handling the chats for only limited hours of the day and you want that when they are not available you can turn off the entry points for the department.

To turn off active entry points:

1. In the Tree pane browse to **Department >** *Your Department* **> Chat > Entry Points.**

   The List pane shows the list of entry points.

2. In the List pane toolbar, click the **Turn off entry points** button.

   All the active entry points are turned off.

3. Click the **Turn on entry points** button, to turn on the entry points. When you click the button, it turns on the active entry points.

Deleting entry points

To delete an entry point:

1. In the Tree pane, browse to **Administration > Departments >** *Your Department* **> Chat > Entry Points.**
2. In the List pane, select the entry point you want to delete.
3. In the List pane toolbar, click the **Delete** button.

If you attempt to delete inactive and active entry points together, the inactive entry points get deleted, and a message appears telling that the active entry points cannot be deleted.

Important: **Default entry point and active entry points cannot be deleted.**

Setting up quick links and responses in queues

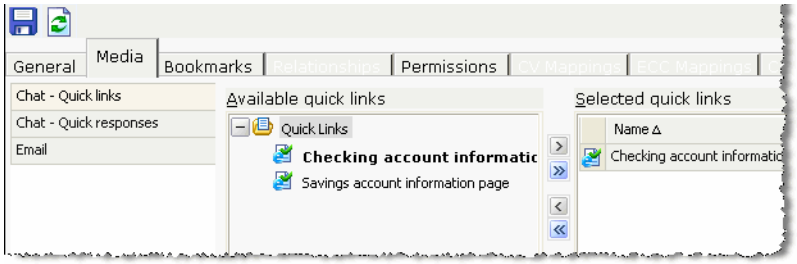
For each queue, you can configure the list of quick links and responses to be displayed for all chat sessions routed to the queue.

Configuring quick links

To configure a quick link:

1. In the Tree pane, browse to **Department >** *Your Department* **> Workflow > Queues.**
2. Select the queue in the List pane.
3. In the Properties pane, go to the Media tab.
4. On the Media tab, go to the Chat - Quick links section.

5. In the Chat - Quick links section, from the available quick links select the quick links, and add them to the selected quick links list.



Select quick links

6. Click the **Save** button.

Configuring quick responses

To configure a quick response:

1. In the Tree pane, browse to **Department >** *Your Department* **> Workflow > Queues.**
2. Select the queue in the List pane.
3. In the Properties pane, go to the Media tab.
4. On the Media tab, go to the Chat - Quick responses section.
5. In the Chat - Quick responses section, from the available quick responses select the quick responses, and add them to the selected quick responses list.

Select quick responses

6. Click the **Save** button.

Mapping users to queues for routing chats

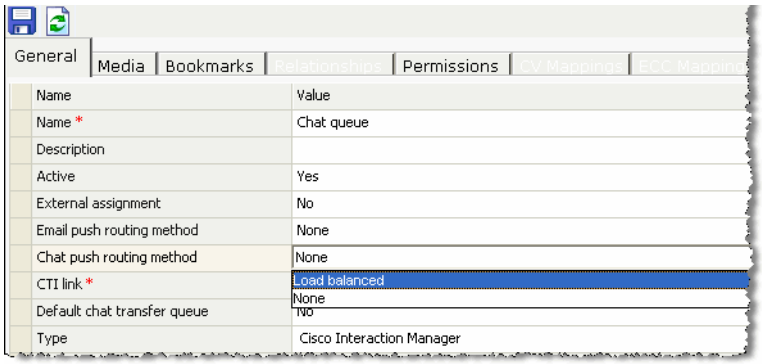
For each queue, you have to specify routing method to be used to push chats to agents, and select the agents to whom chats should be pushed.

To map users to queues:

1. In the Tree pane, browse to **Department >** *Your Department* **> Workflow > Queues.**

2. In the List pane, select the queue you want to use to route the chats.

3. In the Properties pane, on the General tab, specify the push-routing method for chat. The following options are available.
   - **None:** If None is selected, chats will not be pushed from the queue to any users. Users will have to explicitly pull chats from the queue to service them.
   - **Load balanced:** If this option is selected, chats will get directly assigned to the user with the minimum number of open chat activities. In case there is a tie between two or more agents with the same number of chats, the user who has been waiting the longest since any chat was assigned to him will get priority over the others. If you select this option, you will have to select the list of users from the Relationships tab to whom the chats must be routed.



Select the chat push routing method

4. Click the **Save** button

Routing chats transferred from other departments

By default, a chat transfer queue, named Default_Chat_Transfer_Queue_*Department_Name*, is created in each department. All chats transferred from other departments are routed to this queue. A department can have only one queue as the default chat transfer queue and this queue cannot be deleted until another queue is set as the default chat transfer queue.

Important: **This feature is available for standalone queues only.**

To select a queue for routing chats transferred from other departments:

1. In the Tree pane, browse to **Department >** *Your Department* **> Workflow > Queues.**
2. In the List pane, select a queue.
3. In the Properties pane, go to the General tab.
4. In the **Default chat transfer queue** field, select **Yes**. All the chats transferred from other departments get routed to this queue. If a department already has a queue configured for routing chats transferred from other departments, then a message appears, asking to confirm that you want to change the default queue.

5. Click the Save button. Once you save the queue, the **Default chat transfer queue** option becomes disabled. If you need to change the default queue you can select another queue as default and this queue gets de-selected automatically.

8 Workflows

- Managing queues
- Managing service levels
- Managing workflows
- Sample workflows

This chapter will elaborate all the tasks that you can perform with workflows. To understand the concept of workflows, you should first know the concepts of queues and service levels. You can use queues and service levels to create workflows according to your requirements.

Managing queues

About queues

Queues hold incoming customer service activities such as emails and chat sessions that are waiting to be assigned to agents. A department can have any number of queues to map their business process. A single queue can hold multiple activity types like email, task, chat etc. Agent access to queues is controlled by permissions. For example, a sports good company can have four types of queries coming into their system through emails - Orders, Replacements, Billing details, and Shipment details. To map this process, administrator can create four queues - Orders, Replacements, Billing, and Shipment, and using workflows route the queries to the respective queues. Using permissions, administrator can control access of agents to work on issues in each queue. For example, Shipment Agents can be given permission to work on shipment issues, but not Billing or Orders queues.

By default, an exception queue is created in every department. While routing activities, if a workflow faces any error, it sends the activities to the exception queue. Also, activities that have any blocked words in them, are sent to the exception queue.

Important: **The exception queue cannot be deleted or made inactive.**

There are three types of queues:

- **Standalone queues:** This is a Cisco Interaction Manager type of queue and the routing of activities from this queue is done by Cisco Interaction Manager. There are two methods in which activities are routed by stand alone queues:
  - **Load balanced:** Activities are routed from the queue to available agents, who have least number of activities in their inbox.
  - **Round robin:** Activities are routed from the queue to all agents alternatively, irrespective of the number of activities in their inbox.
- **Integrated queues:** This is an IPCC/ICM type of queue and the routing of activities from this queue is done by Unified CCE. This queue belongs to a Unified CCE MRD. If a Cisco Interaction Manager queue is mapped to a Unified CCE MRD and script selector, and the Unified CCE MRD or script selector is deleted, when the Cisco Interaction Manager queue is clicked, a warning appears indicating that the queue will be unmapped in Cisco Interaction Manager. If a Cisco Interaction Manager queue is mapped to a Unified CCE MRD and script selector, and the MRD or script selector attributes are modified in Unified CCE, when the Cisco Interaction Manager queue is clicked, the modifications are automatically retrieved and synchronized in Cisco Interaction Manager.
- **NIPTA queues:** This is a Cisco Interaction Manager type of queue, which holds the integrated activities that IPCC/ICM cannot assign to any agent, because of agent unavailability. When an agent from a NIPTA skill group is available for handling activities, Cisco Interaction Manager notifies IPCC/ICM about the available integrated agent, and on confirmation from IPCC/ICM, assigns the activities from the NIPTA queue to the

identified integrated agent. An important thing to note is that NIPTA queues cannot be created manually. These queues are created automatically when a NIPTA skill group is configured in Cisco Interaction Manager.

Creating queues

This section describes:

- Creating standalone queues on page 198
- Creating integrated queues on page 202

Important: **NIPTA queues cannot be created manually. These queues are created automatically when a NIPTA skill group is configured in Cisco Interaction Manager.**

Creating standalone queues

To create a standalone queue:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Workflow > Queues.**
2. In the List pane toolbar, click the **New** button,
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type a name of the queue. This is required information.
   - **Description:** Type a brief description.
   - **Active:** When a queue is created, by default it is active. Select **No** to make it inactive. If you are using a queue in workflows or are intending to use it, it is advised that you do not make the queue inactive. If a queue is being used in workflows and it is made inactive, no new incoming activities are routed to the queue. All activities coming to an inactive queue are routed to the exception queue. Also, if the queue is being used in workflows, and agents have pull and transfer permissions on the queue, they can pull activities from, and transfer activities to inactive queues. If you want to restrict these actions, remove the pull and transfer permissions on the inactive queue.
   - **Type:** From the dropdown list, select **Cisco Interaction Manager**.
   - **External assignment:** This field is not in use. The default value in the field is **No**, and it should not be changed.
   - **Email push-routing method:** From the dropdown list, select the method you want to use. There are three options available:
     - **None:** Activities do not get assigned to any agent. They stay in the queue, and agents have to pull them from the queue.

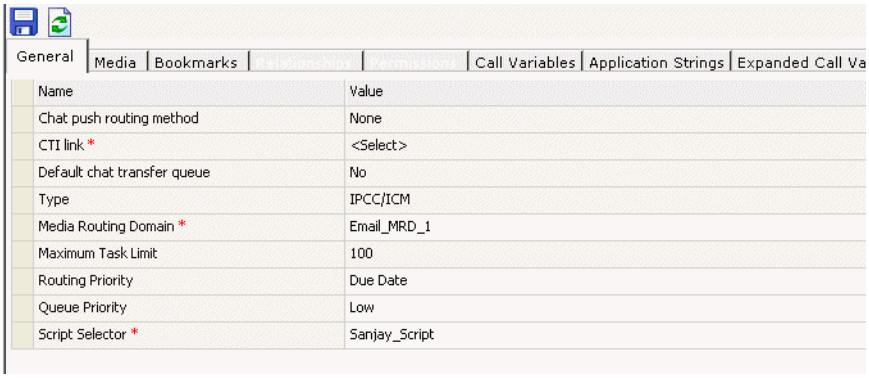
Important: **If you select the push-routing method for the queue as none, make sure that you give users pull and transfer permissions on the queue. If you do not give proper permissions on the queue, no user will be able to work on the activities coming in the queue.**

     - **Load balanced:** Activities are routed from the queue, to available agents who have least number of activities in their inbox.

- **Round robin:** Activities are routed from the queue to all agents alternatively, irrespective of the number of activities in their inbox.

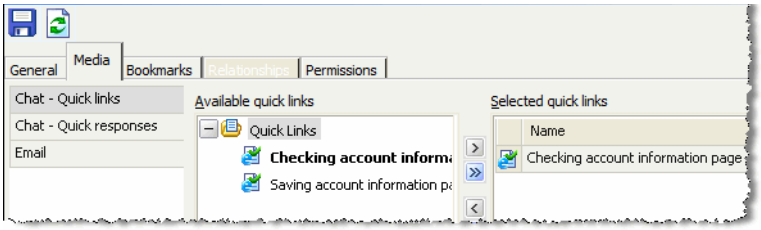
Important: **If you select the push-routing method as round robin or load balanced, then you need to select the users to whom the activities are to be assigned. You can select users from the Relationships tab.**

- **Chat push routing method:** From the dropdown list, select the method you want to use. There are two options available:
  - **None:** If None is selected, chats are not pushed from the queue to any users. Users have to explicitly pull chats from the queue to service them.
  - **Load balanced:** If Load balanced is selected, chats get directly assigned to the user with the minimum number of open chat activities. In case there is a tie between two or more agents with the same number of chats, the user who has been waiting the longest since any chat was assigned to him gets priority over others. If you select this option, you have to select the list of users from the Relationships tab to whom chats must be routed.
- **CTI link:** Ignore this field as it is not in use.
- **Default chat transfer queue:** This field is enabled after a queue is saved. For details on setting this field, see "Routing chats transferred from other departments" on page 194.
- **Media Routing domain:** This field is enabled for integrated queues only.
- **Maximum Task Limit:** This field is enabled for integrated queues only.
- **Routing Priority:** This field is enabled for integrated queues only.
- **Queue Priority:** This field is enabled for integrated queues only.
- **Script Selector:** This field is enabled for integrated queues only.



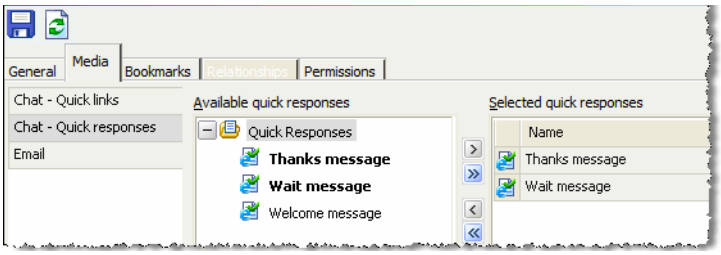
Set general properties

4. Next, go to the Media tab, and select the headers, footers, quick links, and quick responses to be associated with the queue.
   - **Chat - Quick links:** From the available quick links, select the quick links to be associated with the queue.



Select quick links

- **Chat - Quick responses:** From the available quick responses, select the quick responses to be associated with the queue.



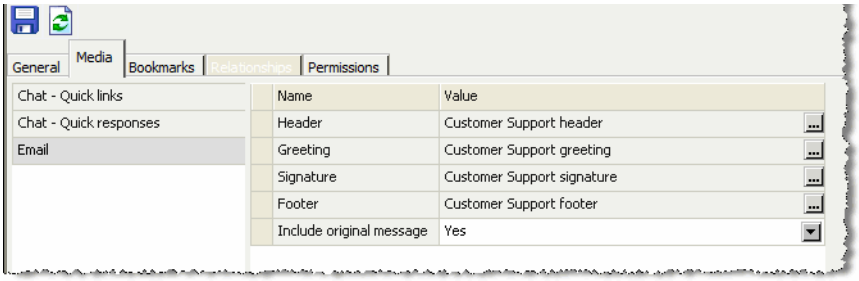
Select quick responses

- **Email:** For each queue, you can configure the header, footer, signature and greeting to be associated with the queue. The selected header, footer, signature and greeting are available to the agents in the Reply pane toolbar, for quick access. The selected header, footer, signature, and greeting are also automatically added to the Reply pane, and the agent can choose to use them or delete them, if he does not want to use them. Provide the following details.

Important: **You must create the headers, footers, greetings, and signatures articles in the Knowledge Base Console. Only one greeting, header, footer, and signature can be associated with a queue.**

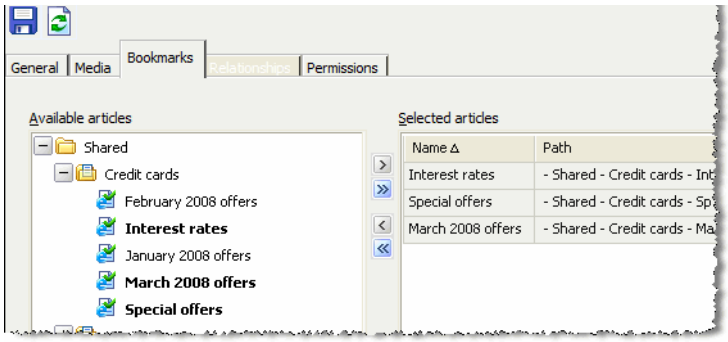
  - **Greeting:** To select a greeting, click the **Assistance** button. In the Select Article window that appears, select a greeting article.
  - **Header:** To select a header, click the **Assistance** button. In the Select Article window that appears, select a header article.
  - **Footer:** To select a footer, click the **Assistance** button. In the Select Article window that appears, select a footer article.
  - **Signature:** To select a signature, click the **Assistance** button. In the Select Article window that appears, select a signature article.
  - **Include original message:** If this option is enabled, the incoming message from the customer is included in the Reply pane. If this option is disabled, the incoming message is displayed in the

Activity Body section of the Information pane. By default this option is enabled. Select **No** to disable it.



Configure media settings

5. Next, go to the Bookmarks tab and select the articles to be associated with the queue. The bookmarked articles are available to agents in the Reply pane for quick access.

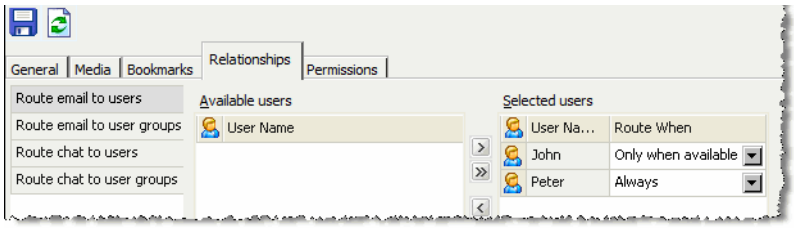


Configure bookmarks for a queue

6. Next, go to the Relationships tab and assign users and user groups to whom activities are to be assigned from the queue.

Important: **The Relationships tab is enabled only if in the General tab you have selected the Push-routing method as Round robin or Load balanced.**

- In the Route email to users section, select users from the available users list. In the selected users list, specify when activities are to be routed to users. The options available are:
  - **Always:** While routing activities, the availability of agents is not checked and activities are assigned to both available and unavailable agents.
  - **Only when Available:** Activities are routed to agents only when they are available.



Select users for routing activities

- In the Route email to user groups section, select user groups from the available user groups list. In the selected user groups list, specify when the activities are to be routed to users in the user group. The options available are:
  - **Always:** While routing activities, the availability of agents is not checked and activities are assigned to both available and unavailable agents.
  - **Only when Available:** Activities are routed to agents only when they are available.
- In the Route chat to users section, select users from the available users list. Chats are routed to agents only when they are available for handling chats.
- In the Route chat to user groups section, select user groups from the available user groups list. Chats are routed to agents only when they are available for handling chats.

7. Go to the Permissions tab and assign permissions to users and user groups. For details on assigning permissions, see "Assigning permissions on queues" on page 208.
8. Click the **Save** button.

Creating integrated queues

Before creating integrated queues

While sending new activity requests from a queue to Unified CCE, EAAS sends the call variables and ECC variables to Unified CCE as task context. By default, the activity_id is sent to Unified CCE as CallVariable1.

If you need to pass on other attributes of the activity as call variables, ECC variables, or Application Strings to Unified CCE, you need to configure them in Cisco Interaction Manager. These variables can then be used in Unified CCE scripts to configure conditions. For details, see the ICM scripts documentation. If you plan to configure these variables as ECC variables in Cisco Interaction Manager, you need to first create the ECC variables in Unified CCE. For details, see the ICM documentation.

To configure variables in Cisco Interaction Manager:

Perform all these tasks on the Cisco Interaction Manager Active database.

1. Run the following query on the `egpl_casemgmt_activity` table to get all the activity attributes available in the table.

   ```
   sp_help egpl_casemgmt_activity
   ```

2. Identify the activity attributes for which you want to create call variables and note down the exact names of the activity attribute (column_name) for your reference.
3. Run the following query on the `egicm_call_variable` table to identify the call variable IDs that are already in use.

   ```
   select call_variable_id from egicm_call_variable
   ```

4. Run the following query on the `egicm_call_variable` table to add the new call variables.

   ```
   Insert into EGICM_CALL_VARIABLE VALUES (Call_Variable_ID, 'Call_Variable_Name',
   'Call_Variable_Description')
   ```

   Where:

   - *Call_Variable_ID*: The ID of the call variable. Make sure that you do not use the call variable IDs that are already in use.

- *Call_Variable_Name*: This name should match the exact name of the activity attribute you got from the egpl_casemgmt_activity table in Step 2.
- *Call_Variable_Description*: The description of the call variable. This is optional information.

For example, the query will look like:

```
Insert into egicm_call_variable values (1003,'subject','Subject of the email')
```

Now, you can use these newly added variables as call variables, ECC variables, and Application Strings in queues.

Creating integrated queues

Create queues from Cisco Interaction Manager and map them to media routing domains in Unified CCE.

The system allows you to change standalone queues into mapped queues by mapping those queues to MRDs. But, a standalone queue cannot be mapped to an MRD under the following conditions:

- When there are open activities in a standalone queue
- When standalone users and user groups have permissions on a standalone queue
- When a standalone queue is set as the default chat transfer queue for the department
- When a standalone queue is used in a workflow

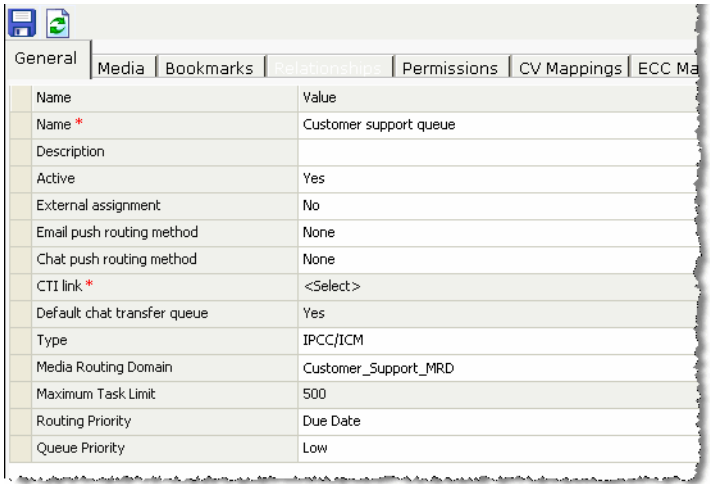
Once a standalone queue is saved as a mapped queue, it cannot be changed back to a standalone queue.

To create an integrated queue:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Workflow > Queues.**
2. In the List pane toolbar, click the **New** button,
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type a name of the queue. This is required information.
   - **Description:** Type a brief description.
   - **Active:** When a queue is created, by default it is active. Select **No** to make it inactive. If you are using a queue in workflows or are intending to use it, it is advised that you do not make the queue inactive. If a queue is being used in workflows and it is made inactive, no new incoming activities are routed to the queue. All activities coming to an inactive queue are routed to the exception queue. Also, if the queue is being used in workflows, and agents have pull and transfer permissions on the queue, they can pull activities from, and transfer activities to inactive queues. If you want to restrict these actions, remove the pull and transfer permissions on the inactive queue.
   - **Type:** From the dropdown list, select **IPCC/ICM**.
   - **External assignment:** This field is not in use. The default value in the field is **No**, and it should not be changed.
   - **Email push routing method:** This field is enabled for standalone queues only.
   - **Chat push routing method:** This field is enabled for standalone queues only.
   - **CTI link:** Ignore this field as it is not in use.
   - **Default chat transfer queue:** This field is enabled for standalone queues only.
   - **Media Routing Domain:** Select the MRD to which the queue should map. One MRD can be mapped to only one queue. The list of MRDs is dynamically retrieved from Unified CCE. While creating queues

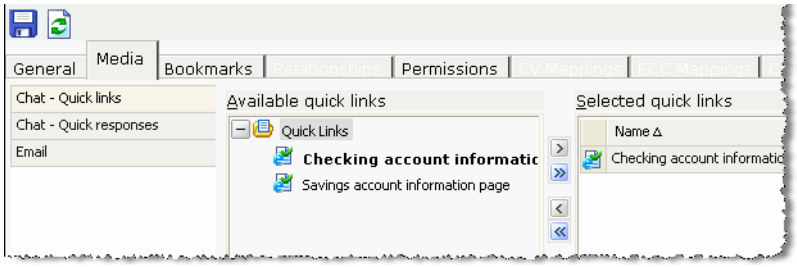
for outbound emails, make sure you select the MRD created for outbound emails. Similarly, while creating queues for inbound emails, make sure you select the MRD created for inbound emails.

- **Maximum Task Limit:** This is the maximum number of activities or tasks that can reside within the Unified CCE MRD at any point, and is also referred to as the Unified CCE queue depth or the Maximum calls per queue. The value in this field is set automatically and it cannot be changed. Whatever value is set for the selected MRD it shows automatically in this field.
- **Routing Priority:** The value chosen here determines the order in which activities are to be retrieved from the queue, and which new activity requests are to be sent for routing through Unified CCE. Select the routing priority for activities waiting in the queue. The options available are:
  - **Due date:** New activity request with the nearest due date is sent to Unified CCE.
  - **Longest waiting:** New activity request with the longest wait time is sent to Unified CCE.
- **Queue Priority:** Select the priority of the queue. While sending new activity requests from a queue, the priority of a queue is checked. If more than one queue has the same priority, than the queues are considered in alphabetic order. The EAAS instance (see *Cisco Unified Web and E-Mail Interaction Manager System Console User's Guide* for more information) retrieves activities from the highest priority queues first, and the lowest priority queues last. The queue priority can be:
  - **Low**
  - **Medium**
  - **High**
- **Script Selector:** The script selector is an identifier to the Unified CCE script associated with the given MRD that needs to be executed in Unified CCE for an activity originating from a given queue. A single MRD may have multiple script selectors, but a queue can map to one script selector only.



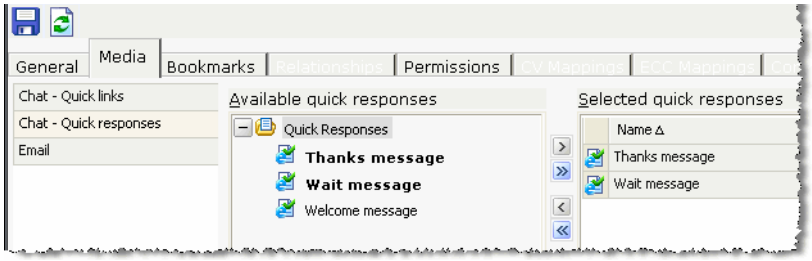
Set general properties

4. Next, go to the Media tab, and select the headers, footers, quick links, and quick responses to be associated with the queue.
   - **Chat - Quick links:** From the available quick links, select the quick links to be associated with the queue.



Select quick links

- **Chat - Quick responses:** From the available quick responses, select the quick responses to be associated with the queue.



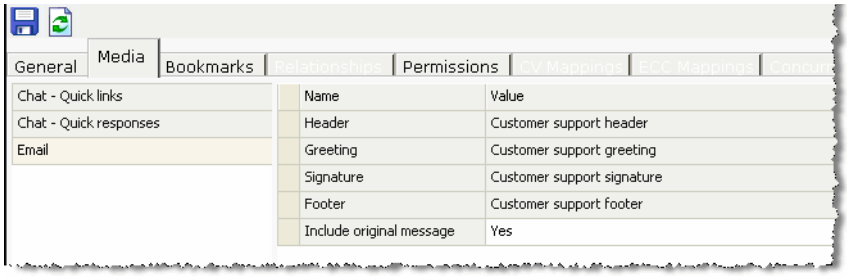
Select quick responses

- **Email:** For each queue, you can configure the header, footer, signature and greeting to be associated with the queue. The selected header, footer, signature and greeting are available to the agents in the Reply pane toolbar, for quick access. The selected header, footer, signature, and greeting are also automatically added to the Reply pane, and the agent can choose to use them or delete them, if he does not want to use them. Provide the following details.

Important: **You must create the headers, footers, greetings, and signatures articles in the Knowledge Base Console. Only one greeting, header, footer, and signature can be associated with a queue.**

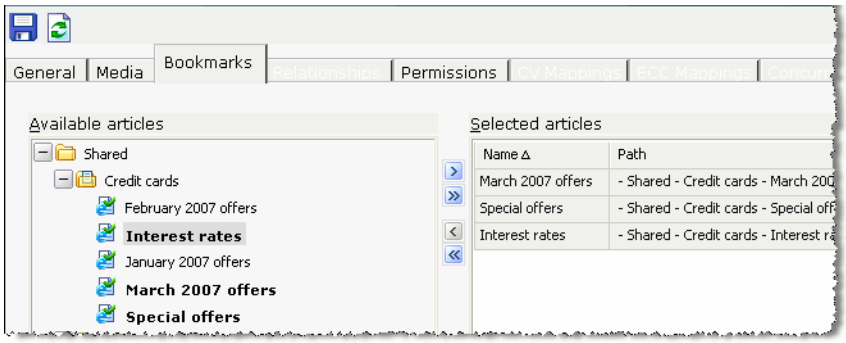
  - **Greeting:** To select a greeting, click the **Assistance** button. In the Select Article window that appears, select a greeting article.
  - **Header:** To select a header, click the **Assistance** button. In the Select Article window that appears, select a header article.
  - **Footer:** To select a footer, click the **Assistance** button. In the Select Article window that appears, select a footer article.
  - **Signature:** To select a signature, click the **Assistance** button. In the Select Article window that appears, select a signature article.
  - **Include original message:** If this option is enabled, the incoming message from the customer is included in the Reply pane. If this option is disabled, the incoming message is displayed in the

Activity Body section of the Information pane. By default this option is enabled. Select **No** to disable it.



Configure media settings

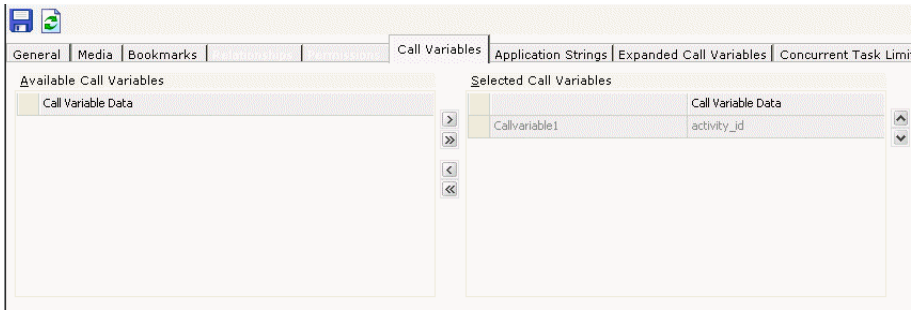
5. Next, go to the Bookmarks tab and select the articles to be associated with the queue. The bookmarked articles are available to the agents in the Reply pane for quick access.



Configure bookmarks for the queue

6. Skip the Relationships tab as this tab is enabled for standalone queues only.
7. Skip the Permissions tabs as this tab is enabled for standalone queues only. Permissions can be assigned for standalone queues only. For integrated queues, permissions are assigned automatically and they cannot be changed. For details, see "Assigning permissions on queues" on page 208.
8. Go to the Call Variables tab. For every integrated queue, select call variables (Call Variable 1 through 10). Call variables can then be used in Unified CCE scripts to facilitate and influence routing. Call variables have a maximum length of 40 characters.

   Call variables map to specific attributes of an activity (e.g., activity_id, activity_subject) that are defined by customers through a SQL script and selected here to be passed along with requests that originate for an activity in this queue. For more information about configuring these variables, see "To configure variables in Cisco Interaction Manager:" on page 202.



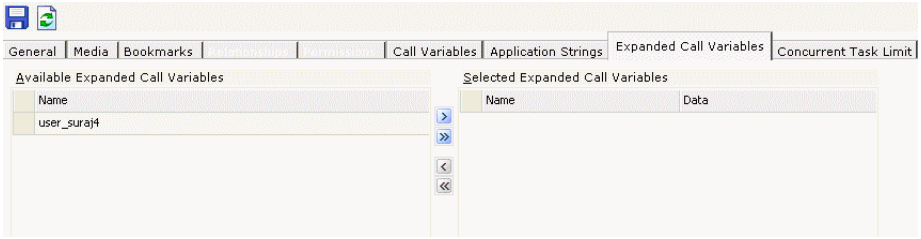
Select call variables

Ignore the Application String tab as it is not in use.

9. Go to the Expanded Call Variables tab. For every integrated queue, select Expanded Caller Context (ECC) variables. ECC variables can then be used in Unified CCE scripts to facilitate and influence routing. ECC variables have a maximum length of 256 characters. Both Scalar and Array ECC variables are supported.

   ECC variables point to unique name-value pairs that are defined by customers through a SQL script that creates ECC variables in the Unified WIM and Unified EIM database. For more information about configuring these variables, see "To configure variables in Cisco Interaction Manager:" on page 202.

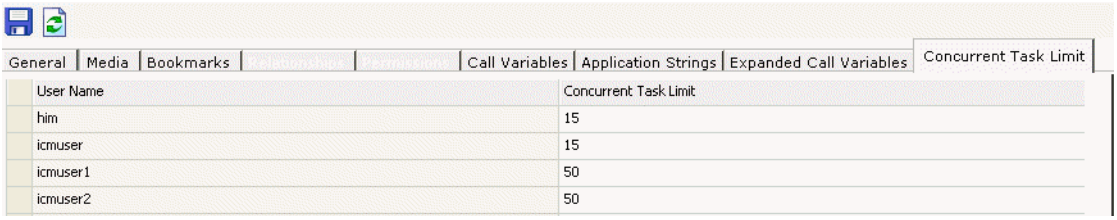
   ECC variables must be created in Unified CCE before they are used to map object attributes in Unified WIM and Unified EIM, as the mapping must be registered in Unified CCE before the variables are sent with requests to Unified CCE.



Select expanded call variables

10. Go to the Concurrent Task Limit tab. For every integrated queue, set the maximum number of tasks that a given agent who belongs to a skill group associated with the Unified CCE MRD can handle. This value is also known as the maximum concurrent task limit for an agent. The Concurrent Task Limit for a user cannot be greater then maximum task limit of the queue. The maximum task limit of a queue can be viewed from the **Maximum Task Limit** field on the General tab.

Important: **This tab is available for integrated email type of queues only.**



Set maximum concurrent task limit for agents

11. Click the **Save** button.

Deleting queues

You can only delete a queue on which you have delete permissions. You cannot delete queues that have open activities or queues that are being used in workflows and chat entry points.

An important thing to note is that NIPTA queues cannot be deleted manually. These queues are deleted automatically when a NIPTA skill group is deleted or when the mapping between a NIPTA skill group and a user group is removed from Cisco Interaction Manager.

To delete a queue:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Workflow > Queues.**
2. In the List pane, select the queue you want to delete. You can select multiple queues.
3. In the List pane toolbar, click the **Delete** button**.**

Important: **The Delete button is enabled only if you have permission to delete a queue.**

Assigning permissions on queues

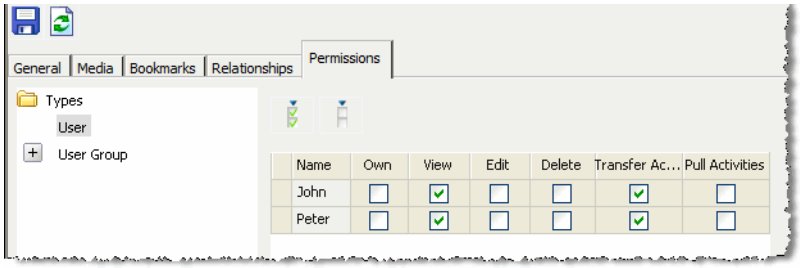
Permissions can be assigned for standalone queues only. For integrated queues, the permissions are assigned automatically and they cannot be changed.

Note about permissions to pull and transfer activities

1. Mapped agents do not have permission to pull activities from mapped or standalone queue or agents. But, mapped agents with the default administrator role can pull activities from mapped queues and the Exception queue, but not any other standalone queue.
2. Mapped agents can transfer activities to mapped queues, but they cannot transfer activities to mapped agents, standalone agents, or standalone queues.
3. Standalone agents cannot be given permission to pull activities from, or transfer activities to mapped agents or mapped queues.
4. Standalone agents can be given permission to pull activities from and transfer activities to both standalone queues and standalone agents

To assign permissions on a queue:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Workflow > Queues.**
2. In the List pane, select a queue.
3. In the Properties pane, go to the Permissions tab and assign permissions to users and user groups. Permissions can be given only to users and user groups who have the appropriate actions assigned to them. If actions are not assigned to users, then the permissions options against their name appear disabled. You can assign the following permissions to users and user groups.
   - **Own:** To own a queue. A user who has own permission on a queue can give permissions to other users.
   - **View:** To view a queue.
   - **Edit:** To edit a queue.
   - **Delete:** To delete a queue.
   - **Transfer activities:** To transfer activities to a queue.
   - **Pull activities:** To pull activities from a queue.



Assign permissions to users

4. Click the **Save** button.

Activating queues

When a queue is created, by default it is active. Select **No** to make it inactive. If you are using a queue in workflows or are intending to use it, it is advised that you do not make the queue inactive. If a queue is being used in workflows and it is made inactive, no new incoming activities are routed to the queue. All activities coming to an inactive queue are routed to the exception queue. Also, if the queue is being used in workflows, and agents have pull and transfer permissions on the queue, they can pull activities from, and transfer activities to inactive queues. If you want to restrict these actions, remove the pull and transfer permissions on the inactive queue.

Queues used in chat entry points cannot be made inactive.

To change the status of a queue:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Workflow > Queues.**
2. In the List pane, select a queue.
3. In the Properties pane, on the General tab, change the value in the **Active** field to make the queue active or inactive.
4. Click the **Save** button.

Managing service levels

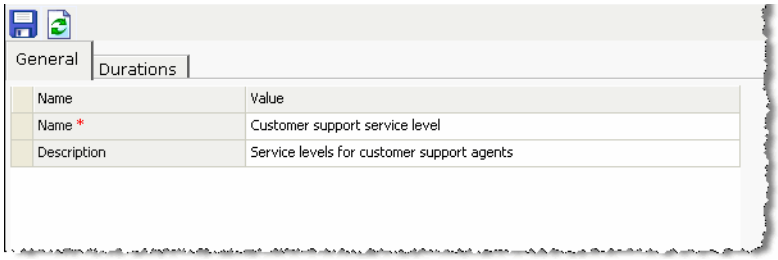
Some customers may be more valuable to your company than others. In order to provide good service, agents in your department need to know about the importance of every customer. For this, you can assign service levels to your customers and use them in your workflows. Service levels enable you to define the importance of a particular customer, thereby directing the agents to respond immediately to customers with high importance.

The system provides you with five objects, on which you can create service levels.

To create service levels

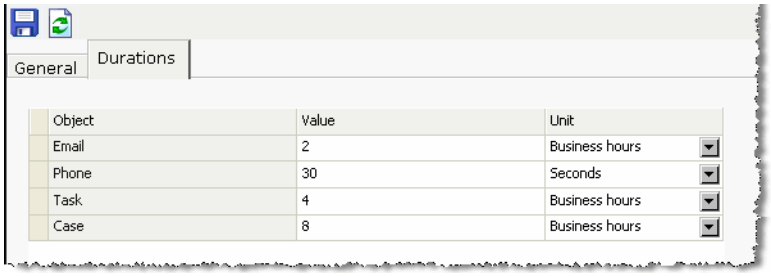
1. In the Tree pane, browse to **Administration > Department >** *Your Department* **> Workflow > Service Levels.**
2. In the List pane toolbar, click the **New** button

3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the service level.
   - **Description:** Provide a brief description.



Set general properties

4. Next, go to the Durations tab and specify the service level for various type of work units. They are:
   - **Email:** Specify the service level in minutes or business hours.
   - **Phone:** Specify the service level in seconds, minutes, or business hours.
   - **Task:** Specify the service level in minutes or business hours.
   - **Case:** Specify the service level in minutes or business hours.



Set service levels for various type of work units

5. Click the **Save** button.

Managing workflows

This section talks about:

- About workflows on page 211
- Creating workflows on page 244
- Deleting workflows on page 245
- Copying workflows on page 245

About workflows

Workflows allow you to implement business processes by defining and automating the progression of activities based on certain rules. A workflow lists the sequence of rules that are applied on an activity as it moves through the system.

Visually, a workflow is defined as a set of interconnected nodes created with the help of the Workflow Editor. Each node contains definitions of a list of rules that are applied as and when an activity passes through that node. Each rule consists of a set of conditions along with the set of actions to be performed when the conditions evaluate to true or false.

After applying the various rules on activities, workflows then route the activities to users and queues. Workflows, in Cisco Interaction Manager, process and route standalone email activities only. However, they do process the integrated email activities, which are then routed to integrated email queues and from there on IPC/ ICM processes and routes the activities to integrated agents. Another important thing to note is that workflows cannot route activities to integrated agents and NIPTA queues.

Workflows do not process or route the chat activities.

Important: **The Basic edition of Unified WIM and Unified EIM does not include the ability to add custom rules, create outbound and general workflows, or manage tasks with workflows.**

Workflow types

There are four kinds of workflows that you can create. They are:

- Alarm Workflows
- General Workflows
- Inbound Workflows
- Outbound Workflows

Alarm workflows

You can configure alarm workflows to process activities in the system and perform actions such as notifications, escalations, reassignments, etc. depending on the specified conditions. Alarm workflows are typically used to provide customer service based on customer value.

Additional workflows can be configured to work on activities processed by the alarm workflows.

Alarm workflows can be run on:

- NIPTA user groups
- Integrated users and user groups
- Standalone users and user groups
- Standalone queues
- Integrated queues used for routing emails

For some sample workflows, see Sample alarm workflows on page 288.

General workflows

This workflow applies on activities that are in the Ready for General Workflow status, mainly on tasks and other generic (custom) activity types.

General workflows are meant to be used mainly during customization of a company's business process primarily when dealing with activities of types that do not fall into any of the normal customer interaction channels.

Activities from general workflows can be routed to:

- Integrated queues used for routing emails (only emails should be routed to these queues)
- Standalone users
- Standalone queues
- Other general workflows
- Other departments

Inbound workflows

Inbound workflows define the rules for all activities coming into the system. Inbound workflows are responsible for the transfer of activities between departments.

Activities from inbound workflows can be routed to:

- Integrated queues used for routing emails
- Standalone users
- Standalone queues
- Other inbound workflows
- Other departments

There are three default inbound workflows within the system. You can also create your own workflows. The three default workflows are as follow:

1. **Start Workflow - Standard**: The first workflow that acts on all new, incoming activities. This workflow is ignored for activities transferred from other departments.

   The system provided active standard start workflow creates a new case for activities that do not have a case, and for activities which already have a case, associates the activity with the existing case. If the existing case is already closed, the workflow reopens the case and assigns the activity to the reopened case. Then the workflow checks the incoming activities to see if any of those activities are bounce backs, and routes such activities to the Exception queue. This is the default behavior of the workflow and it can be changed to meet your business needs.

2. **Start workflow - Transfer**: This workflow is responsible for transferring activities from one department to another. You cannot transfer activities to other departments unless the transfer workflow in the other department is active.

   The system provides a blank transfer workflow. You can lay the workflow according to your business requirements.

3. **Finish workflow**: This workflow applies on activities only if no user-defined inbound workflow has been applied to the activity. For example, if you have configured three aliases in your department and you have configured only one custom inbound workflow for one alias, the activities from that alias are handled by the custom alias. Activities from the other two alias are handled by the Finish Workflow.

   The system provides a blank finish workflow. You can lay the workflow according to your requirements. If you do not want to use the finish workflow at all, you can create customized inbound workflows that suit your requirements.

For some sample workflows, see Sample inbound workflows on page 246.

Outbound workflows

An outbound workflow identifies the set of rules that are applied on activities that are generated when email responses are sent out manually in the system. One of the primary use of outbound workflows is to have a control on the quality of outbound email responses.

Outbound workflows are applied on outbound email responses generated by a configured set of users or user groups. In addition to this, outbound workflows can be configured to apply on responses to activities belonging to certain queues. However, outbound workflows are not applicable to emails forwarded and redirected from the system.

Outbound workflows are also used to set up supervisory loops that allow certain users to review outbound emails created by other users. This allows supervisors to review the quality of an outbound email, accept the email and send it on, or reject the email and send it back to the initial agent for resubmission. Activities that are generated as part of the supervisory loop are not included in activity reports. Please note that the supervisory loop can be only set for standalone agents.

For some sample workflows, see Sample outbound workflows on page 282. A sample outbound workflow is described in Outbound email review workflow on page 286.

For details on creating workflows and workflow nodes, see:

- “Configuring nodes” on page 214
- “Creating workflows” on page 244

Workflow Editor

The visual Workflow Editor makes it easy to create workflows via a palette of nodes. Each node offers specific functionality. For example, the Service Level node allows service levels to be set at that point of the workflow. Placing nodes on the workflow canvas and linking them with connectors creates a system workflow. The Diagram tab in the property sheet of a workflow opens the Workflow Editor.

The following table lists the available workflow nodes.

Node	Related information
Auto-acknowledge node	For details, see "Configuring the auto-acknowledgement node" on page 225.
Alarm node	For details, see "Configuring the alarm node" on page 238.
Auto-reply node	For details, see "Configuring the auto-reply node" on page 223.
Auto-suggest node	For details, see "Configuring the auto-suggest node" on page 226.
Branch node	For details, see "Configuring the branch node" on page 241.
Classification node	For details, see "Configuring the classification node" on page 228.
Create object node	For details, see "Configuring the create object node" on page 234.
Completion node	For details, see "Configuring the completion node" on page 231.
Custom node	For details, see "Creating custom rules" on page 240.
Department node	For details, see "Configuring the department node" on page 230.
Modify object node	For details, see "Configuring the modify object node" on page 232.
Queue node	For details, see "Configuring the queue node" on page 229.
Service level node	For details, see "Configuring the service level node" on page 236.
Start node	For details, see the following: "Configuring the start node in inbound workflows" on page 215 "Configuring the start node in standard start workflow" on page 216 "Configuring the start node in standard transfer workflow" on page 218 "Configuring the start node in the standard finish workflow" on page 218 "Configuring the start node for alarm workflows" on page 219 "Configuring the start node in outbound workflows" on page 221 "Configuring the start node in general workflows" on page 222
User node	For details, see "Configuring the user node" on page 229.
Workflow node	For details, see "Configuring the workflow node" on page 231.

List of nodes available in the Workflow Editor

Configuring nodes

This section describes how to configure the various nodes in workflows.

Configuring the start node in inbound workflows

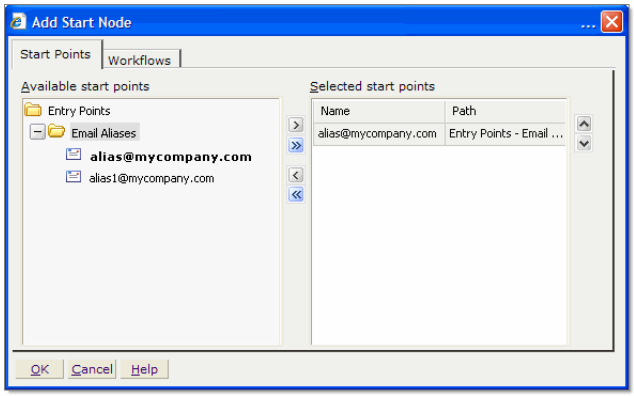
A start node is the starting point of a workflow and no workflow can be created without a start node. An inbound workflow can have two types of start points - Alias and Workflow. All emails coming to an alias, specified as the starting point of an inbound workflow, are routed by that workflow. You can add more than one aliases as the start point of a workflow, but one alias can be a start point of only one inbound workflow. After saving a workflow, if you add the workflow as an end node in another workflow, then the second workflow becomes the start point of the first workflow. This means, that the activities routed by the second workflow are processed by the first workflow. An inbound workflow can have both aliases and workflows as the start point.

A workflow can have only one start node.

The start node

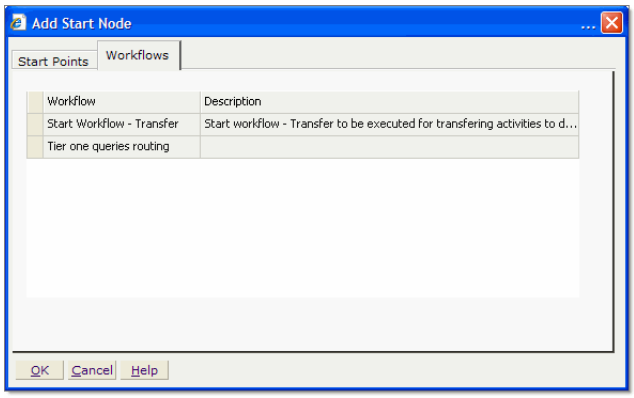
To configure the start node in an inbound workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Inbound.**
2. In the List pane, select an inbound workflow or create a new one.
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window, in the Start Points tab, select the email alias to be set as the start point for this workflow. All emails coming to the selected alias are routed by this inbound workflow. You can add more than one aliases as the start point of a workflow, but one alias can be a start point of only one inbound workflow.



Select an alias as the start point

The Workflows tab is enabled only after a workflow is saved. After saving the workflow, if you add the workflow as an end node in another workflow, then that workflow is listed in the Workflows tab. This means, that the activities routed by the other workflow are processed by this workflow. An inbound workflow can have both aliases and workflows as the start point.



View the workflows

5. Click the **OK** button to close the window.

Configuring the start node in standard start workflow

A start node is the starting point of a workflow and no workflow can be created without a start node. In the start node of a standard start workflow, you make the important decision of creating or not creating cases for each incoming activity. By default, the node is configured to create a new case for activities that do not have a case and for activities which already have a case, associates the activity with the existing case. If the existing case is already closed, the workflow reopens the case and assigns the activity to the reopened case. This is the default configuration of the node and it can be changed to meet your business needs.

A workflow can have only one start node.

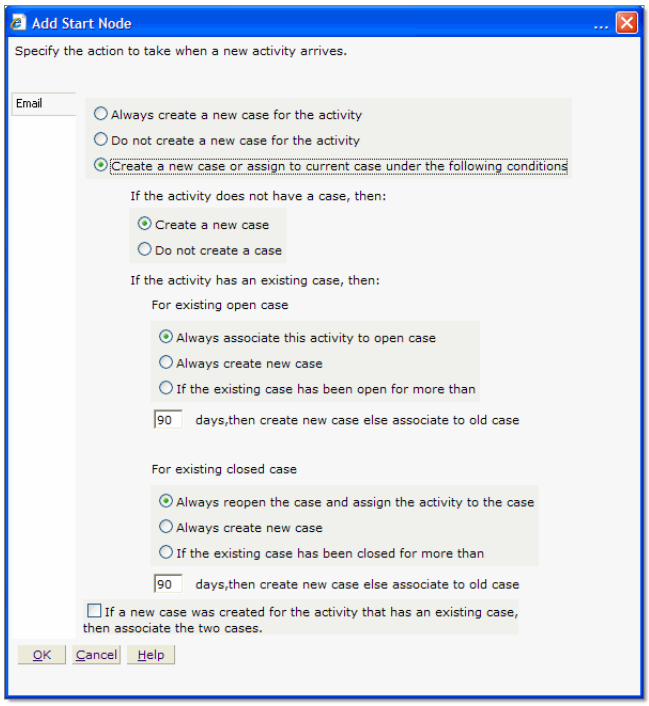
The Start node

To configure the start node in the standard start workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Inbound.**
2. In the List pane select **Start Workflow - Standard.**
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window, select one of the following options.
   - **Always create a new case for the activity:** If you select this options, all other options in the window are disabled, except for the option to associate cases for activities that have existing cases.
   - **Do not create a new case for the activity:** If you select this option all other options in the window are disabled.
   - **Create a new case or assign to current case under the following conditions:** If you select this option, you can further specify the conditions when a case is to be created.
     - Specify what is to be done when an activity has no case assigned to it. The following options are available:
       - Create a new case

- Do not create a new case

- Next, specify what is to be done when an activity has an existing case and the case is open. The following options are available:
  - Always associate this activity to open case
  - Always create new case
  - If the existing case has been open for more than *n* number of days, then create a new case else associate to old case: You can specify the number of days to be considered for this option.
- Now, specify what is to be done when an activity has an existing case and that case is closed. The following options are available:
  - Always reopen the case and assign the activity to the case
  - Always create new case
  - If the existing case has been closed for more than *n* number of days, then create a new case else associate to the old case. You can specify the number of days to be considered for this option.



Set the start node for a standard start workflow

5. Lastly, you can associate two cases, if a new case was created for the activity that has an existing case. In the Add Start Node window, select the **If a new case was created for the activity that has an existing case, then associate the two cases** option.
6. Click the **OK** button to close the window.

Configuring the start node in standard transfer workflow

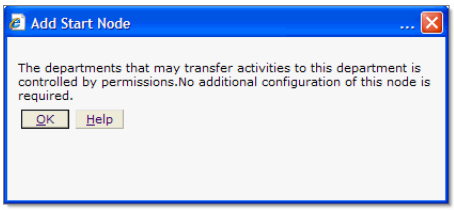
A start node is the starting point of a workflow and no workflow can be created without a start node. For the start node of a transfer workflow, you do not need to configure any properties. All the activities that are transferred from other departments form the start point of the transfer workflow.

A workflow can have only one start node.

The Start node

To configure the start node in the standard transfer workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Inbound.**
2. In the List pane select **Start Workflow - Transfer.**
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window you will see a message that the transfer of activities from other departments is controlled by permissions. No additional properties need to be set for this node of the workflow.



Set the start node for a standard transfer workflow

5. Click the **OK** button to close the window.

Configuring the start node in the standard finish workflow

A start node is the starting point of a workflow and no workflow can be created without a start node. No properties need to be set for the start node of a finish workflow. The start node of the standard finish workflow picks up all the incoming activities that are not processed by any other custom inbound workflow. Activities are routed to the finish workflow only after the activities are processed by the Standard - Start Workflow.

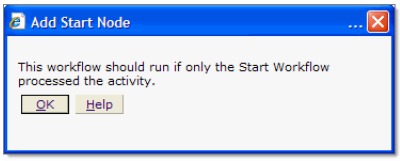
A workflow can have only one start node.

The start node

To configure the start node in a standard finish workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Inbound.**
2. In the List pane select **Finish workflow.**

3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window you will see a message that the workflow will run only after the start workflow has processed the activity. No additional properties need to be set for this node of the workflow.



Set the start node for a standard finish workflow

5. Click the **OK** button to close the window.

Configuring the start node for alarm workflows

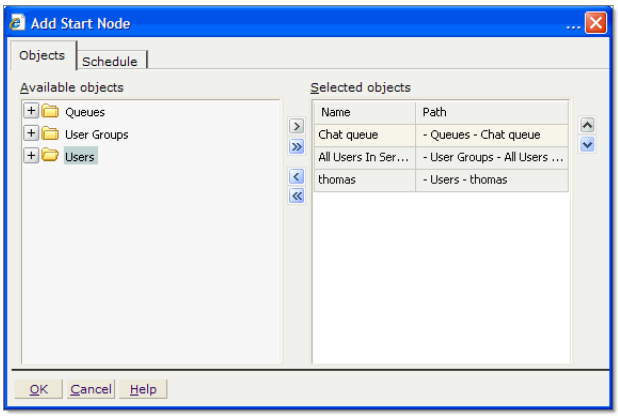
A start node is the starting point of a workflow and no workflow can be created without a start node. In the start node of the alarm workflow you specify the objects you want to monitor. You can select from queues, users, and user groups. Along with the objects, you have to specify the schedule when the alarm workflow should run. You can run the alarm workflow only once or multiple times. Additionally, you can specify the end date and start date of the scheduled alarm workflow.

A workflow can have only one start node.

The start node

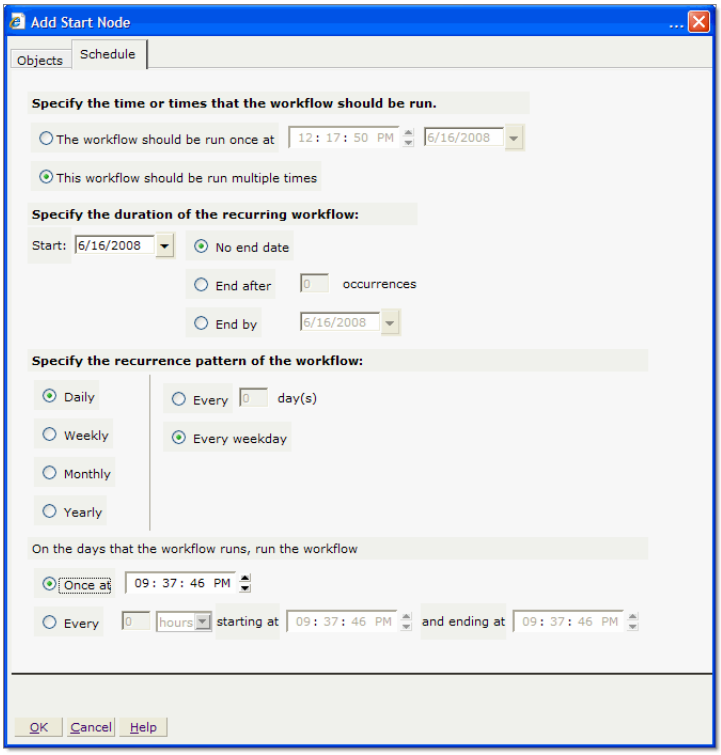
To configure a start node for an alarm node:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Alarm.**
2. In the List pane, select an alarm workflow or create a new one.
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window, on the Objects tab, select from the list of users, queues, and user groups.



Select queue, users, and user groups

5. Next, in the Add Start Node window, on the Schedule tab, set the schedule for the alarm workflow. The following options need to be set:
    - Specify the time or times that the workflow should be run: By default **The workflow should be run once at** *Time Date* is selected. You can select from one of the following options.
        - **The workflow should be run once at** *Time Date*
        - **This workflow should be run multiple times**
    - **Specify the duration of the recurring workflow:** Set the start date for the workflow and for the end date select from one of the following options.
        - **No end date**
        - **End after** *n* **occurrences**
        - **End by the specified date**
    - **Specify the recurrence pattern of the workflow:** Select one of the following options.
        - **Daily:** Set the workflow to run:
            - Every *n* day
            - Every weekday
        - **Weekly:** Set the workflow to recur every *n* week on *the days of the week*
        - **Monthly:** Set the workflow to run:
            - Day *n* of every *n* month
            - The first, second, third, fourth, or last *Day* of every *n* month
        - **Yearly:** Set the workflow to run:
            - Every *Month Date*
            - Every first, second, third, fourth, or last *Day* of *Month*
    - **On the day that the workflow runs, run the workflow:** Select one of the following options.
        - Once at *the specified time*
        - Every *n* hours starting at *the specified time* and ending at *the specified time*



Set the schedule for the alarm workflow

6. Click the **OK** button to close the window.

Configuring the start node in outbound workflows

A start node is the starting point of a workflow and no workflow can be created without a start node. The start point of an outbound workflow can be a queue, a user, or a user group. You can select multiple objects as the start point of the same workflow. Also, every workflow has a unique object as its start point. For example, the same user cannot be a start point of two outbound workflows.

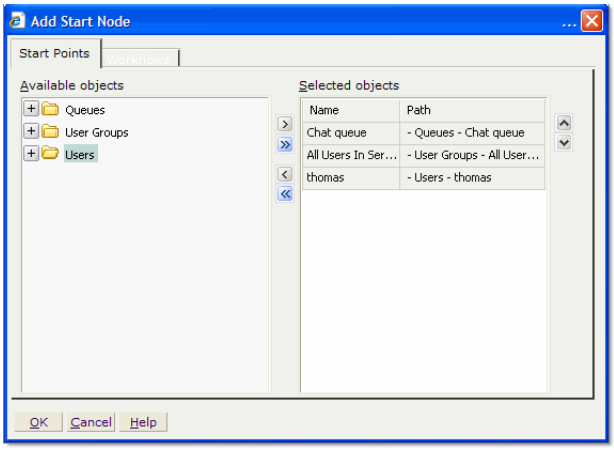
A workflow can have only one start node.

The start node

To configure a start node in an outbound workflow:

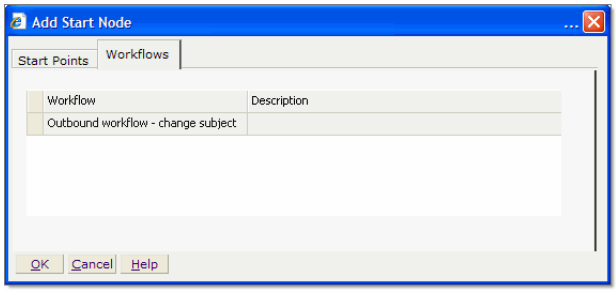
1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Outbound.**
2. In the List pane select an outbound workflow or create a new one.
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.

4. In the Add Start Node window, on the Start Points tab, select from the list of users, queues, and user groups. For outbound email review workflows, the Start node has to be the user or user group whose outbound emails need to be reviewed.



Select queues, users, and user groups

The Workflows tab is enabled only after the workflow is saved. After saving the workflow, if you add the workflow as an end node in another workflow, then that workflow is listed in the Workflows tab. This means, that the activities routed by the other workflow are processed by this workflow.



View the workflows

5. Click the **OK** button to close the window.

Configuring the start node in general workflows

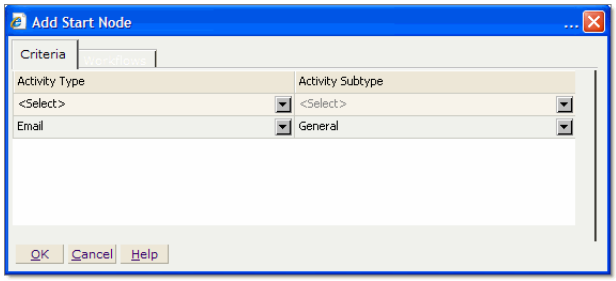
A start node is the starting point of a workflow and no workflow can be created without a start node. In the start node of a general workflow you configure the activity types and sub types that should be handled by the general workflow.

A workflow can have only one start node.

The start node

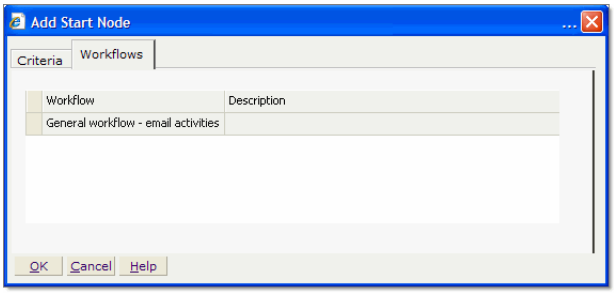
To configure a start node in a general workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > General.**
2. In the List pane select a general workflow or create a new one.
3. In the Properties pane, on the Diagram tab, add the **Start** node in the Workflow Editor.
4. In the Add Start Node window, on the Criteria tab, select an activity type and subtype. You can create a single general workflow which handles all activity types and subtypes. To set that, select the **Any** option for activity type and subtype. If you do so, you cannot create any other general workflow for the department. Likewise, you can create a single general workflow for all the activity subtypes of an activity type. To set that, in the **Activity type** field, select an activity type and in the **Activity Subtype** field select **Any.** If you do so, the selected activity type will not be available for adding in any other general workflow.



Set criteria for a general workflow

The Workflows tab is enabled only after the workflow is saved. After saving the workflow, if you add the workflow as an end node in another workflow, then that workflow is listed in the Workflows tab. This means, that the activities routed by the other workflow are processed by this workflow. If a general workflow is used as an end node of an inbound workflow, then that inbound workflow is also listed in the start node of the general workflow.



View the workflows

5. Click the **OK** button to close the window.

Configuring the auto-reply node

Using this node, you can automatically send replies for incoming emails. Auto-replies are replies that the system automatically picks, according to the rules specified in a workflow, and sends those to customers. You have to create the content for these auto-replies in the form of articles in the Knowledge Base Console.

You can create various rules in which you can specify the conditions when auto-replies are to be sent to customers. You can configure the system in a way that when one set of conditions is met one auto-reply is sent to customers, and when another set of conditions are met a different auto-reply is sent. Like this, you can configure different sets of conditions and for each set of met conditions, a different auto-reply.

In a workflow, if you have configured both auto-acknowledgement and auto reply, and both of them qualify to be sent, then only the auto-reply is sent to the customer and the auto-acknowledgement is discarded.

The auto-reply node

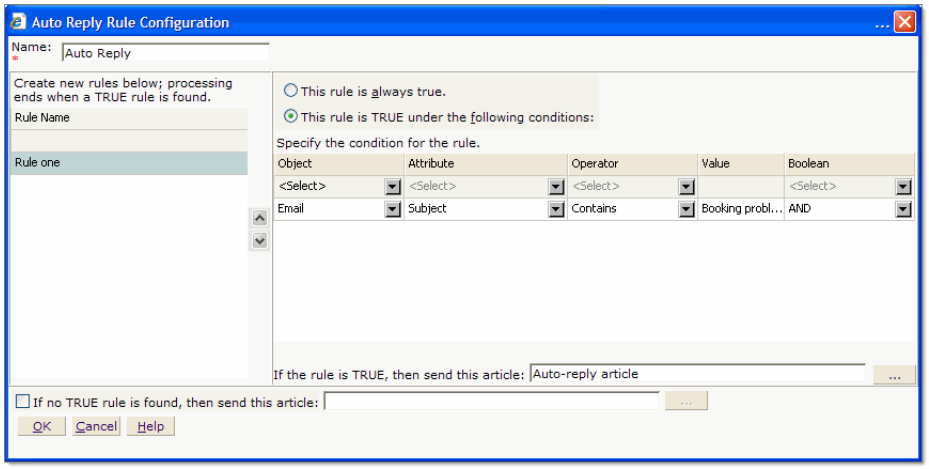
To configure an auto-reply node:

1. In the Properties pane, on the Diagram tab, add the **Auto-reply** node in the Workflow Editor.
2. In the Auto-Reply Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. Select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

      If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.
   d. Next, select the articles to be sent as an auto-reply if the conditions configured in the rule are met. Click the **Select Article** button and from the Select Article window select articles for auto-reply. You can select multiple articles and configure the order in which they should appear in the reply. When the auto-reply is sent, all the selected articles are combined together in the order they are selected and sent out as one email.

      Likewise, you can create multiple rules.
   e. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of the rules.

f. Lastly, you can also send an auto-reply if no rules are found true. Select the **If no TRUE rule is found, then send this article** option, and select the articles to be sent as auto-reply. Click the **Select Article** button and from the Select Article window select articles for auto-reply.



Set the auto-reply node

3. Click the **OK** button to close the window.

Configuring the auto-acknowledgement node

Using this node, you can automatically send acknowledgements for incoming emails. Auto-acknowledgements are replies that the system automatically picks, according to the rules specified in a workflow, and sends them to customers. You have to create the content for these auto-acknowledgements in the form of articles in the Knowledge Base Console.

You can create various rules in which you can specify the conditions when auto-acknowledgements are to be sent to customers. You can configure the system in a way that when one set of conditions is met one auto-acknowledgement is sent to customers, and when another set of conditions are met a different auto-acknowledgement is sent. Like this, you can configure different sets of conditions and for each set of met conditions, a different auto acknowledgement.

In a workflow, if you have configured both auto-acknowledgement and auto-reply, and both of them qualify to be sent, then only the auto-reply is sent to the customer and the auto-acknowledgement is discarded.

The auto-acknowledgement node

To configure an auto-acknowledgement node:

1. In the Properties pane, on the Diagram tab, add the **Auto-acknowledgement** node in the Workflow Editor.
2. In the Auto Acknowledgement Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.

c. Select one of the following options:

- **This rule is always true**
- **This rule is true under the following conditions**

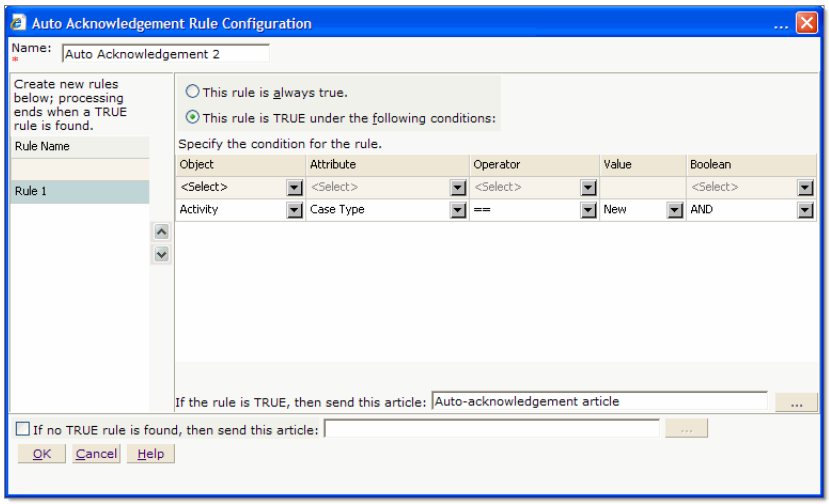
If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.

d. Next, select the articles to be sent as an auto-acknowledgement if the conditions configured in the rule are met. Click the **Select Article** button and from the Select Article window select articles for auto-acknowledgement. You can select multiple articles and configure the order in which they should appear in the reply. When the auto-acknowledgement is sent, all the selected articles are combined together in the order they are selected and sent out as one email.

Likewise, you can create multiple rules.

e. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of the rules.

f. Lastly, you can also send an auto-acknowledgement if no rules are found true. Select the **If no TRUE rule is found, then send this article** option, and select the articles to be sent as auto-acknowledgement. Click the **Select Article** button and from the Select Article window select articles for auto-acknowledgement.



Set the auto-acknowledgment node

3. Click the **OK** button to close the window.

Configuring the auto-suggest node

This node allows you to automatically suggest responses to agents for emails coming in the system. Agents can view the suggested responses and pick the best response for sending to the customer. You can configure different set of conditions and for each set of met conditions, you can suggest different responses. And, if all the set conditions in all the rules are met, all the responses are suggested and the agent can pick the best response.

Agents can view the suggested replies from the Suggested Responses option available in the Reply pane of the Agent Console.

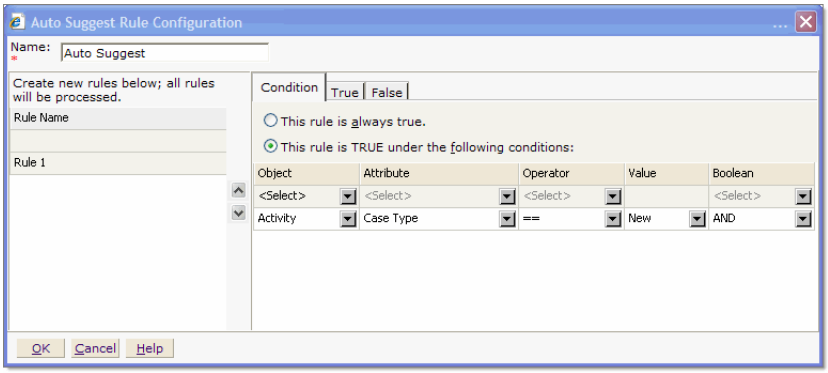
The auto-suggest node

To configure an auto-suggest node:

1. In the Properties pane, on the Diagram tab, add the **Auto-suggest** node in the Workflow Editor.
2. In the Auto Suggest Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. On the Condition tab, select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

      If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.
   d. Next, go the True tab and select the articles to be suggested to agents if the conditions configured in the rule are met. You can select multiple articles and configure the order in which they should appear in the reply.
   e. Next, go the False tab and select the articles to be suggested to agents if the conditions configured in the rule are not met. You can select multiple articles and configure the order in which they should appear in the reply. The False tab is enabled only if you have selected the **This rule is true under the following conditions** option on the Condition tab. It is optional to configure the False tab.

      Likewise, you can create multiple rules.
   f. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of rules.



Set the auto-suggest node

3. Click the **OK** button to close the window.

Configuring the classification node

Using this node, you can automatically assign categories and resolution codes to emails coming in the system. Before you can use classifications in workflows, you have to create them from the **Classifications** node in the Administration Console.

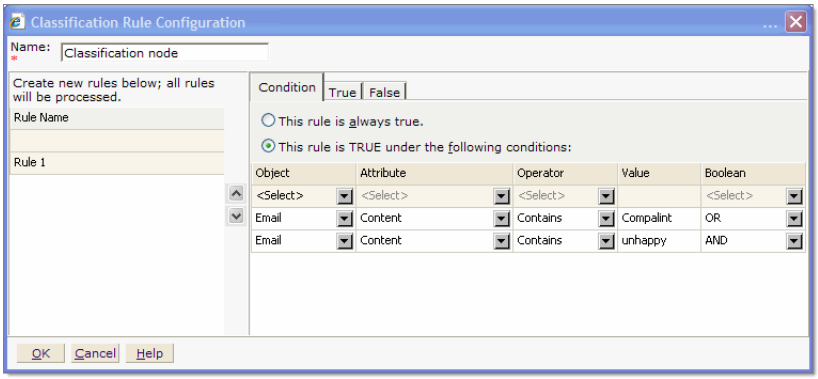
The classification node

To configure a classification node:

1. In the Properties pane, on the Diagram tab, add the **Classification** node in the Workflow Editor.
2. In the Classification Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. On the Condition tab, select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

      If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.
   d. Next, go the True tab and select the categories or resolution codes to be assigned to activities if the conditions configured in the rule are met.
   e. Next, go the False tab and select the categories or resolution codes to be assigned to activities if the conditions configured in the rule are not met. The False tab is enabled only if you have selected the **This rule is true under the following conditions** option on the Condition tab.

      Likewise, you can create multiple rules.
   f. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of the rules.



Set the classification node

3. Click the **OK** button to close the window.

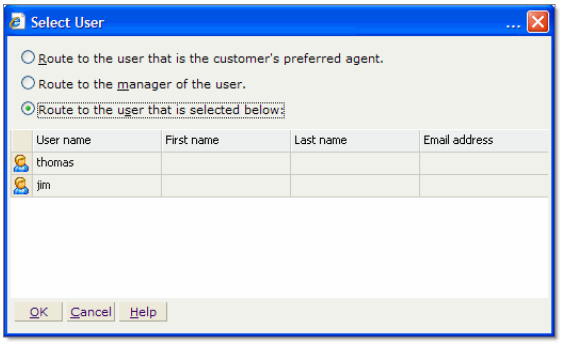
Configuring the user node

In this node, you can specify the users to whom the activities should get routed after they are processed by a workflow. You can also route activities to foreign users in your department. You can route activities to the customer's preferred agent or you can select a specific agent. For alarm workflows and outbound workflows, you can additionally route activities to the manager of a user. User node is a terminating node of a workflow and you cannot add any nodes after it. Only standalone users are available in this node. This node is not available in outbound workflows.

The user node

To configure a user node:

1. In the Properties pane, on the Diagram tab, add the **User** node in the Workflow Editor.
2. In the Select User window, do the following.
   - Select the **Route to the user that is the customer's preferred agent** option to route activities to customer's preferred agent. If the preferred agent is not logged in, the activity is assigned to some other agent.
   - Select the **Route to the manager of the user** option to route activities to the manager of a user. This option is available in the User node of alarm workflows only.
   - Select the **Route to the user that is selected below** option and select a user from the list of available users. Only standalone agents are available in this list.



Set the user node

3. Click the **OK** button to close the window.

Configuring the queue node

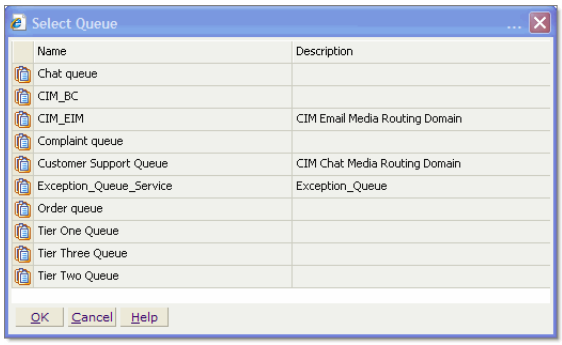
In this node you can specify the queue to which activities should get routed after they are processed by a workflow. Queue node is a terminating node of a workflow and you cannot add any nodes after it. For standalone queues, the activities are then routed to standalone users based on the routing method defined in the

queue. For integrated queues, the activities are routed to Unified CCE, which then routes the activities to integrated users who are logged in Cisco Interaction Manager and are available in Unified CCE.

The queue node

To configure a queue node:

1. In the Properties pane, on the Diagram tab, add the **Queue** node in the Workflow Editor.
2. In the Select Queue window, select a queue. Both standalone and integrated queues are available in the list of queues; however NIPTA queues are not available.



Set the queue node

3. Click the **OK** button to close the window.

Configuring the department node

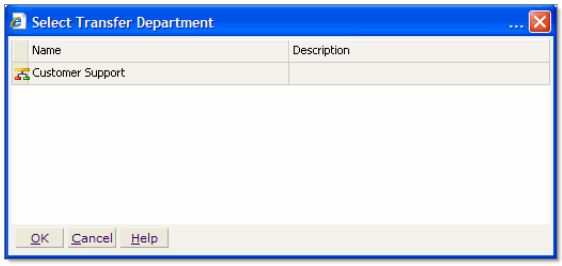
Using this node, you can add a department to route activities to an available department. The department node is a terminating node of a workflow and you cannot add any nodes after it. Only departments that have active transfer workflows can be added to workflows in other departments. This node is not available in outbound workflows.

The department node

To configure a department node:

1. In the Properties pane, on the Diagram tab, add the **Department** node in the Workflow Editor.

2. In the Select Transfer Department window, select a department to which you want to transfer activities from this workflow. Only those department that have an active **Start Workflow - Transfer** workflow are available in this list.



Set the department node

3. Click the **OK** button to close the window.

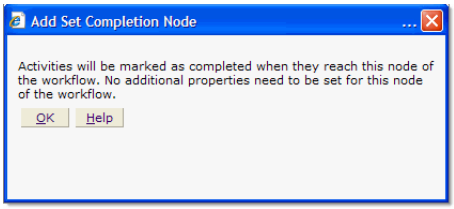
Configuring the completion node

Using this node, you can automatically complete activities. When activities reach this node the status of an activity is changed to “Complete”. No properties need to be set for this node of the workflow. Use this node when you are sure that no additional work needs to be done on an activity and it can be completed automatically, without being viewed by any agent.

The completion node

To configure a completion node:

1. In the Properties pane, on the Diagram tab, add the **Completion** node in the Workflow Editor.
2. In the Add Set Completion Node window you will see a message that the activities will be marked as completed when they reach this node of the workflow. No additional properties need to be set for this node of the workflow.



Set the completion node

3. Click the **OK** button to close the window.

Configuring the workflow node

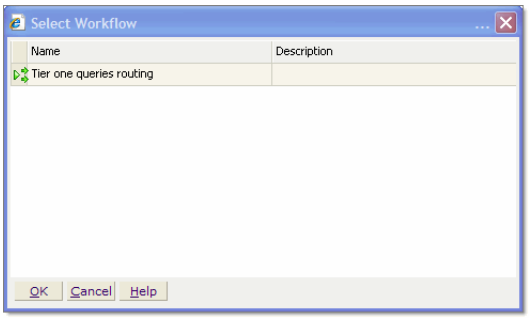
In this node, you can specify the workflow to which activities should get routed after they have been processed by the current workflow. From each type of workflow, you can add only specific types of workflows. For alarm

workflows, you can add alarm workflows, for outbound workflows, only outbound workflows, and for general workflows, only general workflows. For inbound workflows, you can add both general and inbound workflows. Workflow node is a terminating node of a workflow and you cannot add any nodes after it.

The workflow node

To configure a workflow node:

1. In the Properties pane, on the Diagram tab, add the **Workflow** node in the Workflow Editor.
2. In the Select Workflow window, select the workflow to which you want to route activities from the current workflow, for further processing. Only active workflows are available in this list.



Set the workflow node

3. Click the **OK** button to close the window.

Configuring the modify object node

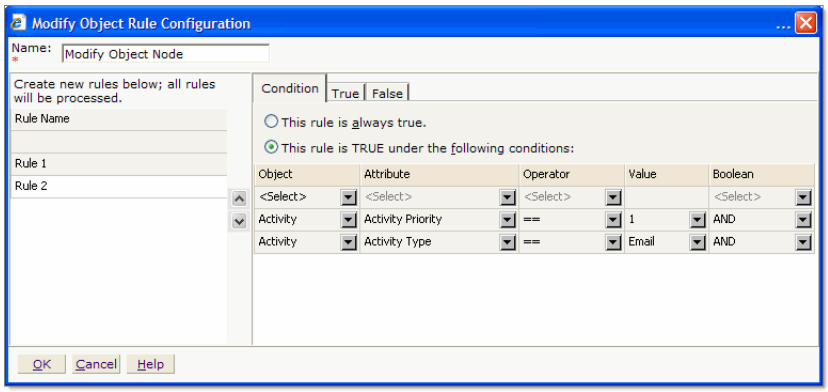
Using this node, you can modify some specific properties of the following objects - activities, cases, customers, emails, tasks, and custom activities.

The modify object node

To configure a modify object node:

1. In the Properties pane, on the Diagram tab, add the **Modify Object** node in the Workflow Editor.
2. In the Modify Object Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. On the Condition tab, select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.



Set conditions for the modify object node

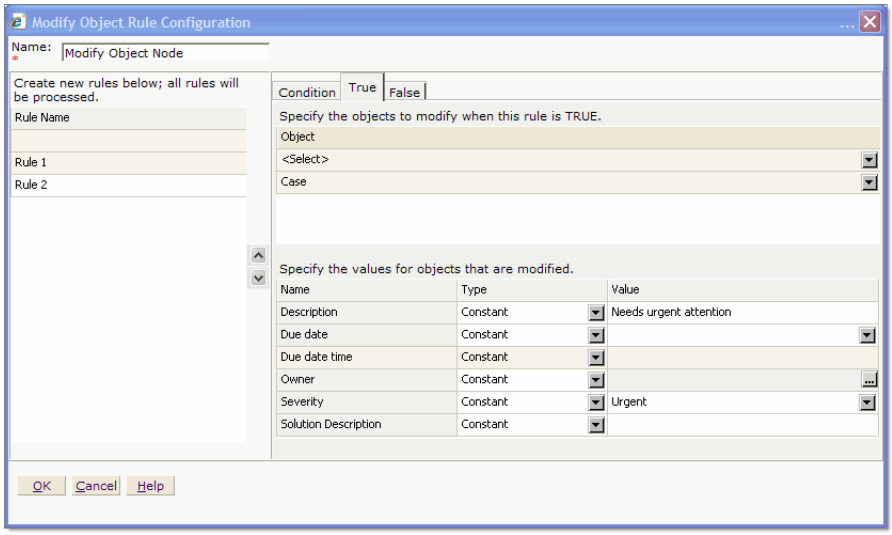
d. Next, go to the True tab and select the object you want to modify and specify the values for the objects that are to be modified. Through this node you can modify the following attributes of the objects.

- **Activity:** Activity priority, assigned to, description, due date, due date time, queue, subject
- **Case:** Description, due date, due date time, Owner, Severity, Solution description.
- **Email:** Content, subject
- **Task:** Content
- **Customer - common:** Entitlements, how referred, industry, level, marketing segment, preferred agent
- **Customer - individual:** Date of birth, employment status, First name, middle name, last name, gender, job title, marital status
- **Customer - group:** Customer name, group type, no. of members, region
- **Customer - organization:** Customer name, no. of employees, region, sector type

There are four ways in which you can provide values for these attributes. They are:

- Macro
- Link
- Constant

- Pattern



Configure the properties of the object to be modified

e. Next, go the False tab and select the object to be modified if the conditions configured in the rule are not met. The False tab is enabled only if you have selected the **This rule is true under the following conditions** option on the Condition tab. It is optional to configure the False tab.

   Likewise, you can create multiple rules.

f. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of the rules.

3. Click the **OK** button to close the window.

Configuring the create object node

Using this node you can create new activities of type email and task. For example, a new incoming request for check reorders or a New DSL connection can cause the workflow to generate one or more tasks that can be assigned to different users. The new activities created can belong to the same case or can be part of a new case. The contents of different fields from the current activity being processed can be carried forward to the new activities.

The create object node

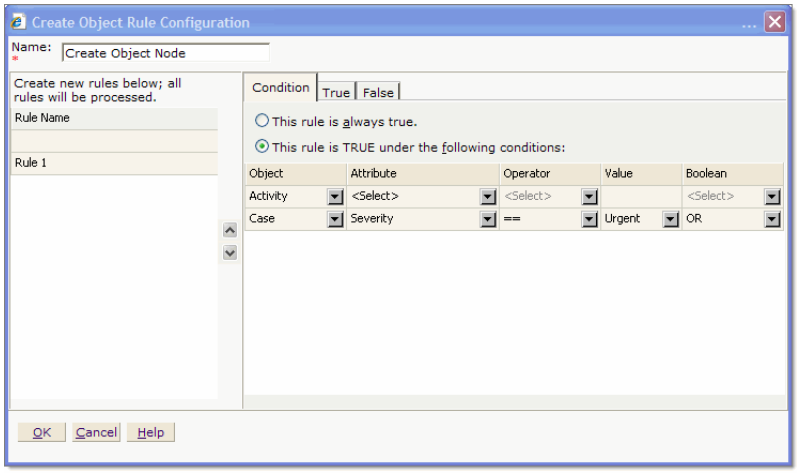
To configure a create object node:

1. In the Properties pane, on the Diagram tab, add the **Create Object** node in the Workflow Editor.
2. In the Create Object Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** filed, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.

c. On the Condition tab, select one of the following options:

- **This rule is always true**
- **This rule is true under the following conditions**

If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.



Set conditions for the create object node

d. Next, go to the True tab and select the object you want to create and specify the values of the new object that is to be created. Through this node you can create the following attributes of the objects.

For emails, you can specify the following attributes. Some of them are required attributes.

- Activity Priority
- Due date
- Due date time
- Subject: Required
- Description
- To email address: Required
- From email address: Required
- Content
- Case: Required
- Customer: Required
- Activity substsatus: Required

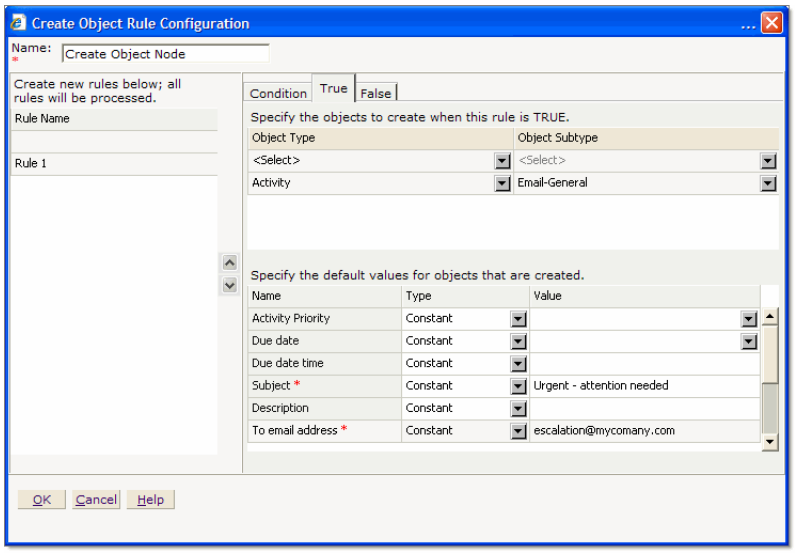
For tasks, you can specify the following attributes. Some of them are required attributes.

- Activity Priority
- Due date
- Due date time
- Subject: Required
- Description
- Content

- Case: Required
- Customer: Required

There are four ways in which you can provide the values for these attributes. They are:

- Macro
- Link
- Constant
- Pattern



Configure the properties of the object to be created

e. Next, go the False tab and select the object to be created if the conditions configured in the rule are not met. The False tab is enabled only if you have selected the **This rule is true under the following conditions** option on the Condition tab. It is optional to configure the False tab.

   Likewise, you can create multiple rules.

f. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of the rules.

3. Click the **OK** button to close the window.

Configuring the service level node

Using rules you can automatically set due dates for the emails coming in the system, before they are assigned to agents. You can create various rules in which you can specify the conditions when a particular service level is to be set. You can configure the system in a way that when one set of conditions is met one service level is set for an email, and when another set of conditions are met a different service level is set. Like this, you can configure different sets of conditions and for each set of met conditions, a different service level. You can set different

service levels for activities and cases. Before you can use service levels in workflows, you have to create them from the **Workflow > Service Levels** node in the Administration Console.

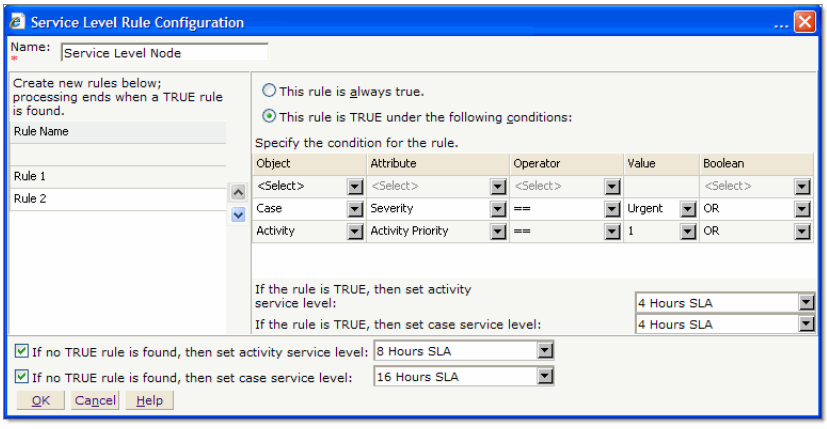
The service level node

To configure a service level node:

1. In the Properties pane, on the Diagram tab, add the **Service Level** node in the Workflow Editor.
2. In the Service Level Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** field, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. Select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

      If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.
   d. Next, select the service levels to be set for activities and cases, if the conditions configured in the rule are met.

      Likewise, you can create multiple rules.
   e. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of rules.
   f. Lastly, you can also set service levels if no rules are found to be true. Set the following:
      - Select the **If no TRUE rule is found, then set activity service level** option, and select a service level from the dropdown list.
      - Select the **If no TRUE rule is found, then set case service level** option, and select a service level from the dropdown list.



Configure the service level node

3. Click the **OK** button to close the window.

Configuring the alarm node

Using this node, you can set up alarms if certain conditions are met. You can monitor some specific attributes of cases and activities, and you can send internal and external notifications if the conditions are met. For activity alarm rules, you can also filter activities based on a defined criteria. The filtered activities can then be further processed by the alarm workflow.

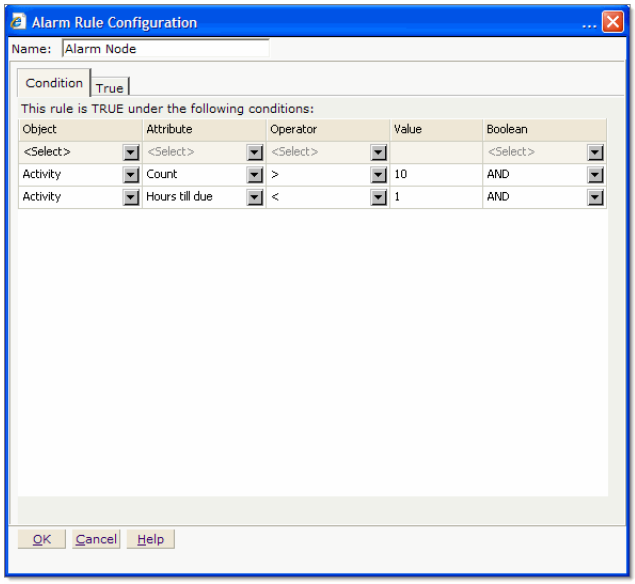
> Important: **Filters should be configured only for workflows set up for standalone users, user groups, and queues.**

An alarm workflow can have only one alarm node and it should be the second node in the workflow that is the node following the start node.

The alarm node

To configure an alarm node:

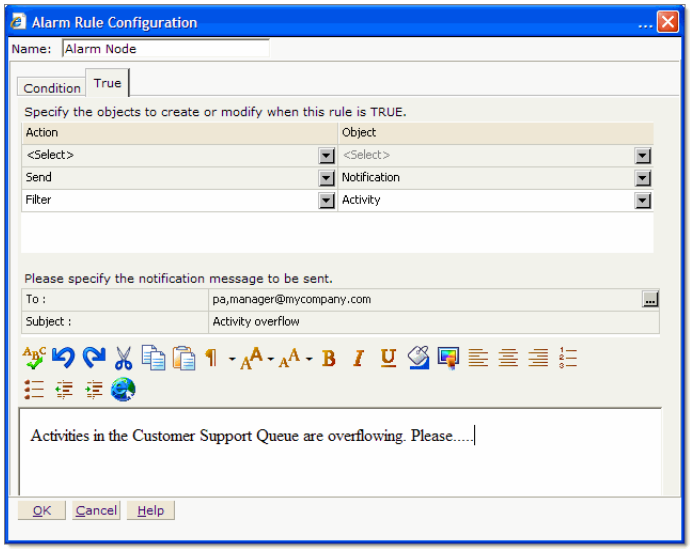
1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Alarm.**
2. In the List pane, select an alarm workflow.
3. In the Properties pane, on the Diagram tab, add the **Alarm** node in the Workflow Editor.
4. In the Alarm Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. Next, on the Condition tab, configure the conditions under which the rule is true. Only the following objects are available in the alarm node - Activity and Case, and you can set conditions for only one object in one alarm node. Another important thing to note is that you cannot set conditions using only the “Count” and “Percentage” attributes. You must select another attributes with these two attributes to be able to save the node.



Configure conditions for the alarm node

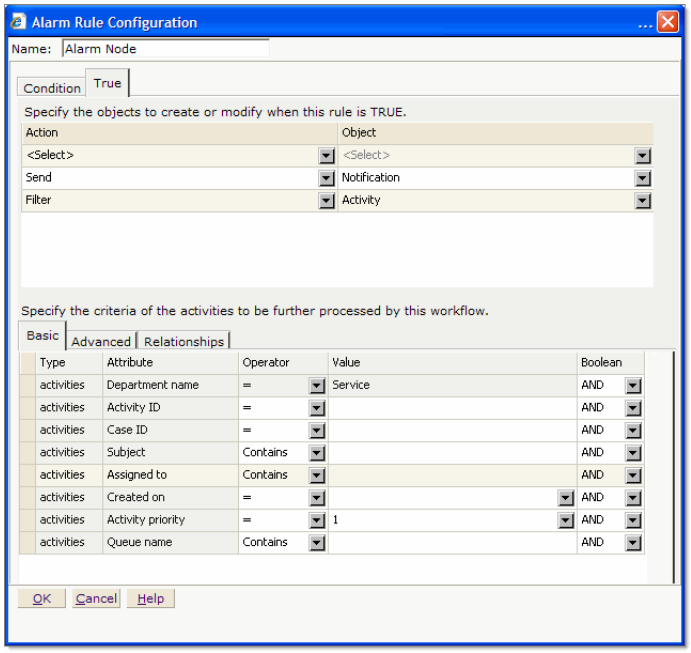
c. Next, on the True tab, configure the action to be performed when the alarm conditions are met. You can do one of the following:

- Send notifications to users. This option is available for both case and activity alarm rules. Set up internal messages or emails to be sent when an alert condition is met. Specify the following - the users to whom you want to send a message (you can send messages to internal user accounts or external email addresses.); the subject of the message; the content of the message.



Configure a notification for the alarm node

- Filter activities, based on a defined criteria. This option is available for activity alarm rules only. Set up the criteria of activities to be further processed by this workflow. Filters should be configured only in alarm workflows set up for standalone users, user groups, and queues.



Configure a filter for activities to be further processed by the workflow

5. Click the **OK** button to close the window.

Creating custom rules

Custom business logic can be implemented using custom rules which can then be added as custom rules nodes in workflow. Activity and customer context is passed to the custom rule in the form of RuleContext object. Using the data available in the RuleContext object, custom rules can be enhanced and developed to implement flexible business logic and processing using external information.

By default, two sample custom rules are available in the system:

- AlphaCustomRule.java
- BetaCustomRule.java

Before you can use custom rules in workflows, you need to create and compile them.

The Custom node

Creating custom rules

See the two sample rules – AlphaCustomRule.java and BetaCustomRule.java, to understand how custom rules are written. You must take care of the following things while creating custom rules. Every custom rule should:

- Extend the CustomRule class.

- Have a default constructor.
- Implement the public int applyRule (RuleContext oContext) method.

To create a custom rule:

- Create and add the custom rules to the following location on the file server: *Cisco_Home*`\lib\ext\customclasses\routing\rules`.

Compiling custom rules

After you have created the custom rules, you need to compile them to be able to use them in workflows.

To compile a custom rule:

Perform the following tasks on the file server.

1. Add the following to the class path of the file server machine:

   Drive_Name`\bea\jdk142_11\bin;Cisco_Home\lib\int\platform\egpl_platform_server.jar`

2. Add your custom rules to the following location: *Cisco_Home*`\lib\ext\customclasses\routing\rules.`

3. From the command prompt, run the following command to compile the java file.

   Drive_Name`>javac Cisco_Homelib\ext\customclasses\routing\rules\Custom_Rule.java`

   The class file is created at: *Cisco_Home*`\lib\ext\customclasses\routing\rules`. Now, you can use the custom rule in workflows.

Configuring the branch node

Branch node is like a decision point where you decide what kind of work is to be routed to which resource. Using rules, you can automatically route work to the resources capable of handling it. Activities can be routed to users, queues, departments, or another workflow. You can create various rules in which you can specify the conditions when a particular type of work should be routed to a specified resource. You can configure the system in a way that when one set of conditions are met the work is routed to one resource, and when another set of conditions are met the work is routed to a different resource. Like this you can configure different sets of conditions and for each set of met conditions, a different resource. For example, your system handles three types of queries - orders, enquiries, and support, and you want to automatically route each type of work to a different queue. Using the branch node, you can set rules and automatically route the work to the appropriate queues.

In the Branch node, along with the rules, you have to also define the resources to which the work is to be routed. So, before configuring the Branch node you have to first add the nodes to the Workflow Editor, to which you want to route the work.

The branch node

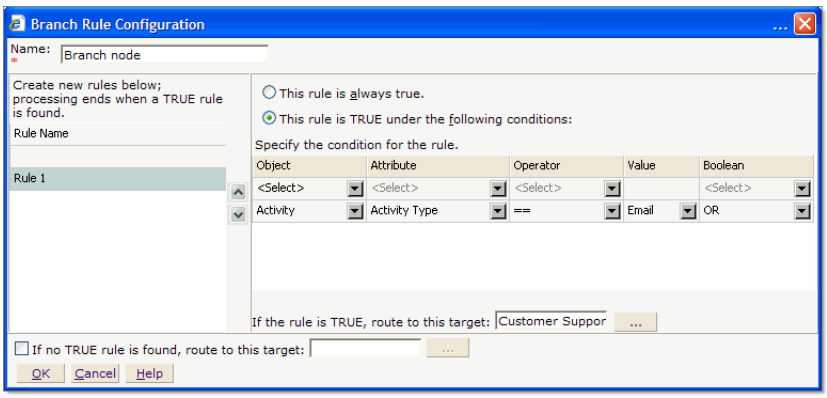
To configure a branch node:

Important: **In the branch node, along with the rules, you have to also define the resources to which the work is to be routed. So, before configuring the branch node you have to first add the nodes to the Workflow Editor, to which you want to route the work.**

1. In the Properties pane, on the Diagram tab, add the **Branch** node in the Workflow Editor.
2. In the Branch Rule Configuration window, provide the following details.
   a. In the **Name** field, provide a name for the node.
   b. In the **Rule Name** field, provide a name for the rule and press the Enter Key. Select the rule name to configure the rule properties.
   c. Select one of the following options:
      - **This rule is always true**
      - **This rule is true under the following conditions**

      If you have selected the **This rule is true under the following conditions** option, configure the conditions when the rule is true.
   d. Next, select the target node. Click the **Select Target** button and from the Select Target window select the target node. You can choose from the following nodes:
      - Queue
      - Workflow
      - Department
      - Completion
      - Auto-acknowledgement
      - Auto-reply
      - Auto-suggest
      - Branch
      - Category
      - Create object
      - Modify object
      - Service level
      - Custom
      - User

      Likewise, you can create multiple rules.
   e. If you have created more than one rule, use the **Move Up** and **Move Down** button to change the order of rules.
   f. Lastly, you can also select a target node if no rules are found true. Select the **If no TRUE rule is found, then route to this target** option, and select the target node. Click the **Select Target** button and from the Select Target window select the target node.



Configure the branch node

3. Click the **OK** button to close the window.

   Once you have configured the rules in the branch node, the branch node and target nodes are automatically connected by arrows. Green arrows are added pointing to targets for true conditions. And, a red arrow is added pointing to the target for activities when no true rule is found. These arrows cannot be added or removed manually. They get added or removed automatically when you make changes to the branch node.

Customizing workflow designer

From the Tools Console you can customize the following workflow designer screens:

- **Admin workflow alarm activity:** You can't remove the attributes selected by default and their order can't be changed. You can add new attributes.
- **Admin workflow alarm case:** You can't remove the attributes selected by default and their order can't be changed. You can add new attributes.
- **Admin workflow condition:** You can remove any attribute of any object. You can also add new objects and attributes.
- **Admin workflow create object:** You can remove any attribute of any object. You can also add new objects and attributes.
- **Admin workflow modify object:** You can remove any attribute of any object. You can also add new objects and attributes.

To customize the screens:

4. In the Tree pane, browse to **Tools > Departments >** *Your department* **> Business Objects > Attribute Settings > Screen.**
5. In the List pane select the screen you want to customize.

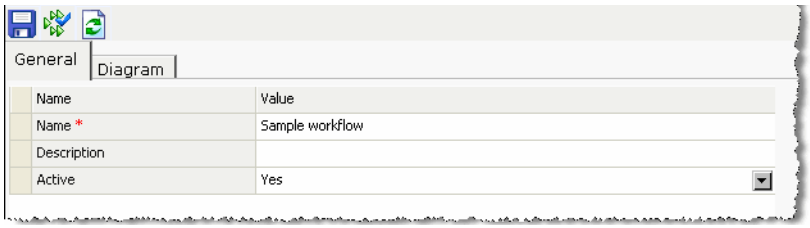
   The Properties pane refreshes to show the properties of the selected screen.
6. In the Properties pane, go to the **Attributes** tab and make the required changes. For different screens you can make different changes. For details see the following list.
   - **Admin workflow alarm activity:** You can't remove the attributes selected by default and their order can't be changed. You can add new attributes.

- **Admin workflow alarm case:** You can't remove the attributes selected by default and their order can't be changed. You can add new attributes.
- **Admin workflow condition:** You can remove any attribute of any object. You can also add new objects and attributes.

Creating workflows

To create a workflow:

1. In the Tree pane, browse to **Administration > Department >** *Your Department* **> Workflow > Workflows >** *Workflow Type.*
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the workflow.
   - **Description:** Provide a brief description.
   - **Active:** From the dropdown list, select **Yes** to make the workflow active.



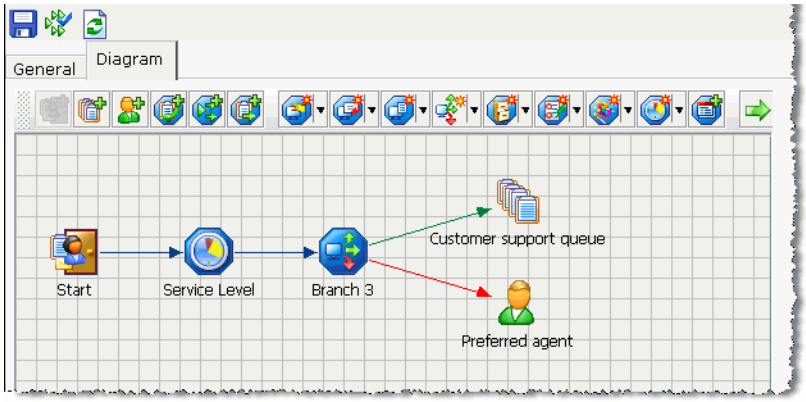
Set the general properties

4. Next, go to the Diagrams tab, and configure the workflow using the various nodes available in the Workflow Editor toolbar.
   a. First, add the nodes in the **Workflow Editor.** To add a node, click a node button in the **Workflow Editor** toolbar, and then click in the **Workflow Editor.** The node is added in the **Workflow Editor** and a window for configuring the node properties opens. For more details on setting up all the nodes, see "Configuring nodes" on page 214.

      For nine nodes, you can also add a copy of the nodes created in other workflows or the same workflow. To add a copy of a node, click the arrow next to the node button in the **Workflow Editor** toolbar, and select the option to add a copy of the node.

   b. After adding the nodes, you need to connect them to determine the flow of the workflow. From one node, a connector can point towards only one node, but multiple connectors can point towards the same node. In a workflow, all nodes should be connected to some other node. In the **Workflow Editor** toolbar, click the **Connect nodes in workflow** button. Then, click on the node and without releasing the mouse button, click on the second node. A connector appears between the two nodes, indicating the flow of the workflow.

c. After you have created the workflow you can use the auto layout option to arrange the nodes neatly. Auto layout arranges the nodes in a way that you can clearly see the flow of the workflow. In the **Workflow Editor** toolbar, click the **Autolayout nodes on canvas** button. All the nodes in the workflow are arranged systematically.



Layout the workflow

5. Click the **Save** button.
6. Click the **Validate** button to validate the workflow. A workflow is validated only if it is in active state. If you have not completed creating the workflow and want to save whatever is done, you can do that by keeping the workflow inactive.

Deleting workflows

Important: **Before deleting a workflow, ensure that it is not in use.**

To delete a workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows > Workflow Type.**
2. In the list pane, select the workflow you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Copying workflows

You can copy an existing workflow. By copying a workflow, you get a ready workflow, and you can edit the nodes according to your requirements. This is a time saver, and eases your task of creating multiple workflows and helps you test workflows. When a copy of a workflow is created, the copied workflow is named as "Copy of *Workflow_Name*" and saved as an inactive workflow without a start node. After copying the workflow, you must configure the start node and make the workflow active. Also, you must evaluate the copied workflow to see if you need to change the end nodes in the workflow. Workflows cannot be copied across departments and you cannot create copies of the three standard inbound workflows: Start Workflow – Transfer, Start Workflow – Standard, and Finish Workflow. Users with the Create Workflow action can copy workflows.

Depending on the size of the workflow, the copying process takes some time to complete, and you have to wait for the copy process to finish before you can work in the Administration Console.

To copy a workflow:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Workflow > Workflows >** *Workflow_Type*.
2. In the list pane, select the workflow you want to copy.
3. In the List pane toolbar, click the **Copy** button.
4. A message appears notifying that based on the size of the workflow, the copy process might take some time, and that the user would not be able to use the application during the process. In the message, click **Yes** to create a copy of the workflow.

   After a copy of the workflow is created, a message is displayed that tells the name of the copied workflow. Before using the workflow, you need to configure the Start node of the workflow and make the workflow active. Also, you must check to see if you need to change the end nodes of the workflow.

Sample workflows

Sample inbound workflows

This section describes the following examples.

- Workflow for handling inquiries at a hotel on page 246
- Workflow for handling mortgage requests at a bank on page 253
- Workflow for managing orders at a publishing house on page 261
- Workflow for managing orders at a publishing house on page 271
- Workflow for managing inquiries at a phone company on page 277

Workflow for handling inquiries at a hotel

This workflow demonstrates how to manage emails coming in a hotel. First, an auto-acknowledgement is sent to customers and activities are auto-classified. Then, some data is automatically extracted from the email body and it is saved as part of the activity attributes. Then, the workflow starts routing activities. First, the emails with general inquiries are routed to the general inquiries queue and a service level is set for the rest of the emails and they are further processed. The emails from existing customers are routed to the existing customers queue, then emails from upset customers that require special handling are sent to the supervisor. Then, based on what the email is about, it is routed to one of the following queues - reservations, technical issues, web site feedback, complaints. If the email does not qualify to be routed to any of these queues, it is routed to the other emails queue.

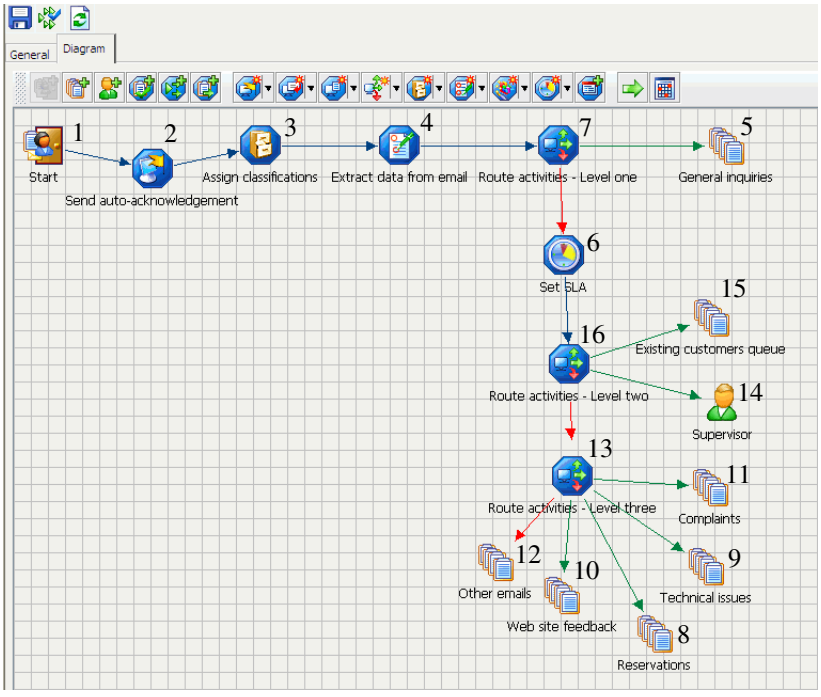
Before creating any workflow, you need to create some objects which are then used in the workflow. For this workflow, you need to create the following objects.

- From the Administration Console:

- Aliases
- A service level named - 8 hours SLA
- Five categories, with the following names - Technical problem, Website feedback, Reservation, and General inquiry
- Seven queues, with the following names - General inquiries, Complaints, Technical issues, Reservations, Web site feedback, Other emails, and Existing customers queue
- A user, with the name “Supervisor”

- From the Knowledge Base Console:
  - An auto-acknowledgment article
- From the Tools Console:
  - Ten custom attributes, with the following names - Air ticket number, Cancellation number, Departure date, Number of guests, Phone number, Reservation number, Room description, Room rate, Special request, and Currency type

Important: **Nodes are not necessarily configured in the order in which they appear in the workflow. For example, before configuring the Branch node, you need to first configure the nodes that need to be used in the rules in the Branch node. To help you better understand the workflow, the nodes in the sample workflow figure are numbered in the order in which they are to be configured.**



Sample workflow for routing activities in a hotel

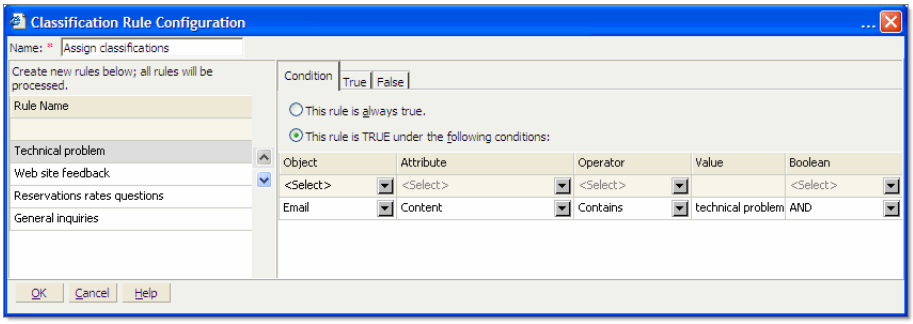
To create the workflow:

1. First, select the aliases from which emails should be processed by this workflow. In the **Start** node, select aliases.

2. Now, configure the auto-acknowledgement to be sent to customers. In the **Auto-acknowledgement** node (named as Send auto-acknowledgement), create a rule which is always true and send an auto-acknowledgement to customers. Connect the **Start** node with this node.

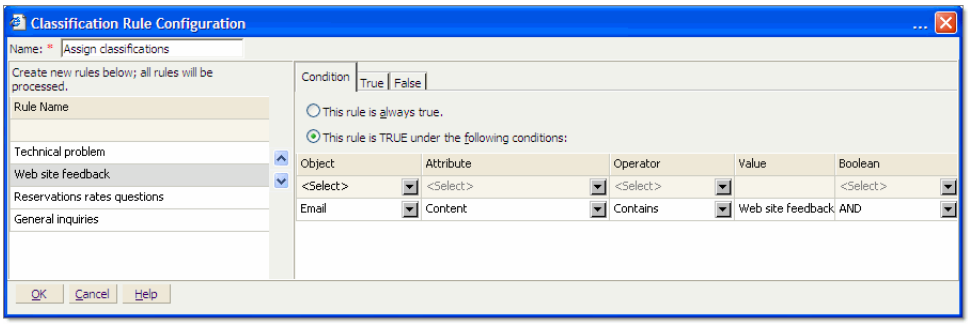
3. Next, assign classifications to the activities. In the **Classification** node (named as Assign classifications), create the following rules.

   a. Technical problem: Check the email content for the word “technical problem”. If the condition set in the rule is met, assign the “Technical problem” category to the activity.



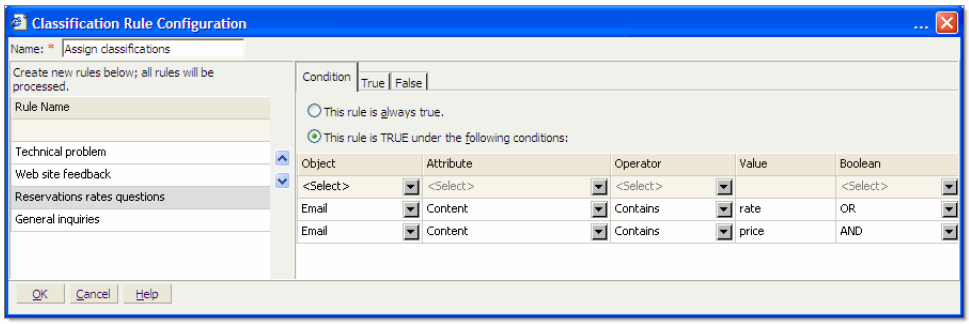
Assign the Technical problem category to activities

   b. Web site feedback: Check the email content for the word “web site feedback.” If the condition set in the rule is met, assign the “Website feedback” category to the activity.



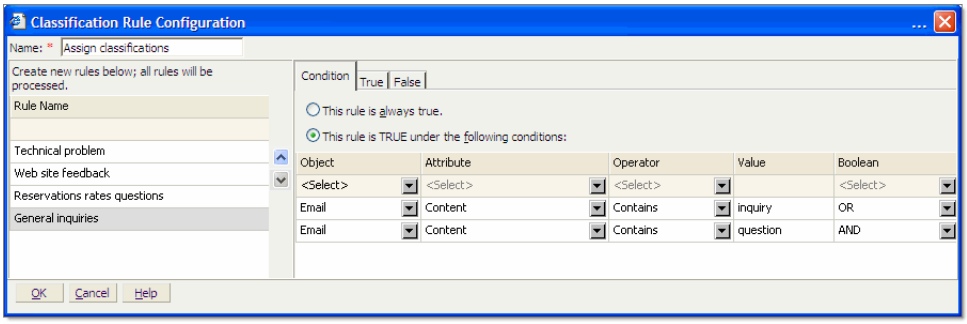
Assign the Website feedback category to the activities

   c. Reservation rate questions: Check the email content for the word “rate” or “price.” If the condition set in the rule is met, assign the “Reservation” category to the activity.



Assign the Reservation category to activities

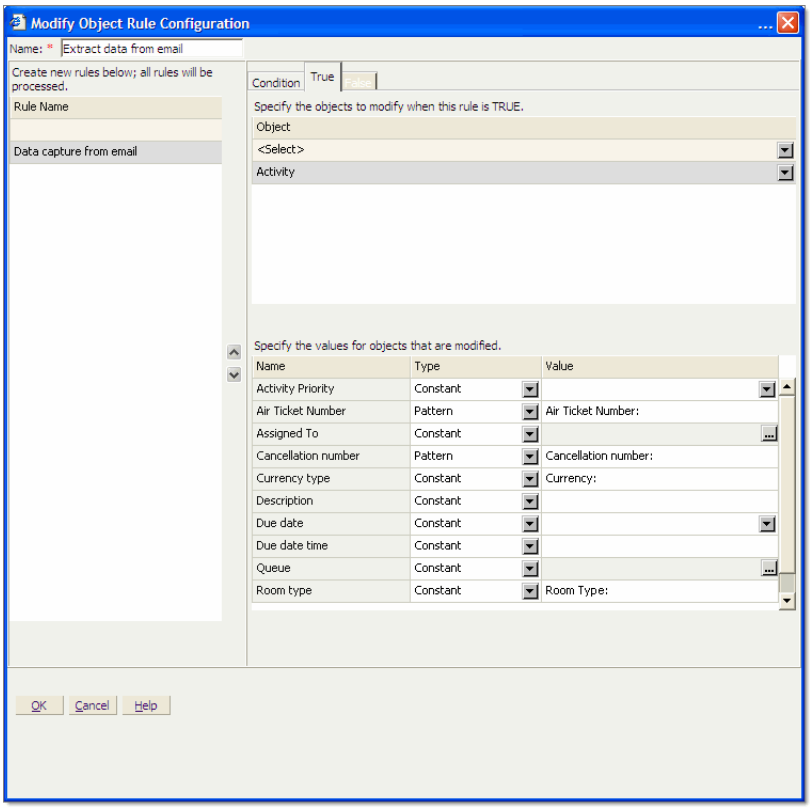
d. General inquiries: Check the email content for the word “inquiry” or “question”. If the condition set in the rule is met, assign the “General inquiry” category to the activity.



Assign the General inquiry category to activities

Connect the **Auto-acknowledgement** node (named as Send auto-acknowledgement) with this node.

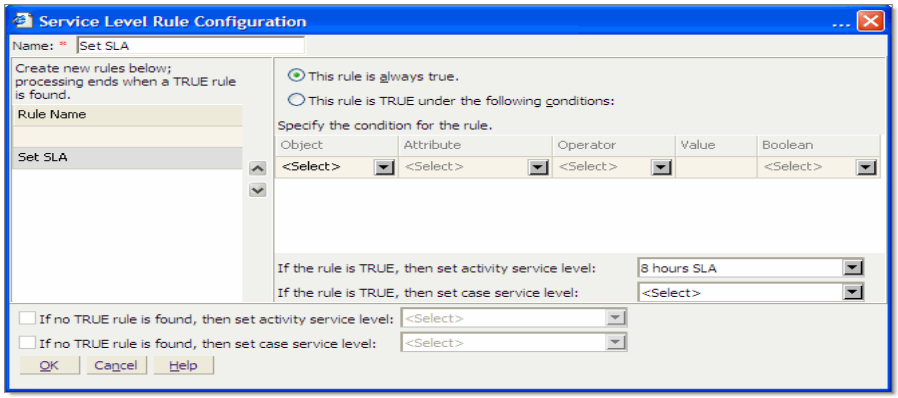
4. Now, extract data from the incoming emails and save the data in custom activity attributes. In the **Modify object** node (named as Extract data from email), create a rule which is always true. In the True tab, use patterns to extract the following information from the email and update the activity information – Air ticket number, Cancellation number, Departure date, Number of guests, Phone number, Reservation number, Room description, Room rate, Special request, and Currency type. Connect the **Classification** node (named as Assign classifications) with this node.



Extract information from email and save it in custom activity attributes

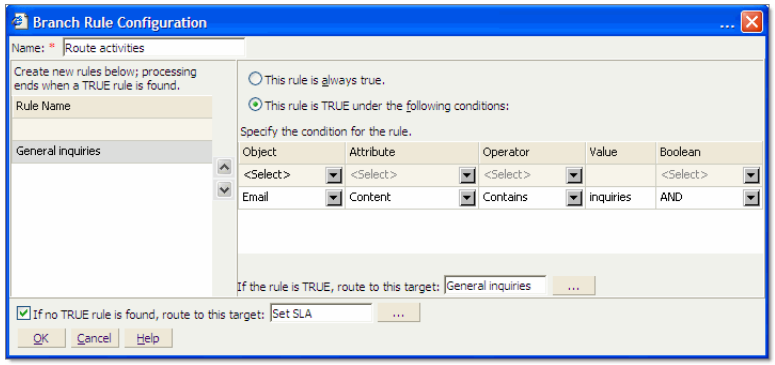
5. Next, you need to select a queue to which the general inquiry emails should be routed. In the **Queue** node (named as General inquiries), select the “General inquiries” queue.

6. Next, configure the SLA for emails (other than general inquiry emails) coming in to the alias. In the **Service level** node (named as Set SLA), create a rule which is always true and set the activity service level as "8 hours SLA."



Set the SLA for activities

7. Now, route the general inquiry emails to the general inquiry queue and route the rest of the emails to the service level node to set the service levels and for further processing. In the **Branch** node (named as Route activities - Level one), create the following rule. In this node, we will use the nodes configured in steps 5 and 6.
   - Check emails for the word "inquiries". If the condition is met, route the activity to the **Queue** node (named as General inquiries). If the condition is not met, route the activity to the **Service level** node (named as Set SLA).

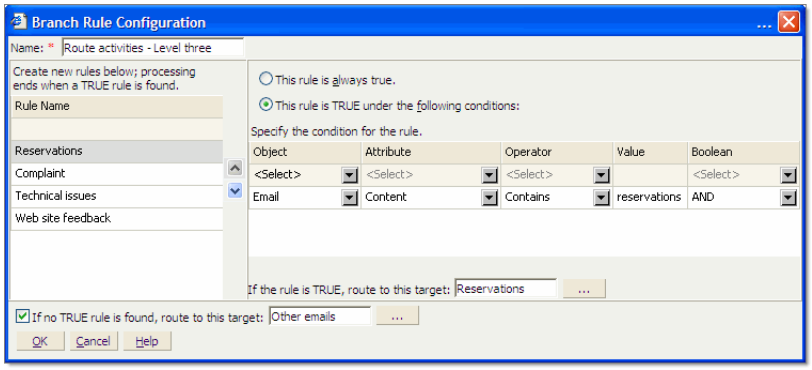


Route activities to various nodes

In the next steps, select the queues for routing different types of activities.

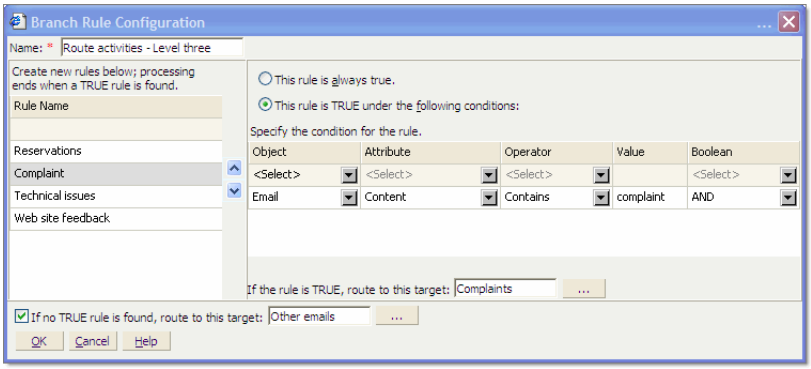
8. In the **Queue** node (named as Reservations), select the "Reservations" queue.
9. In the **Queue** node (named as Technical issues), select the "Technical issues" queue.
10. In the **Queue** node (named as Web site Feedback), select the "Web site Feedback" queue.
11. In the **Queue** node (named as Complaints), select the "Complaints" queue.
12. In the **Queue** node (named as Other emails), select the "Other emails" queue.
13. Now, create rules to route the different types of activities to different types of queues. In the **Branch** node (named as Route activities - Level three), create the following rules. In this node, we will use the nodes configured in steps 8-12.

a. Reservations: Check the email content for the word “reservations.” If the condition set in the rule is met, route the activity to the “Reservations” queue.



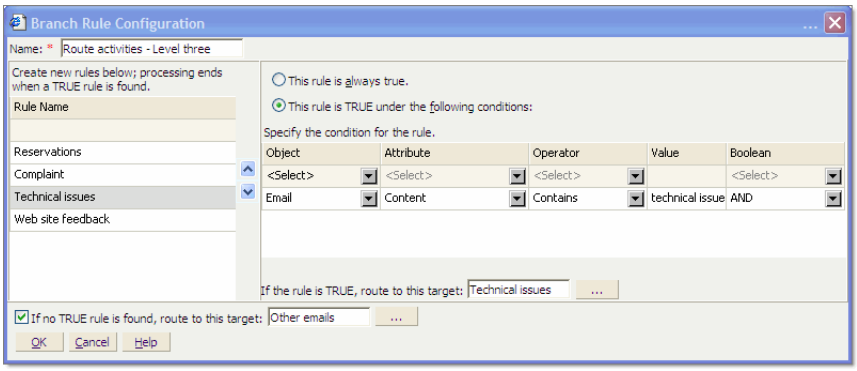
Route activities to the Reservations queue

b. Complaint: Check the email content for the word “complaint.” If the condition set in the rule is met, route the activity to the “Complaints” queue.



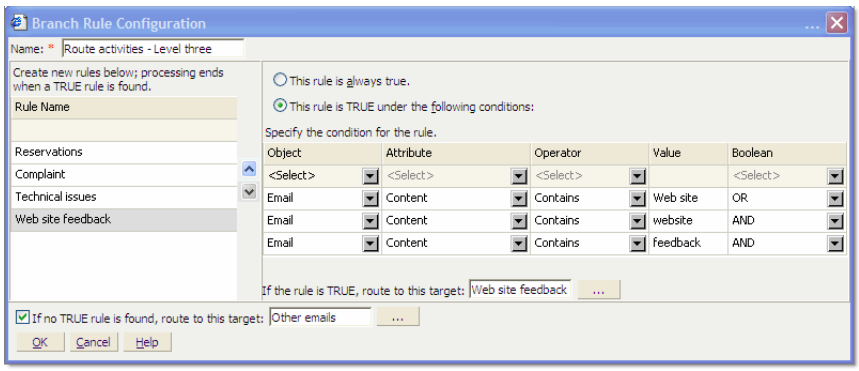
Route activities to the Complaints queue

c. Technical issues: Check the email content for the words “technical issue” If the condition set in the rule is met, route the activity to the “Technical issues” queue.



Route activities to the Technical issues queue

d. Website feedback: Check the email content for the words “website” or “ web site” and “feedback.” If the condition set in the rule is met, route the activity to the “Website Feedback” queue.

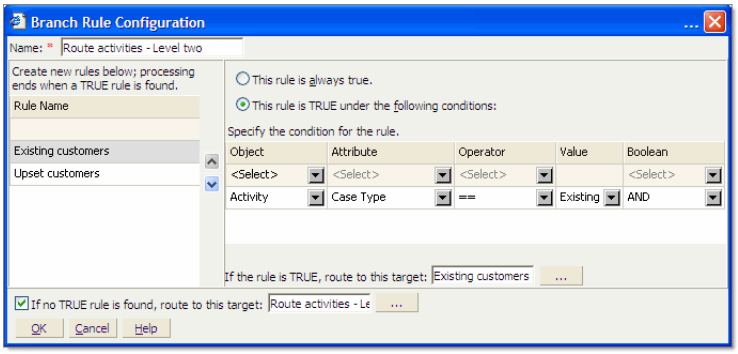


Route activities to the Website Feedback queue

e. If none of the rules configured in this node are true, route activities to the "Other emails" queue.

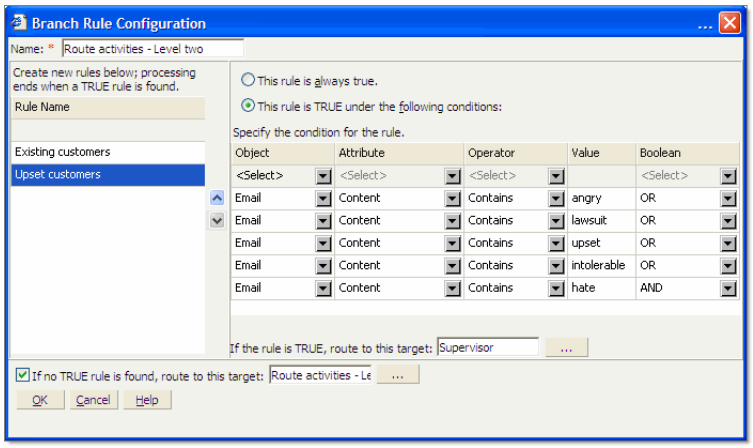
14. In the **User** node (named as Supervisor), select the "Supervisor" user.
15. In the **Queue** node (named as Existing customers queue), select the "Existing customers queue" queue.
16. Next, route activities for existing cases to the queue for existing customers, and route activities from upset customers to the supervisor. Route the rest of the activities to the "Route activities - Level three" node, from where activities are routed to various queues. In the **Branch** node (named as Route activities - Level two), create following rules. In this node, we will use the nodes configured in steps 14 and 15.

    a. Existing customers: Check case type of activities. If the case type is "Existing", route the activities to the **Queue** node (named as Existing customers queue).



Route activities to queue for existing customers

    b. Upset customers: Check email content of activities. If the email content contains words like angry, lawsuit, upset, intolerable, or hate, route the activity to the **User** node (named as Supervisor).



Route activities to the supervisor

c. If none of the rules configured in this node are true, route activities to the **Branch** node (named as Route activities - Level three).

Connect the **SLA** node (named as Set SLA) with this node.

Workflow for handling mortgage requests at a bank

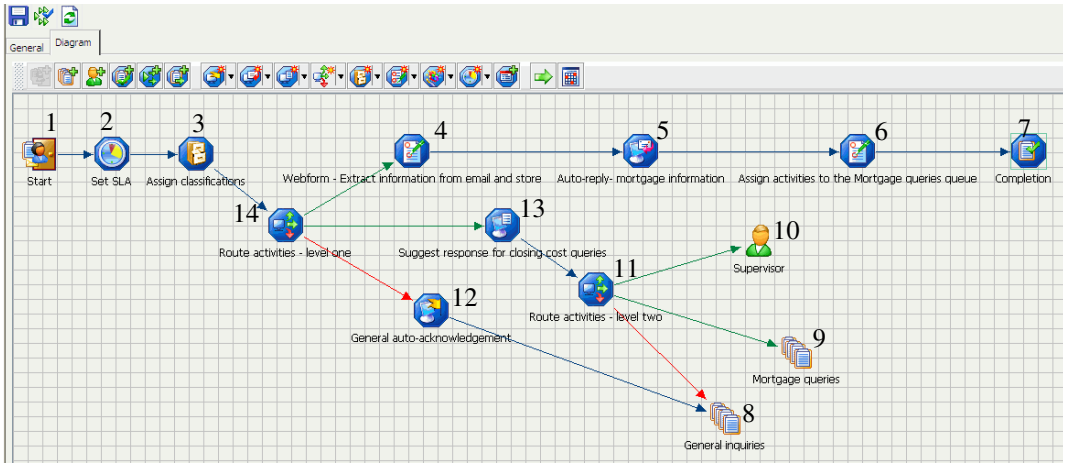
This workflow demonstrates how to manage mortgage queries coming in a bank. First, set the SLA for emails. Then, assign classifications to the emails. Now, route the emails for further processing. First, route the emails from new customers to the modify object where information is extracted from emails and is saved in various case and customer fields. Send an auto-reply to customers and then assign the email to the “Mortgage queries” queue and automatically complete the activity. Next, route the emails from existing customers to the Auto-suggest node where articles are suggest for the emails about closing costs. Then, route emails from pre-qualified customers to the supervisor, and route the emails about closing costs and mortgage to the “Mortgage queries” queue. Route all other activities to the “General inquiries” queue.

Before creating any workflow, you need to create some objects which are then used in the workflow. For this workflow, you need to create the following objects.

- From the Administration Console:
  - Aliases
  - Two service levels, with the following names - 4 hours SLA and 8 hours SLA
  - Two categories, with the following names - Mortgage queries and Other inquiries
  - Two queues, with the following names - General inquiries and Mortgage queries
  - A user, with the name “Supervisor”
- From the Knowledge Base Console:
    - An auto-acknowledgment article
    - An auto-reply article
    - Three auto-suggestion articles

- From the Tools Console:
  - Six custom attributes, with the following names - US state, Account number, Price range, Down payment, Own a home, and Reference number

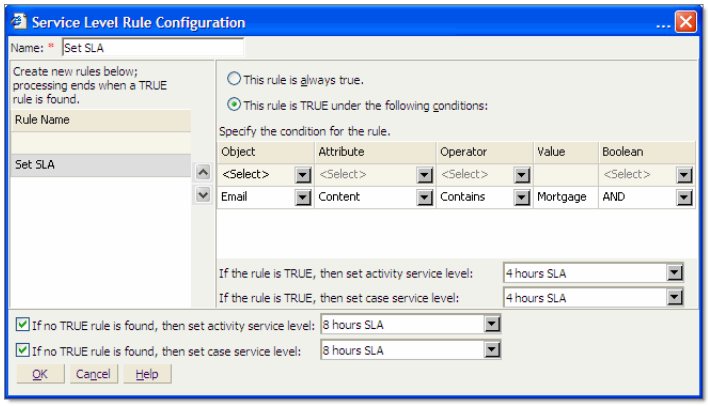
Important: Nodes are not necessarily configured in the order in which they appear in the workflow. For example, before configuring the Branch node, you need to first configure the nodes that need to be used in the rules in the Branch node. To help you better understand the workflow, the nodes in the sample workflow figure are numbered in the order in which they are to be configured.



Sample workflow for handling mortgage requests at a bank

To create the workflow:

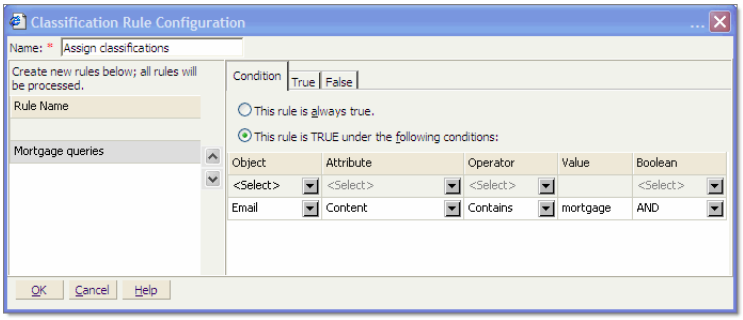
1. First, select the alias to which all the mortgage queries and requests come. In the **Start** node, select aliases.
2. Next, set the service level for mortgage inquiries and any other general inquiries coming to the alias. In the **Service level** node (named as Set SLA), check the email content for the word “mortgage”. If the condition is met, set the SLA for the case and activity to four hours. If the condition is not met, set the SLA for the case and activity to eight hours. Connect the **Start** node with this node.



Set the SLA for activities

3. Now, assign classifications to the incoming emails. In the **Classifications** node (named as Assign classifications), configure the following three rules.

   a. Mortgage queries: Check the email content for the word “mortgage”. If the condition is met, assign the “Mortgage queries” category. If the condition is not met, assign the “Other inquiries” category.

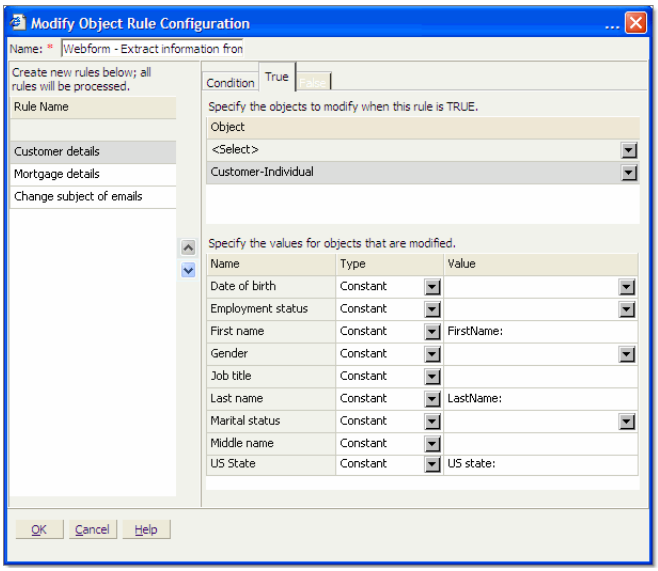


Assign the Mortgage queries or General inquiries category to activities

   Connect the **Service level** node (named as Set SLA) with this node.

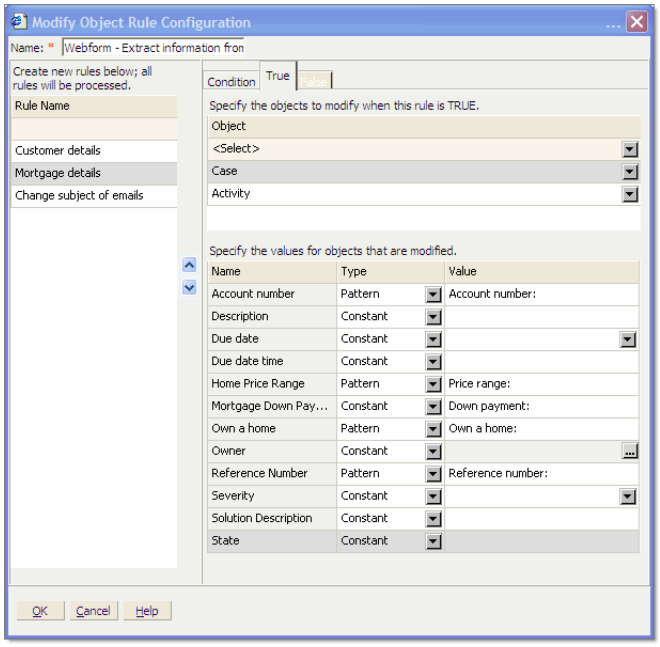
4. Now, extract data from the incoming emails and save the data in custom activity and customer attributes. In the **Modify object** node (named as Webform - Extract Information from email and store), configure the following three rules.

   a. Customer details: Set the rule to be always true. In the True tab, use patterns to extract the first name, last name, and state information from a web form and update the customer information.



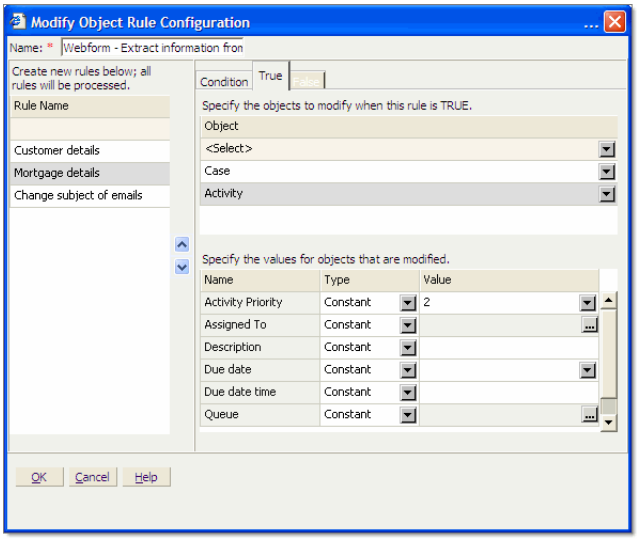
Extract information from email and save it in customer attributes

   b. Mortgage details: Set the rule to be always true. In the True tab, use patterns to extract various fields from a web form and update case details. Note that some of the case attributes are custom attributes created from the Tools Console.



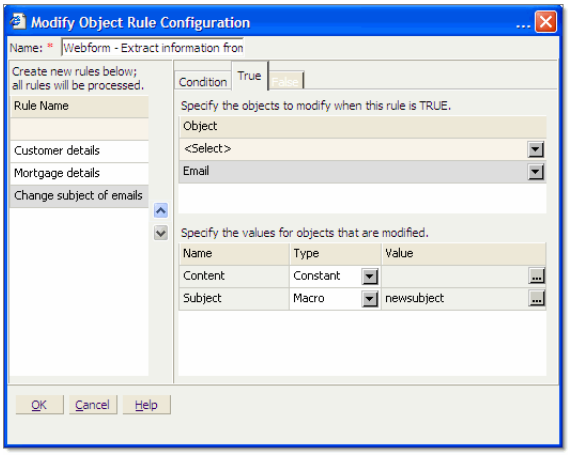
Extract information from email and save it in custom case attributes

Also use this rule to set the priority of activities.

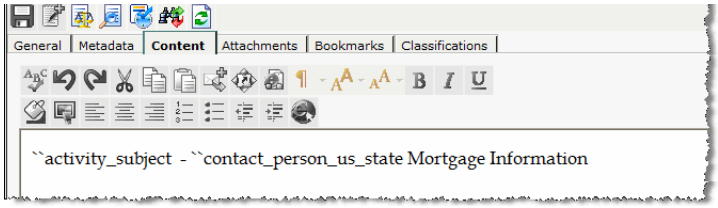


Set the priority of activities

c. Change subject of emails: Set the rule to be always true. In the True tab, use an article macro to add activity subject, the US state name, and the text “Mortgage Information” to the email subject.



Change the subject of emails

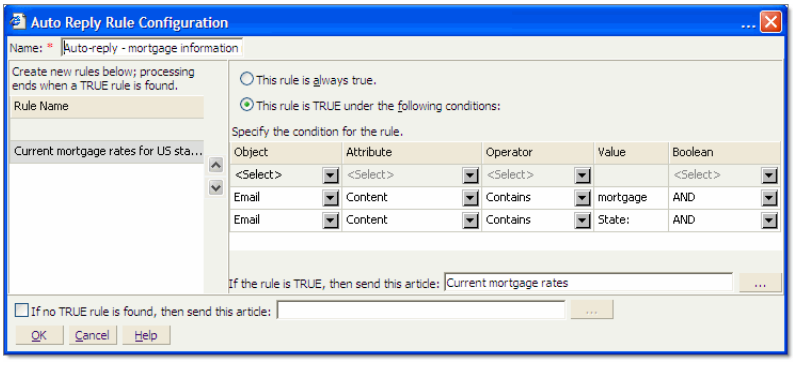


Sample text for the email subject

5. Now, select the auto-reply to be sent to customers. In the **Auto-reply** node (named as Auto-reply - mortgage information), configure the following rule.

   - Current mortgage rates for US states: Configure the following conditions for the rule.
     - If the email content contains “mortgage”, AND
     - If the email content contains “state:“

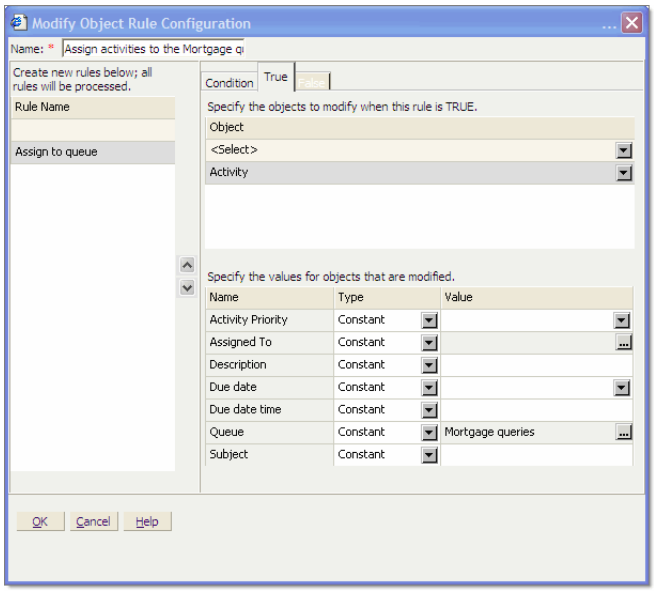
     If the conditions are met, send an auto-reply to the customer. The auto-reply has to be created in the form of an article (named as Current Mortgage Rates) from the Knowledge Base Console.



Send auto-replies to customers

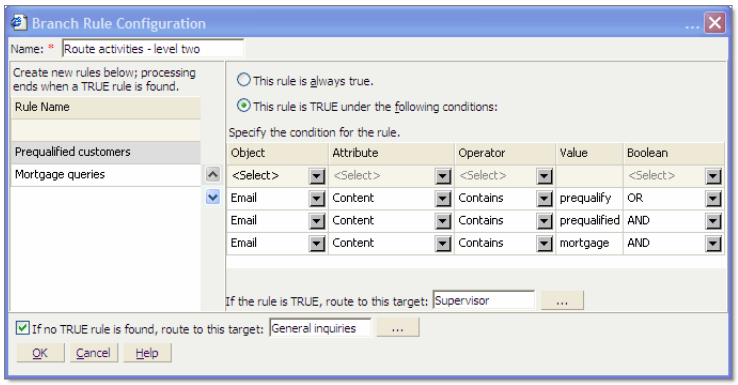
Connect the **Modify object** node (Webform - Extract Information from email and store) with this node.

6. Next, assign the activity to the Mortgage queries queue. In the **Modify object** node (named as Assign activities to Mortgage queries queue), create a rule which is always true. In the True tab, set the queue of the activity as “Mortgages queries”. Connect this node to the **Auto-reply** node (named as Mortgage Info Request - Auto Answer). Connect this node with the **Auto-reply** node (named as Mortgage Info Request - Auto Answer).



Route activities to the Mortgage queries queue

7. Add the **Completion** node to the workflow editor and connect the **Modify object** node (named as Assign to Mortgage Queue) to this node.
8. In the **Queue** node (named as General inquiries), select the “General inquiries” queue.
9. In the **Queue** node (named as Mortgage queries), select the “Mortgages queries” queue.
10. In the **User** node (named as Supervisor), select the “Supervisor” user.
11. Now, route activities to the various queues and users. In the **Branch** node (named as Route activities - level two), create the following three rules. In this node, we will use the nodes configured in steps 8-10.
    a. Prequalified customers: Configure a rule which checks the email content for the words “prequalify”, or “prequalified”, and “mortgage”. If the condition is met, route the activity to the “Supervisor” user.

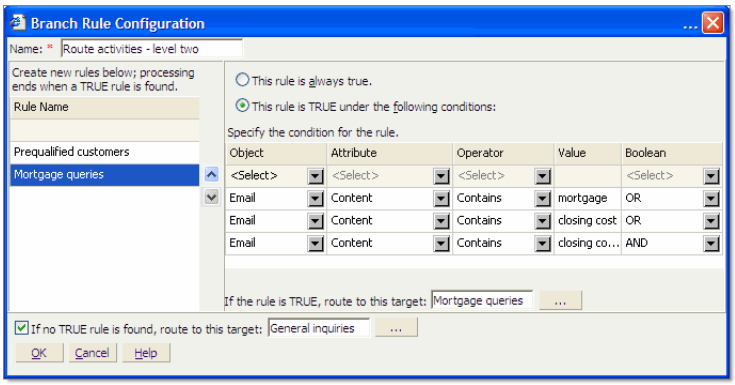


Route emails from prequalified customers to the supervisor

b. Mortgage queries: Configure following conditions for the rule.

- If the email content contains “mortgage”, OR
- If the email content contains “closing cost“, OR
- If the email content contains “closing costs“

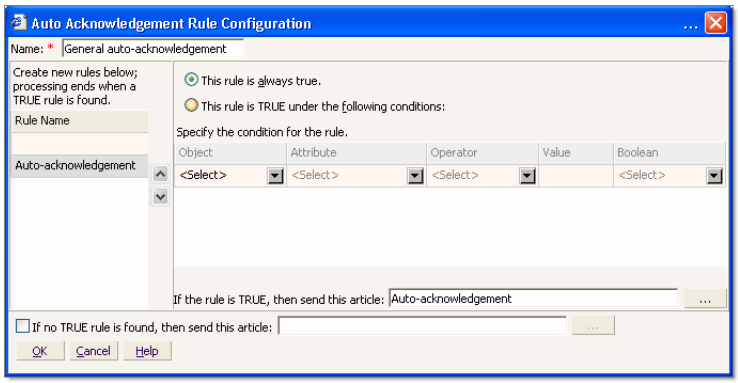
If the conditions are met, route the activity to the “Mortgage queries” queue.



Route emails about mortgage and closing costs to the Mortgage queries queue

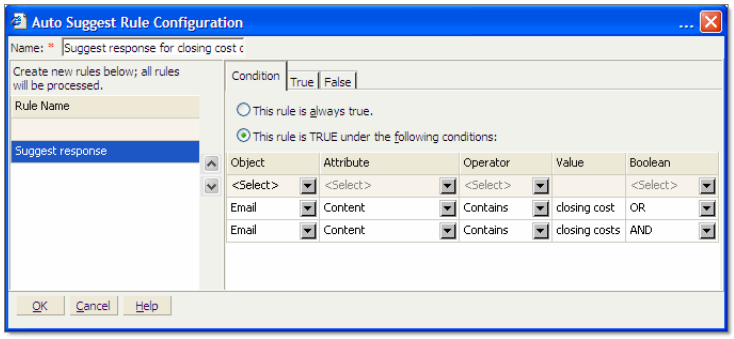
c. If none of the rules configured in this node are true, route the activity to the “General” queue.

12. Next, create an auto-acknowledgement for non-mortgage inquiries. In the **Auto-acknowledgement** node (named as General auto-acknowledgement), set the rule to be always true and send an auto-acknowledgement to customers. Connect the **Queue** node (named as General inquiries) with this node.



Send auto-acknowledgements to customers

13. Now, select the articles to be suggested as potential replies to agents for emails on closing costs. In the **Auto-suggest** node (named as Suggest response for closing cost queries), check if the email content contains words “closing cost” or “closing costs”. If the email content contains these words, suggest three articles to agents, which they can use to respond to customer queries. Connect the **Branch** node (named as Route activities - level two) with this node.



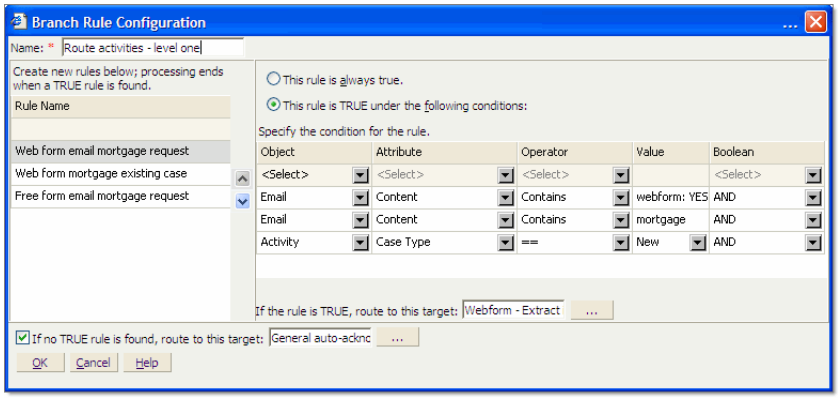
Suggest articles as potential replies to agents

14. Now, route activities to various nodes for further processing. In the **Branch** node (named as Route activities - level one), create the following three rules. In this node, we will use the nodes configured in steps 4, 12, and 13.

    a. Web form email mortgage request: Configure the following conditions for the rule.

    - If the email content contains “webform: YES”, AND
    - If the email content contains “mortgage“, AND
    - If the case type is “New”

    If the conditions are met, route the activity to the **Modify object** node (named as Webform - Extract information from email and store).

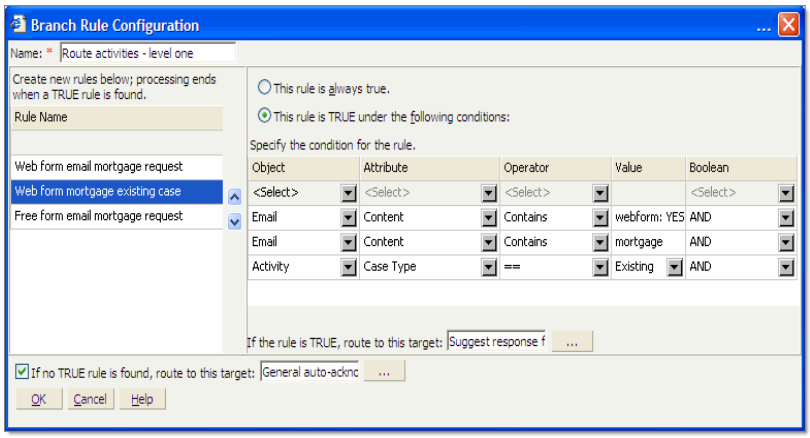


Route emails to the Modify object node

    b. Web form mortgage existing case: Configure following conditions for the rule.

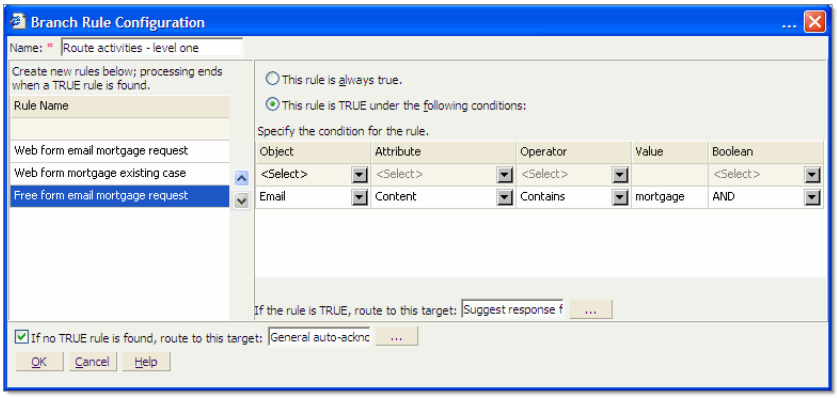
    - If the email content contains “webform: YES”, AND
    - If the email content contains “mortgage“, AND
    - If the case type is “Existing”

    If the conditions are met, route the activity to the **Auto-suggest** node (named as Suggest response for closing cost queries).



Route emails to the Auto-suggest node

c. Free form email mortgage request: Configure a rule which checks email content for the word “mortgage”. If the condition set in the rule is met, route the activity to the **Auto-suggest** node (named as Mortgage Info Request - Suggest Response).



Route emails to the Auto-suggest node

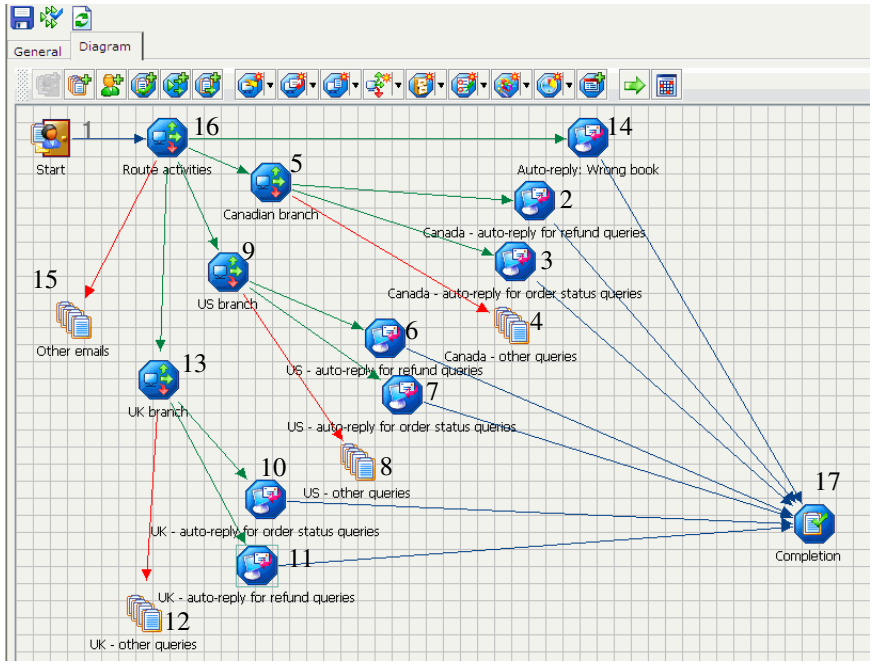
d. If none of the rules configured in this node are true, route the activity to the **Auto-acknowledgement** node (named as General auto-acknowledgement).

Workflow for managing orders at a publishing house

This workflow demonstrates how to manage orders at a publishing house. First, route emails from customers who got wrong books to the auto-reply node. After sending the auto-reply, complete the activity. Then, route emails from the Canada customers to the Canadian branch for further processing. For refund queries, send an auto-reply to the customer and complete the activity, for order status queries, send an auto-reply to the customer and complete the activity, and route all other emails to the "Canada - other queries" queue. Then, route emails from the UK customers to the UK branch for further processing. For refund queries, send an auto-reply to the customer and complete the activity, for order status queries, send an auto-reply to the customer and complete the activity, and route all other emails to the "UK - other queries" queue. Then, route emails from the US customers to the US branch for further processing. For refund queries, send an auto-reply to the customer and complete the activity, for order status queries, send an auto-reply to the customer and complete the activity, and route all other emails to the "US - other queries" queue. Route all other activities to the “Other emails” queue.

Before creating any workflow, you need to create some objects which are then used in the workflow. For this workflow, you need to create the following objects.

- From the Administration Console:
  - Aliases
  - Four queues, with the following names - Other emails, UK - other queries, US - other queries, and Canada - other queries.
- From the Knowledge Base Console:
  - Seven KB articles for auto-replies

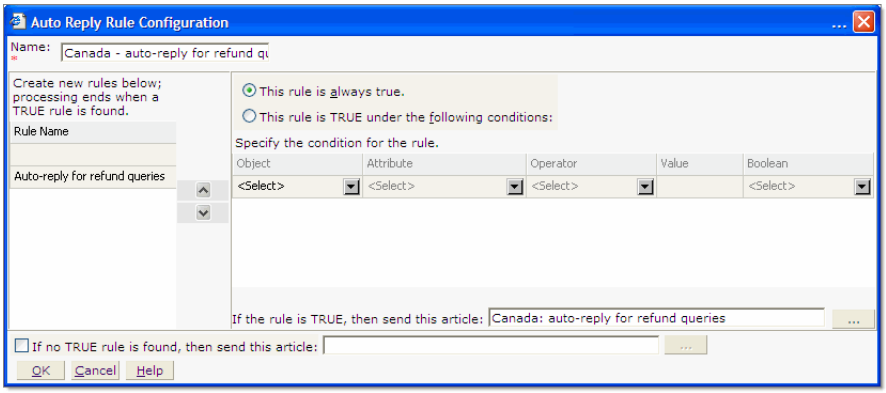


Sample workflow for routing emails at a publishing house

To create the workflow:

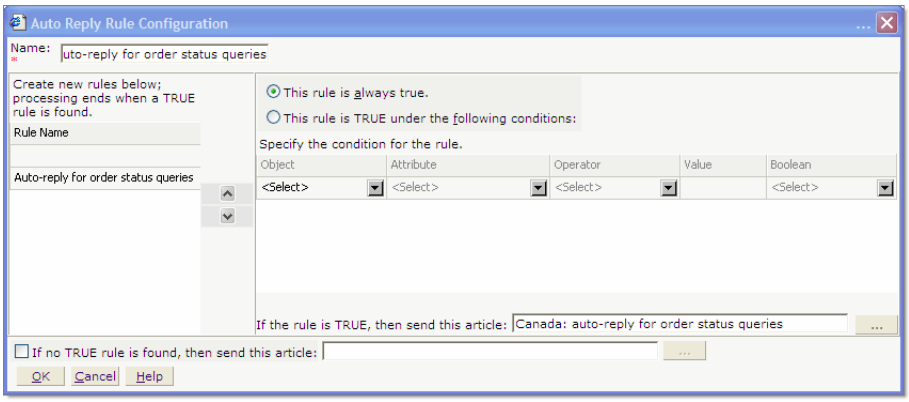
1. In the **Start** node, select aliases.

2. Now, select the auto-reply to be sent to the Canada customers who have questions on refunds. In the **Auto-reply** node (named as Canada - auto-reply for refund queries), create a rule which is always true and send an auto-reply to customers who have questions on refunds.



Send an auto-reply to the Canada customers to answer refund queries

3. Now, select the auto-reply to be sent to the Canada customers who have questions on order status. In the **Auto-reply** node (named as Canada - auto-reply for order status queries), create a rule which is always true and send an auto-reply to customers who have questions on their order status.



Send an auto-reply to the Canada customers to answer order status queries

4. In the **Queue** node (named as Canada - other queries), select the “Canada - other queries” queue.
5. Now, route activities to various queues and auto reply nodes. In the **Branch** node (named as Canadian branch), create the following rules. In this node, we will use the nodes configured in steps 2, 3 and 4.
   a. Refund emails: Configure the following conditions for the rule.
      - If the case type is “New”, AND
      - If the email content contains the text “refund”, OR
      - If the email content contains the text “Refund confirmation”

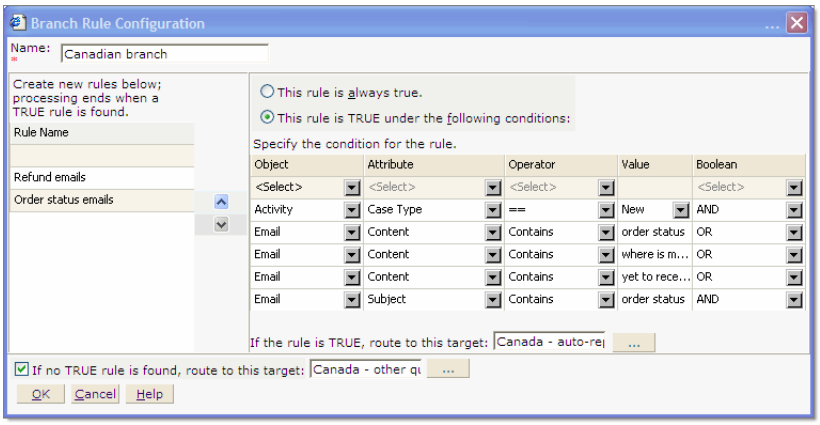
      If the conditions are met, route the activity to the **Auto-reply** node (named as Canada - auto-reply for refund queries).

Route order status emails to the auto-reply node for order status queries

b. Order status emails: Configure the following conditions for the rule.

- If the case type is “New”, AND
- If the email content contains the text “order status”, OR
- If the email content contains the text “where is my stuff”, OR
- If the email content contains the text “yet to receive”, OR
- If the email subject contains the text “order status”

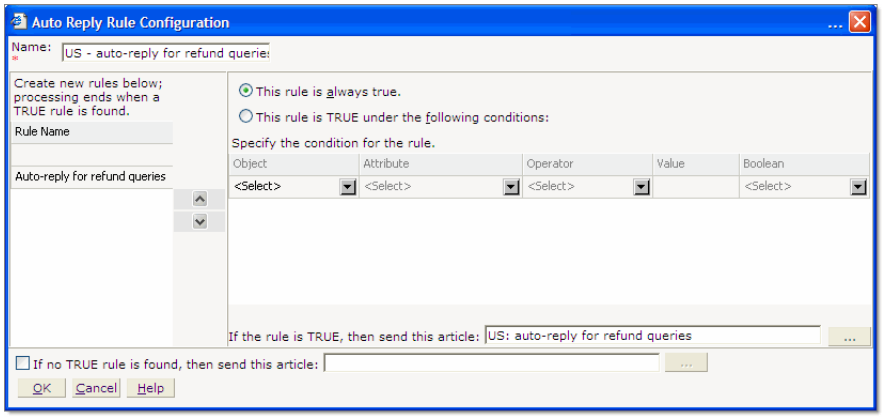
If the conditions are met, route the activity to the **Auto-reply** node (named as Canada - auto-reply for order status queries).



Route order status query emails to the auto-reply node for order status

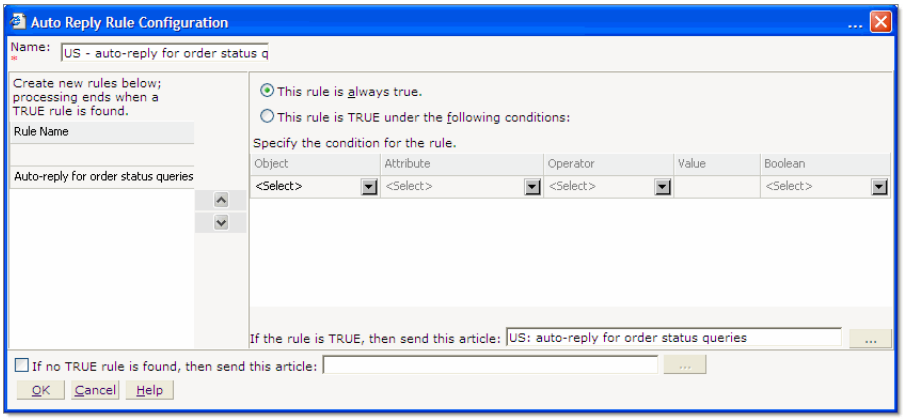
c. If none of the rules configured in this node are true, route the activity to the “Canada - other queries” queue.

6. Now, select the auto-reply to be sent to the US customers who have questions on refunds. In the **Auto-reply** node (named as US - auto-reply for refund queries), create a rule which is always true and send an auto-reply to customers who have questions on refunds.



Send an auto-reply to the US customers to answer refund queries

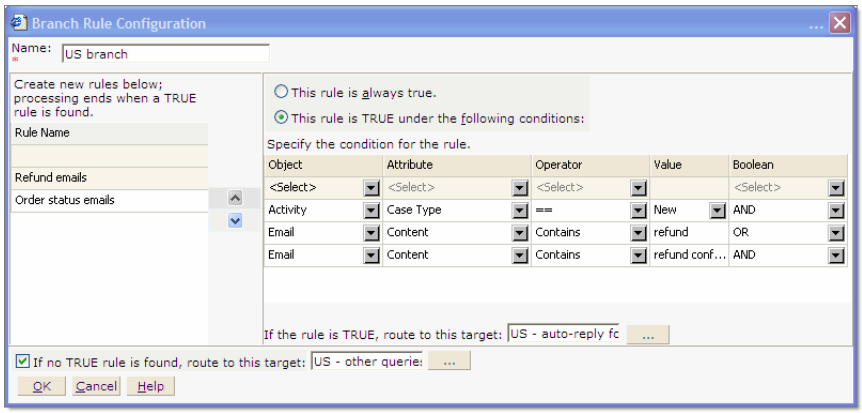
7. Now, select the auto-reply to be sent to the US customers who have questions on order status. In the **Auto-reply** node (named as US - auto-reply for order status queries), create a rule which is always true and send an auto-reply to customers who have questions on their order status.



Send an auto-reply to the US customers to answer order status queries

8. In the **Queue** node (named as US - other queries), select the "Canada - other queries" queue.
9. Now, route activities to various queues and auto reply nodes. In the **Branch** node (named as US branch), create the following rules. In this node, we will use the nodes configured in steps 6, 7, and 8.
   a. Refund emails: Configure the following conditions for the rule.
      - If the case type is "New", AND
      - If the email content contains the text "refund", OR
      - If the email content contains the text "Refund confirmation"

      If the conditions are met, route the activity to the **Auto-reply** node (named as US - auto-reply for refund queries).

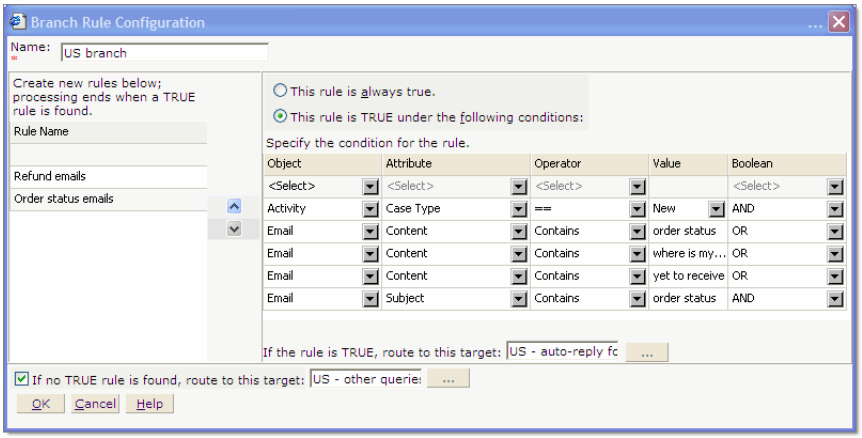


Route refund query emails to the auto-reply node for refunds

b. Order status emails: Configure the following conditions for the rule.

- If the case type is “New”, AND
- If the email content contains the text “order status”, OR
- If the email content contains the text “where is my stuff”, OR
- If the email content contains the text “yet to receive”, OR
- If the email subject contains the text “order status”

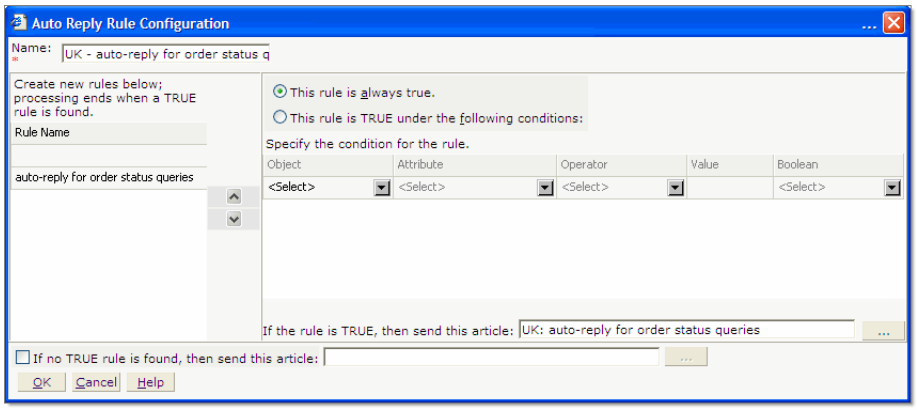
If the conditions are met, route the activity to the **Auto-reply** node (named as US - auto-reply for order status queries).



Route order status emails to the auto-reply node for order status queries

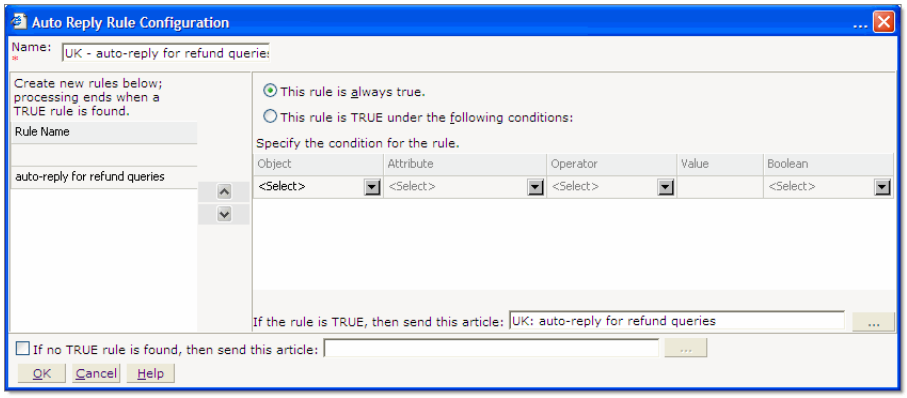
c. If none of the rules configured in this node are true, route the activity to the “US - other queries” queue.

10. Now, select the auto-reply to be sent to the UK customers who have questions on refunds. In the **Auto-reply** node (named as UK - auto-reply for refund queries), create a rule which is always true and send an auto-reply to customers who have questions on refunds.



Send an auto-reply to the UK customers to answer refund queries

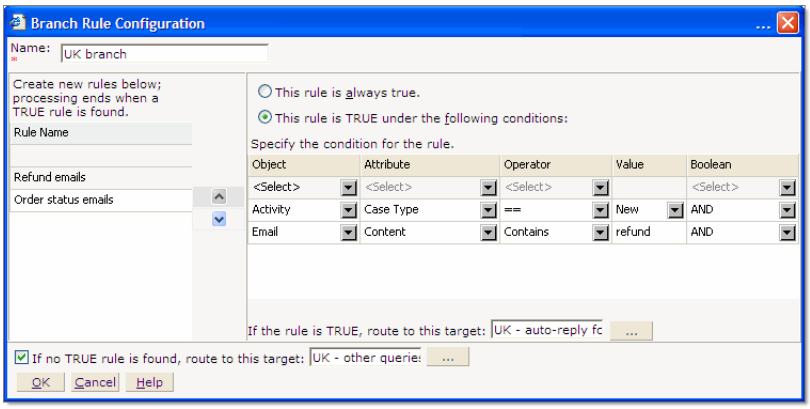
11. Now, select the auto-reply to be sent to the UK customers who have questions on order status. In the **Auto-reply** node (named as UK - auto-reply for order status queries), create a rule which is always true and send an auto-reply to customers who have questions on their order status.



Send an auto-reply to the UK customers to answer order status queries

12. In the **Queue** node (named as UK - other queries), select the "UK - other queries" queue.
13. Now, route activities to various queues and auto reply nodes. In the **Branch** node (named as UK branch), create the following rules. In this node, we will use the nodes configured in steps 10, 11, and 4.
    a. Refund emails: Configure the following conditions for the rule.
        - If the case type is "New", AND
        - If the email content contains the text "refund", OR
        - If the email content contains the text "Refund confirmation"

        If the conditions are met, route the activity to the **Auto-reply** node (named as UK - auto-reply for refund queries).

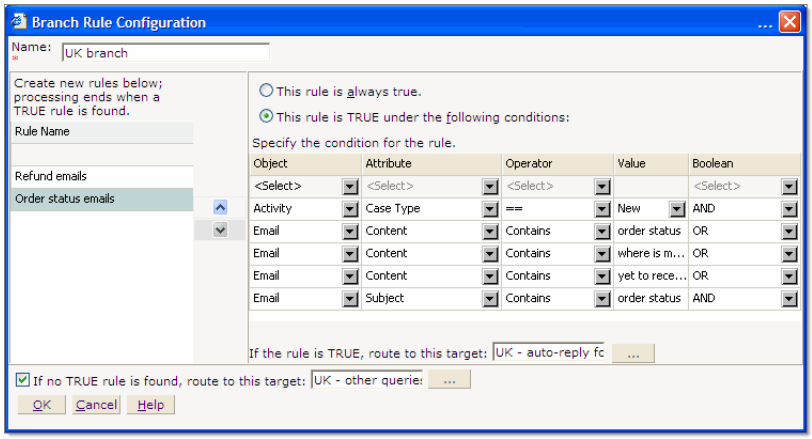


Route refund query emails to the auto-reply node for refunds

b. Order status emails: Configure the following conditions for the rule.

- If the case type is “New”, AND
- If the email content contains the text “order status”, OR
- If the email content contains the text “where is my stuff”, OR
- If the email content contains the text “yet to receive”, OR
- If the email subject contains the text “order status”

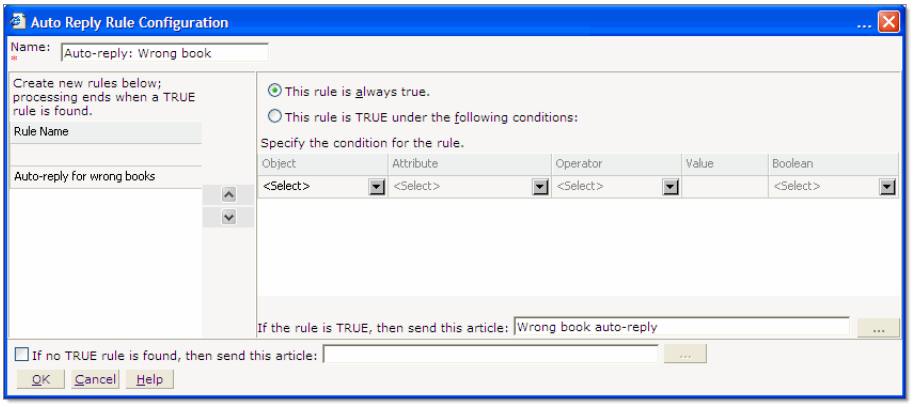
If the conditions are met, route the activity to the **Auto-reply** node (named as UK - auto-reply for order status queries).



Route order status emails to the auto-reply node for order status queries

c. If none of the rules configured in this node are true, route the activity to the “UK - other queries” queue.

14. Now, select the auto-reply to be sent to customers who have received wrong books. In the **Auto-reply** node (named as Auto-reply: Wrong book), create a rule which is always true and send an auto-reply to customers who have received wrong books.



Send an auto-reply to customers who have received wrong books

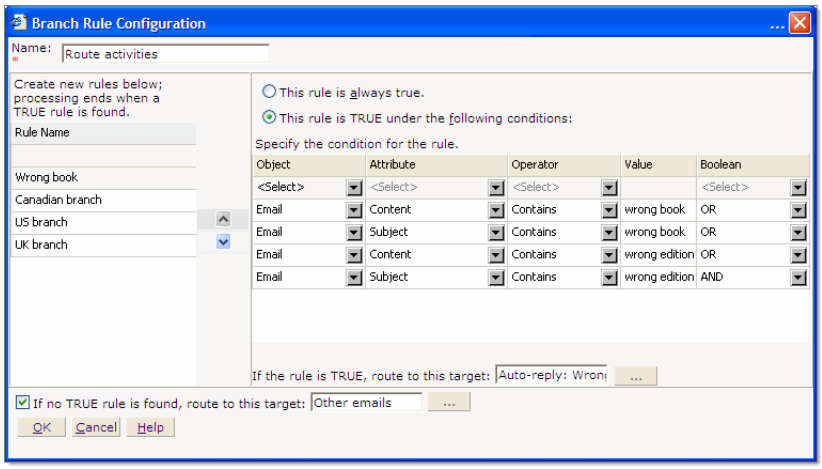
15. In the **Queue** node (named as Other emails), select the "Other emails" queue.

16. Now, route emails from customers who have received the wrong book to the Auto-reply node, and emails from UK, US, and Canada customers, to the respective branch nodes for further processing. And, if the emails do not qualify to be routed to these nodes, route them to the "Other emails" queue. In the **Branch** node (named as Route activities) create the following rules. In this node, we will use the nodes configured in steps 5, 9, 13, 14, and 15.

    a. Wrong book: Configure following conditions for the rule.

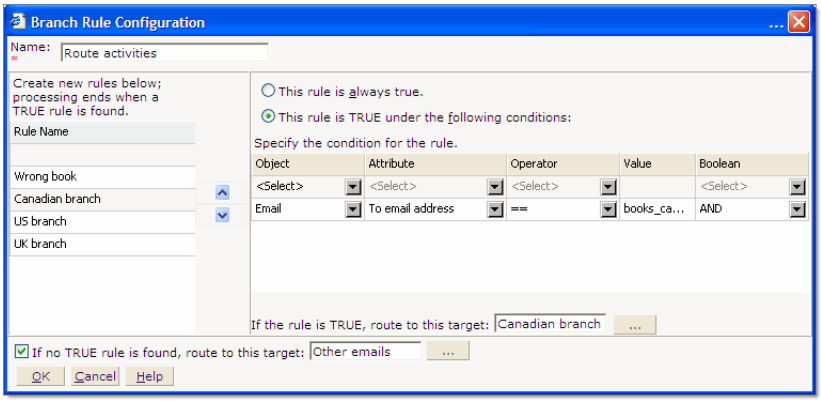
    - If the email subject contains "wrong edition", OR
    - If the email subject contains "wrong book", OR
    - If the email content contains "wrong edition", OR
    - If the email content contains "wrong book"

    If the conditions are met, route the activity to the **Auto-reply** node (named as Wrong Book).



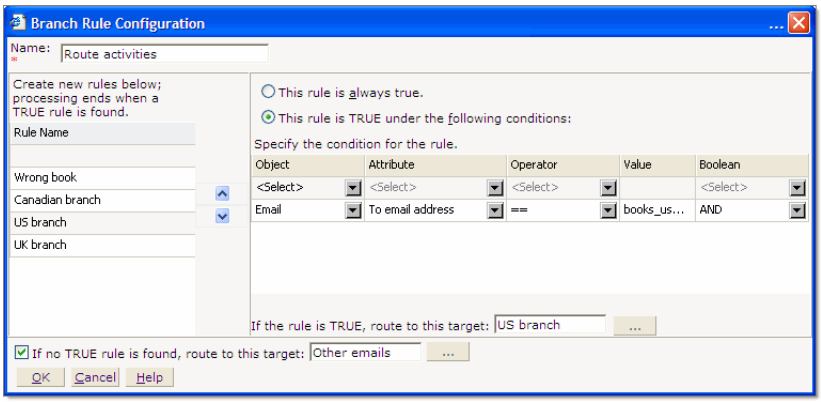
Send wrong books emails to the auto-reply node

    b. Canadian branch: Configure a rule which checks if the "to email address" is "books_ca@company.com". If the condition is met, route the activity to the **Branch** node (Canadian Branch).



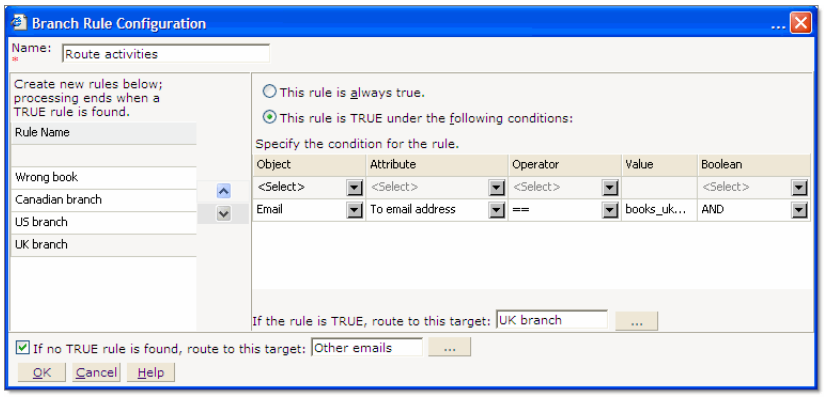
Send emails from the Canada customers to the Canadian branch node

c. US branch: Configure a rule which checks if the "to email address" is "books_us@company.com". If the condition is met, route the activity to the **Branch** node (US branch).



Send emails from the US customers to the US branch node

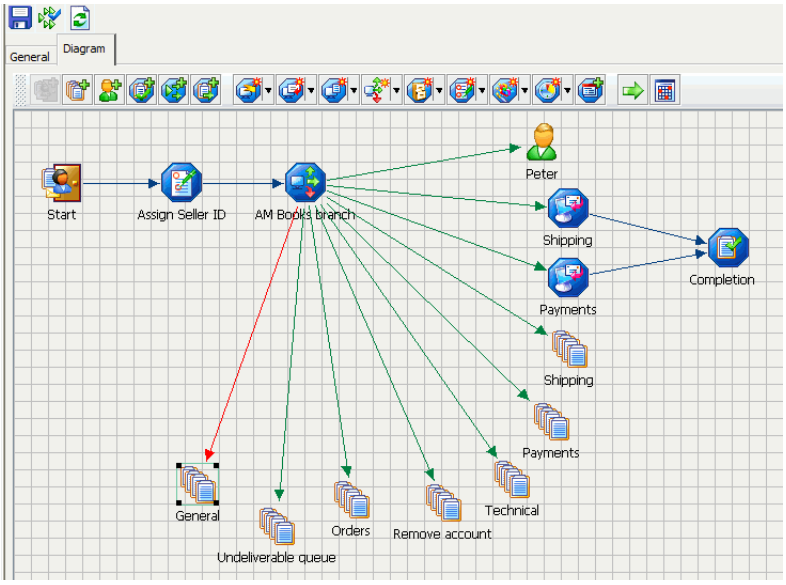
d. UK branch: Configure a rule which checks if the "to email address" is "books_uk@company.com". If the condition is met, route the activity to the **Branch** node (UK branch).



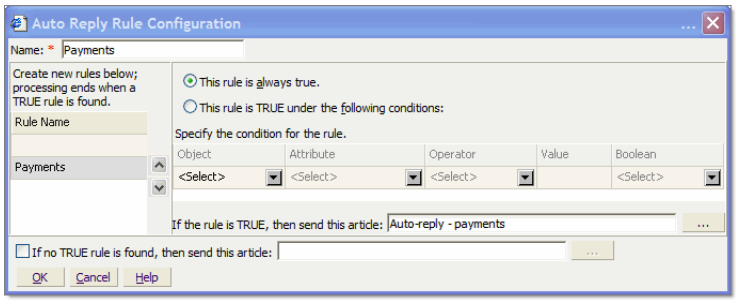
Send emails from the UK customers to the UK branch node

17. Add the **Completion** node to the workflow editor. Connect the following nodes to this node: Auto-reply: Wrong book, Canada - auto-reply for refund queries, Canada - auto-reply for order status queries, US - auto-reply for refund queries, US - auto-reply for order status queries, UK - auto-reply for refund queries, and UK - auto-reply for order status queries.

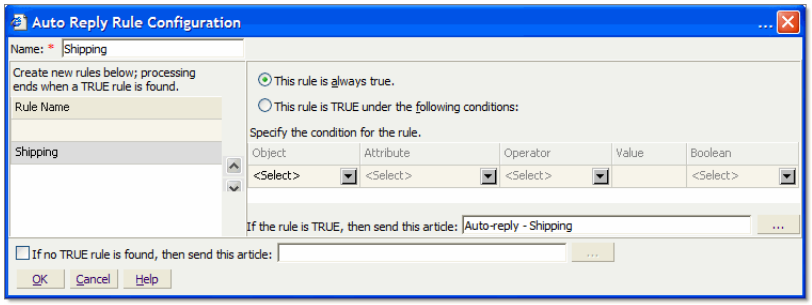
Workflow for managing orders at a publishing house



1. In the **Start** node, select aliases.
2. In the **Modify object** node (named as Assign Seller ID), create a rule which is always true. In the True tab, set the value in the Seller ID field (custom field) using the “seller ID” data usage link.
3. In the **Queue** node (named as Remove account), select the “Remove account” queue.
4. In the **Queue** node (named as Payments), select the “Payments” queue.
5. In the **Queue** node (named as Undeliverable queue), select the “Undeliverable queue” queue.
6. In the **Queue** node (named as Technical), select the “Technical” queue.
7. In the **Queue** node (named as Orders), select the “Orders” queue.
8. In the **Queue** node (named as Shipping), select the “Shipping” queue.
9. In the **Queue** node (named as General), select the “General” queue.
10. In the **User** node (named as Peter), select the user “Peter”.
11. In the **Auto-reply** node (named as Payments), create a rule which is always true and send an auto-reply to customers. The auto-reply has to be created in the form of an article (named as Auto-reply – Payments) from the Knowledge Base Console.



12. In the **Auto-reply** node (named as Shipping), create a rule which is always true and send an auto-reply to customers. The auto-reply has to be created in the form of an article (named as Auto-reply – Shipping) from the Knowledge Base Console.

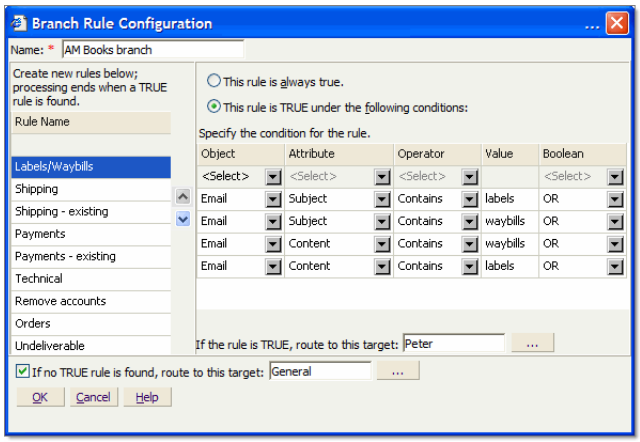


13. In the **Branch** node (named as AM Books branch), create following rules. In this node, we will use the nodes configured in steps 3–12.

    a. Labels/Waybills: Configure following conditions for the rule.

    - If the email content contains “labels”, OR
    - If the email content contains “waybills”, OR
    - If the email subject contains “waybills”, OR
    - If the email subject contains “labels”, OR

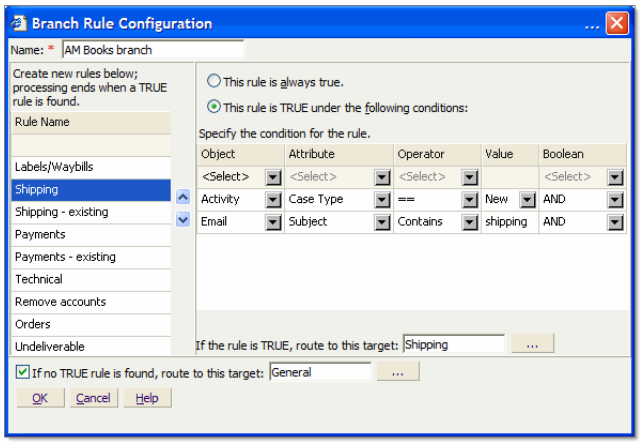
    If the conditions are met, route the activity to the user “Peter”.



    b. Shipping: Configure following conditions for the rule.

    - If the case type is “New”, AND
    - If the email subject contains “shipping”

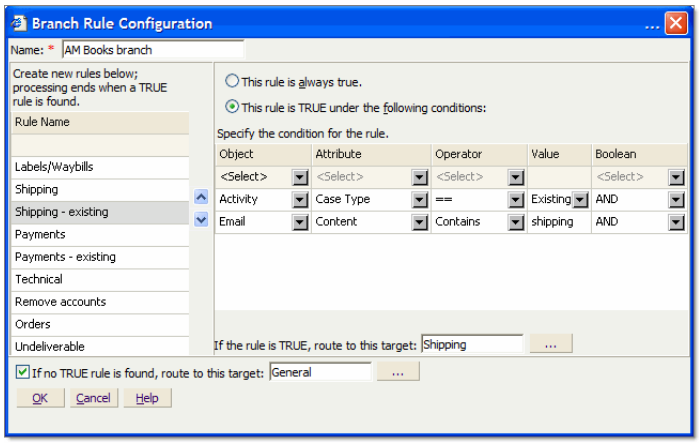
If the conditions are met, route the activity to the **Auto-reply** node (named as Shipping).



c. Shipping - existing: Configure following conditions for the rule.

- If the case type is “Existing”, AND
- If the email subject contains “shipping”

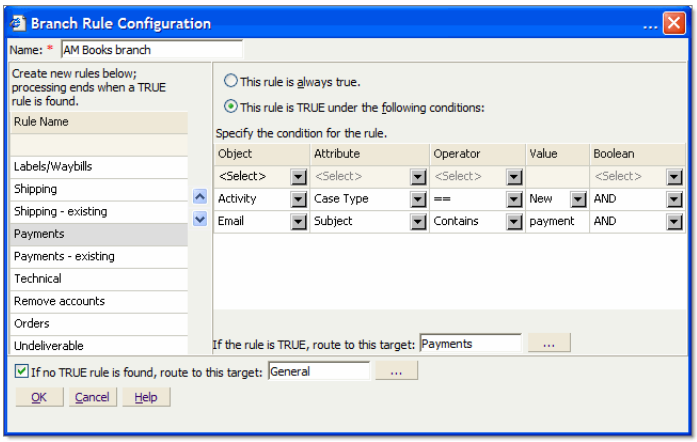
If the conditions are met, route the activity to the “Shipping” queue.



d. Payments: Configure following conditions for the rule.

- If the case type is “New”, AND
- If the email subject contains “payment”

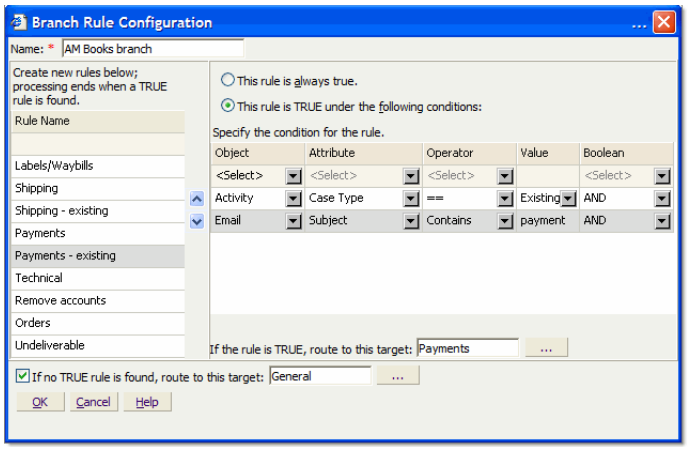
If the conditions are met, route the activity to the **Auto-reply** node (named as Payments).



e. Payments - existing: Configure following conditions for the rule.

- If the case type is “Existing”, AND
- If the email subject contains “payment”

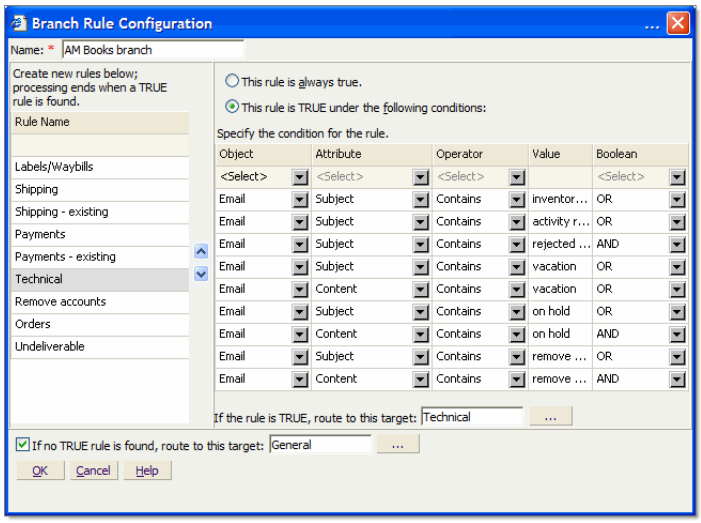
If the conditions are met, route the activity to the “Payments” queue.



f. Technical: Configure following conditions for the rule.

- If the email subject contains “inventory manager”, OR
- If the email subject contains “activity report”, OR
- If the email subject contains “rejected record” AND
- If the email subject contains “vacation”, OR
- If the email content contains “vacation”, OR
- If the email subject contains “on hold”, OR
- If the email content contains “on hold”, AND
- If the email subject contains “remove hold”, OR
- If the email content contains “remove hold”

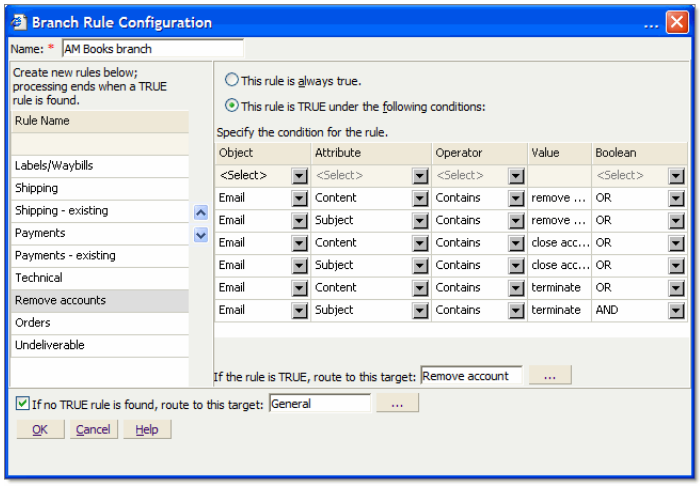
If the conditions are met, route the activity to the “Technical” queue.



g. Remove accounts: Configure following conditions for the rule.

- If the email content contains “remove account”, OR
- If the email subject contains “remove account”, OR
- If the email content contains “close account”, OR
- If the email subject contains “close account” OR
- If the email content contains “terminate”, OR
- If the email subject contains “terminate”

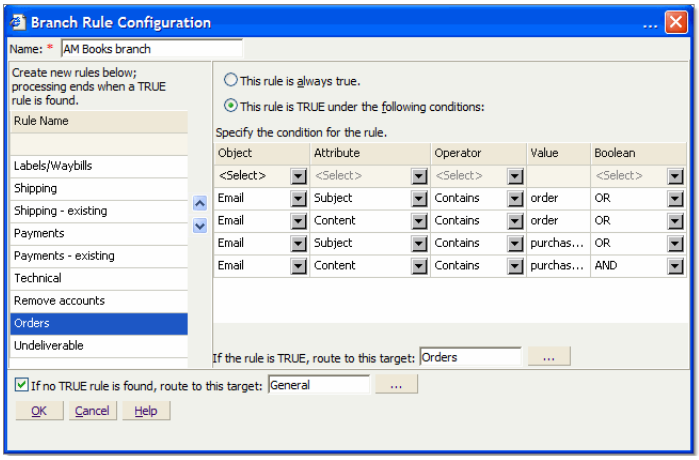
If the conditions are met, route the activity to the “Remove account” queue.



h. Orders: Configure following conditions for the rule.

- If the email subject contains “order”, OR
- If the email content contains “order”, OR
- If the email subject contains “purchase notification”, OR
- If the email content contains “purchase notification”, OR

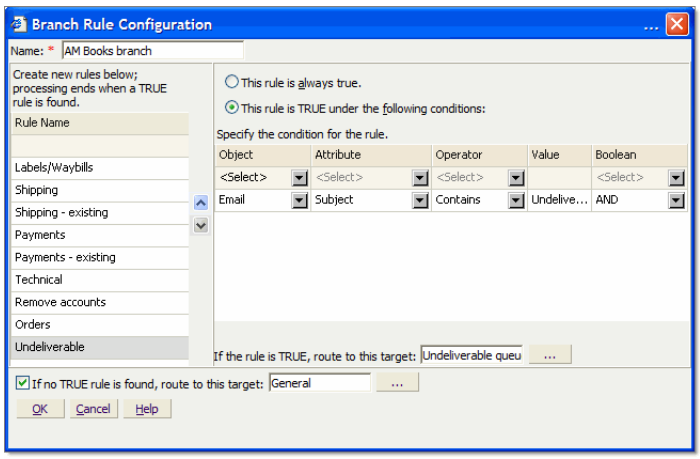
If the conditions are met, route the activity to the “Orders” queue.



i. Undeliverable: Configure the following condition for the rule.

- If the email subject contains “Undeliverable”

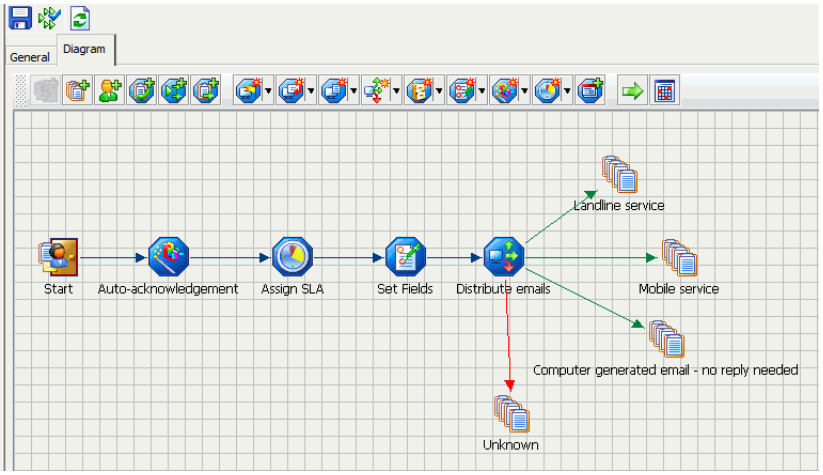
If the conditions are met, route the activity to the “Undeliverable queue” queue.



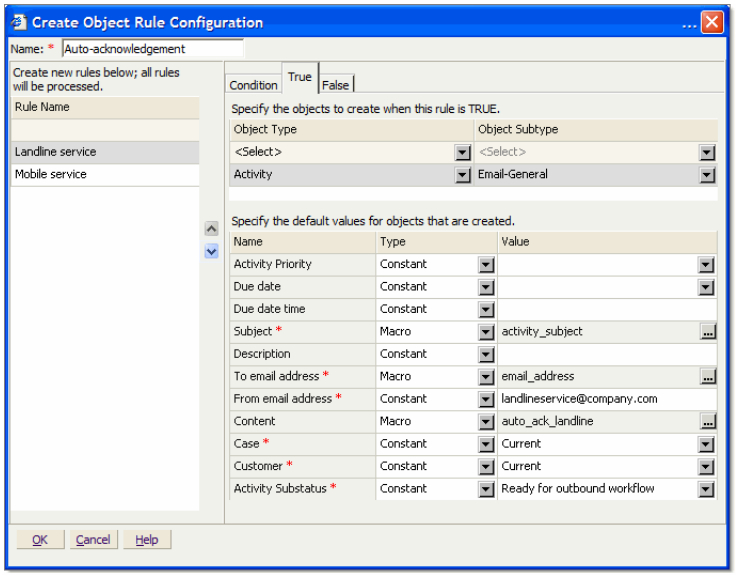
14. Add the **Completion** node to the workflow editor and connect it to the two **Modify object** nodes (named as “Shipping” and “Payments”).
15. Connect all the nodes.

Workflow for managing inquiries at a phone company

This workflow demonstrates how a phone company can handle incoming emails. Create a workflow to send auto acknowledgements for incoming emails, then set the SLA for emails, then based on some rules modify the properties of the activity, then evaluate the emails and route them to relevant queues.



1. In the **Start** node, select aliases.
2. In the **Create object** node (named as Auto-acknowledgement), create the following rules.
   a. Landline service: Check if the subject of the email contains “Landline service”. If the condition is met, create a new email activity with following attributes.
      i. Set the subject using the macro “activity_subject”.
      ii. Set the “from” and “to” email addresses.
      iii. Set the content using the “auto_ack_landline” article macro.
      iv. Set the case and customer as “current”.
      v. Set the activity substatus as “Ready for outbound workflow”.



   b. Mobile service: Check if subject of an email contains “Mobile service”. If the condition is met, create a new email activity with following attributes.

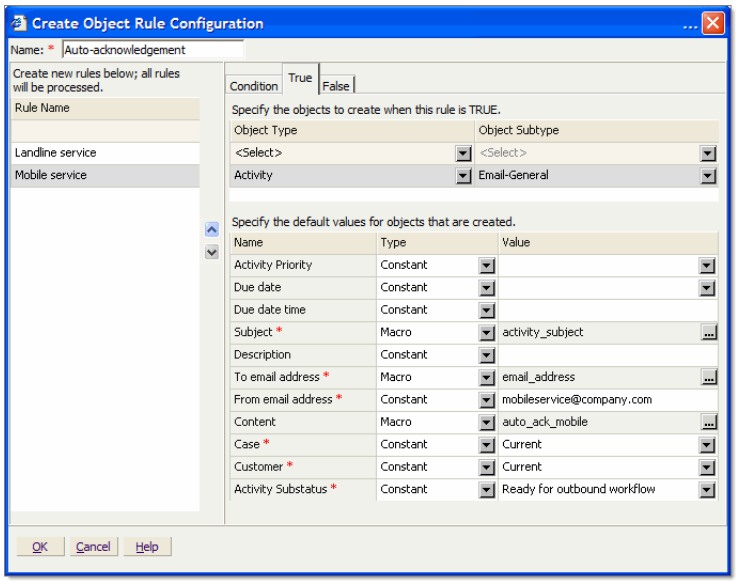
i. Set the subject using the macro “activity_subject”.

ii. Set the “from” and “to” email addresses.

iii. Set the content using the “auto_ack_mobile” article macro.

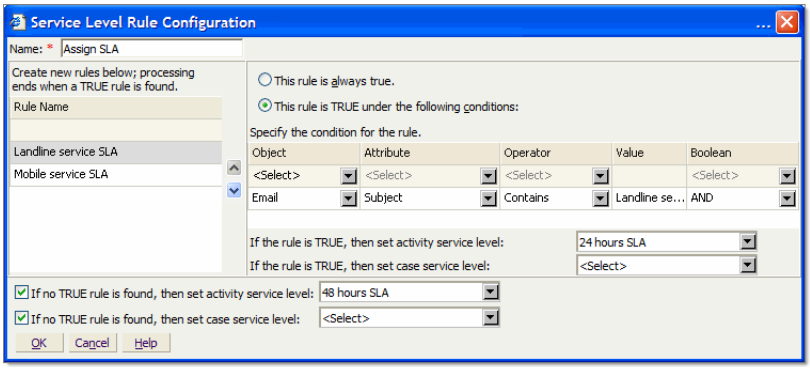
iv. Set the case and customer as “current”.

v. Set the activity substatus as “Ready for outbound workflow”.

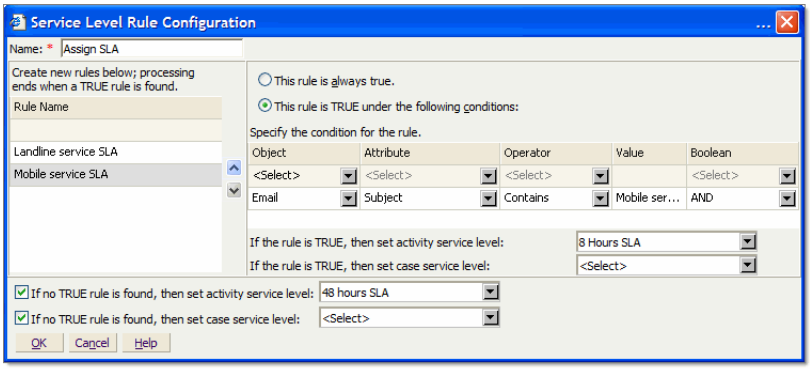


3. In the **Service Level** node (named as Assign SLA), configure following rules.

a. Landline service SLA: Check if subject of an email contains “Landline service”. If the condition is met, set the activity service level as “24 hours SLA”.



b. Mobile service SLA: Check if subject of an email contains “Mobile service”. If the condition is met, set the activity service level as “8 hours SLA”.

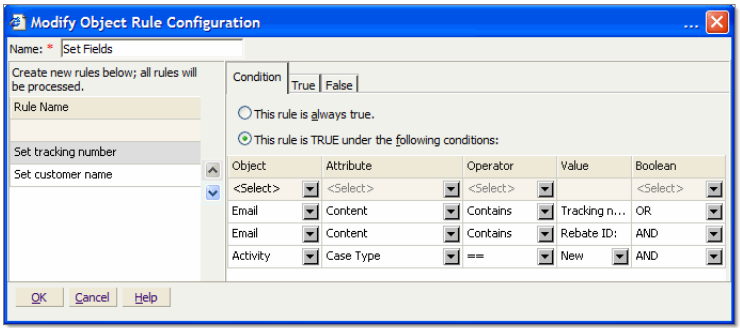


c. If none of the rules configured in this node are true, set the activity service level as “48 hours SLA”.

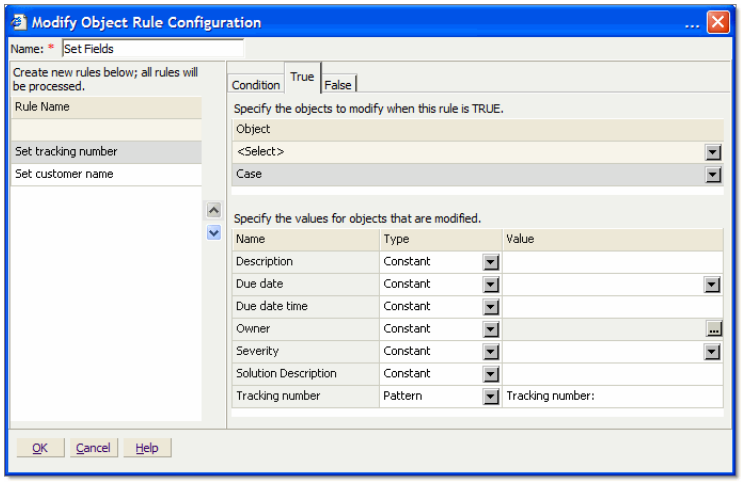
4. In the **Modify object** node (named as Set Fields), configure following rules.

a. Set tracking number: Configure following conditions for the rule.

- If email content contains “Tracking number:”, OR
- If email content contains “Rebate ID:”, AND
- If case type is “New”



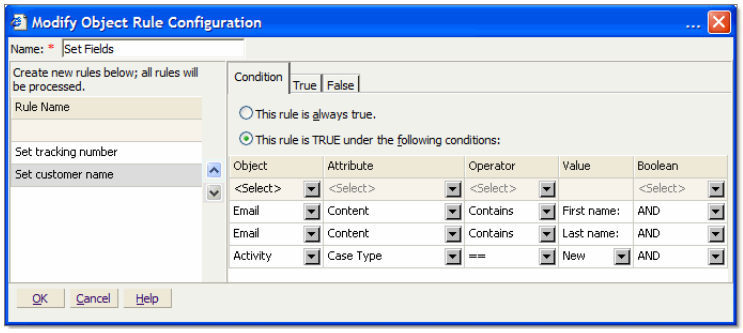
If the conditions are met, set the value in the “Tracking number” field (custom field) using the pattern “Tracking number:”



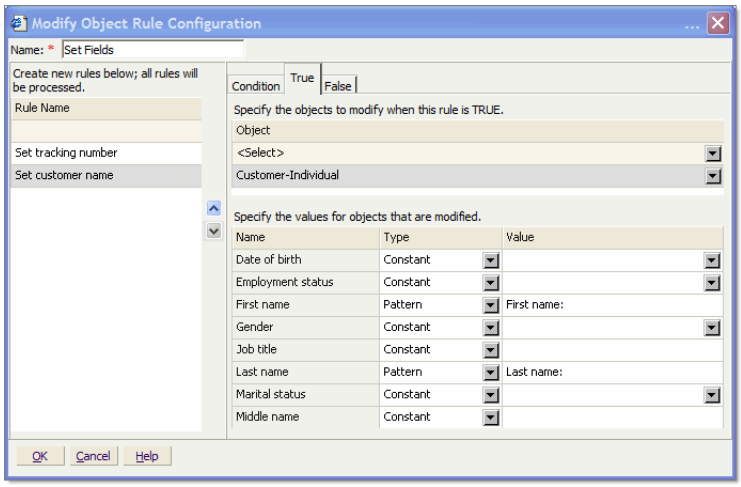
b. Set customer name: Configure following conditions for the rule.

- If email content contains “First name:”, AND

- If email content contains “Last name:”, AND
- If case type is “New”



If the conditions are met, set the value in the “First name” and “Last name” fields using the patterns “First name:” and “Last name:” respectively.

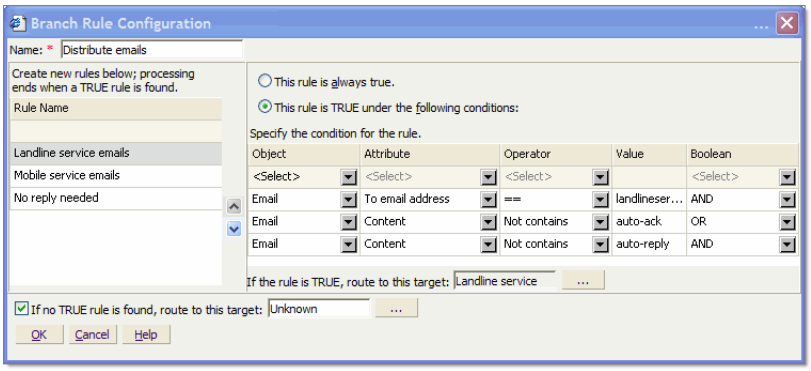


5. In the **Queue** node (named as Landline service), select the “Landline service” queue.
6. In the **Queue** node (named as Mobile service), select the “Mobile service” queue.
7. In the **Queue** node (named as Computer generated email - no reply needed), select the “Computer generate email - no reply needed” queue.
8. In the **Queue** node (named as Unknown), select the “Unknown” queue.
9. In the **Branch** node (named as Distribute emails), create following rules. In this node, we will use the nodes configured in steps 5–8.

   a. Landline service emails: Configure following conditions for the rule.

   - If “to email address” is “landlineservice@company.com”, AND
   - If email content does not contain “auto-ack“, OR
   - If email content does not contain “auto-reply“

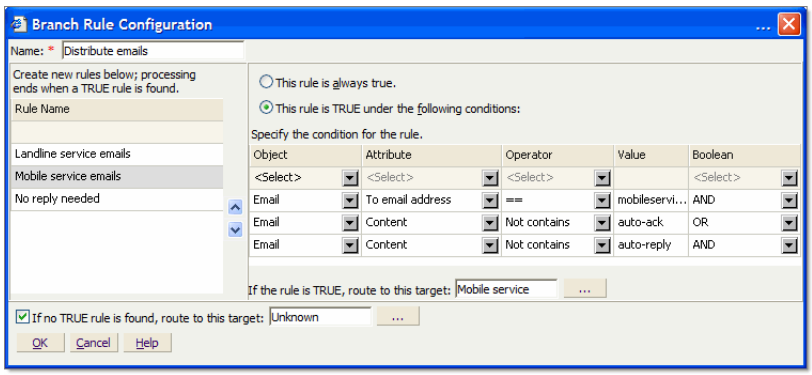
   If the conditions are met, route the activity to the “Landline service” queue.



b. Mobile service emails: Configure following conditions for the rule.

- If “to email address” is “mobileservice@company.com”, AND
- If email content does not contain “auto-ack“, OR
- If email content does not contain “auto-reply“

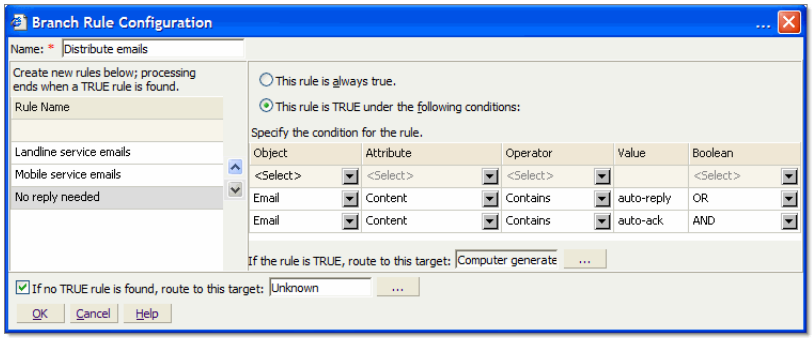
If the conditions are met, route the activity to the “Mobile service” queue.



c. No reply needed: Configure following conditions for the rule.

- If email content contains “auto-ack“, OR
- If email content contains “auto-reply“

If the conditions are met, route the activity to the “Computer generate email - no reply needed” queue.



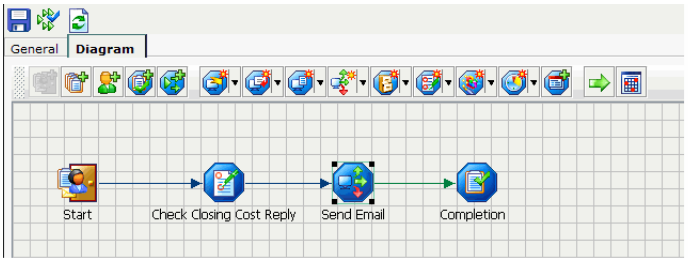
d. If none of the rules configured in this node are true, route the activity to the “Unknown” queue.

10. Connect the nodes.

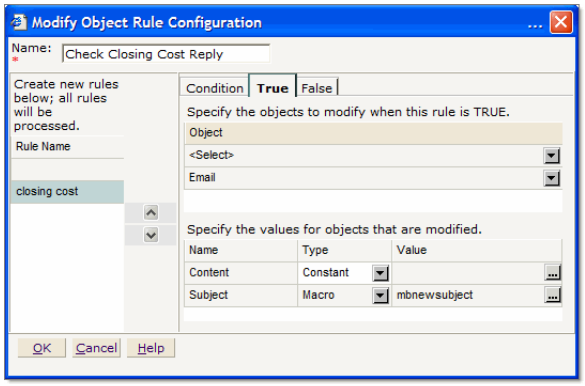
Sample outbound workflows

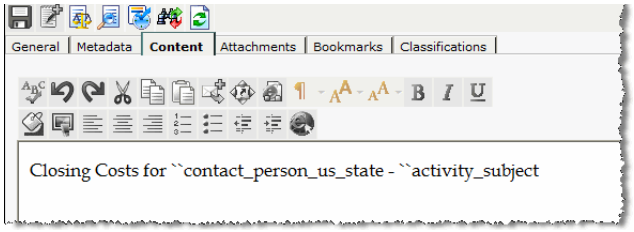
For changing the subject of outgoing emails and for completing activities that have incomplete information

Create an outbound workflow to change the subject of outgoing emails and complete the activities where the customer had provided incomplete information.

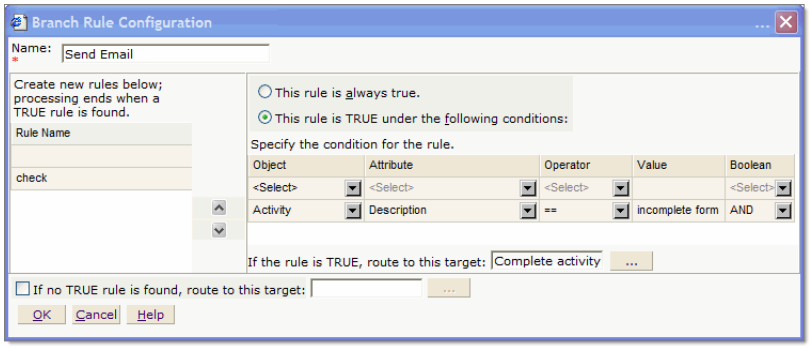


1. In the **Start** node, select the “Mortgages” queue.
2. In the **Modify object** node, check email content for the text “closing costs”. If the condition set in the rule is met, use an article macro to add the text “Closing costs for”, the US state name, and activity subject to the email subject.



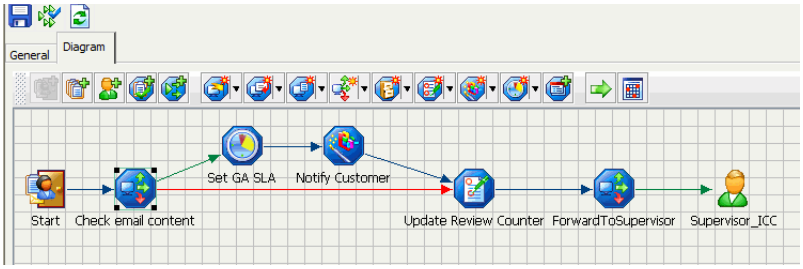


3. Add the **Completion** node to the workflow editor.
4. In the **Branch** node (named as Send Email), check the activity description. If the activity description contains the text “incomplete form”, route the activity to the **Completion** node.

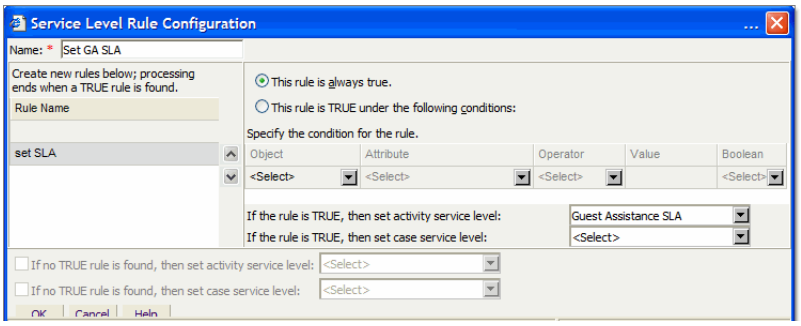


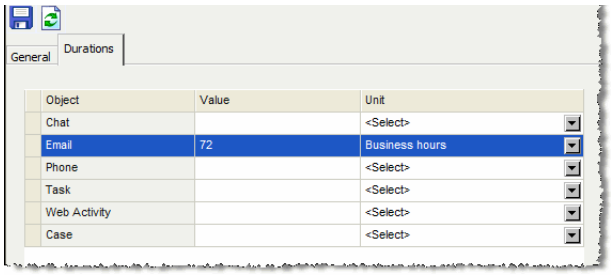
5. Connect the nodes.

New review workflow

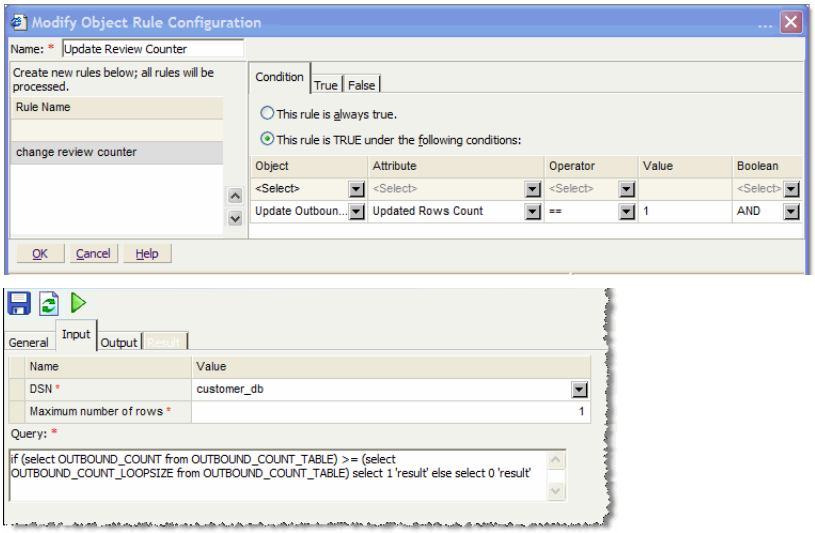


1. In the **Start** node, select queues.
2. In the **Service level** node (named as Set GA SLA), set a rule which is always true and set the activity service level as “Guest Assistance SLA.”

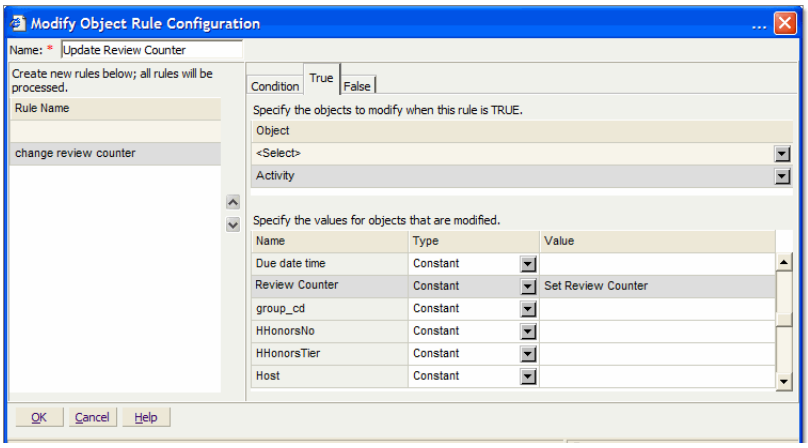




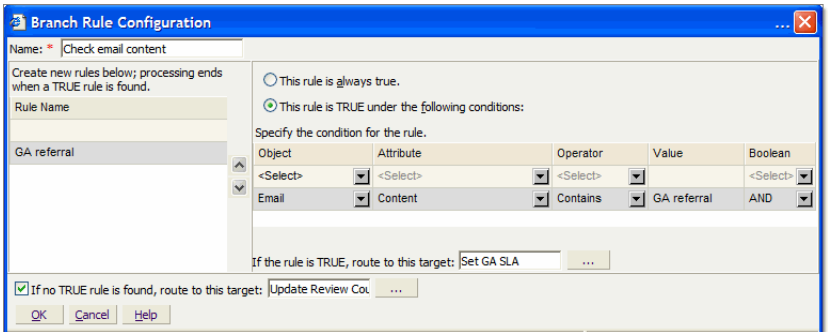
3. In the **Modify object** node (named as Update Review Counter), check if the data usage link “Update Outbound Loop Count” returns the “Update rows count” value as “One.”



If the condition is met, set the "Review Counter" field (custom field) of the activity as "Set Review Counter".



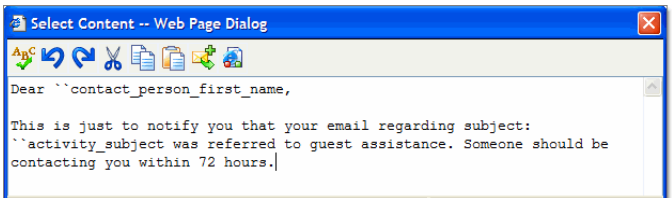
4. In the **Branch** node (named as Check email content), create the following rule. In this node, we will use the nodes configured in steps 2 and 3.
   - GA referral: Check email content for the text "GA referral." If the rule is true, route the activity to the **Service level** node (named as Set GA SLA). If the rule is not true, route the activity to the **Modify object** node (named as Update Review Counter).



5. In the **Create object** node (named as Notify Customer), create a rule which is always true. In the True tab, create a new email activity with following attributes.

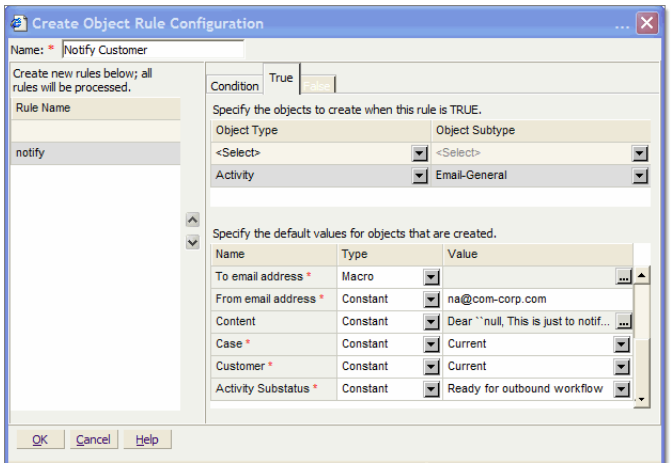
a. Set the “from” email address.

b. Set the content using business macros – `contact_person_first_name` and `activity_subject`.



c. Set the case and customer as “current”.

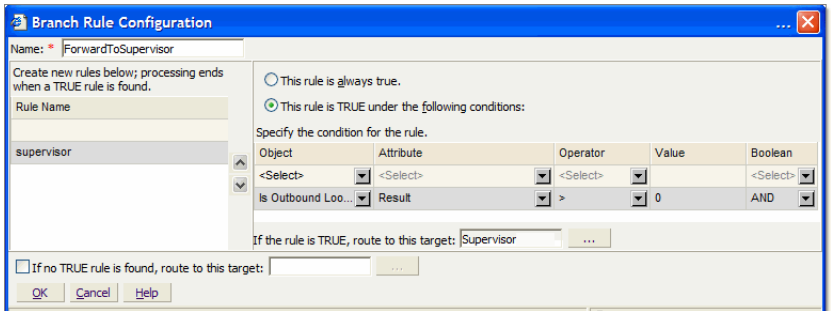
d. Set the activity substatus as “Ready for outbound workflow”.

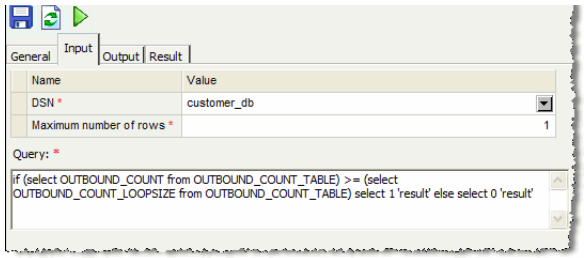


6. In the **User** node (named as supervisor), select the “supervisor” user.

7. In the **Branch** node (named as ForwardToSupervisor), create the following rule. In this node, we will use the nodes configured in steps 2 and 3.

   - Supervisor: Check if the data usage link “Is Outbound Loop Count Greater than Loop Size” returns the “Result” value greater than “zero.” If the rule is true, route the activity to the “supervisor” user.





8. Connect the nodes.

Outbound email review workflow

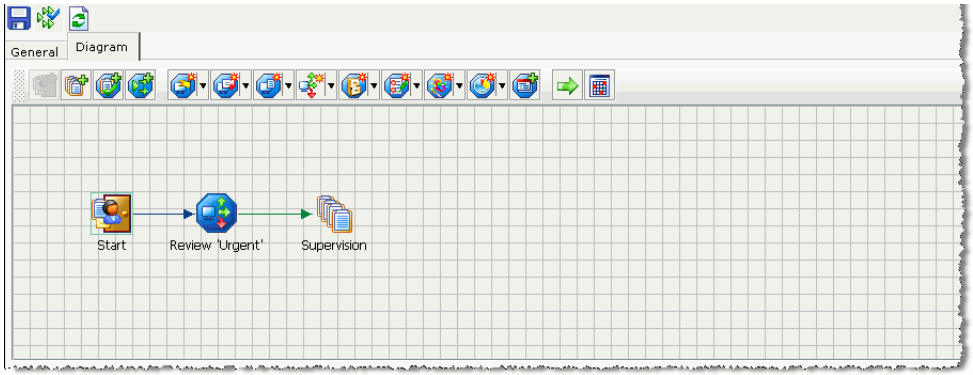
To ensure high quality replies to email inquiries, customer service managers may wish to review the content of replies before they are sent out to customers. The outbound email review workflow can be used to set up a supervisory loop that addresses this need. It allows you to route a reply from an agent to another user – a supervisor - based on pre-determined conditions, before it leaves the system. The supervisor can then accept the reply, sending the email to the customer, or reject it, returning it to the original agent for revision. Supervisors can edit replies, modify attachments, and provide feedback to the agent using notes during this process.

The sample outbound workflow discussed here has the following elements:

- The start node is an agent: Mary.
- The end node is a queue: Supervision.

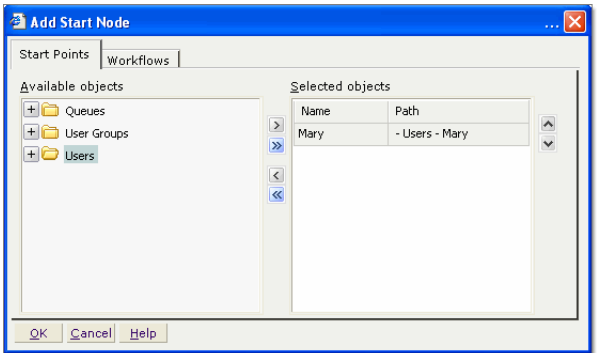
  Always create a separate queue to which activities that meet the required criteria are routed. Supervisors can then pull activities from this queue.
- The branch node specifies the condition: **Subject contains** the word `Urgent.`

Thus, this workflow routes all outbound emails created by Mary, and has the word `Urgent` in the subject, to a queue named `Supervision`.



Outbound email review workflow

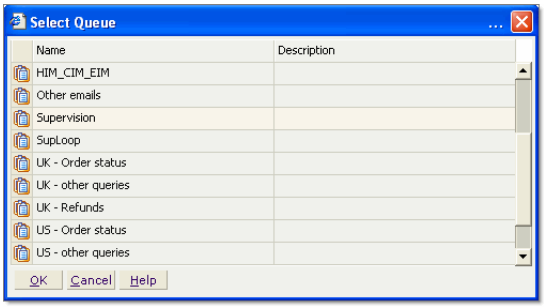
1. In the **Start** node, select Users from the Available Objects in the Start point tab. In Selected Objects, choose the agent whose replies are to be supervised.



Add start node: User

Important: **The start node of an outbound email review workflow must be a user or a user group. No other start nodes are supported.**

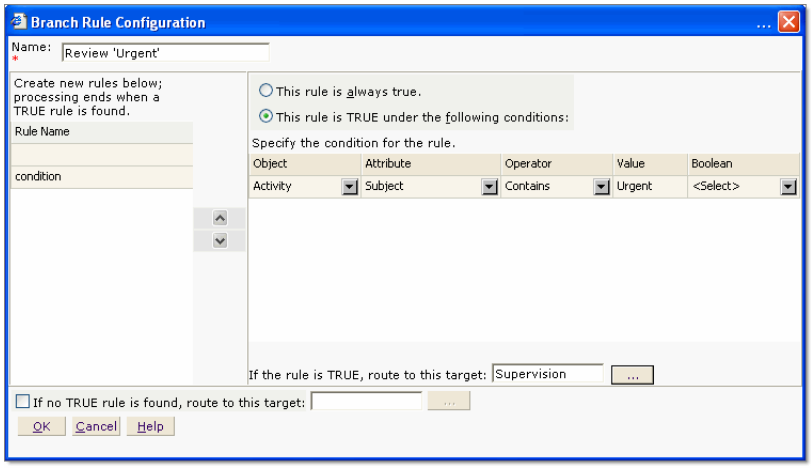
2. Add a **Queue** node. Select the queue created for the supervisory loop. E.g. `Supervision`



Select queue for supervision

Important: **The end node of an outbound email review workflow must be a queue. No other end nodes are supported.**

3. Add a branch node and set the required conditions



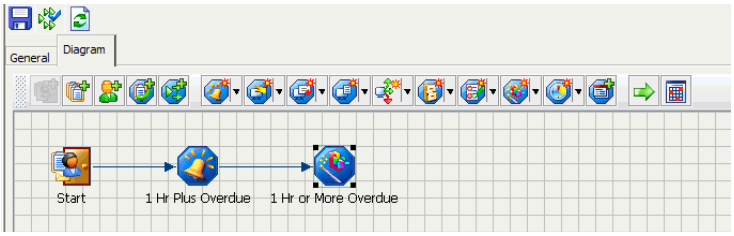
Configure branch rule

4. Connect the nodes.
5. Ensure that the workflow is active.
6. Ensure that the supervisor has permissions to pull activities from the `Supervision` queue. For more information on assigning pull permissions, refer to the chapter on Users on page 103

Sample alarm workflows

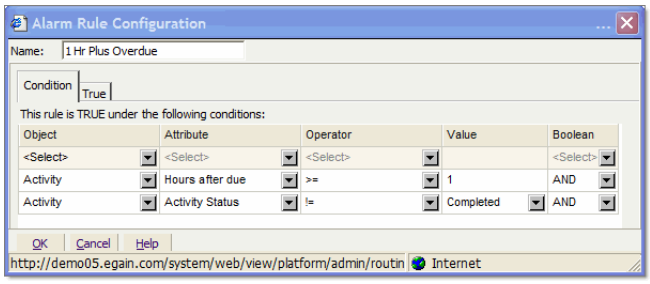
For monitoring activities that are overdue by one hour or more than one hour

Create a workflow to check for activities that are overdue by an hour. If any such activities are found a notification is sent to the supervisor with the list of overdue activities.

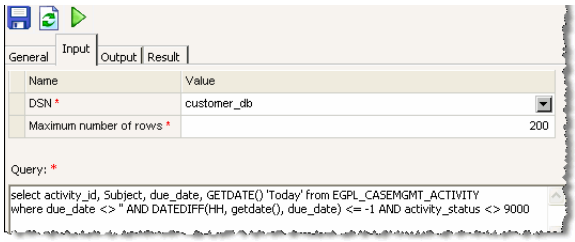


1. In the **Start** node, select queues and set the schedule.
2. In the **Alarm** node (named as 1 Hr Plus Overdue), set following conditions.
   a. If the activity is overdue by one hour or more than one hour, AND
   b. If the activity status is not “Completed”

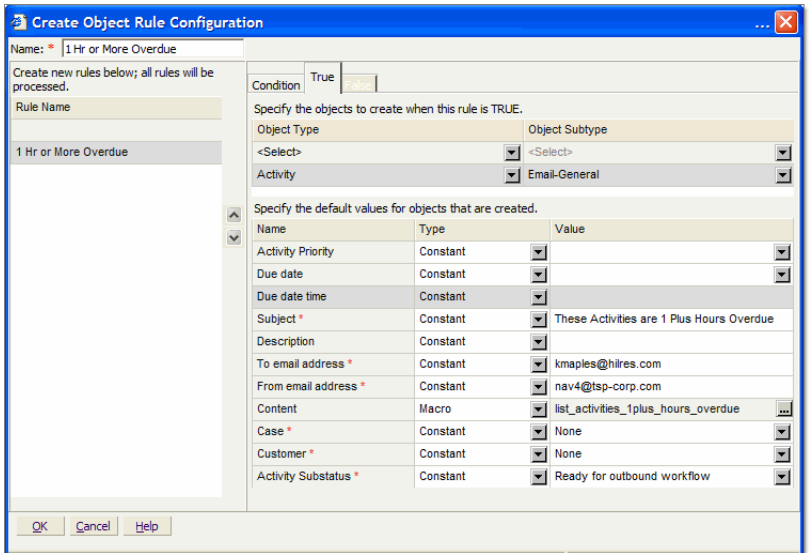
   Then, send notifications to supervisors.



3. In the **Create object** node (named as 1 Hr or More Overdue), create a rule which is always true. In the True tab, create a new activity and configure following attributes of the activity.
   a. Set the subject as “These Activities are 1 Plus Hours Overdue”.
   b. Set the “from” and “to” email addresses.
   c. Set the content using the “list_activities_1plus_hours_overdue” data usage link macro, which lists the activities that are over due.

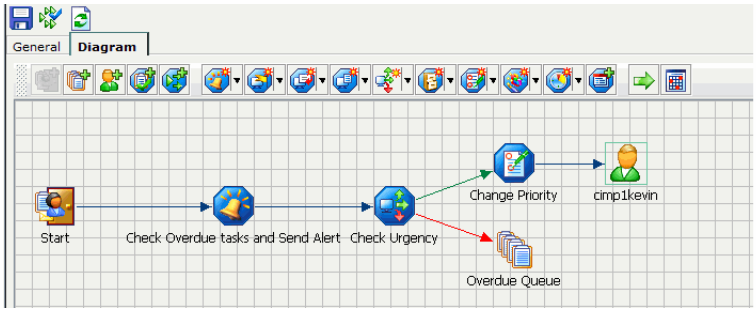


   d. Set the case and customer as “None”.
   e. Set the activity substatus as “Ready for outbound workflow”.



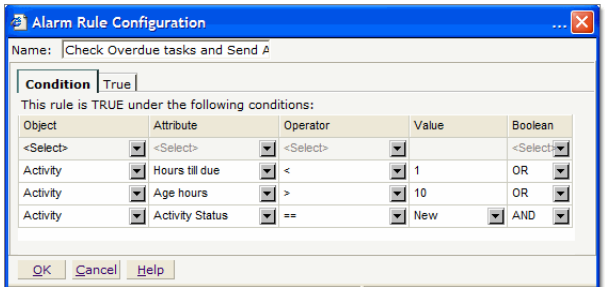
4. Connect the nodes.

For monitoring activities that are about to be due in one hour, activities aged 10 hours, or new activities

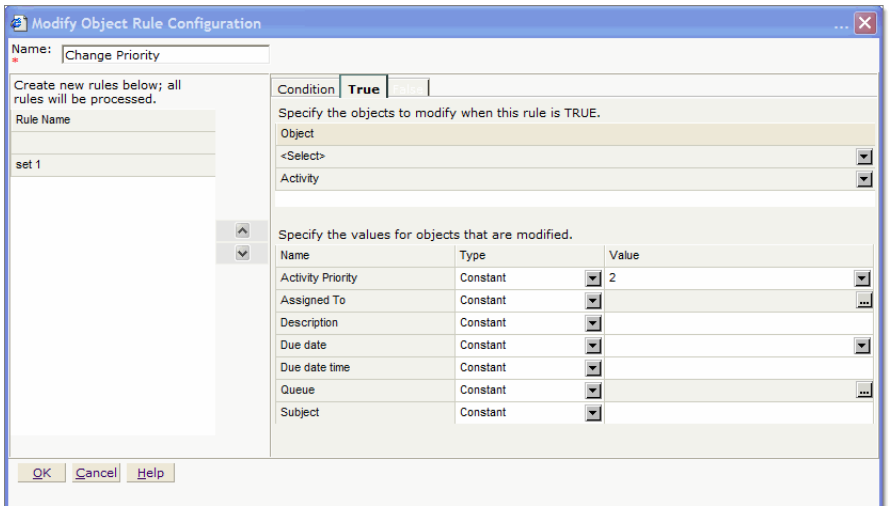


1. In the **Start** node, select queues and users and set the schedule.
2. In the **Alarm Rule** node (named as Check overdue tasks and send alerts), set following conditions.
   a. If the activity is going to be due in less than one hour, OR
   b. If the activity age is more than 10 hours, OR
   c. If the activity status is “New”.

   Then, send notifications.



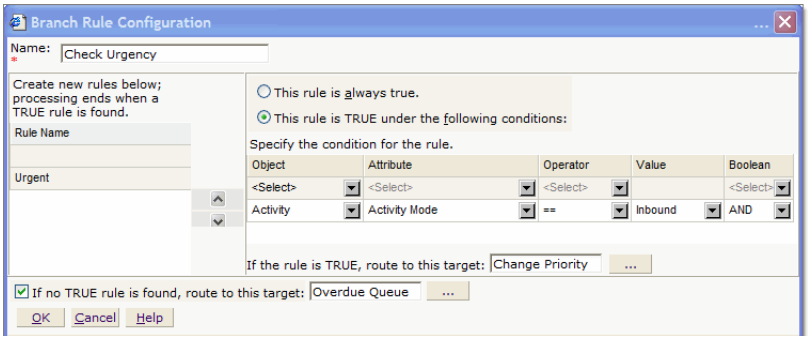
3. In the **Modify object** node (named as Change priority), set a rule which is always true. In the True tab, change the priority of the activity to “Two”.



4. In the **Queue** node (named as Overdue Queue), select the “Overdue Queue” queue.

5. In the **Branch rule** node (named as Check Urgency), create the following rule. In this node, we will use the nodes configured in steps 3 and 4.

   - Check if the Activity Mode is “Inbound.” If the condition is met, route the activity to the **Modify object** node (named as Change priority). If the condition is not met, route the activity to the “Overdue Queue” queue.

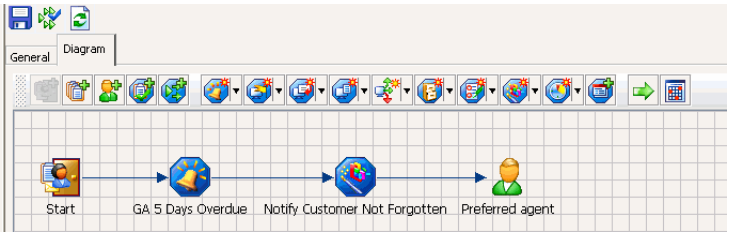


6. In the **User** node (named as cimpkevin), select the “cimpkevin” user and connect it to the **Modify object** node (named as Change priority).

7. Connect the nodes.

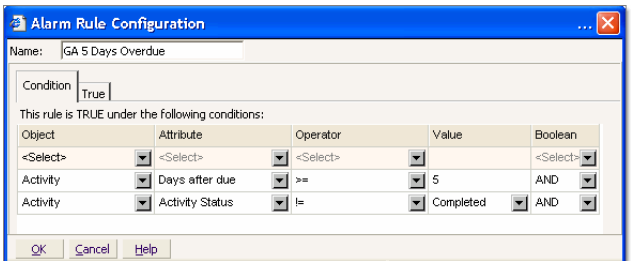
For monitoring activities that are overdue by five days

Create a workflow to check for activities that are overdue by five days. If any such activity is found, the customer is sent an automatic email that he will be contacted soon and the activity is assigned to the customer's preferred agent.

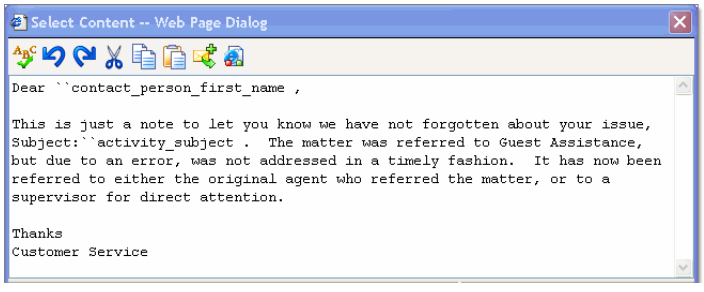


1. In the **Start** node, select queues and set the schedule.
2. In the **Alarm** node (named as GA 5 days overdue), set following conditions.
   a. If the activity is overdue by five days or more than five days, AND
   b. If the activity status is not "Completed".

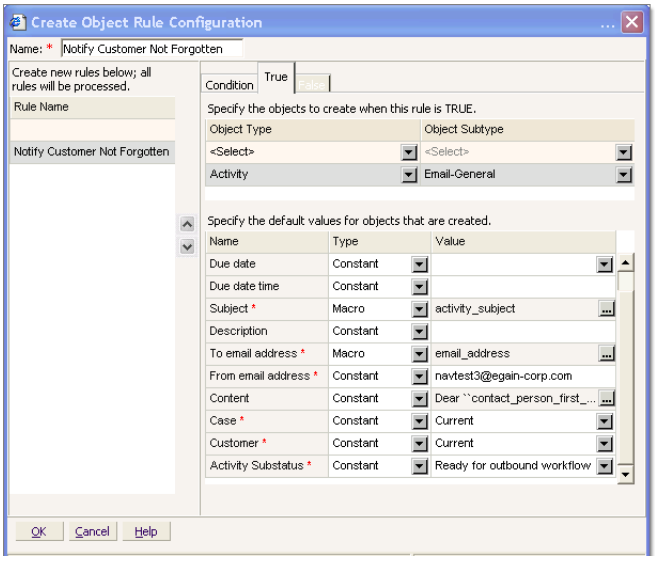
   Then, filter such activities.



3. In the **Create object** node (named as Notify Customer Not Forgotten), set a rule which is always true. In the True tab, create a new email activity with following attributes.
   a. Set the subject using the business object macro, `activity_id`.
   b. Set the "to email address" using the business object macro, `email_address`.
   c. Set the "from" email address.
   d. Set the content using business macros - `contact_person_first_name` and `activity_subject`.



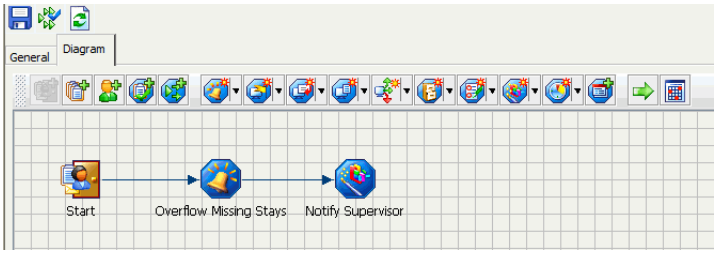
   e. Set the case and customer as "Current".
   f. Set the activity substatus as "Ready for outbound workflow".



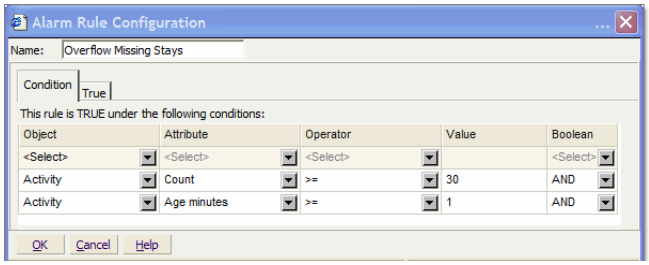
4. In the **User** node (named as preferred agent) select the option to route activities to customer's preferred agent.
5. Connect the nodes.

For monitoring the overflow of queues

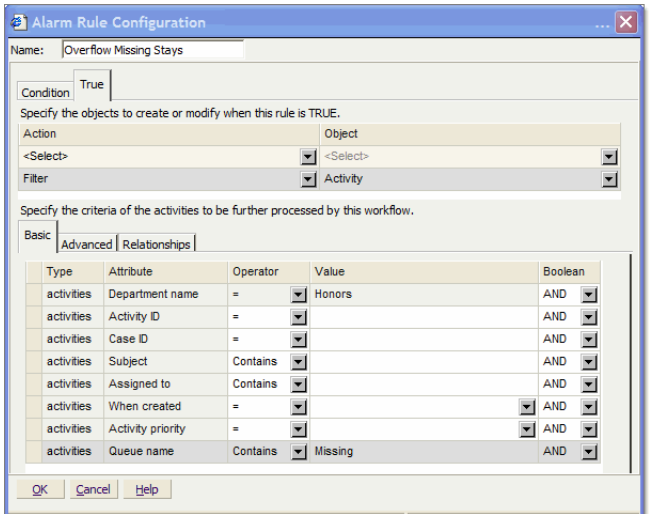
Create a workflow to monitor a queue to make sure that there are not more than 30 activities in the monitored queue for more than a minute. If the condition is met, the supervisor is notified.



1. In the **Start** node, select the "Missing Stay" queue and set the schedule.
2. In the **Alarm** node (named as Overflow Missing Stays), set following conditions.
   a. If the activity count is more than or equal to 30, AND
   b. If the activity age is more than or equal to one minute.



Then, filter activities where the queue name contains the word "missing".

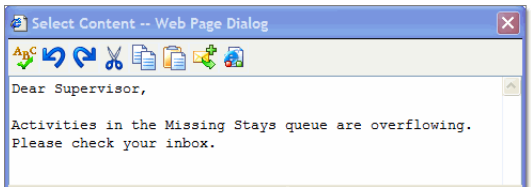


3. In the **Create object** node (named as Notify Supervisor), set a rule which is always true. In the True tab, create a new email activity with following attributes.

   a. Set the subject as “Overflow of Missing Stays Queue”.

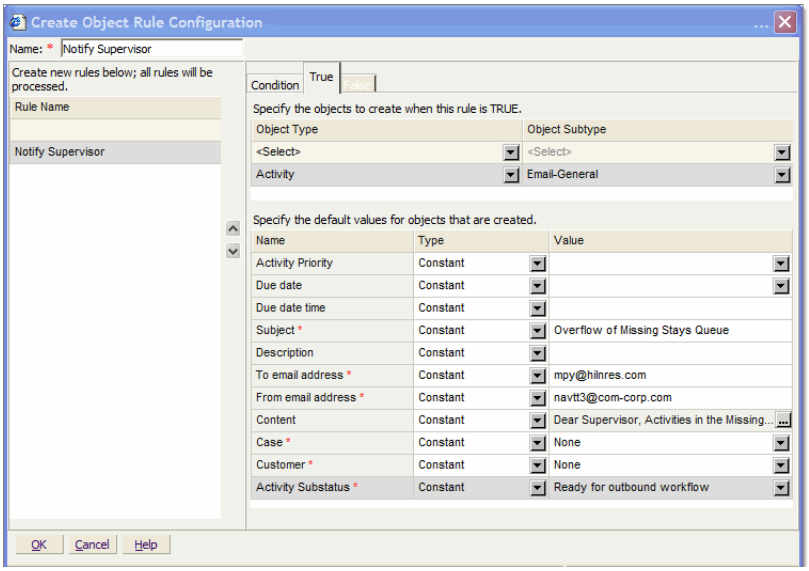
   b. Set the “to” and “from” email addresses.

   c. Set the content of the activity.



   d. Set the case and customer as “None”.

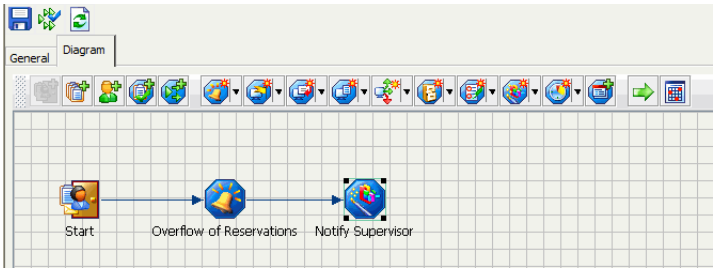
   e. Set the activity substatus as “Ready for outbound workflow”.



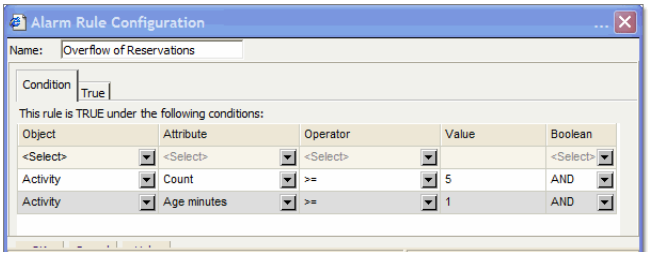
4. Connect the nodes.

For monitoring the overflow of queues

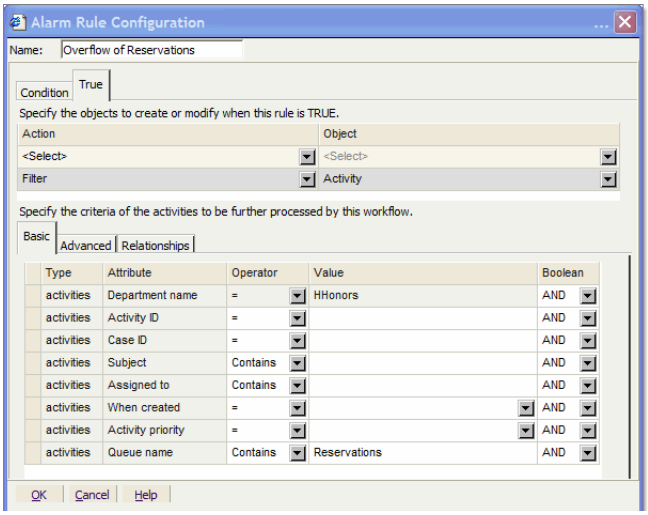
Create a workflow to monitor a queue to make sure that there are not more than five activities in the monitored queue for more than a minute. If the condition is met, the supervisor is notified.



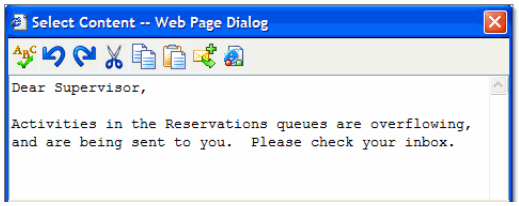
1. In the **Start** node, select the “Reservations” queue and set the schedule.
2. In the **Alarm** node (named as Overflow of reservations), set the following conditions.
   a. If the activity count is more than or equal to five, AND
   b. If the activity age is more than or equal to one minute.



Then, filter activities where the queue name contains the word “reservations”.

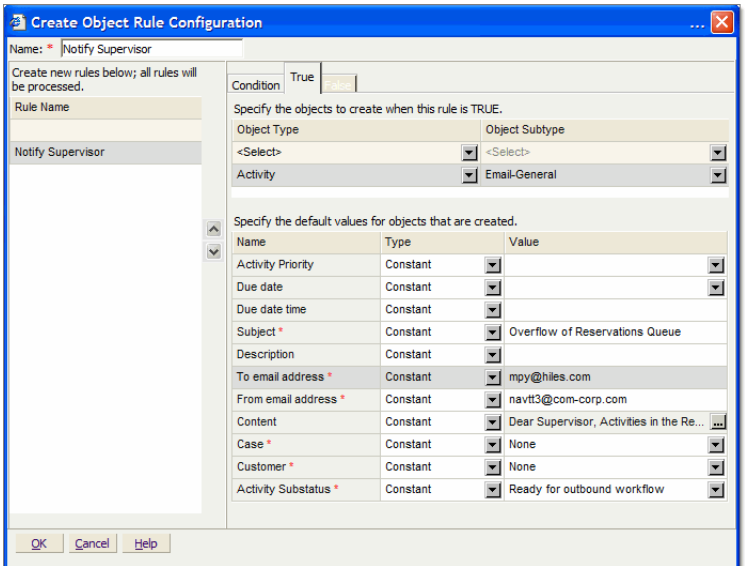


3. In the **Create object** node (named as Notify Supervisor), set a rule which is always true. In the True tab, create a new email activity with following attributes.
   a. Set the subject as “Overflow of Reservations Queue”.
   b. Set the “to” and “from” email addresses.
   c. Set the content of the activity.



d. Set the case and customer as “None”.

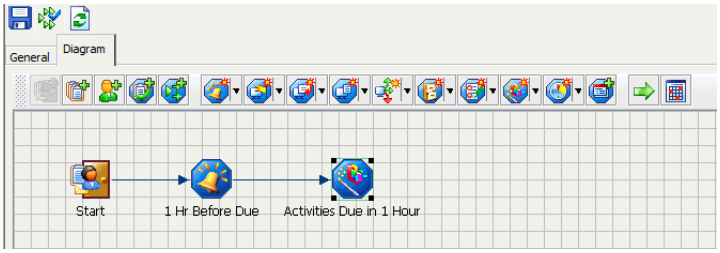
e. Set the activity substatus as “Ready for outbound workflow”.



4. Connect the nodes.

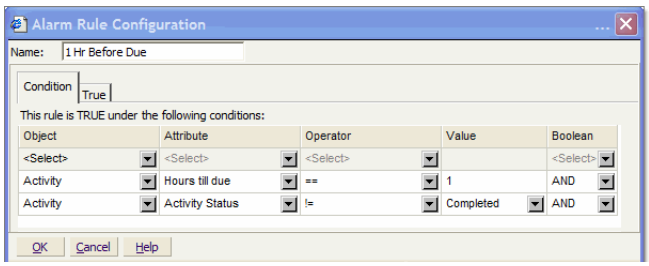
For monitoring activities that are about to be due in one hour

Create a workflow to check for activities that are about to be due in an hour and notify the administrator of the same.



1. In the **Start** node, select queues and set the schedule.
2. In the **Alarm** node (named as 1 Hr Before Overdue), set following conditions.
   a. If the activity is going to be due in an hour, AND
   b. If the activity status is not “Completed”

   Then, send notifications to supervisors.



3. In the **Create object** node (named as Activities Due in 1 Hour), create a rule which is always true. In the True tab, create a new activity and configure following attributes of the activity.

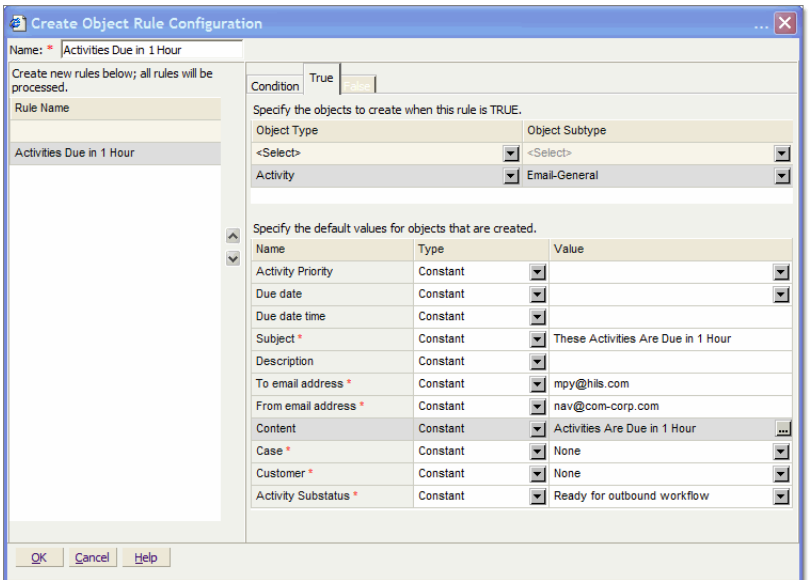
   a. Set the subject as “These Activities are due in 1 Hour”.

   b. Set the “from” and “to” email addresses.

   c. Set the content of the activity.

   d. Set the case and customer as “None”.

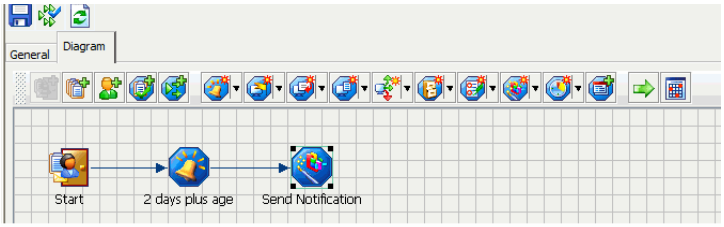
   e. Set the activity substatus as “Ready for outbound workflow”.



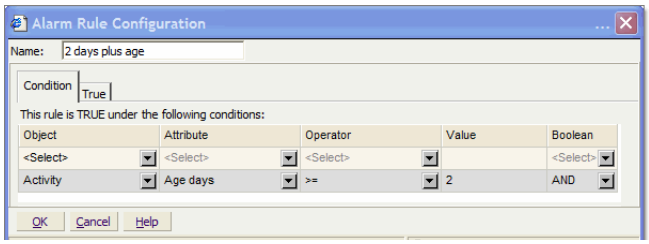
4. Connect the nodes.

For monitoring activities that are with an agent for more than two days

Create a workflow to check for activities that are with an agent for two days and notify the administrator of the same.

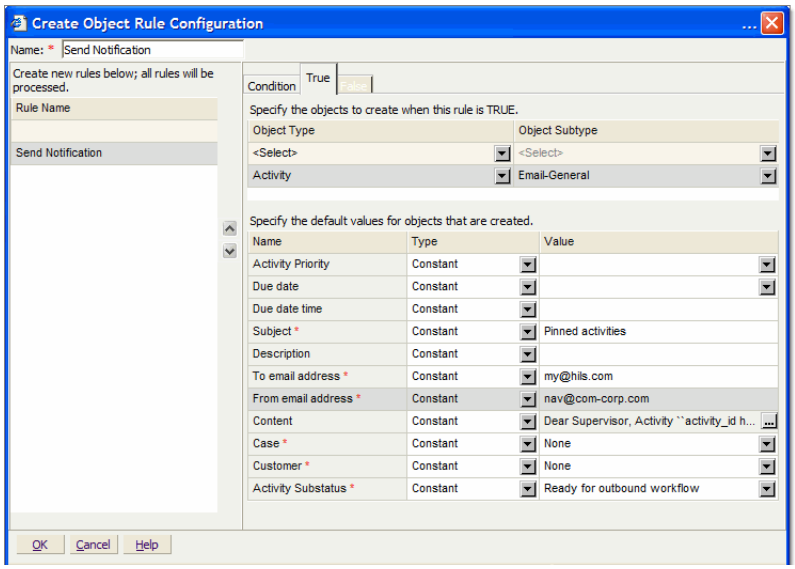


1. In the **Start** node, select queues and set the schedule.
2. In the **Alarm** node (named as 2 days plus age), set following conditions.
   - If the activity age is two days or more than two days, then filter such activities.



3. In the **Create object** node (named as Send Notification), create a rule which is always true. In the True tab, create a new email activity with following attributes.
   a. Set the subject as “Pinned activities”.
   b. Set the “to” and “from” email addresses.
   c. Set the content using the business macros – `activity_id` and `user_first_name.`

   d. Set the case and customer as “None”.
   e. Set the activity substatus as “Ready for outbound workflow”.



4. Connect the nodes.

9 Data links

- About data links
- Access links
- Usage links
- Usage link groups

In this chapter, we look at how the system can work with external sources of data with the help of the Data Adapter, which provides the ability to set up data links to connect to external sources.

About data links

Data adapters provide you with easy ways to integrate with external sources of information within the enterprise or on the web by setting up data links. It is a very flexible integration tool for accessing data from external sources such as a local and remote databases, HTTP or HTTPS services, etcetera. The accessed data is available through XML APIs for automated processing.

Data links are two-way connections—they can be used to display and process external information in Unified WIM and Unified EIM, as well as to extract and present Unified WIM and Unified EIM information in external applications.

Do you need data links?

The benefits of using the Data Adapter is manifold, but consider the following factors to evaluate the need to set up data links.

- Who owns the data?

  If an external system controls the reading and writing of data or if important data is in an external database, you are likely to need data links.

- Who is driving access to the data?

  If access to external data is through defined APIs, URLs, or web services, or if the protocol for information transfer is not open, you are likely to need data links.

- What is the nature of the data required in customer interactions?

  You are likely to need data links if interactions with customers require information that:

  - Is very customer-specific and not “global.”
  - Ages quickly, so that agents have to access data in real time.
  - Is used frequently.

How do data links work?

Data links are of two types:

1. Access links, which fetch data from the external source.
2. Usage links, which use the fetched data.

A working data-link connection typically involves:

- Creating a data access link to fetch data from the external source.
- Creating data usage links, which are made available to users to extract the data from the external sources. Multiple usage links can be grouped into one display using group usage links.

Where can you use data links?

Once the links are created, they can be used in the following places.

Workflows

- Usage links can be used to provide external data to make routing decisions.
- Data retrieved from usage links can be used in "IF" conditions and to update attributes of business objects.

Knowledge Base

- Usage links can be embedded in Knowledge Base articles.
- External information is retrieved and placed in the article body when the article is used by workflow for auto-replies or by agents when they compose response.
- Similar to Knowledge Base articles, usage links also support macros or keyboard short cuts.

Agent Console

- The Links section in the Agent Console Information pane lists the usage links that can be executed by an agent.
- Multiple usage links can be grouped into one display using group usage links.
- Agents can add the output of usage links to responses by clicking **Add to Reply** button, or by typing the macro name for the usage link in the Reply pane.

Access links

About access links

Important: **Only JDBC data links are available in the Basic Edition of Unified WIM and Unified EIM.**

Data access links are of five types:

- HTML link: The HTML link provides the mechanism to fetch data in HTML format from a web site using HTTP or HTTPS protocol. To configure an HTML link you need to have the URL from where you want to get information, login name, password, special character sets which may exist in the URL, Regular Expression to parse the HTML content and the request type of the URL. The main purpose of HTML links is to access web sites and extract data or display information that can be used as part of the agent communications and daily processes. Fetched data can be converted to structured form using regular expression matching or can be returned as it is.
- XML link: The XML link provides the mechanism to fetch data in XML format from a file or web applications using the HTTP or HTTPS protocol. To configure XML link you need to have the URL from where you want to get information, login name, password, special character sets that may exist in the URL, and the request type of the URL (Post or Get).

- Java link: The Java link provides a mechanism for custom data extraction and integration logic. This is a composite bridge with very broad functionality of data extraction implemented possibly via an EJB or Java object. The Java link provides the capability to execute any Java code, which can be used for fetching data or taking some action.

  Using Java links, Cisco applications can integrate with any third party applications. The only condition being that the third party has to have some Java classes so as to use this link.

- JDBC link: The JDBC link connects to databases to extract or to update data. This database can also be a third party database. To connect to a database it requires general information like DataSourceId, Max data to be extracted from this database and SQL Query to work on that data which can be either simple extraction or can be an upgrade of the current data.

- Web Service link: The Web Service link provides the mechanism to connect to a Web Service. To get information on connecting to the web service, a Web Service Description Language (WSDL) document is required, which acts as an interface to impart information about operations and the respective input and output parameters to execute those operations.

Working on access links involves:

- Creating access links: Creating access links is the first step in creating data adapters. Access links extract the data from the source.

- Testing access links: After creating the access links you can test them to ensure that they are working properly.

Managing HTML links

The HTML Link provides the mechanism to fetch data in HTML format from a web site, using HTTP or HTTPS protocol. To configure an HTML link you need to have the URL from where you want to get information, login name, password, special character sets which may exist in the URL, Regular Expression to parse the HTML content, and the request type of the URL. The main purpose of HTML links is to access web sites and extract data or display information that can be used as part of the agent communications and daily processes. Fetched data can be converted to structured form using regular expression matching or can be returned as it is.

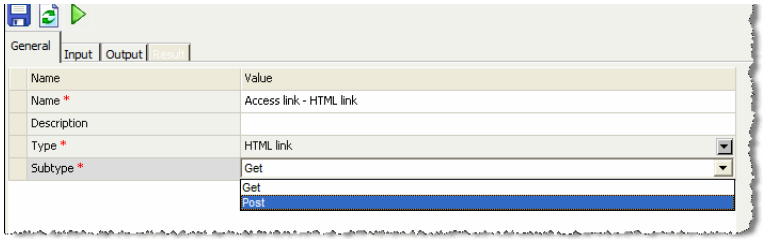
Creating HTML links

To create an HTML link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List Pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the HTML link.
   - **Description:** Type a brief description.
   - **Type:** From the dropdown list, select **HTML link.**

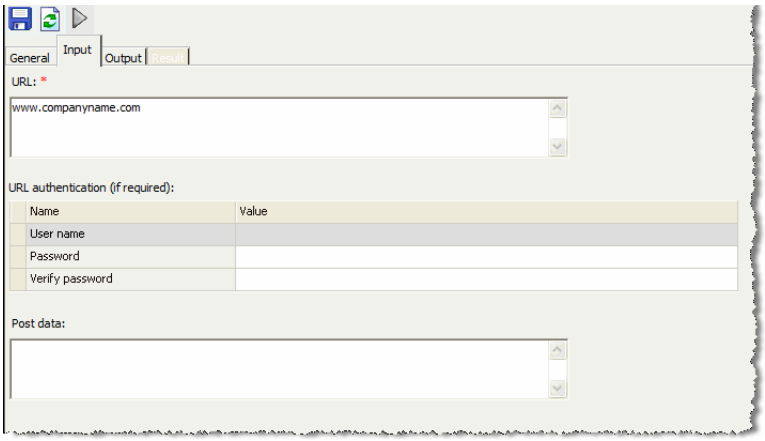
Important: **Once you save the HTML link, its type cannot be changed.**

- **Subtype:** Select the subtype. The options available are:
  - **Post**
  - **Get**



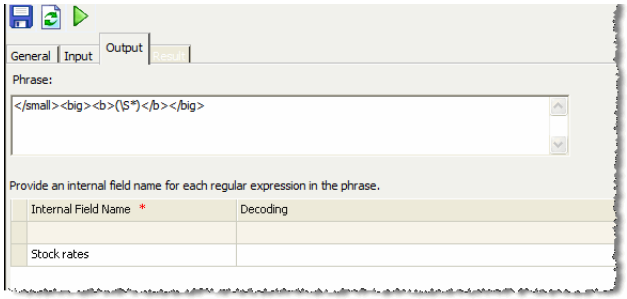
Set the general properties of an HTML access link

4. In the Properties pane, on the Input tab, provide the following details.
   - **URL:** Type the URL from where you want to extract data.
   - **URL authentication:** Provide the user name and password, if required.
   - **Post data:** Specify where you want the extracted data to be kept. This option is available only if you choose the subtype as **Post.**



Set the input properties

5. In the Properties pane, on the Output tab, provide the following details.
   - **Phrase:** Type a regular expression phrase to parse the data required. Regular Expressions (jakarta-oro) are used for parsing the HTML data, to extract the information. For detailed document on the same, click the link: http://jakarta.apache.org/oro/api/index.html.
   - **Internal Field Name:** Type the display name for the field in which the data is to be extracted.
   - **Decoding:** Data extracted can be decoded for security purposes.



Set the output properties

6. Click the **Save** button.

After creating the data access links, you can test them to see if they are created properly. It is highly recommended that you test your access links after creating them.

Testing HTML links

To test an HTML link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List pane, select the HTML link you want to test.
3. In the Properties pane toolbar, click the **Test data access link** button.
4. The Test Data Access Link window appears, where you enter the values for the input parameters of the link.

> Important: **The Test Data Access Link window appears only if any input parameter needs to be provided.**

The Result pane is enabled and here you can view the results. If there is anything wrong with the access link an error message is shown.

Examples of HTML links

Example one – Extract stock rates information from a website

In this example, we will see how to extract stock rates information from a website, using HTML data access link.

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name as *Stock rates.*
   - **Type:** Select the type as **HTML link**.
   - **Subtype:** Select the subtype as **Get**.
2. In the Properties pane, go to the Input tab and provide the following details.
   - **URL:** Type the URL *http://finance.yahoo.com/q?s=<%ticker_sym%>*

   The *<%variable%>* sets up the dynamic variable that needs a value every time this access link is executed.

3. Click the **Save** button.
4. Click the **Test data access link** button. The Test Data Access Link window appears.
5. In the Test Data Access Link window, type the ticker_sym as *IBM*.
6. In the Result tab, you will see the yahoo finance website showing the stock rate of IBM.

Example two – Extract stock rates information from a website and display results using regular expression phrases

Now we will see how to extract data from the HTML of a page by creating a regular expression phrase to parse the data required. In order to create a proper regular expression-matching phrase you have to look at the HTML of the page from where you are trying to extract the data. In the Result tab, right click on the Yahoo Finance page, and from the menu select View Source. In the HTML, search for the price of the stock, and look for the one, which seems simpler to create a regular expression matching. In this example we will use the regular expression: *</small><big>81.72</big>*. This regular expression will extract the price of the stock and assign it to an Internal Field Name, and display in a tabulated format.

We will continue with *example one*.

1. Select the *Stock rates* data access link that you created in Example one.
2. In the Properties pane, on the Output tab, provide the following details.
   - **Phrase:** Type the phrase *</small><big>(\S*)</big>*.
   - **Internal Field Name:** Type the name as *Stock price.*
3. Click the **Save** button.
4. Click the **Test data access link** button. The Test Data Access Link window appears.
5. In the Test Data Access Link window, type the ticker_sym as *IBM*.
6. In the Result tab you will see the stock price extracted from the website.

Example three – Extract stock rates information from a website and display results using regular expression phrases

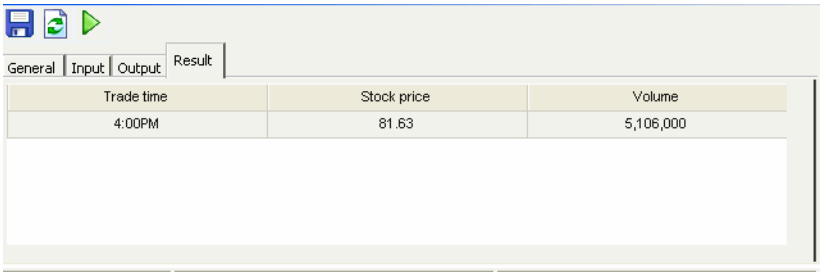
In this example, we will see how to extract multiple data from HTML.

We will continue with *example one*.

1. Select the *Stock rates* data access link that you created in *Example one.*
2. In the Properties pane, on the Output tab, provide the following details.
   - **Phrase:** Type the phrase:

     Last Trade:</td><td class="yfnc_tabledata1"><big><b>(\d\S\d*).*Trade Time:</td><td class="yfnc_tabledata1">(\d*\S\d*\S*).*\s.*Volume:</td><td class="yfnc_tabledata1">(\d*\S*\d*\S*\d).*
   - **Internal Field Name:** Type the names in the order:
     - Stock price
     - Trade time
     - Volume
3. Click the **Save** button.
4. Click the **Test data access link** button. The Test Data Access Link window appears.
5. In the Test Data Access Link window, type the ticker_sym as *IBM*.

   In the Result tab, you will see the stock price, trade time, and volume extracted from the website.



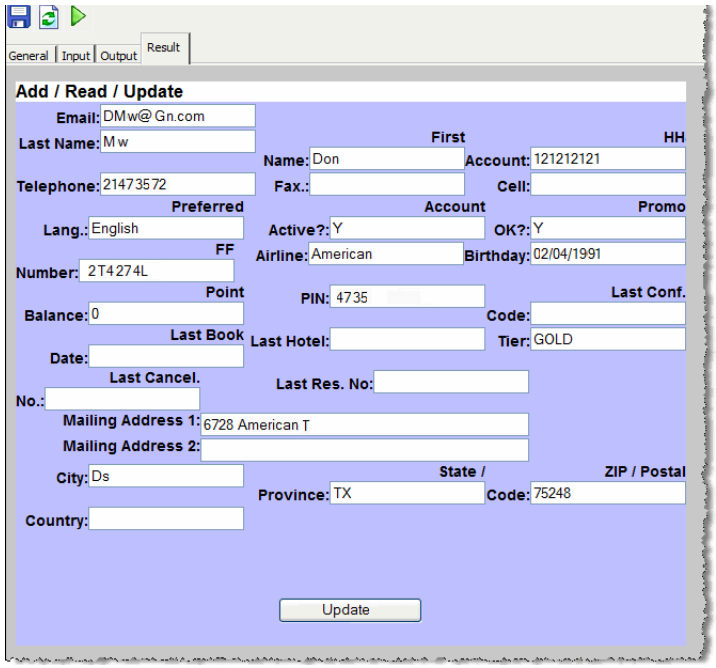
Example four – View, update, or add records to an external database

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name as *Stock rates.*

- **Type:** Select the type as **HTML link**.
- **Subtype:** Select the subtype as **Get**.

2. In the Properties pane, go to the Input tab and provide the following details.
   - **URL:** `http://`*Server_Name*`/hotel/`*Update_Record*`.asp?email=<%email%>`

   Where *Server_Name* is the name of the server where you have created the *Update_Record* ASP page.
3. Click the **Save** button.
4. Click the **Test data access link** button. The Test Data Access Link window appears.
5. In the Test Data Access Link window, type the email address which already exists in the external database, or provide a new email address.
6. In the Result tab, you will see a page which shows the current customer details or gives an option to add new customer information. You can either view the details, update them, or add new customer records.



Managing XML links

An XML link is a URL that returns an XML document. The request type of the URL can be “get” or “post”, and the URL can include parameterized values. The information contained in the returned XML document is parsed using XPath expressions.

Creating XML links

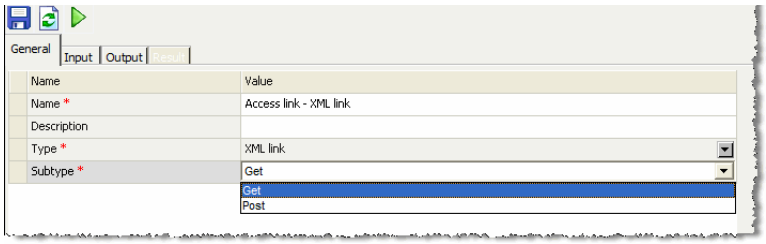
To create an XML Link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List Pane toolbar, click the **New** button.

3. In the Properties pane, on the General tab, and provide the following details.
   - **Name:** Type the name of the XML link.
   - **Description:** Type a brief description.
   - **Type:** From the dropdown list, select **XML link.**

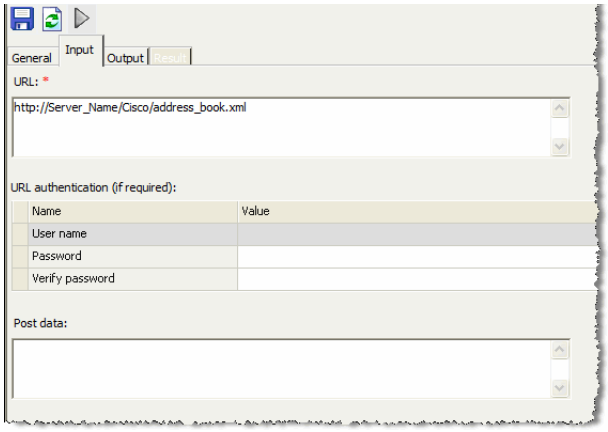
> Important: **Once you save the XML link, its type cannot be changed.**

   - **Subtype:** Select the subtype. The options available are:
     - **Post**
     - **Get**



Set the general properties

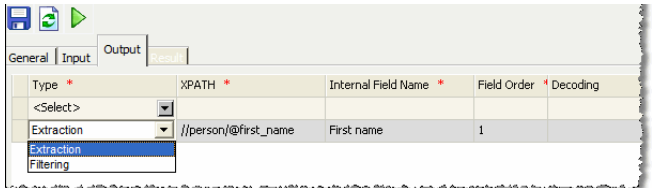
4. In the Properties pane, on the Input tab, provide the following details.
   - **URL:** Type the URL from where you want to extract data.
   - **URL authentication:** Provide the user name and password, if required.
   - **Post data:** Specify where you want the extracted data to be kept. This option is available only if you choose the subtype as **Post.**



Set the input properties

5. In the Properties pane, on the Output tab, provide the following details.
   - **Type:** Select the type from the dropdown list. The options available are:
     - **Extraction**
     - **Filtering**

- **XPATH:** Type the XPATH for the query. For more information on XPath Expressions, please visit the website: http://www.w3.org/TR/xpath
- **Internal Field Name:** Type the display name for the field in which the data is to be extracted. This field is disabled for type Filtering.
- **Field Order:** Specify the order in which you want the results to appear.
- **Decoding:** The data extracted can be decoded for security purposes.



Set the output properties

6. Click the **Save** button.

After creating the data access links you can test them to see if they are created properly. It is highly recommended that you test your access links after creating them.

Testing XML links

To test an XML link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List pane, select the XML link you want to test.
3. In the Properties pane toolbar, click the **Test data access link** button.
4. The Test Data Access Link window appears, where you enter the values for the input parameters of the link.

> Important: **The Test Data Access Link window appears only if any input parameter needs to be provided.**

The Result pane is enabled and here you can view the results. If there is anything wrong with the access link an error message is shown.

Examples of XML links

In this example, we will see how to create an XML data access link.

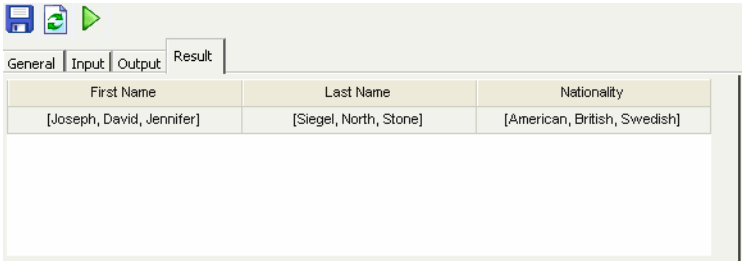
1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name as *XML example.*
   - **Type:** Select the type as **XML link.**
   - **Subtype:** Select the subtype as **Get.**
2. In the Properties pane, on the Input tab, provide the following details.
   - **URL:** Type the URL `http://`*Server_Name*`/Cisco/address_book.xml`

The XML file has the following data:

```
<address_book>
<person first_name="Joseph" last_name="Siegel" nationality="American">
<contact_details email="jsiegel@siegel.xyz" phone="(123)456-7890">
</contact_details>
</person>
<person first_name="David" last_name="North" nationality="British">
<contact_details email="dnorth@north.xyz" phone="(234)567-8901">
</contact_details>
</person>
<person first_name="Jennifer" last_name="Stone" nationality="Swedish">
<contact_details email="jstone@stone.xyz" phone="(345)678-9012">
</contact_details>
</person>
</address_book>
```

3. In the Properties pane, on the Output tab, provide the following details.
   - Select the type as Extraction. Type the XPATH as //person/@first_name and Internal Field Name as First name and specify the order in which it should appear.
   - Select the type as Extraction. Type the XPATH as //person/@last_name and Internal Field Name as Last name and specify the order in which it should appear.
   - Select the type as Extraction. Type the XPATH as //person/@nationality and Internal Field Name as Nationality and specify the order in which it should appear.
4. Click the **Save** button.
5. Click the **Test data access link** button.

   In the Result tab you will see the result extracted for the XML file.



Managing Java links

The Java link provides a mechanism for custom data extraction and integration logic. This is a composite bridge with very broad functionality of data extraction implemented possibly via an EJB or Java object. The Java link provides the capability to execute any Java code, which can be used for fetching data or taking some action.

Using Java links, Cisco applications can integrate with any third party applications. The only condition being that the third party has to have some Java classes so as to use this link.

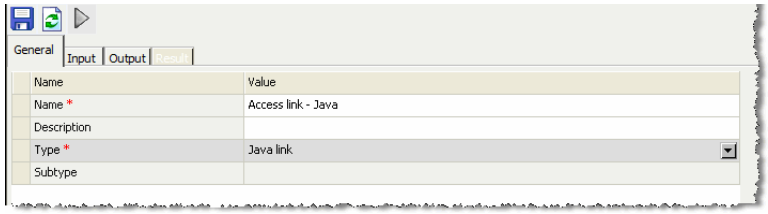
Creating Java links

To create a Java link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List Pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the Java link.
   - **Description:** Type a brief description.
   - **Type:** From the dropdown list, select **Java link.**

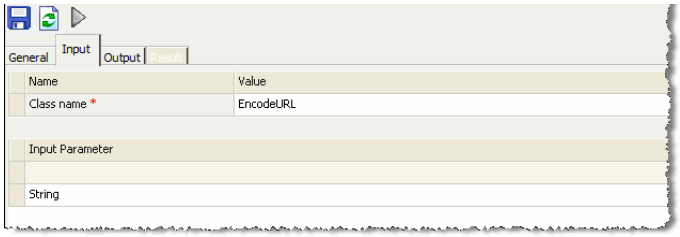
> Important: **Once you save the Java link, its type cannot be changed.**

   - **Subtype:** This option is disabled.



Set the general properties

4. In the Properties pane, on the Input tab, provide the following details.
   - **Class name:** Type the class name.
   - **Input parameter:** Specify the input parameters.



Set the input properties

5. In the Properties pane, on the Output tab, provide the following details.
   - **External Field Name:** Type the external field name.
   - **Internal Field Name:** Type the display name for the field in which the data is to be extracted.
   - **Decoding:** The data extracted can be decoded for security purposes.

Set the output properties

6. Click the **Save** button.

Important: **Java links cannot be tested.**

Examples of Java links

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name as *Java link example.*
   - **Type:** Select the type as **Java link.**
2. In the Properties pane, on the Input tab, provide the following details.
   - **Class name:** Type the class name as *EncodeURL.*
   - **Input parameter:** Specify the input parameters as *String*.
3. In the Properties pane, on the Output tab, provide the following details.
   - **External Field Name:** Type the external field name.
   - **Internal Field Name:** Type the display name for the field in which the data is to be extracted.
4. Click the **Save** button.

Managing JDBC links

This data adapter uses SQL queries or stored procedures to update or extract the data from a database. Query to be executed can be generated at runtime using application specific input fields. The raw data fetched will typically be in a Results Set or can optionally be put in XML format. This type of data adapter can access information residing in any JDBC-compliant data store.

Creating DSN entries for JDBC links

This section tells about how to add a new DSN entry for use in JDBC links. The DSN cannot be created from the UI, you need to modify the application connection pooling configuration file.

Before creating the DSN entry, you need to encrypt the password of the database user, which is required while creating the DSN entry.

Encrypting password

Before you create a DSN entry, you need to encrypt the password of the database user, which you are going to use to create the DSN entry.

To encrypt the password:

- From the DOS prompt, run the following command. In a distributed installation, run the command on the application server or the services server.

```
java -classpath CIM_Home\lib\int\
egpl_application_server.jar;CIM_Home\lib\int\
platform\egpl_tools.jar;CIM_Home\lib\ext\platform\
gnu-regexp-1.0.8.jar;CIM_Home\lib\ext\
platform\xerces.jar;CIM_Home\lib\ext\platform\
jaxp1.1.jar;CIM_Home\lib\ext\platform\log4j-1.2.9.jar com.egain.tools.platform.
password.EncryptPasswdsForConnPool CIM_Home Password
```

Where:

- *CIM_Home:* The name of the Cisco Interaction Manager installation directory.
- *Password:* The password of the database user.

When you run this command, you will get the encrypted password that you need to add in the connection pool object.

Creating DSN entries

To create a new DSN entry:

1. Browse to *\CIM_Home*`\config\dataaccess` and locate the `egpl_ds_connpool_map.xml` file.
2. Open this file in a text editor.
3. In the partitions list, locate the partition for which you want to make this DSN available. Once you find the partition, insert the following lines just above the `</partition>` line. If the custom connection pool section already exists, then just add the DSN object information to it.

```
<custom_conn_pool>
<ds name="DS_Name">
<connpool name="DB_Connection_Pool_Name"/>
</ds>
</custom_conn_pool>
```

   Where:

   - *DS_Name:* The data source name of the database.
   - *DB_Connection_Pool_Name:* The database connection pool name of the database.

4. Next, search for `</conn_pool_list>` and insert the following connection pool definition before it.

```
<connpool name="DB_Connection_Pool_Name" active="y">
<Type>basic</Type>
<CapacityIncrement>2</CapacityIncrement>
<DriverName>Driver_Name</DriverName>
<InitialCapacity>1</InitialCapacity>
```

```
<MaxCapacity>30</MaxCapacity>
<User>User_Name</User>
<Password>Encrpypted_Password</Password>
<Url>URL</Url>
<Targets></Targets>
<Vendor>Vendor_Name</Vendor>
<DriverVendor></DriverVendor>
<TableName>Table_Name</TableName>
</connpool>
```

Where:

- *DB_Connection_Pool_Name:* Name of the connection pool. It should match the connection pool name provided in Step 3.
- *Driver_Name*: Java class name for the JDBC driver. For example, `com.microsoft.jdbc.sqlserver.SQLServerDriver`
- *User_Name*: User name of the user who can access the database.
- *Encrpypted_Password:* Encrypted password for the user. For details, see "Encrypting password" on page 311.
- *URL:* URL to the database sever. For example, `jdbc:microsoft:sqlserver://Server:1433`
- *Vendor_Name:* The type of database. For example, Oracle or MS SQL.
- *Table_Name:* Name of the table, which exists in the database. This is used by the system to validate that it is indeed connected to a valid database, by making sure that this table exists in the database. As a best practice, this table should contain only one row.

5. Save the file.
6. Stop and start Cisco Unified Web and E-Mail Interaction Manager. The newly added DSN can now be used for creating the JDBC data access links.

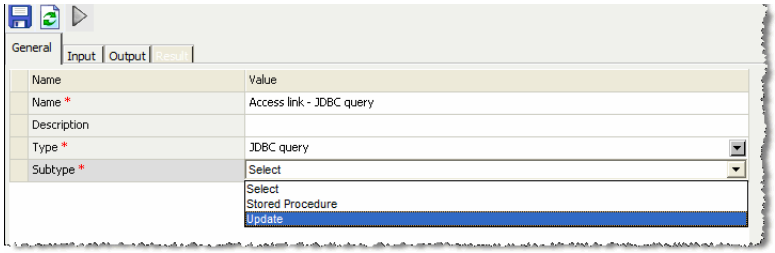
Creating JDBC links

To create a JDBC link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List Pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC query link.
   - **Description:** Type a brief description.
   - **Type:** From the dropdown list, select **JDBC query**.
   - **Subtype:** Select the subtype. The options available are:
     - **Select**
     - **Stored procedure**

- **Update**

Important: Once you save the JDBC link, its type and subtype cannot be changed.



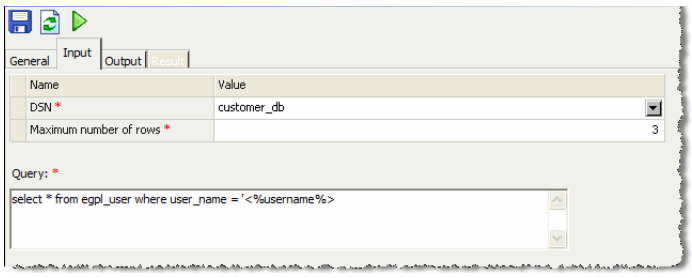
Set the general properties

4. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** The data source name (DSN), provides all the connection information (server name, port number, user name, password, driver) to successfully connect to the database. From the dropdown select the DSN. The options available are:
     - **customer_db**
     - **master_db**
     - **mail_db**
     - **archive_db**
     - **archive_app_db**
     - **knowledge_db**

     These are the data source names that the installation program creates as part of the deployment. You can add DSN entries to this list. For details, "Creating DSN entries for JDBC links" on page 311.
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.

Important: This option is available for Select type of JDBC query only.

   - **Query:** Type the JDBC query to be used for retrieving the data. If you are accessing unicode data (For example, Japanese, Chinese, Western European, etc.), you must make sure that you use the N prefix in queries. For example, `select * from Customer_Data where C_Name like N',Ð,ë,µ'`



Set the input properties

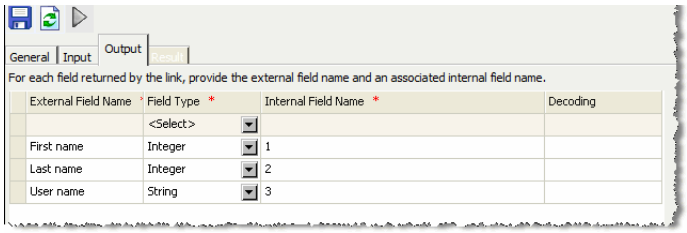
5. In the Properties pane, on the Output tab, provide the following details.

Important: **The output tab is disabled for update type of JDBC query.**

- **External Field Name:** Type the exact names of the columns in the database table.
- **Field Type:** From the dropdown list, select the field type. The options available are:
  - **String**
  - **Integer**

Important: **This option is available only for the stored procedure type of JDBC query.**

- **Internal Field Name:** Type the display name for the field in which the data is to be extracted.
- **Decoding:** Data extracted can be decoded for security purposes.



Set the output properties

6. Click the **Save** button.

After creating the data access links you can test them to see if they are created properly. It is highly recommended that you test your access links after creating them.

Important: **Only the Select type of JDBC link can be tested. You can't test the Update and Stored procedure types of JDBC links.**

Testing JDBC links

To test a JDBC link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List pane, select the JDBC link you want to test.
3. In the Properties pane toolbar, click the **Test data access link** button.

   The Test Data Access Link window appears, where you enter the values for the input parameters of the link.

Important: **The Test Data Access Link window appears only if any input parameter needs to be provided.**

The Result pane is enabled and here you can view the results. If there is anything wrong with the access link an error message is shown.

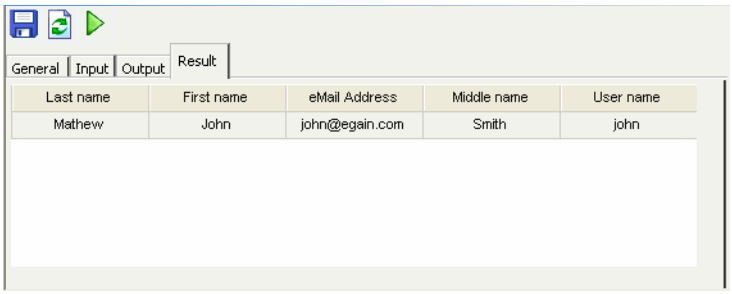
Examples of JDBC links

Example one – Extract user details from the egpl_user table

1. In the Properties pane, on to the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     *select * from egpl_user where user_name = '<%username%>'*

     This query retrieves all columns for a specified user from the user table.
3. In the Properties pane, on the Output tab, provide the following external field names and internal field names.
   - user_name, User Name
   - first_name, First Name
   - middle_name, Middle Name
   - last_name, Last Name
   - email_address_primary, Email Address
4. Click the **Save** button.
5. Click the **Test data access link** button. The Test Data Access Link window appears.
6. In the Test Data Access Link window, type your user name. In the Result tab, you will see the detailed user information.



Example two

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Stored Procedure.
2. In the Properties pane, on the Input tab, provide the following details.

- **DSN:** From the dropdown select the data source name as customer_db.
- **Maximum number of rows:** This field is disabled.
- **Query:** Specify the following SQL query.

  ```
  { ? = call egpl_f_get_sequence ( '<%input_bridge_name%>' , ? , ?  ) }
  ```

  In the query, question marks (?) denote output parameters, and `egpl_f_get_sequence` is the name of the stored procedure.

3. In the Properties pane, on the Output tab, provide the external field names and internal field names for the output parameters used in the query provided in the Input tab. The fields have to be configured in the sequence the output parameters occur in the query provided in the Input tab.
4. Click the **Save** button.

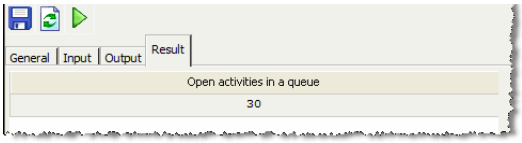
Example three – Count open activities in a queue

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     select count (*) 'ActiveInQueue' from EGPL_CASEMGMT_ACTIVITY a,
     EGPL_ROUTING_QUEUE q where a.queue_id = q.queue_id and q.queue_name =
     'Queue_Name'and a.activity_status <> 9000
     ```

     This query lists the number of open activities in a queue.
3. In the Properties pane, on the Output tab, provide the following external field names and internal field names.
   - ActiveInQueue, Open activities in a queue
4. Click the **Save** button.
5. Click the **Test data access link** button.

   In the Result tab, you can view the number of open activities in the queue.



Example four – Extract customer information from a custom table

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.

- **Subtype:** Select the subtype as Select.

2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     select * from Custom_Table where email='<%customer_email%>'
     ```

     This query fetches customer information from the custom table.
3. In the Properties pane, on the Output tab, provide the external and internal field names for all the columns to be extracted.
4. Click the **Save** button.
5. Click the **Test data access link** button. The Test Data Access Link window appears.
6. In the Test Data Access Link window, type the email address of the customer.

   In the Result tab, view the customer details.

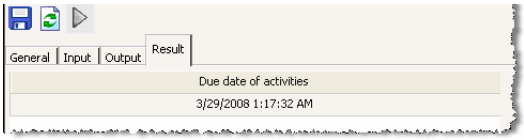
Example five – Get due date of activities

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     select due_date from EGPL_CASEMGMT_ACTIVITY where activity_id = <%activity%>
     ```

     This query fetches the due date of an activity.
3. In the Properties pane, on the Output tab, provide the following external and internal field names.
   - due_date, Due date of activities
4. Click the **Save** button.
5. Click the **Test data access link** button. The Test Data Access Link window appears.
6. In the Test Data Access Link window, type the activity ID.

   In the Result tab, you can see the due date of the activity.



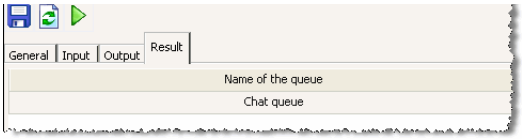
Example six – Get the name of the queue to which an activity belongs

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     select queue_name from egpl_routing_queue q, egpl_casemgmt_activity a where
     a.queue_id = q.queue_id and activity_id = <%activity%>
     ```

     This query fetches the name of the queue to which an activity belongs.
3. In the Properties pane, on the Output tab, provide the following external and internal field names.
   - queue_name, Name of the queue
4. Click the **Save** button.
5. Click the **Test data access link** button. The Test Data Access Link window appears.
6. In the Test Data Access Link window, type the activity ID.

   In the Result tab, you can see the name of the queue to which the activity belongs.



Example seven – Get the list of activities overdue by one hour or more than one hour

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

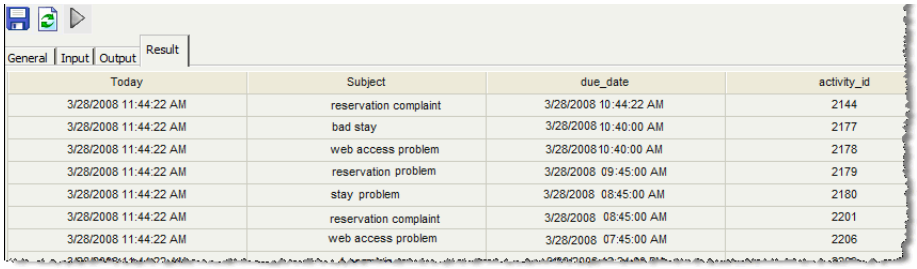
     ```
     select activity_id, Subject, due_date, GETDATE() 'Today' from
     EGPL_CASEMGMT_ACTIVITY where due_date <> '' AND DATEDIFF(HH, getdate(),
     due_date) <= -1 AND activity_status <> 9000
     ```

     This query fetches the list of activities overdue by one hour or more than one hour.
3. In the Properties pane, on the Output tab, provide the following external and internal field names.
   - activity_id, Activity ID
   - due_date, Due date

- Subject, Subject
- Today, Today's date

4. Click the **Save** button.
5. Click the **Test data access link** button.

   In the Result tab, you can see the list of activities overdue by one hour or more than one hour.



Today	Subject	due_date	activity_id
3/28/2008 11:44:22 AM	reservation complaint	3/28/2008 10:44:22 AM	2144
3/28/2008 11:44:22 AM	bad stay	3/28/2008 10:40:00 AM	2177
3/28/2008 11:44:22 AM	web access problem	3/28/2008 10:40:00 AM	2178
3/28/2008 11:44:22 AM	reservation problem	3/28/2008 09:45:00 AM	2179
3/28/2008 11:44:22 AM	stay problem	3/28/2008 08:45:00 AM	2180
3/28/2008 11:44:22 AM	reservation complaint	3/28/2008 08:45:00 AM	2201
3/28/2008 11:44:22 AM	web access problem	3/28/2008 07:45:00 AM	2206

Example eight – Get the list of activities that are about to be due in one hour

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.
   - **Type:** Select the type as JDBC query.
   - **Subtype:** Select the subtype as Select.
2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Maximum number of rows:** Specify the maximum number of rows the query should extract.
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     select activity_id, Subject, due_date, GETDATE() 'Today' from
     EGPL_CASEMGMT_ACTIVITY where due_date <> '' AND DATEDIFF(HH, getdate(),
     due_date) <= 1 AND DATEDIFF(HH, getdate(), due_date) >= 0 AND
     activity_status <> 9000
     ```

     This query fetches the list of activities that are about to be due in one hour.
3. In the Properties pane, on the Output tab, provide the following external and internal field names.
   - activity_id, Activity ID
   - due_date, Due date
   - Subject, Subject
   - Today, Today's date
4. Click the **Save** button.
5. Click the **Test data access link** button.

   In the Result tab, you can see the list of activities that are about to be due in one hour.

Example nine – Get customer's first name from a custom table, and update a custom column

1. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the JDBC link.

- **Type:** Select the type as JDBC query.
- **Subtype:** Select the subtype as Update.

2. In the Properties pane, on the Input tab, provide the following details.
   - **DSN:** From the dropdown select **customer_db.**
   - **Query:** Specify the SQL query to retrieve the data.

     ```
     update EGPL_CASEMGMT_ACTIVITY set custfn=(select firstname from Custom_Table
     where LOWER(email) =LOWER( '<%email%>')) where activity_id = <%activity_id%>
     ```

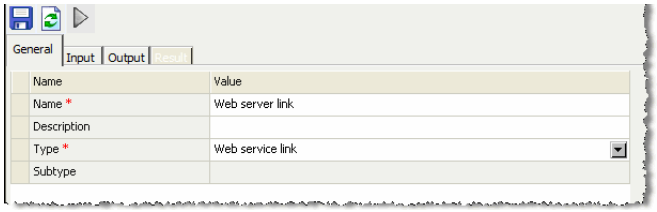
     This query gets the customer's first name from a custom table and updates a custom column (`custfn`) in the `EGPL_CASEMGMT_ACTIVITY` table.
3. Click the **Save** button.

Creating web service links

Web Service links provide the mechanism to connect to a Web Service. To get information on connecting to the web service, a Web Service Description Language (WSDL) document is required, which acts as an interface to impart information about operations and the respective input and output parameters to execute those operations.

To create a web service link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List Pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name for the web service link.
   - **Description:** Type a brief description.
   - **Type:** Select **Web service link** from the dropdown list.
   - **Subtype:** This option is disabled.



Set the general properties

4. In the Properties pane, on the Input tab, provide the following details.
   - **WSDL document:** Type the path for the Web Service Description Language document you want to refer to.
   - **Operation Name:** Select the operation you want to perform.

     Depending on your selection in the **Operation name** field, the input parameters and input parameter types are displayed.
   - **Input Parameter:** Select the parameter you want to pass.

- **Input Parameter Type:** Select the input parameter type.

5. In the Properties pane, on the Output tab, the external field names and types are displayed based on the operation selected from the WSDL document. For each field returned by the link, enter the field name and an associated field name to be used within the Cisco solution.
6. Click the **Save** button.

Deleting access links

To delete an access link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Access > Links.**
2. In the List pane, select an access link.
3. In the List pane toolbar, click the **Delete** button.
4. A message appears asking to confirm the deletion. Click **Yes** to delete the usage link group.

Important: **If the access link is being used in a usage link it will not get deleted. To be able to delete it, first remove it from the usage link.**

Usage links

About usage links

After you have created access links, you can define the display format of the fetched data.

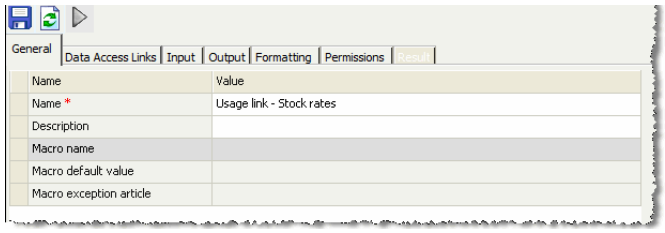
One or more access links of same or different types can be used in one usage link. For example, “Customer Value” can be accessed through a Web Services Link, “Number of Open Orders” can be accessed through a JDBC Link, and “Number of Purchases over last five years” can be accessed through an XML Link. Information collected from these three links of different types can then be displayed through one usage link. The “Customer Identification” will be passed as a run-time parameter to all three access links.

Creating usage links

To create a usage link:

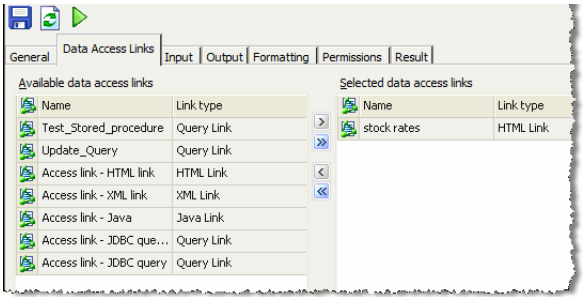
1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the usage link.

- **Description:** Type a brief description.



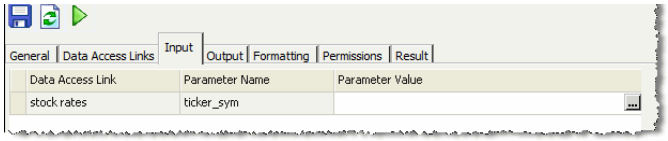
Set the general properties

4. In the Properties pane, on the Data Access Links tab, select the data access links.



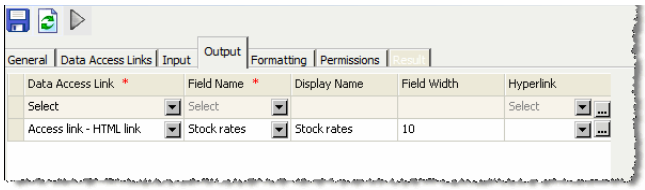
Select the data access links

5. In the Properties pane, the Input tab shows all the input parameters configured for the data access links selected in the Data Access Links tab. Here, you can pre-determine values for some or all available parameters. You can create different usage links from the same access link, and just change the value of the input parameters here, to get different answers.



Set the input properties

6. In the Properties pane, on the Output tab, provide the following details.
   - **Data Access Link:** From the dropdown list, select the data access link.
   - **Field Name:** From the dropdown list, select the field name.
   - **Display Name:** Type the display name for the field in which the data is to be extracted.
   - **Field Width:** Specify the width of the field.
   - **Hyperlink:** Set the hyperlink.



Set the output properties

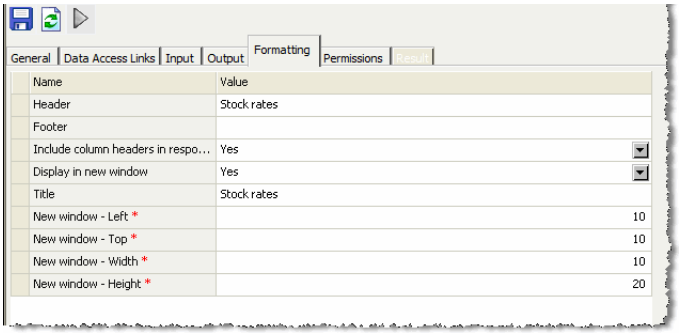
7. Click the **Save** button.

Configuring display of results

After you have created the usage link, you can configure how the results should appear in the Agent Console.

To configure the display of results:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List Pane toolbar, select a usage link.
3. In the Properties pane, on the Formatting tab, provide the following details.
   - **Header:** Specify a header for the results.
   - **Footer:** Specify a footer for the results.
   - **Include column headers in response:** With this option, you can specify that when the agents adds the results of a usage link to the Reply pane, the header and footer of the result will be added to the response or not. By default it is disabled. Select **Yes** to enable it.
   - **Display in new window:** Choose whether you want the results to be displayed in a new window or not.
   - **Title:** Specify the title of the popup window.
   - **New window - Left:** Location of the new window from the left of the screen measured in pixels.
   - **New window - Top:** Location of the new window from the top of the screen measured in pixels.
   - **New window - Width:** The width of the new window measured in pixels.
   - **New window - Height:** The height of the new window measured in pixels.



Set the formatting

4. Click the **Save** button.

Testing usage links

After creating the usage links you can test them to see if they are created properly. It is highly recommended that you test your links after creating them.

To test the usage link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List pane, select the usage link you want to test.

3. In the Properties pane toolbar, click the **Test data usage link** button.

   The Test Data Usage Link window appears, where you enter the values for the input parameters of the link. The Result pane is enabled and here you can view the results.

Important: **The Test Data Usage Link window appears only if any input parameter needs to be provided.**

Creating macros

To create a macro:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List Pane, select a usage link.
3. In the Properties pane, on the General tab, provide the following details.
   - **Macro name:** Type a name for the macro.

Important: **A macro name cannot contain spaces, or any of the following characters: < ` , . ? : ; & " ' !**

   - **Macro default value:** Type the default value of the macro. When the macro is expanded, and the macro does not have any content, the default value of the macro is used. The default content should be adequate enough to represent the original content.
   - **Macro exception article:** In the field, click the **Assistance** button. The Select Article window appears. In the window select the exception article and click the **OK** button. If any error occurs while expanding the macro, the exception article is used. It ensures that if for any reason the macro does not expand, the customer is shown some alternate text, and not an error message.

Assigning permissions on usage links

After creating the data usage links, the next most important step is to give permissions to the users to access the data usage links. The user who creates the data usage link does not get the execute and delete permissions automatically. You have to assign these permissions to yourself to be able to execute or delete the data usage link. If you need to add the usage links as macros to other usage links, you need to have the execute permissions.

To assign permissions:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List pane, select the usage link on which you want to give permissions.
3. In the Properties pane, on the Permissions tab, assign the following permissions to users and user groups:
   - Own
   - View

- Edit
- Delete
- Execute: Users with execute permissions are the only ones who can use the usage links. You must give this permission to all the users who should have access to the usage links.

4. Click the **Save** button.

Deleting usage links

To delete a usage link:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Links.**
2. In the List pane, select a usage link.
3. In the List pane toolbar, click the **Delete** button.

Important: **The Delete button is enabled only if you have the delete permission on the usage link group.**

4. A message appears asking to confirm the deletion. Click **Yes** to delete the usage link group.

Important: **If the usage link is used in a usage link group, it cannot be deleted. To be able to delete it, first remove it from the usage link group.**

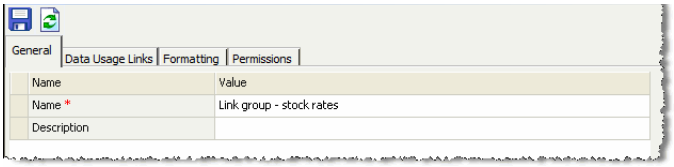
Usage link groups

Creating usage link groups

Link groups are a combination of one or many usage links.

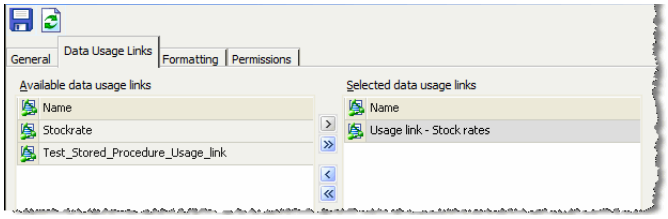
To create a link group:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Link Groups.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the usage link group.
   - **Description:** Type a brief description.



Set the general properties

4. In the Properties pane, on Data Usage Links tab, select the data usage links.



Select the data usage links

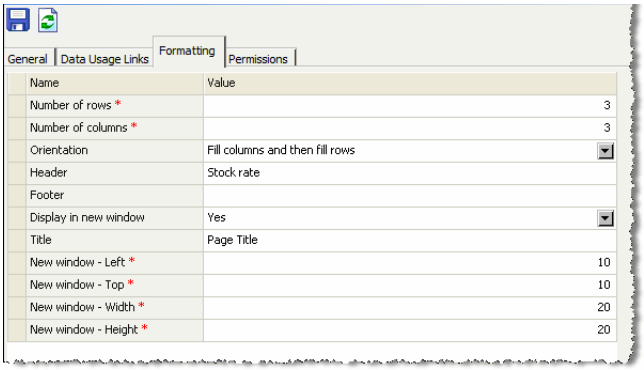
5. Click the **Save** button.

Configuring the display of results

After you have created the usage link group, you can configure how the results should appear in the Agent Console.

To configure the display of results:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Link Groups.**
2. In the List Pane toolbar, select a usage link group.
3. In the Properties pane, on the Formatting tab, provide the following details.
   - **Number of rows:** Specify the number of rows you want in the results page when you run the link.
   - **Number of columns:** Specify the number of columns you want in the results page when you run the link.
   - **Orientation:** From the dropdown list, select the orientation. The options available are:
     - **Fill rows and then fill columns**
     - **Fill columns and then fill rows**
   - **Header:** Specify a header for the results.
   - **Footer:** Specify a footer for the results.
   - **Display in new window:** Choose whether you want the results to be displayed in a new window or not.
   - **Title:** Specify the title of the new window.
   - **New window - Left:** Location of the new window from the left of the screen measured in pixels.
   - **New window - Top:** Location of the new window from the top of the screen measured in pixels.
   - **New window - Width:** The width of the new window measured in pixels.
   - **New window - Height:** The height of the new window measured in pixels.



Set the formatting

4. Click the **Save** button.

Assigning permissions on usage link groups

After creating the data usage link groups, the next most important step is to give permissions to the users to access the data usage link group. The user who creates the data usage link group does not get the execute and delete permissions automatically. You have to assign these permissions to yourself to be able to execute or delete the data usage link group.

To assign permissions:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Link Groups.**
2. In the List pane, select the usage link group on which you want to give permissions.
3. In the Properties pane, on the Permissions tab, assign the following permissions to users and user groups:
   - Own
   - View
   - Edit
   - Delete
   - Execute: The users with execute permissions are the only ones who can use the usage link groups. You must give this permission to all the users who should have access to the usage link groups.
4. Click the **Save** button.

Deleting usage link groups

To be able to delete the usage link group, you need to have delete permissions on it. The user who creates the usage link does not get this permission automatically. You have to give delete permissions to yourself, to be able

to delete the usage link group. For information on how to give permissions see section on "Assigning permissions on usage link groups" on page 328.

To delete a usage link group:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Integration > Adapters > Data > Usage > Link Groups.**
2. In the List pane, select a usage link group.
3. In the List pane toolbar, click the **Delete** button.

Important: **The Delete button is enabled only if you have delete permission on the usage link group.**

4. A message appears asking to confirm the deletion. Click **Yes** to delete the usage link group.

10 Classifications

- About classifications
- Managing categories
- Managing resolution codes

This chapter will assist you in understanding what classifications are and how to configure them.

About classifications

Classification is a systematic arrangement of resources comprising of categories and resolution codes. You can create and assign classifications to incoming activities or to knowledge base articles. Classifications are of two types:

- Categories
- Resolution codes

Categories and resolution codes can be assigned to incoming activities in two ways:

- Manually, from the Agent Console
- Automatically, through workflows

Managing categories

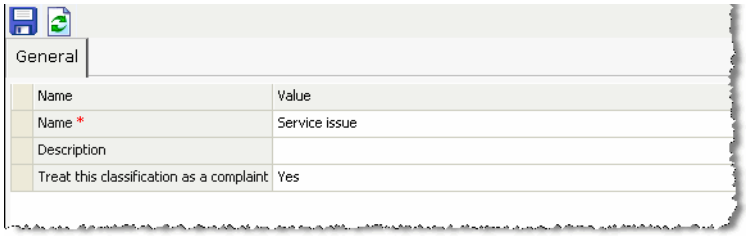
Categories are keywords or phrases that help you keep track of different types of activities. This section talks about:

- Creating categories on page 331
- Deleting categories on page 332

Creating categories

To create a category:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Classifications > Categories.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the category.
   - **Description:** Provide a brief description.
   - **Treat the classification as a complaint:** Select **Yes** to create a complaint type of category.



Set general properties

4. Click the **Save** button.

Deleting categories

To delete a category:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Classifications > Categories.**
2. In the List pane, select the category you want to delete.
3. In the List pane toolbar, click the **Delete** button.

Managing resolution codes

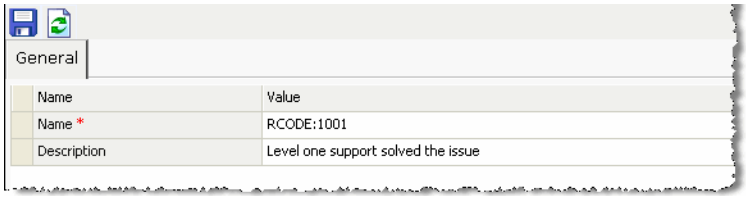
Resolution codes are keywords or phrases that help you keep track of how different activities were fixed. This section talks about:

- Creating resolution codes on page 332
- Deleting resolution codes on page 333

Creating resolution codes

To create a resolution code:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Classifications > Resolution Codes.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the resolution code.
   - **Description:** Provide a brief description.



Set general properties

4. Click the **Save** button.

Deleting resolution codes

To delete a resolution code:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Classifications > Resolution Codes.**
2. In the List pane, select the resolution code you want to delete.
3. In the List pane toolbar, click the **Delete** button.

11 Dictionaries

- About dictionaries
- Choosing a default dictionary
- Creating dictionaries

This chapter will assist you in understanding what dictionaries are and how to configure them.

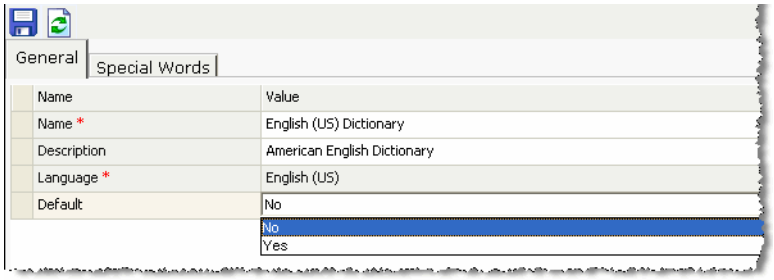
About dictionaries

Dictionaries refer to a list of words stored in the system for reference. Agents use dictionaries to check spellings in outgoing emails. Each department comes with 12 predefined dictionaries and one of them is configured as the default dictionary. A department can have only one default dictionary and it can be changed according to the business requirements.

Choosing a default dictionary

To choose a default dictionary:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Dictionaries.**
2. In the List pane, select a dictionary.
3. In the Properties pane, on the General tab, in the **Default** field, choose **Yes** from the drop down list.



Set a dictionary as the default dictionary for a department

4. Click the **Save** button.

Creating dictionaries

You can also create your own dictionary and store words in it and you can make this as the default dictionary for your department.

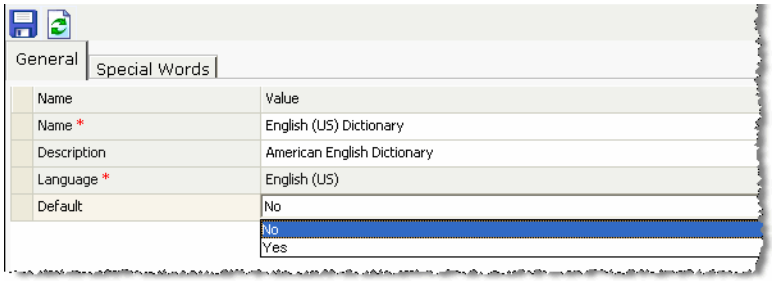
To create a new dictionary:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Dictionaries.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Provide the name of the dictionary.
   - **Description:** Provide a brief description.

- **Language:** From the drop down list, select a language for the dictionary.

Click the **Save** button to enable the **Default** field.

- **Default:** Select **Yes** to make this the default dictionary of the department.



Configure the general properties

4. Click the **Save** button.

12 Macros

- About macros
- Creating business object macros
- Creating combination macros
- Deleting macros

This chapter will assist you in understanding what macros are and how to configure them.

About macros

Macros are commands that fetch stored content. They are easy to use, and display the actual content, when expanded. Macros enable you to enter a single command to perform a series of frequently performed actions. For example, you can define a macro to contain a greeting for email replies. Instead of typing the greeting each time, you can simply use the macro.

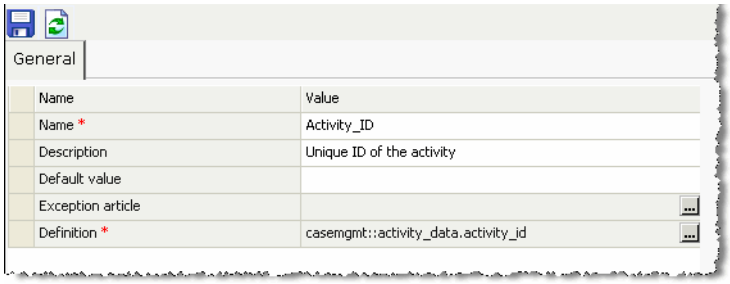
You can create two types of macros:

1. Business Objects macros: In Business Objects you can create macros for several objects. For example, Activity data, Customer data, User data, etc. You have to define an attribute to a macro from the list of system provided attributes. Please note that you can define only a single attribute for each macro.
2. Combination macros: In Combination Macros you can create macros with multiple descriptions. That is, you can combine multiple macros within a single macro. Multiple macros can be selected from both Business Objects and Combination macro types.

Creating business object macros

To create a business object macro:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Macros > Business Objects >** *Business Object Name.*
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type a name for the macro.
   - **Description:** Provide a brief description.
   - **Default value:** Provide the default value for the macro.
   - **Exception article:** Click the **Assistance** button and from the Select Article window, select the exception article for the macro.
   - **Definition:** Click the **Assistance** button and from the Select Attribute window, select the attribute that defines this macro. Please note that for any date attributes (for example, case creation date), dates are displayed in the GMT timezone.



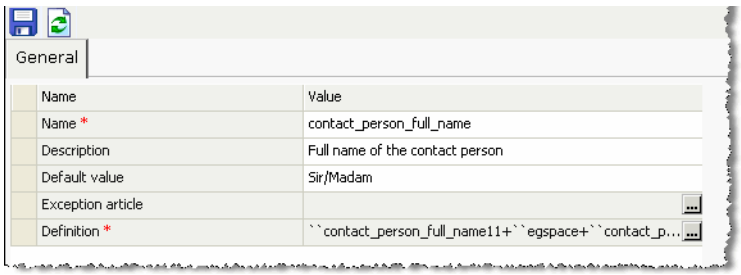
Set general properties

4. Click the **Save** button.

Creating combination macros

To create a combination macro:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Macros > Combinations.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the macro.
   - **Description:** Provide a brief description.
   - **Default value:** Provide the default value for the macro.
   - **Exception article:** Click the **Assistance** button and from the Select Article window, select the exception article for the macro.
   - **Definition:** Click the **Assistance** button and from the Select Definition window, select the attributes that define this macro.



Set general properties

4. Click the **Save** button.

Deleting macros

To delete a macro:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Macros.**
2. Select the type of macro you want to delete.
3. In the List pane, select the macro you want to delete.
4. In the List pane toolbar, click the **Delete** button.

13 Products

- About products
- Creating product catalogs
- Deleting product catalogs

This chapter will assist you in understanding what product catalogues are and how to configure them.

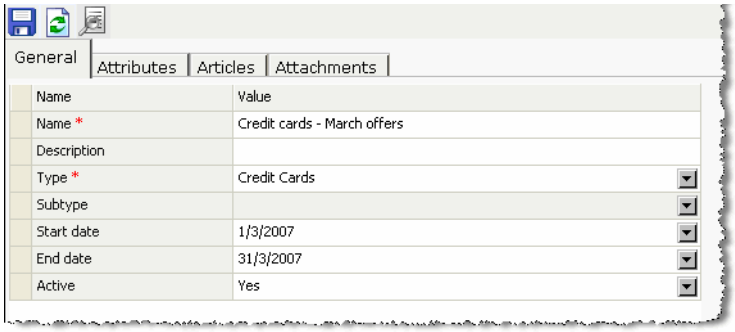
About products

You can associate products from the product catalog in the system with customers in a department. A product catalog enables you to have a handy reference of your products within the system. You can configure the system to list your product catalogs with customized articles and attachments. A product catalog is a complete enumeration of items (products) arranged systematically with descriptive details.

Creating product catalogs

To create a product catalog:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Products.**
2. In the List pane toolbar, click the **New** button.
3. In the Properties pane, on the General tab, provide a name and description for the product catalog.



Set general properties

4. Click the Attributes tab to add more details about the product.
5. The Articles tab enables you to select an article from the Knowledge base.
6. The Attachments tab allows you to add attachments to the product catalog.
7. Click the **Save** button.

Deleting product catalogs

To delete a product catalog:

1. In the Tree pane, browse to **Administration > Department >** *Department_Name* **> Products.**
2. In the List pane, select the product catalog you want to delete and click the **Delete** button.

14 Archive

- About archives
- Managing archive jobs
- Managing job runs
- Purging archived data

About archives

Data is stored in the active database. With time, the size of the data usually increases to a point where it begins to affect the performance of the system. 20 GB should be considered the maximum limit for the size of the active database, after which we recommend archiving to avoid performance issues. Hence, it is important that data that is not in use anymore is stored somewhere other than the active database.

Archiving is a systematic process which moves data from the active database to the archive database. Periodic archiving helps to keep the size of the active database within prescribed levels, thereby improving the performance of the system.

What can you archive?

You can archive cases and activities. However, attachments of activities are not archived.

Once archived, a case or activity cannot be “unarchived.” If a customer replies to an archived case, a new case gets created.

About archive jobs

An archive job is a process that runs automatically at a scheduled time and archives data based on a specified criteria (such as, the age of the data and the queue to which it belongs). You can create multiple archive jobs in a department, but two jobs cannot have overlapping schedules. A job runs only when it is in active state.

When a job is run, the archiving of data happens in batches. Each archive job is broken into batches of 5000 cases. For example, if a job is scheduled to archive 22000 cases, it processes them in batches of 5000 cases. To archive 22000 cases, it will run four batches of 5000 cases and a fifth batch of 2000 cases. Breaking of a job into batches ensures that if an error occurs while archiving the data, or if the archive process is stopped and restarted, only a small piece of data has to be processed again.

Every batch completes archiving in two steps:

- First, it inserts data from the active database to the archive database.
- After successfully inserting the data in the archive database, it deletes the data from the active database.

Important: **For archive jobs to work, the Scheduler and Archive services should be running.**

Who can manage archive jobs?

Only users with appropriate actions can manage archive jobs. The actions required for managing archive jobs are:

- View archive jobs: For viewing the Archive node and archive jobs in a department
- Edit archive jobs: For editing jobs
- Create archive jobs: For creating jobs
- Delete archive jobs: For deleting jobs

- Purge archive jobs: For deleting archived data

Partition administrators have all these actions assigned to them by default, but these actions have to be given explicitly to department administrators. Since archiving is a very sensitive process, discretion should be used while assigning archiving actions to users.

Archive criteria

While creating archive jobs, you can specify two criteria.

1. The relative age of activities and cases to be archived: You need to specify the relative age of cases and activities that should be picked up for archive. The age can be given in days, weeks, or months.

   For example: You set the job to archive closed cases and completed activities that were closed or completed one month before the date on which the archive job runs. It means the job will archive:

   - All completed activities that belong to cases that were closed one month before the job run.
   - All completed activities that do not have any case associated and were completed one month before the job run.
   - All cases that were closed one month before the job run.

   Important: **Since activities belonging to a case can be present in multiple departments, archiving checks if the first activity of a case belongs to the department in which the job is run. If it is, only then that case and its associated activities are archived.**

2. The queue to which the completed activities and closed cases belong: When you specify a queue, the job archives only the cases and activities that belong to that queue.

   Important things to note are:

   - If the last activity of a closed case belongs to a queue specified in a filter, then the case with all its constituent activities is archived.
   - If there are activities that belongs to the queue specified in the filter, with no case association, then those activities are archived.
   - If the last activity in a closed case does not belong to any queue, the case and all its constituent activities do not get archived.

Planning the schedule of archive jobs

When an archive job runs, it puts additional load on the system. To ensure that the productivity of agents is not effected by the archive jobs running on the system, you can plan the schedule of archive jobs in a way that they do not run at peak business hours.

While scheduling jobs you can specify two things. They are:

- The days of the week when an archive job should run.
- The time of the day when the job should run. In this you can select between two options. They are:
  - Set the job to run throughout the day. For example, if your call center is closed on Saturday and Sunday, you can schedule the archive jobs to run throughout the day, on Saturday and Sunday.

- Set the job to run between specified start and end time. For example, if your call centre runs 24/7, and has less load from 10 pm to 6 am on Monday and Tuesday, then you can schedule the archive jobs to run from 10 pm to 6 am, on Monday and Tuesday.

Two active jobs in a department cannot be scheduled for the same or overlapping time. For example you cannot have a job scheduled from 4 pm to 6pm, and another job scheduled from 5 pm to 7 pm on the same day. However, you can have one job scheduled from 4 pm to 6pm, and another from 6pm to 8pm on the same day.

About job runs

A job run is a record that indicates the time at which the archive job started and ended, the status of the job, whether it is running, completed, or failed, and the number of cases and activities handled by the archive job. Every time the system runs an archive job, a new job run is created. For example, if an archive job is scheduled to run from Monday to Friday between 6 am and 9 am, and the job runs successfully every day, then there will be six job runs for the archive job. You can view all the job runs for an archive job in the History tab in the Properties pane.

A job run can have one of the following status:

- Running: The archive job is running and is in progress.
- Completed: The job run was completed when:
  - The time allotted for the job to run is over

  Or
  - There was no more data left for archiving
- Failed: The job encountered some problem while archiving and could not run successfully.

Important: **If a job fails, no other scheduled job can run in the system till the failure of the job is resolved and the failed job is restarted manually.**

An archive job can fail because of one of the following reasons:

- Network connection is down
- Application database or archive database is down
- Archive database storage is full
- Internal error in the archive process

- Stopped: The job has been stopped manually while it was running.

About purging

As the archive jobs run on the system, they keep moving the data from the active to the archive database, and the data size on the archive database increases. At some time the need will arise to delete the archived data. Purge is a process which helps you to systematically delete data from the archive database. Once purged, the information is lost permanently and it cannot be recovered. Data can be purged job run wise and you can purge only those job runs that have completed successfully. You cannot purge a job run that is in a running state or has failed because of some error. Purge also deletes the attachments associated with the activities being purged.

> Important: **Once you start purge, it cannot be stopped, and the purged data is lost and cannot be recovered.**

When a job run is purged, it can have one of the following status:

- Purge started: The job run has been queued for purge.
- Purge completed: Purge has completed successfully.
- Purge failed: Purge has failed because of some error.

Managing archive jobs

Creating archive jobs

An archive job is a process that runs automatically at a scheduled time, and archives data based on the specified criteria (such as, the age of data and the queue to which it belongs). You can create multiple archive jobs in a department, but two jobs cannot have overlapping schedules. A job runs only when it is in active state.

After you create a job, it runs automatically on the scheduled date and time. You cannot start a job manually. However, when a job starts running you can stop and restart it manually.

To create an archive job:

1. In the Tree pane, browse to **Administration** > **Departments** > *Department_Name* > **Archive Jobs**.
2. In the List pane toolbar, click the **New** button.

   The Properties pane refreshes to show the attributes of the new job.
3. In the Properties pane, on the General tab, provide the following details.
   - **Name:** Type the name of the archive job. This is required information.
   - **Description:** Type a brief description.
   - **Active:** By default the status of the job is not active. Select **Yes** to make it active. A job can run only when it is in active state.

Set general properties

4. Next, go to the Options tab. Here you set the criteria for the archive job.
   - In the Timeframe section, specify that when the archive job is run, archive the closed cases and completed activities that were closed or completed *n* days before the date on which the archive job runs. Select the relative time frame in days, weeks, or months. For example, if you want to archive cases and

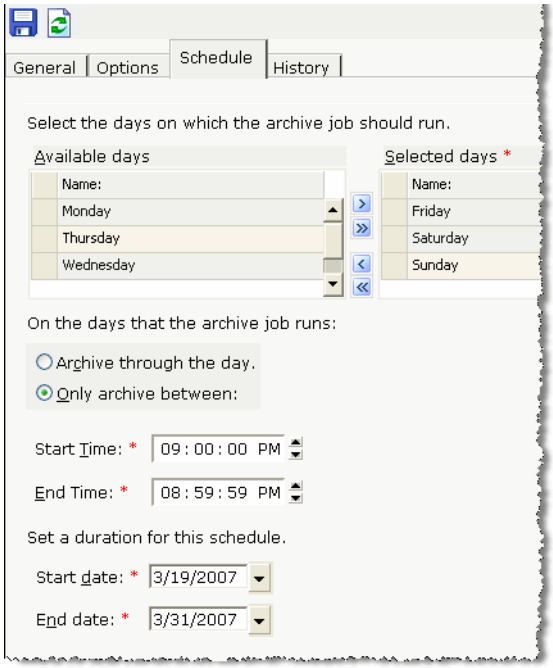
activities which were completed two months before the date on which the archive job runs, then select two months.

Set the time frame option

- In the Queues section, select the queues on which the archive job should run.

Select queues

5. Next, go to the Schedule tab. Here you specify the days and time when the archive job is to run.
   - Select the days on which the archive job should run.
   - Specify the time of the day when the archive job should run. There are two options available.
     - **Archive throughout the day:** For example, you can schedule the archive job to run on Saturday and Sunday throughout the day.
     - **Archive only between the specified start and end time:** For example, you can schedule the archive job to run on Saturday and Sunday from 8 pm to 11 pm.
   - Select the duration for which you want to schedule the archive job.



Configure the schedule for the archive job

6. Click the **Save** button.

> **Important: The History tab is enabled only after you save the job.**

On the History tab you can view the list of job runs. If you are creating a new job, the list will be empty. You can also stop, restart, and purge the job runs from the History tab.

Deleting archive jobs

> **Important: A job cannot be deleted if it has job runs that have not been purged. Before you can delete an archive job, you have to purge the data archived by that job.**

To delete an archive job:

1. In the Tree pane, browse to **Administration** > **Departments** > *Department_Name* > **Archive Jobs**.
2. In the List pane, select the archive job you want to delete.
3. In the List pane toolbar, click the **Delete** button.
4. A message appears asking to confirm the deletion. Click **Yes** to delete the archive job.

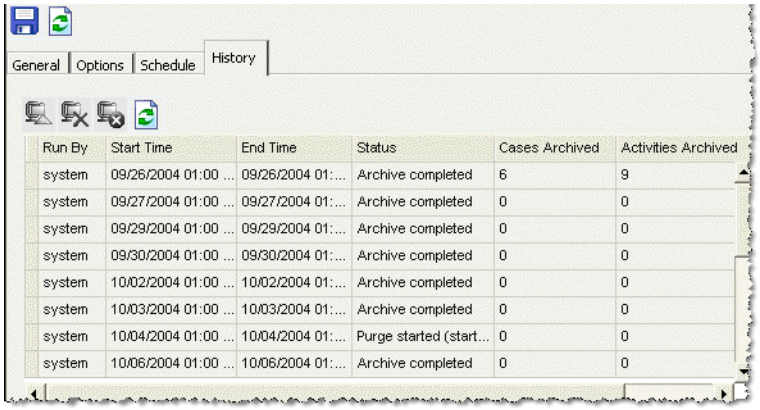
Managing job runs

Viewing job runs

Every time an archive job runs, a record is created indicating the start and end time of the job, if the job is in running state, if it completed successfully or it failed, and the number of cases and activities archived by the job. Each record is called a Job run, and all job runs for an archive job can be viewed from the History tab.

To view a job run:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Archive Jobs**.
2. In the List pane, select an archive job.
3. In the Properties pane, go to History tab. Here you can see a list of job runs. You can see the following details about the job run.
   - **Start time:** Time when the job run started.
   - **End time:** Time when the job run ended.
   - **Status:** Status can be running, completed, or failed.
   - **Cases archived:** Number of cases archived.
   - **Activities archived:** Number of activities archived.



View the history of the archive job

Stopping job runs

Important: **A job can be stopped only if it is in running state.**

To stop a job:

1. In the Tree pane, browse to **Administration > Departments >** *Department_Name* **> Archive Jobs**.
2. In the List pane, select an archive job.
3. In the Properties pane, go to the History tab and select the job run you want to stop.

4. Click the **Stop** button.

Restarting job runs

You will need to restart a job if:

- You stopped the job manually: If you restart a job within its scheduled time, it will run till the end of the schedule. If the restart happens outside the scheduled time, then it will only complete the batch it was archiving at the time you stopped the job.
- The job failed while running: In case of a failure, if the job is restarted within the scheduled time, it runs till the end of the schedule. And, if the restart happens outside the schedule time, it will only complete the batch it was archiving at the time of failure.

Important: **If a job run fails and its schedule expires, such a job run can also be restarted. On restart it will only complete the batch it was archiving at the time of failure.**

To restart a job:

1. In the Tree pane, browse to **Administration** > **Departments** > *Department_Name* > **Archive Jobs**.
2. In the List pane, select an archive job.
3. In the Properties pane, go to the History tab and select the job run you want to restart.
4. Click the **Restart** button.

Purging archived data

As archive jobs run on the system, they keep moving the data from the active to the archive database, and the data size on the archive database increases. At sometime the need will arise to delete the archived data. Purge is a process which helps you to systematically delete data from the archive database. Once purged, the information is lost permanently and it cannot be recovered. The data can be purged job run wise, and you can purge only those job runs that have completed successfully. You cannot purge a job run that is in a running state or has failed because of some error. Purge also deletes the attachments associated with the activities being purged.

Important: **Once you set up a job run for purge, it cannot be stopped, and the purged data is lost and cannot be recovered.**

When a job run is purged, it can have one of the following status.

- Purge started: The job run has been queued for purge
- Purge completed: Purge has completed successfully
- Purge failed: Purge failed because of some errors

Important: **Purge of the archived data does not start immediately. Data is purged at the purge interval defined at the time of installing the application and it cannot be changed.**

To purge archived data:

1. In the Tree pane, browse to **Administration** > **Departments** > *Department_Name* > **Archive Jobs**.
2. In the List pane, select an archive job.
3. In the Properties pane, go to the History tab and select the job run you want to purge.
4. Click the **Purge** button.

The status of the job run changes to Purge started, and it shows the name of the user who started the purge and the time at which the purge started.

Appendix: Reference information

- Objects available for setting conditions in alarm node
- Objects available for setting conditions in rule nodes

This chapter lists the objects available for setting conditions in various workflow nodes.

Objects available for setting conditions in alarm node

Case

Attributes	Values	Operators
Age days	—	==, !=, <, >, <=, >=
Age hours	—	==, !=, <, >, <=, >=
Age minutes	—	==, !=, <, >, <=, >=
Case status	Closed, Open, Ready for closure	==, !=
Count	—	==, !=, <, >, <=, >=
Count over due	—	==, !=, <, >, <=, >=
Days after due	—	==, !=, <, >, <=, >=
Days till due	—	==, !=, <, >, <=, >=
Hours after due	—	==, !=, <, >, <=, >=
Hours till due	—	==, !=, <, >, <=, >=
Minutes after due	—	==, !=, <, >, <=, >=
Minutes till due	—	==, !=, <, >, <=, >=
Percentage	—	==, !=, <, >, <=, >=
Percentage over due	—	==, !=, <, >, <=, >=

Activity

Attributes	Values	Operators
Activity status	Assigned, Assignment, Completed, New, Pre-completion, preworkflow, workflow	==, !=
Activity substatus	Assigned - New, Assigned - Pending, Assigned - Wrap up, Assigned - Error, Assigned - In progress, Assigned - Ready for internal assignment, Assigned - Ready for external assignment, Assignment - Error, Assignment - In progress, Assignment - Scheduled,	==, !=
Age days	—	==, !=, <, >, <=, >=

Attributes	Values	Operators
Age hours	—	==, !=, <, >, <=, >=
Age minutes	—	==, !=, <, >, <=, >=
Count	—	==, !=, <, >, <=, >=
Count over due	—	==, !=, <, >, <=, >=
Days after due	—	==, !=, <, >, <=, >=
Days till due	—	==, !=, <, >, <=, >=
Hours after due	—	==, !=, <, >, <=, >=
Hours till due	—	==, !=, <, >, <=, >=
Last action reason	Assigned by system, Forwarded, Redirected, Replied, Save draft, Assigned for supervision, Rejected, Waiting for approval, Save draft to supervise, Sent	==, !=
Minutes after due	—	==, !=, <, >, <=, >=
Minutes till due	—	==, !=, <, >, <=, >=
Percentage	—	==, !=, <, >, <=, >=
Percentage over due	—	==, !=, <, >, <=, >=

Objects available for setting conditions in rule nodes

Activity

Attributes	Values	Operators
Activity mode	Inbound, Outbound, None	==, !=
Activity priority	1 to 7	==, !=, <, >, <=, >=
Activity subtype	Email - General, Email - Webform, Email - secure, Email - Permanently undeliverable, Email - Temporary undeliverable, Email - Reply, Email - Forward, Email - Compose, Email - Auto reply, Email - Auto acknowledgement, Email - Group reply, Email - Redirect, Email - Undispatch, Email - Supervisory accept, Email - Supervisory reject, Email - Supervisory reattempt, Email - Transcript, Phone - General, Task - General	==, !=
Activity type	Email, Task,	==. !=
Case type	None, Existing, New	==. !=

Attributes	Values	Operators
Contact person ID	—	==. !=, <, >, <=, >=
Contact point ID	—	==. !=, <, >, <=, >=
Customer ID	—	==, !=, <, >, <=, >=
Description	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Language	English	==, !=
Last action reason	Assigned by system, Forwarded, Redirected, Replied, Save draft, Assigned for supervision, Rejected, Waiting for approval, Save draft to supervise, Sent	==, !=
Subject	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Case

Attributes	Values	Operators
Description	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Severity	Urgent, High, Medium, Low	==, !=
Solution description	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Subject	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Customer - common

Attributes	Values	Operators
Entitlements	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
How referred	Website, Customer, Partner, Reseller	==, !=
Industry	Finance, Health care, Telecom	==, !=
Level	Gold, Platinum, Premium, Silver, Standard	==, !=
Marketing Segment	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Preferred agent	User names	==, !=

Customer - group

Attributes	Values	Operators
Customer name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Group type	Association, Club, Household, Joint account, Membership, other	==, !=
No. of members	—	==, !=, <, >, <=, >=
Region	Asia Pacific, Europe, United States	==, !=

Customer - individual

Attributes	Values	Operators
Date of birth	Date	==, !=, <, >, <=, >=
Employment status	Part time, Full time, Temporary, Contract, Intern, Unemployed	==, !=
First name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Gender	Male, Female	==, !=
Job title	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Last name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Marital status	Married, Single, Separated, Divorced, Widowed	==, !=
Middle name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Customer - organization

Attributes	Values	Operators
Customer name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
No. of employees	—	==, !=, <, >, <=, >=
Region	Asia Pacific, Europe, United States	==, !=
Sector type	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Email

Attributes	Values	Operators
Bcc email address	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
cc email address	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Content	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Content type	.htm, .txt	==, !=
From email address	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Header	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Subject	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
To email address	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
To or cc email address	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Task

Attributes	Values	Operators
Content	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

Queue

Available only in outbound workflows and alarm workflows.

Attributes	Values	Operators
Queue name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with

User

Available only in outbound workflows and general workflows.

Attributes	Values	Operators
First name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Last name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with
Manager	Manager names	==, !=
User name	—	Contains, Not contains, Matches, Not matches, Begins with, Not begins with