



Cisco Applications Configuration

The Unified CCX system uses applications to interact with contacts and perform a wide variety of functions, such as prompting callers for information, transferring calls, and providing information to callers.

To configure Unified CCX applications, you must complete the following tasks:

- Provision telephony and media resources (see [Telephony and Media Provision](#))
- Provision your Unified CCX subsystem, if required (see [Provision of Unified CCX](#))
- Provision additional subsystems, if required (see [Provision of Additional Subsystems](#))

The following sections describe how to configure applications and make them available to the Unified CCX system.

- [About Unified CCX Applications, on page 1](#)
- [Application Triggers, on page 6](#)
- [Script Management, on page 10](#)

About Unified CCX Applications

The Unified CCX system uses applications to interact with contacts and perform a wide variety of functions.



Note Unified CCX licenses you purchase and install determine the applications available on your system.

Unified CCX provides the following application types:

- Script
- Busy
- Ring-No-Answer

Configure Script Applications

The Unified CCX *script* applications are applications based on scripts created in the Unified CCX Editor. These applications come with every Unified CCX system and execute scripts created in the Unified CCX Editor.

Use the Unified CCX Editor to create scripts that direct the Unified CCX system to automatically answer calls and other types of contacts, prompt callers for information, accept caller input, queue calls, distribute calls to available agents, place outbound calls, respond to HTTP requests, and send email messages.



Note The Unified CCX system includes a number of sample scripts. For a description of these sample scripts, and for more information on creating scripts with the Unified CCX Editor, see the *Cisco Unified Contact Center Express Getting Started with Scripts*. In addition, a script repository is available at https://www.cisco.com/en/US/products/sw/custcosw/ps1846/products_implementation_design_guides_list.html. This repository provides some examples of scripting techniques that can leverage Unified CCX abilities.

Cisco script applications can make use of many components, such as scripts, prerecorded prompts, grammars, languages, locales, and custom Java classes.



Tip Upload these components to the repository before you configure a Cisco script application that uses them.

Depending on your particular Unified CCX implementation, you may need to perform most or all of the following tasks to configure a Cisco script application:

- **Manage scripts**—Cisco script applications are based on scripts that you must upload to the repository and make available to the Unified CCX system.
- **Manage prompts**—Many applications make use of prerecorded prompts, stored as .wav files, which are played back to callers to provide information and elicit caller response. You must upload these .wav files to the repository and make them available to the Unified CCX system.
- **Install grammars**—The Unified CCX system uses specific grammars to recognize and respond to caller response to prompts. You must store these grammars in a directory to make them available to the Unified CCX system.
- **Install customized Unified CCX languages**—Language packs, such as American English, Canadian French, and so on, are installed with Unified CCX. You install language packs in a directory accessible by the Unified CCX system.
- **Install Java files**—In addition to the Java files automatically installed as part of the Unified CCX installation process, you can install your own custom classes and Java Archive (JAR) files to customize the performance of your Unified CCX system.
- **Add a Cisco script application**—Scripts created in the Unified CCX Editor are used as the basis for Cisco script applications.
- **Add an application trigger**—Triggers are specified signals that invoke application scripts in response to incoming contacts. After adding a new Cisco script application, you need to add a trigger so that this application can respond to telephone calls and HTTP requests.

Add New Cisco Script Application

To add a new Cisco script application, complete the following steps:

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Application Management**.
The Application Management web page opens, displaying the details of any existing applications.
- Step 2** Click **Add New** icon that is displayed in the tool bar in the upper left corner of the window or the **Add New** button that is displayed at the bottom of the window.
The Add a New Application web page opens.
- Step 3** From the Application Type drop-down menu, choose **Cisco Script Application** and click **Next**.
The Cisco Script Application configuration Web page opens.
- Step 4** Specify the following fields:

Field	Description
Name	A name for the application. This is a mandatory field.
ID	Accept the automatically-generated ID, or enter a unique ID. This is a mandatory field. Note The Historical Reporting feature uses this ID to identify this application.
Maximum Number Of Sessions	The maximum amount of simultaneous sessions (instances) that the application can handle. This is a mandatory field.
Script	Note This field is available only for Cisco Script Application type. This is a mandatory field. Perform one of the following actions: <ul style="list-style-type: none"> Choose a script from the drop-down list to run the application. If the script contains parameters, the parameters are displayed below the Script drop-down menu. Each parameter has a check box, which enables you to override the default value for that parameter. If you want to override the value, check the check box for that parameter. Note All scripts under the default directory are listed in the drop-down list of the Script field in the Cisco Script Application Configuration web page. <ul style="list-style-type: none"> Click Edit, enter the script name in the dialog box, and click OK. The User Prompt dialog box closes, and the name you entered appears in the Script field. Note If you enter the script name as a file URL, enter the value with double backslashes (\\). For example, file://c:\\temp\\aa.aef
Description	Use the Tab key to automatically populate this field. Note For the Busy and Ring-No-Answer application types, this field is only visible when you click Show More .

Field	Description
Enabled	Click the required radio button to accept (Yes = default) or reject (No) Note For the Busy and Ring-No-Answer application types, this field is only visible when you click Show More .
Default Script	Note This field is available only for Cisco Script Application type. The default script executes when an error occurs with the configured script application that causes it to abort. Perform one of the following actions: <ul style="list-style-type: none"> • Choose a script from the drop-down list to run the application. If a Default Script is not defined, the internal system default is executed. • Click Edit, specify a script in the dialog box that appears, and click OK.

Step 5 Click **Add**.

The Cisco Script Application page refreshes, the **Add New Trigger** hyperlink appears in the left navigation bar, and the following message is displayed in the status bar on top:

The operation has been executed successfully.

Click **Back to Application List** icon or button to view the list of existing applications.

Step 6 Add a trigger for the application.

Configure Busy Application

The Cisco Busy application comes with each Unified CCX system. This application returns a busy signal when a call reaches a Computer Telephony Interface (CTI) route point and the extension is busy.

Before you begin

To configure the Busy application, you will need to perform the following tasks:

- Add the Busy application.
- Add a Unified CM Telephony trigger to the Busy application. The Busy application is activated when it is triggered by a Unified CM Telephony trigger. The Busy application does not support HTTP triggers.

To configure the Unified CCX server with the Busy application, complete the following steps.

Procedure**Step 1** From the Unified CCX Administration menu bar, choose **Applications > Application Management**.

The Application Management web page opens, displaying the details of existing applications, if any.

Step 2 Click **Add New** icon that displays in the tool bar in the upper, left corner of the window or the **Add New** button that is displayed at the bottom of the window.

The Add a New Application web page opens.

Step 3 From the Application Type drop-down menu, choose **Busy**, and then click **Next**.

The Busy Application Configuration web page appears.

Step 4 Specify the following fields:

Field	Description
Name	A name for the application. This is a mandatory field.
ID	Accept the automatically-generated ID, or enter a unique ID. This is a mandatory field. Note The Historical Reporting feature uses this ID to identify this application.
Maximum Number Of Sessions	The maximum amount of simultaneous sessions (instances) that the application can handle.
The following fields are displayed only on click of Show More button.	
Description	Use the Tab key to automatically populate this field.
Enabled	Click the required radio button to accept - Yes (the default).

Step 5 Click **Add**.

The Busy web page refreshes, the **Add New Trigger** hyperlink appears in the left navigation bar, and the following message is displayed in the status bar on top:

The operation has been executed successfully

Step 6 Add a trigger for the application.

Configure Ring-No-Answer Application

The Cisco Ring-No-Answer application comes with each Unified CCX system. This application returns a ring tone signal when a call reaches a CTI route point.

Before you begin

To configure the Ring-No-Answer application, you will need to perform the following tasks:

- Add the Ring-No-Answer application.
- Add a Unified CM Telephony trigger to the Ring-No-Answer application. The Ring-No-Answer application is activated when it is triggered by a Unified CM Telephony trigger.

To configure the Unified CCX server with the Ring-No-Answer application, complete the following steps:

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Application Management**.
The Application Management web page opens, displaying the details of existing applications, if any.
- Step 2** Click **Add New** icon that is displayed in the tool bar in the upper, left corner of the window or the **Add New** button that is displayed at the bottom of the window.
- Step 3** From the Application Type drop-down menu, choose **Ring-No-Answer**, and then click **Next**.
The Ring-No-Answer web page opens.
- Step 4** Specify the following fields.

Field	Description
Name	A name for the application. This is a mandatory field.
ID	Accept the automatically-generated ID, or enter a unique ID. This is a mandatory field. Note The Historical Reporting feature uses this ID to identify this application.
Maximum Number Of Sessions	The maximum amount of simultaneous sessions (instances) that the application can handle. This is a mandatory field.
The following fields are displayed only when you click the Show More button:	
Description	Use the Tab key to automatically populate this field.
Enabled	Click the required radio button to accept - Yes (the default).

- Step 5** Click **Add**.
The Ring-No-Answer web page refreshes, the **Add New Trigger** hyperlink appears in the left navigation bar, and the following message is displayed in the status bar on top:
`The operation has been executed successfully`
- Step 6** Add a trigger for the application.

Application Triggers

After adding a new Cisco application, you need to add one or more *triggers* so that the application can respond to Unified CM Telephony calls and HTTP requests.

Triggers are specified signals that invoke application scripts in response to incoming contacts. The Unified CCX system uses Unified CM Telephony triggers to trigger responses to telephone calls and HTTP triggers to respond to HTTP requests.

You can use either of the below two methods to add a trigger to an application:

- Add the trigger from the Cisco Application web page or add the trigger from the Unified CM Telephony.

- HTTP Triggers web pages available from the Subsystem menu.

Unified CM Telephony Trigger

You must add Unified CM Telephony triggers to invoke Cisco applications in response to incoming contacts.

A Unified CM Telephony trigger responds to calls that arrive on a specific route point by selecting telephony and media resources to serve the call and invoking an application script to handle the call.

Add Unified CM Telephony Triggers from Application Web Page

To add a Unified CM Telephony trigger directly from the Cisco Application Configuration web page, complete the following steps.

Procedure

- Step 1** From the configuration web page for the application you want to add a trigger for, click **Add New Trigger**. The Add a New Trigger window opens.
- Step 2** From the Trigger Type drop-down menu, choose **Unified CM Telephony** and click **Next**. The Unified CM Telephony Trigger Configuration window opens.
- Step 3** Follow the procedure described in **Add Unified CM Telephony Trigger**.
-

Add Unified CM Telephony Triggers from Unified CCX

To add a Unified CM Telephony trigger to an application from the Unified CM Telephony subsystem, complete the following steps.

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Subsystems > Unified CM Telephony > Triggers**. The Unified CM Telephony Trigger Configuration summary web page opens.
- Step 2** Click the **Add New** icon that is displayed in the tool bar in the upper, left corner of the window or the **Add New** button that is displayed at the bottom of the window.
- Step 3** The Cisco Unified CM Telephony Trigger Configuration web page opens. Follow the procedure described in [Add Unified CM Telephony Trigger](#) (Steps 3 and 4) for detailed instructions on adding and configuring a Unified CM Telephony trigger.

Note For triggers created in Unified CCX, Unified CM will always show the IPv4 Address of the CTI Route point, as the IP address is of the primary node or the first node in the Unified CCX cluster.

HTTP Trigger Provision

A Cisco application can be used to handle HTTP requests when the Unified CCX system is provisioned with an HTTP trigger.



Note HTTP/HTTPS triggers are available if your system has a license installed for one of the following Cisco product packages: Unified IP IVR or Unified CCX Premium.

An HTTP trigger is the relative URL a user enters into the client browser to start the application. You can upload either eXtensible Style Language Transformation (XSLT) templates or Java Server Pages (JSP) templates to serve as your HTTP trigger.

The following path is an example of an HTTP-triggered request (using the HTTP trigger name “/hello”):

```
http://www.appserver.acme.com:9080/hello
```

In this example, the URL starts the application with the HTTP trigger “/hello” on a web server running on port 9080 with the host name www.appserver.acme.com.

You can add the HTTP trigger from the Cisco Script Application web page or add the trigger from the HTTP subsystem.

Add HTTP Trigger from Application Web Page

To add an HTTP trigger directly from a Cisco Application Configuration web page, complete the following steps.

Procedure

- Step 1** From the configuration web page for the application you want to add a trigger for, click **Add New Trigger** hyperlink.
The Add a New Trigger window opens.
- Step 2** From the Trigger Type drop-down menu, select **HTTP** and click **Next**.
The HTTP Trigger Configuration window opens.
- Step 3** Specify the following fields.

Field	Description
URL	The relative URL For example: /hello

Field	Description
Language	Perform one of the following actions: <ul style="list-style-type: none"> • Choose a default language from the drop-down list. • Click Edit, specify a default language in the dialog box that appears, and click OK.
Maximum Number Of Sessions	The maximum amount of simultaneous sessions that can be served by the HTTP subsystem for this trigger.
Idle Timeout (in ms)	Maximum amount of time (in milliseconds) that the system will wait to invoke the application before rejecting a contact.
Enabled	Click the required radio button to accept - Yes (the default). <p>Note If you disable the trigger, the user receives an error message when browsing to the defined trigger URL.</p>

Step 4 Click **Add**.

The Cisco Application Configuration web page appears, and the URL of the HTTP trigger appears on the navigation bar.

Step 5 Test the trigger by entering the URL you just configured in the address bar of your browser.

For example,

/hello

The browser should display “hello”.

Add HTTP Trigger from HTTP Subsystem

To configure a HTTP trigger from the HTTP subsystem, complete the following steps.

Procedure

Step 1 From the Unified CCX Administration menu bar, choose **Subsystems > HTTP**.

The HTTP Trigger Configuration web page opens.

Step 2 Click the **Add New** icon that is displayed in the tool bar in the upper, left corner of the window or the **Add New** button that is displayed at the bottom of the window.

The HTTP Trigger Configuration window opens.

Step 3 Specify the following mandatory fields.

Field	Description
URL	The relative URL. For example: <code>/hello</code>
Language	Perform one of the following actions: <ul style="list-style-type: none"> • Choose a default language from the drop-down list. • Click Edit, specify a default language in the dialog box that appears, and click OK.
Application Name	Choose the name of the application from the drop-down list.
Maximum Number Of Sessions	The maximum amount of simultaneous sessions that can be served by the HTTP subsystem for this trigger.
Idle Timeout (in ms)	Maximum amount of time (in milliseconds) that the system will wait to invoke the application before rejecting a contact.
Enabled	Click the required radio button to accept - Yes (the default) Note If you disable the trigger, the user receives an error message when browsing to the defined trigger URL.

Step 4 Click **Add**.

The Cisco Application Configuration web page appears, and the URL of the HTTP trigger appears on the navigation bar.

Step 5 To test the trigger, enter the URL you just configured in the address bar of your browser.

For example,

`/hello`

The browser should display “hello”.

Script Management

Scripts are created with the Unified CCX Editor, and can perform a wide variety of functions. For example, scripts can prompt callers for extension numbers to transfer calls, place callers in a queue and route calls to available agents, and place outbound calls.

The Script Management option of the Applications menu of the Unified CCX Administration web interface contains options for managing and refreshing Unified CCX scripts that are stored in the repository.



Note Your Unified CCX system includes sample scripts stored as .aef files.



Caution If a large number of VRU scripts are configured for your system, the **Upload a New Script** and **Refresh Scripts** operations can take a long time to complete. These tasks can also result in high CPU utilization.

Upload New Scripts

To make a script available for use as a Unified CCX application, you must first upload the script to the repository. In Unified CCX Release 4.5 and later, uploaded scripts are stored in the Repository Datastore (RDS) database, along with prompts, grammars, and documents files. Prior to Release 4.5, the RDS database only contained the prompts, grammars, and documents files. The scripts can also be grouped into folders and subfolders. When user scripts are uploaded into repository, they get synchronized to local disk and are accessed from there.

To upload a script to the repository, complete the following steps:

Procedure

Step 1 From the Unified CCX Administration menu bar, choose **Applications > Script Management**.

The Script Management page opens.

Note The Script Management page allows you to only work with user scripts; it does not have language-based directories.

The following table describes the available columns on the Script Management web page.

Field	Description
Folder Path	The level of the directory that is currently selected in the folder drop-down list.
Name	The name of the script. Note Click the icon in front of the script name to download the script file.
Size	The size of the script file prefixed with KB . The file size is converted from bytes to KB. Note This column is usually blank on the root page as the items on this page are usually folders.
Date Modified	The date and time when the document was last uploaded or changed along with time zone.
Modified by	The user ID of the person who performed these modifications.
Delete	To delete the corresponding folder. Caution When you delete a folder, you permanently remove it from the repository and make it unavailable to the Unified CCX system.
Rename	To rename the required subfolder within the default folder.

Field	Description
Refresh	To refresh the corresponding script.

Step 2 Click **Upload New Scripts** icon that is displayed in the tool bar in the upper, left corner of the window or the **Upload New Scripts** button that is displayed at the bottom of the window.

The Upload Script dialog box opens.

Step 3 To locate the script, click **Browse** button next to the File Name field, navigate to the directory in which the scripts are located, select a script, and click **Open**.

The script path for the profile appears in the File Name field.

Step 4 Click **Upload** to upload the script to the repository.

A window opens, informing you that the script was successfully uploaded.

You are now ready to manage any existing scripts shown in the Script Management page (if necessary) or add prompts that may be useful to your applications.

Download Script File

To view or download a script file, complete the following steps.

Procedure

Step 1 From the Unified CCX Administration menu bar, choose **Applications > Script Management**.

The Script Management page opens to display the contents of the **default** folder.

Step 2 Click the **Download Script** icon that appears before the Name of the script file you want to view or download.

The File Download dialog box opens.

Step 3 Perform one of the following tasks:

a) To view the script file, click **Open**.

The script file opens in the Unified CCX Editor.

b) To download the script file, click **Save**, and then follow the prompts to choose a directory and file name for the script file.

The file is saved to the specified directory.

Refresh Scripts



Caution If a large number of VRU scripts are configured for your system, the **Upload a New Script** and **Refresh Scripts** operations can take a long time to complete. These tasks can also result in high CPU utilization.

When you make changes to a script, you must refresh the script to direct all the applications and subsystems that use this script to reload the new version. There are two script refresh options:

- [Refresh Scripts Individually, on page 13](#)
- [Refresh Bulk Scripts, on page 13](#)

Refresh Scripts Individually

To refresh an individual script on the Unified CCX server from the repository (RDS), complete the following steps.

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Script Management**.
The Script Management page opens to display the contents of the **default** folder.
- Step 2** In the row that contains the script, click **Refresh** icon.
The script information refreshes and the Script Management page reappears.
-

Refresh Bulk Scripts



Note Support for high availability and remote servers is available only in multiple-server deployments.

Bulk scripts refers to multiple .aef script files within one .zip file.



Note This option is available only when you upload .zip files. You will see the option to refresh scripts after the selected file is uploaded successfully.

To refresh all scripts (within a zip file) with one command, complete the following steps.

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Script Management**.
The Script Management page opens to display the contents of the **default** folder.

- Step 2** Click the **Upload New Scripts** icon or button.
The Upload Script dialog box opens.
- Step 3** To locate the script, click the **Browse** button next to the File Name field, navigate to the directory in which the scripts are located, select a file, and click **Open**. The script path for the profile appears in the File Name field.
- Tip** You can only upload .zip files containing .aef files. The total size of the .zip file cannot exceed 20 MB.
- Step 4** Click **Upload** to upload the script to the repository.
A window opens, informing you that the script upload succeeded.
- Step 5** Click **Refresh** icon in the Script Management page.
The Script Management web page opens, giving you the option of refreshing the script and the applications that reference it, or just refreshing the script.
- Step 6** Specify one of the following options:
- If you want all applications and subsystems that reference the script (in the repository) to use the new version, click **Yes**.
 - If you only want to refresh the scripts, click **No**.
 - If you want to cancel the operation, click **Cancel**.
- The script information refreshes and the Script Management page reappears to display the newly loaded .zip file.
-

Rename Script or Folder

To rename a script or folder, complete the following steps.

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Script Management**.
The Script Management page opens to display the contents of the **default** folder.
- Step 2** Click **Rename** icon for the folder or script that you want to rename. A dialog box opens displaying the name of the selected folder or script.
- Step 3** Enter a new name for this folder or script in the text box.
- Step 4** Click **Rename** button.
The dialog box refreshes to state that the folder was successfully renamed.
- Step 5** Click **Return to Script Management** button.

The dialog box closes and the **default** folder's updated Script Management page displays the new script name.

Delete Script or Folder

When you delete a script or a folder, you remove it permanently from the repository.

To delete a script or folder, complete the following steps.

Procedure

- Step 1** From the Unified CCX Administration menu bar, choose **Applications > Script Management**.
The Script Management page opens to display the contents of the **default** folder.
- Step 2** To delete a folder, click **Delete** icon for the folder or script that you want to delete.
A dialog box opens to confirm your action on the selected script or folder.
- Step 3** Click **OK**.
The dialog box closes and the **default** folder's updated Script Management page refreshes to display the updated list of folders and scripts.
-

Sample Scripts

Your Unified CCX system includes sample scripts stored as .aef files. These scripts have been built using Unified CCX Editor steps, including prerecorded prompts. You can use these scripts to create applications without performing any script development, or you can use these scripts as models for your own customized scripts.



Note The included scripts are bundled with the Unified CCX system only as samples; they are not supported by Cisco. For more information on these sample scripts, see the *Cisco Unified Contact Center Express Getting Started with Scripts*.
