Cisco Unity Express 3.2 IVR CLI Administrator Guide

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Cisco Unity Express Features

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The Interactive Voice Response (IVR) option is a separate, add-on license package that integrates with Cisco Unity Express. The functionality described for IVR is only available if you purchase a separate IVR software license (see the *Release Notes for Cisco Unity Express 3.2* for details on obtaining a separate IVR software licence).

This guide describes the set of Cisco Unity Express Interactive Voice Response (IVR) command-line interface (CLI) commands and tasks for configuring the Cisco Unity Express IVR applications. Use this guide in conjunction with the *Cisco Unity Express 3.2 CLI Administrator Guide*.

This guide complements the graphical user interface (GUI) administration tasks described in the *Cisco Unity Express 3.2 GUI Administrator Guide*.

The focus of this guide is the Cisco Unity Express IVR application. It does not provide information on installation of Cisco routers, Cisco network modules, Cisco Unified Communications Manager Express router, or Cisco Unified Communications Manager Express server. For more information about those topics, see "Additional References" section on page 10.

This chapter contains the following sections:

Platforms and Cisco IOS Software Images

Cisco Unity Express applications use a set of commands that are similar in structure to Cisco IOS software commands. However, Cisco Unity Express commands do not affect the Cisco IOS configuration.

See the *Release Notes for Cisco Unity Express 3.2* for detailed information about the Cisco Unity Express hardware and software platforms.

Note We highly recommend attaching an uninterruptible power supply (UPS) to the router housing the Cisco Unity Express module. Any reliable UPS unit provides continuous power to maintain the operation of the router and the Cisco Unity Express module. Consider the unit's capacity and run time because power consumption differs among Cisco platforms. Ideally, a UPS should include a signaling mechanism that directs the router to shut down Cisco Unity Express properly and then powers off the router.

Cisco Unity Express Interactive Voice Response Feature List

Table 1 lists Cisco Unity Express features by version. Features that are introduced in a particular version are available in that and subsequent versions.

Table 1 Cisco Unity Express IVR Features

Version	Features Introduced in That Version[1]	Feature Description	Feature Information
IVR 3.0	IVR Autoattendant Integration	Cisco Unity Express IVR supports all Autoattendant features.	Cisco Unity Express supports Interactive Voice Response (IVR) as a major component of the system in addition to Voice-Mail and Autoattendant.
	Enterprise and SMB Database Integration	Cisco Unity Express supports the following enterprise and SMB databases: • Oracle 10g • IBM DB2 8.2/9.0/9.1 • Microsoft SQL 2000 • Microsoft MSDE 2000 • Sybase Active Server 1.2	Callers can run queries to gather information from a database, or manipulate the data stored in the database.
	IVR Web Application Deployment	Enables users to deploy VoiceXML scripts, which represent the static content of the IVR application, and JSP and Java files, which generate the dynamic content of the IVR application.	IVR applications are packages using the Web Archive (WAR) file format, which contain VoiceXML, compiled version of the JSP and Java files, including their property and configuration files.
	Outbound E-Mail Notification Support	Cisco Unity Express IVR supports Outbound E-mail Notification, which allows customers to send an e-mail to users to confirm receipt of their IVR order.	The outbound e-mail notification steps in the script allow you to: • Create e-mail messages • Attach files to an outbound e-mail message • Send e-mail messages from Cisco Unity Express scripts

Table 1 Cisco Unity Express IVR Features

Version	Features Introduced in That Version[1]	Feature Description	Feature Information
IVR 3.0	Outbound Fax Notification Support	IVR enables customers to integrate outbound fax notifications using Cisco Unity Express. Outbound faxes are generated using a specially formatted e-mail address. The fax subsystem generates an e-mail notification to describe the disposition of the fax message.	Faxes are sent to a configurable Fax SMTP server. The Fax SMTP server configuration is different from the SMTP server configuration you use for sending outbound e-mails.
	Cisco Unity Express Script Editor IVR Support	The IVR scripting tool provides interactive debugging support within the IVR script creation device or Editor.	For more information on creating Cisco Unity Express IVR scripts, see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts.*
	Real-Time Reporting	The Cisco Unity Express IVR real-time statistics collection tool provides real-time statistics on key workflow components, such as contacts, application tasks, and engine tasks. This real-time reporting feature provides summary or detailed real-time statistics for each contact or application.	Because of the nature of real-time statistics, the summary values only provide information accumulated after the last time the statistics were cleared. The accumulated statistical summary data can be cleared manually, using the GUI interface, or automatically cleared at midnight by setting up a daily schedule.

1. Features that are introduced in a particular version are available in that and subsequent versions.

Overview of Cisco Unity Express Interactive Voice Response

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IVR allows a telephone caller to select options from a voice menu and otherwise interact with the system. After the system plays a prerecorded voice prompt, the caller presses a number on a telephone keypad to select an option.

The Cisco Unity Express IVR applications work with Cisco Unified Communications Manager Express or Cisco Unified Communications Manager to provide small- and medium-sized companies the ability to:

- Enable callers to run queries to gather information from a customer database and to control the information stored in the database.
- Confirm orders placed using the IVR application by sending outgoing e-mails or faxes from within the IVR application.
- Use incoming HTTP request-based trigger applications to initiate IVR applications to send an e-mail, fax, or phone call notification that an order has been filled and shipped.

Guidelines and procedures for installing and upgrading the Cisco Unity Express software are described in the *Cisco Unity Express 3.2 Installation and Upgrade Guide*.

The Cisco Unity Express voice-mail and autoattendant applications work with Cisco Unified Communications Manager Express (Cisco Unified CME) or Cisco Unified Communications Manager to provide small- and medium-sized companies with the capability to:

- Create and maintain voice mailboxes for onsite or remote telephone subscribers. The maximum number of mailboxes depends on the hardware module and license agreement purchased for Cisco Unity Express. See "Software Licenses" section on page 10 for the system limits.
- Record and upload messages for callers to hear when they dial the company's telephone number and prompts to guide the callers to specific extensions or employees.

Guidelines and procedures for installing and upgrading the Cisco Unity Express software are described in the *Cisco Unity Express 3.2 Installation and Upgrade Guide*.

Contents

Software Licenses

For details on obtaining a license for Cisco Unity Express optional add-on license packages for Interactive Voice Response (IVR) Support, see the *Release Notes of Cisco Unity Express 3.2*.

Administration Interfaces

Cisco Unity Express offers two administration interfaces:

- Graphical user interface (GUI)—This user-friendly, web-based interface permits administration of all voice-mail and autoattendant functions.

  The GUI is targeted for administrators who are familiar with web-based applications and who have little or no experience with Cisco IOS command structure. See the *Cisco Unity Express 3.2 GUI Administrator Guide* for the configuration procedures using the GUI menus and screens.

- Command-line interface (CLI)—This text-based interface has the same administration and configuration capabilities as the GUI. Installation, upgrade, and troubleshooting functions are available only through the CLI commands. The administrator accesses this interface through a Telnet session to the router.

  The CLI is targeted for installers, resellers, support personnel, and others familiar with Cisco IOS command structure and routers. For them, accessing the system using the CLI may be easier than using the GUI, especially for troubleshooting, scripting, and bulk provisioning of many sites.

  The Cisco Unity Express CLI commands have a structure similar to Cisco IOS CLI commands. However, the Cisco Unity Express CLI commands do not affect Cisco IOS configurations. After you have logged in to the Cisco Unity Express module, the command environment is no longer the Cisco IOS environment.

  Error messages in Cisco Unity Express are not always the same as error messages in the Cisco IOS environment.

The GUI and CLI are accessible from a PC or server anywhere in the IP network. To access the GUI, use Microsoft Internet Explorer 6.0 or a later version. Cisco Unity Express does not support any other browser. To access the CLI, Telnet to the router, and then use the **service-module** command.

Additional References

The following sections provide references related to Cisco Unity Express.

Documents Related to Cisco Unity Express

See *Cisco Unity Express Documentation, By Version* for links to documents related to Cisco Unity Express.

MIBs

MIBs	MIBs Link
• CISCO-UNITY-EXPRESS-MIB • CISCO-VOICE-CONNECTIVITY-MIB • CISCO-VOICE-APPLICATIONS-OID-MIB • CISCO-PROCESS-MIB • SNMPv2-MIB • IF-MIB • IP-MIB • SYSAPPL-MIB	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFCs	Title
1869	SMTP Service Extensions
1893	Enhanced Mail System Status Codes
2045	*Multipurpose Internet Mail Extensions Part One: Format of Internet Message Bodies, RFC*
2421	Voice Profile for Internet Mail - Version 2
2821	Simple Mail Transfer Protocol
2833	RTP Payloads for DTMF Digits, Telephony Tones and Telephony Signals
3261	SIP: Session Initiation Protocol
3501	Internet Message Access Protocol - Version 4rev1

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

Configuring the IVR Enterprise Database Subsystem

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This chapter describes how to configure the Cisco Unity Express IVR database profile and integration parameters. Use the IVR Enterprise database profile and integration set of CLI commands to either add a new database profile or, if a database profile already exists, to modify existing database profile parameters.

Use the IVR Enterprise Database Subsystem (EDBS) profile configuration CLI commands to configure the Cisco Unity Express Interactive Voice Response (IVR) external database profile.

Creating a New Database Profile

SUMMARY STEPS

1. **config t**
2. **ccn subsystem edbs dbprofile**
3. **dbtype** {**DB2** | **MSSQL-MSDE** | **ORACLE** | **SYBASE**}
4. **db-username** *userid*
   and
   db-password *password*

or

5. **credentials hidden** *credential-string*
6. **dbname** *external-db-name*
7. **db-hostname** *hostname*
8. **db-port** *port-number*
9. **maxactive** *maximum-active-connections*
10. **parameter** *name value*
11. **enabled**
12. **default** {**credentials** | **dbname** | **dbtype** | **description** | **enabled** | **db-hostname** | **maxactive** | **parameter** | **db-password** | **db-port** | **db-username**}
13. **end**

14. **exit**
15. **show ccn subsystem edbs dbprofile**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**config t** **Example:** `se-10-0-0-0# config t`	Enters global configuration mode.
Step 2	**ccn subsystem edbs dbprofile** *dbprofilename* If a new database profile is being added, the following message appears on the console before going into database profile command mode: `Adding new Database profile` `If a database profile already exists, the following message appears on the console:` `Modifying existing Database profile` **Example:** `se-10-0-0-0(config)# ccn subsystem edbs dbprofile myDBProfile` `Adding new Database profile` `se-10-0-0-0(config-dbprof)>`	Creates a new database profile and enters EDBS profile configuration mode. Use the **no** form of this command to remove a database profile.
Step 3	**dbtype** {**DB2** | **MSSQL-MSDE** | **ORACLE** | **SYBASE**} **Example:** `se-10-0-0-0(config-dbprof)# dbtype Oracle`	Specifies the required database type: • **DB2**: IBM underlying database system. • **MSSQL-MSDE**: Microsoft SQL or Microsoft Database Engine underlying database system. • **ORACLE**: Oracle underlying database system. • **SYBASE**: Sybase underlying database system.
Step 4	**db-username** *userid* and **db-password** *password* **Example:** `se-10-0-0-0(config-dbprof)# db-username james` `se-10-0-0-0(config-dbprof)# db-password dbpasswd`	Specifies the **db-username** and **db-password** authentication options to connect to the database. Use the **no** form of this command to remove the specified username and password strings.
Step 5	**credentials hidden** *credential-string* **Example:** `se-10-0-0-0(config-dbprof)# credentials hidden James_dbpasswd`	Specifies the username and password authentication in encrypted form to connect to the database • Use the **no** form of this command to remove the specified credential string.

	Command or Action	Purpose
Step 6	**dbname** *external-db-name* **Example:** `se-10-0-0-0(config-dbprof)# dbname atlanta`	Specifies the **dbname** option to specify an external database name. If the name is specified, it connects to the named external database. Use the **no** form of this command to remove this configuration. **Note** Some database documentation refers to **dbname** as Data Source Name (DSN).
Step 7	**db-hostname** {*ip-address* | *hostname*} **Example:** `se-10-0-0-0(config-dbprof)# db-hostname myHost`	Specifies the database server IP address or DNS hostname. Use the **no** and **default** form of this command to remove this configuration. **Note** If using a DNS hostname for the external database instead of an IP address, the DNS server must be configured before entering the DNS hostname.
Step 8	**db-port** *port-number* **Example:** `se-10-0-0-0(config-dbprof)# db-port 10`	(Optional) Specifies a port number other than the default port number of the database. Although databases are typically started using their default port numbers, it is possible that the default port number might have been changed to a different port number. • Use the **no** form of this command to remove this configuration. • The default port number varies depending on the underlying database. For example, the default port number is 1433 for the MSSQL and MSDE databases; the default port number is 1521 for the Oracle database,
Step 9	**maxactive** *maximum-active-connections* **Example:** `se-10-0-0-0(config-dbprof)# maxactive 8`	Specifies the maximum number of concurrent active connections to the external database. • Connection requests made after the maximum limit is reached cause connection failures. The maximum value, which is also the default value, that can be specified is typically twice the number of licensed IVR sessions. • Use the **no** and **default** form of this command to set the maximum number of concurrent active connections allowed to the default value. • The default for maxactive is twice the value of *max_ivr_port* for the Cisco Unity Express module.

	Command or Action	Purpose
Step 10	**parameter** *name value* **Example:** `se-10-0-0-0(config-dbprof)# parameter *headerchar *continuation`	(Optional) Specifies the JDBC driver-specific name-value pair. The name-value pair must match the requirements of the JDBC driver. • Each JDBC driver can have a different set of customized parameters. • Use this command multiple times to set multiple driver properties. • Use the **no** and **default** form of this command to remove this configuration. **Note** Use this command with caution. Its value impacts the way the module connects to the database. Consult with your database administrator before using this command. Unless you have a specific need, do not use this command.
Step 11	**enabled** **Example:** `se-10-0-0-0(config-dbprof)# enabled`	Enables the external database profile for use in running the database steps of a database script. • Use the **no** form of this command to disable the database profile. • Use the **default** form of this command to enable the profile.
Step 12	**default** {**credentials** | **dbname** | **dbtype** | **description** | **enabled** | **db-hostname** | **maxactive** | **parameter** | **db-password** | **db-port** | **db-username**} **Example:** `se-10-0-0-0# config t` `se-10-0-0-0(config)# ccn subsystem edbs dbprofile mydbprofile` `Adding new Database profile` `se-10-0-0-0(config-dbprof)# default credentials` `se-10-0-0-0(config-dbprof)# default dbname` `se-10-0-0-0(config-dbprof)# default dbtype` `se-10-0-0-0(config-dbprof)# default description cue_hostname` `se-10-0-0-0(config-dbprof)# default enabled` `se-10-0-0-0(config-dbprof)# default db-hostname local` `se-10-0-0-0(config-dbprof)# default maxactive` `se-10-0-0-0(config-dbprof)# default parameter` `se-10-0-0-0(config-dbprof)# default db-password` `se-10-0-0-0(config-dbprof)# default db-port` `se-10-0-0-0(config-dbprof)# default db-username` `se-10-0-0-0(config-dbprof)# end` `se-10-0-0-0(config)# exit`	Reset the IVR EDBS values to their default values in Cisco Unity Express IVR database profile configuration mode: • **credentials**: Has no effect on the IVR EDBS database. • **dbname**: No database name is configured. • **dbtype**: No database type is configured. • **description**: No description for the database profile is specified. • **enabled**: Enables the IVR EDBS. Use the **no** form of the command to disable the EDBS. • **db-hostname**: No external database hostname is specified. • **maxactive**: Sets the maximum value to twice the number of licensed IVR sessions. • **parameter**: No parameter name-value pair is configured. • **db-password**: Sets the IVR EDBS password to an empty string. • **db-port**: No specific port number is specified. It uses the database default port number based on **dbtype**. • **db-username**: Sets the IVR EDBS username to an empty string.

	Command or Action	Purpose
Step 13	**end** **Example:** `se-10-0-0-0(config-dbprof)# end`	Saves and exits EDBS database profile configuration mode. **Note** Changes are not saved unless the **end** command is used.
Step 14	**exit** **Example:** `se-10-0-0-0(config)# exit`	Exits global configuration mode.
Step 15	**show ccn subsystem edbs dbprofile** {**profilname** | **all**} **Example:** `se-10-0-0-0# show ccn subsystem edbs dbprofile profilname`	Displays EDBS database subsystem parameters. If a profile name is not specified, all database profiles are visible.

Examples

The following example displays the output of the **show ccn subsystem edbs dbprofile** command.

```
se-10-0-0-0# show ccn subsystem edbs dbprofile myDBProfile

Name:                       myDBProfile
Database Type:              Oracle
Database Name:              atlanta
Username:                   james
Password:                   ******
Hostname:                   myHost
Port:                       10
Enable:                     yes
Max active connections:     8
*headerchar                 *continuation
Status:                     Active
```

Configuring IVR HTTP Triggers

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Use the IVR HTTP-based trigger configuration CLI commands to configure Cisco Unity Express IVR HTTP trigger parameters.

This chapter describes how to configure the Cisco Unity Express IVR HTTP trigger parameters. An IVR HTTP-based trigger consists of a URL suffix string and an application name, which is added to the URL later by the **application** command. An HTTP request of the form **urlname** <*suffix*> results in the HTTP subsystem starting the configured application, then passing the HTTP information to the application. The HTTP request can include additional parameters that also pass to the application.

Before starting the application, the HTTP trigger subsystem ensures that the maximum session limit for the trigger and application have not been reached or exceeded. The maximum sessions for an HTTP trigger and application are limited by the number of licensed IVR sessions. If more requests are received than are allowed, the subsystem rejects those requests that exceed the limit and sends an HTTP 503 response. If an HTTP request is received and a trigger is not configured for the request suffix, the subsystem sends an HTTP 404 response.

Configuring an HTTP Trigger Application

SUMMARY STEPS

1. **config t**
2. **ccn trigger http urlname** <*suffix*>
3. **application** *application-name*
4. **idletimeout** *milliseconds*
5. **locale** *xx_YY*
6. **maxsessions** *maximum-sessions*
7. **enabled**
8. **default** {**application** | **enabled** | **idletimeout** | **locale** | **maxsessions**}
9. **end**
10. **exit**
11. **show ccn trigger http**
12. **copy running-config startup-config**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**config t** **Example:** `se-10-0-0-0# config t`	Enters global configuration mode.
Step 2	**ccn trigger http urlname** *<suffix>* If a new HTTP trigger is added, the following message appears on the console before going into HTTP trigger configuration mode: `Adding new trigger` If the HTTP trigger already exists, the following message appears on the console: `Modifying existing trigger` **Example:** `se-10-0-0-0(config)# ccn trigger http urlname http://localhost:8080` `Adding new trigger` `se-10-0-0-0(config-trigger)#`	Configures the trigger URL and enters HTTP trigger configuration mode. The HTTP trigger name must be a string variable without spaces or special characters. • Use the **no** or **default** form of this command to remove the configured HTTP trigger.
Step 3	**application** *application-name* **Example:** `se-10-0-0-0(config-trigger)# application myhttpapplication`	Specifies the application name that starts when the HTTP trigger is entered. • The **no** and **default** forms of this command have no effect.
Step 4	**idletimeout** *milliseconds* **Example:** `se-10-0-0-0(config-trigger)# idletimeout 15000`	Specifies the idle timeout is the time that the subsystem waits before dropping the HTTP request. The **no** form of this command has no effect. Use the **default** form of this command to set the idle timeout value to 10000.
Step 5	**locale** *xx_YY* **Example:** `se-10-0-0-0(config-trigger)# locale en_US`	Specifies the language used for the prompts that the caller hears when an HTTP-based trigger application activates. Use the **no** and **default** form of this command to set the locale value to the system default.

	Command or Action	Purpose
Step 6	**maxsessions** *maximum-sessions* **Example:** `se-10-0-0-0(config-trigger)# maxsessions 8`	Specifies the maximum number of simultaneous sessions of incoming HTTP requests allowed. The maximum value you can specify is limited by the number of licensed IVR sessions. • Use the **no** form of this command to set the maximum number of simultaneous HTTP requests to 0. • Use the **default** form of this command to set the maximum number of simultaneous HTTP requests value to the number of licensed IVR sessions.
Step 7	**enabled** **Example:** `se-10-0-0-0(config-trigger)# enabled`	Enables the processing of incoming HTTP-based trigger requests.
Step 8	**default** {**application** | **enabled** | **idletimeout** | **locale** | **maxsessions**} **Example:** `se-10-0-0-0# config t` `se-10-0-0-0(config)# ccn trigger http` `se-10-0-0-0(config-trigger)# default application` `se-10-0-0-0(config-trigger)# default enabled` `se-10-0-0-0(config-trigger)# default idletimeout` `se-10-0-0-0(config-trigger)# default locale systemDefault` `se-10-0-0-0(config-trigger)# default maxsessions` `se-10-0-0-0(config-trigger)#end` `se-10-0-0-0(config)# exit`	Resets the IVR HTTP trigger values to their default values in Cisco Unity Express IVR HTTP trigger configuration mode.: • **application**: Has no effect on the application. • **enabled**: Enables the HTTP-based trigger requests. Use the **no** form of this command to disable the HTTP trigger requests. • **idletimeout**: Sets the idle timeout to 10,000 seconds. • **locale**: Sets the locale to *systemDefault*. • **maxsessions**: Sets the maximum number of sessions to the port license number. Use the **no** form of this command to set the number to 0.
Step 9	**end** **Example:** `se-10-0-0-0(config-trigger)# end`	Saves and exits HTTP trigger configuration mode.
Step 10	**exit** **Example:** `se-10-0-0-0(config)# exit`	Exits global configuration mode.

	Command or Action	Purpose
Step 11	**show ccn trigger http** **Example:** `se-10-0-0-0# show ccn trigger http`	Displays details about the specified HTTP trigger subsystem configuration.
Step 12	**copy running-config startup-config** **Example:** `se-10-0-0-0# copy running-config startup-config`	Copies the currently running configuration as the startup configuration.

Examples

The **show ccn trigger all** command displays the different types of trigger configurations.

```
se-10-0-0-0# show ccn trigger ?
se-10-0-0-0# show ccn trigger {jtapi | sip | http | all}
```

For trigger type HTTP, you see the following output:

```
se-10-0-0-0# show ccn trigger http

Name:                           myhttpapp
Type:                           HTTP
Application:                    myhttpapplication
Locale:                         systemDefault
Idle Timeout:                   10000
Enabled:                        yes
Maximum number of sessions:     8
```

If no trigger type (JTAPI, SIP, or HTTP) is specified or if the **all** command option is selected), you see details of all the triggers:

```
se-10-0-0-0# show ccn trigger all

Name:                           6800
Type:                           SIP
Application:                    ouraa
Locale:                         systemDefault
Idle Timeout:                   10000
Enabled:                        yes
Maximum number of sessions:     8

Name:                           6800
Type:                           JTAPI
Application:                    ouraa
Locale:                         systemDefault
Idle Timeout:                   10000
Enabled:                        yes
Maximum number of sessions:     8

Name:                           myhttpapp
Type:                           HTTP
Application:                    myhttpapplication
Locale:                         systemDefault
Idle Timeout:                   10000
Enabled:                        yes
Maximum number of sessions:     8
```

Configuring the IVR Document Handling Parameters

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Use the IVR document handling configuration CLI commands to configure Cisco Unity Express IVR document handling performed in EXEC mode.

This chapter describes how to configure the Cisco Unity Express IVR document handling parameters. The following sections describe the procedures for copying documents to and from the Cisco Unity Express system and deleting documents using the IVR CLI feature:

- Copying a Document from a URL Location to the Cisco Unity Express IVR System, page 26
- Copying a Document from the Cisco Unity Express IVR System to a URL Location, page 28
- Deleting an Existing IVR Document, page 29

The Cisco Unity Express IVR document handling feature supports the uploading of various types of documents for use in e-mails and e-mail attachments, or for sending faxes (see the "Configuring the IVR Fax Subsystem" section on page 31). It also supports copying documents to and from a URL, deleting existing documents, and the use of documents in HTTP-based responses from within an application triggered by an HTTP request.

Tagged Image File Format (TIFF) images and generic documents are supported. You can use TIFF images that conform to Profile-F as defined in RFC 2306 for transmitting faxes or sending e-mail attachments. Generic documents can include:

- Image files with file extensions such as .jpg, .bmp, and .gif
- Document files such as .ps and .pdf
- Many other file extensions

Templates are special text documents designed to send notifications to callers using text substitution for keywords to create dynamic content for both e-mails and faxes.

The Cisco Unity Express IVR CLI also allows you to dynamically download a document or a template from an HTTP/FTP server. The downloaded document is stored temporarily while an application script executes. Use this to create content for e-mail or fax caller notifications within an executing script (see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts*). You can modify template keywords for different text substitution.

Copying a Document from a URL Location to the Cisco Unity Express IVR System

Use the **ccn copy url** command to copy a document from a specified URL to the Cisco Unity Express IVR system.

The following shows the full syntax of the **ccn copy url** command in Cisco Unity Express IVR EXEC mode:

ccn copy url *url* **document** {**tiff** | **template** | **generic**} *docname* [**language** *xx_YY*] [**username** *userid* [**password** *password*]]

If the document type is **tiff**, the document to be copied must have a .tif or a .tiff file extension. The document is checked to ensure it is a properly formatted TIFF image.

Note No file extension validation checks are performed for the generic and template document types.

If you specify a language within the command, the document is copied into the specified language storage location. If you do not specify the language or if not available, the document is copied into the system default language storage location. If a username and a password are required to access the URL (typical of an FTP URL), you can specify the username and password within the command syntax.

If a document of the specified type and having the specified name already exists in the system, you are prompted for permission to overwrite the existing document.

If the command fails to complete, an error message appears, indicating one of the following:

- Authentication failed
- Document type is tiff, but the file extension in the URL is not .tif or .tiff
- File is not a properly formatted tiff image
- File specified in the URL does not exist
- File size exceeds the maximum size for the specified document type
- Hostname or IP address specified in the URL cannot be contacted or is not reachable
- Maximum number of documents of the specified type has reached its limit
- Problem exists related to network connectivity
- URL specifies a hostname and the DNS server is not yet configured

Tip If the TIFF file does not appear properly formatted, you can use other methods to create a valid TIFF image. The following TIFF Conversion Method has been proven successful in creating a TIFF file that is properly formatted.

TIFF Conversion Method

1. Navigate to http://www.cs.wisc.edu/~ghost/.
2. Download and install Ghostscript and GSview.
3. If converting a:

a. Generic TIFF image file, open the file using a Microsoft Windows editing application, such as Wordpad or Notepad, and convert it into a .prn PostScript file using the *Print to file* feature.

b. Web page or other Microsoft Windows application, convert it into a .prn PostScript file using the *Print to file* feature.

c. PDF file, go directly to Step 4.

Note Whenever possible, we recommend that a PDF file be converted to a TIFF file. Conversion of a PDF file to a TIFF file results in a better quality image than converting a .prn file to a TIFF file.

4. Open the PDF or .prn file using GSview.
5. Use the **file > convert** feature of GSview and select *tiffg3*.

SUMMARY STEPS

1. **ccn copy url** *url* **document** {**tiff** | **template** | **generic**} *docname* [**language** *xx_YY*] [**username** *userid* [**password** *password*]
2. **show ccn document**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**ccn copy url** *url* **document** {**tiff** | **template** | **generic**} *docname* [**language** *xx_YY*] [**username** *userid* [**password** *password*] **Example:** `se-10-0-0-0# ccn copy url http://www.mywebsite.org/document.txt document template document.txt language en_US username james password psswd`	Specifies the URL, document type, document name, language, and authentication username and password (if required).
Step 2	**show ccn document** {**tiff** | **template** | **generic** | **all**} [**language** *xx_YY*] **Example:** `se-10-0-0-0# show ccn document all`	Displays copy document type configuration parameters. • Documents of the specified type are visible. If you selected the **all** command option as the document type, all the documents are visible. • Use the **language** command option to only include documents in the specific language. If omitted, all document files are visible.

Examples

The following example displays the output of the **show ccn document** command.

```
se-10-0-0-0# show ccn document template language en_US
```

Name: document.txt

Language: en_US

Last Modified Date: Thu Dec 08 15:18:22 EST 2007

Length in Bytes: 1200

Copying a Document from the Cisco Unity Express IVR System to a URL Location

Use the **ccn copy document** command to copy a document from the system to a specified URL.

The following shows the full syntax of the **ccn copy document** command in Cisco Unity Express IVR EXEC mode:

ccn copy document {**tiff** | **template** | **generic**} *docname* **url** *url* [**language** *xx_YY*] [**username** *userid* [**password** *password*]

If you specify a language in the command, the document written in the specified language is copied. If you do not specify the language or if not available, the document written in the default language is copied. If a username and a password are required to access the URL, you can specify the username and password within the command syntax.

If a document of the specified type and having the specified name already exists in the URL, you are prompted for permission to overwrite the existing document.

If the command fails to complete, one of the following error conditions probably exists, causing generation of a corresponding error message:

- Document specified by document name (*docname*) does not exist for the specified or default language
- Specified URL does not exist or cannot be contacted
- Authentication failed

SUMMARY STEPS

1. **ccn copy document** {**tiff** | **template** | **generic**} *docname* **url** *url* [**language** *xx_YY*] [**username** *userid* [**password** *password*]
2. **show ccn document**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**ccn copy document** {**tiff** | **template** | **generic**} *docname* **url** *url* [**language** *xx_YY*] [**username** *userid* [**password** *password*]	Specifies the document type, document name, URL, language, plus authentication username and password (if required).
	Example: `se-10-0-0-0# ccn copy document template document.txt url http://www.mywebsite.org/document.txt language en_US username james password psswd`	
Step 2	**show ccn document** {**tiff** | **template** | **generic** | **all**} [**language** *xx_YY*]	Displays copy document type configuration parameters. • Documents of the specified type are visible. If you selected the **all** command option as the document type, all the documents are visible. • Use the **language** command option to narrow the show selection to only include documents in the specific language. If omitted, all document files are visible.
	Example: `se-10-0-0-0# show ccn document all`	

Examples

The following example displays the output of the **show ccn document** command with the language specified as US English.

```
se-10-0-0-0# show ccn document template language en_US

Name:                document.txt
Language:            en_US
Last Modified Date:  Thu Dec 08 15:18:22 EST 2005
Length in Bytes:     1200
```

Deleting an Existing IVR Document

Use the **ccn delete document** command to delete an existing IVR document from the system.

The following shows the full syntax of the **ccn delete document** command in Cisco Unity Express IVR EXEC mode:

ccn delete document {**tiff** \| **template** \| **generic**} *docname* [**language** *xx_YY*]

You can specify the language option in the command syntax to further identify the document to be deleted. If you do not specify the language, the document written in the default language is deleted. A deletion confirmation message asks for permission to delete the document.

If a document of the specified type and having the specified name does not exist, an error message is generated and the deletion operation aborts.

SUMMARY STEPS

1. **ccn delete document** {**tiff** | **template** | **generic**} *docname* [**language** *xx_YY*]

2. **show ccn document**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**ccn delete document** {**tiff** | **template** | **generic**} *docname* [**language** *xx_YY*] `se-10-0-0-0# ccn delete document.txt template document.txt language en_US`	Specifies the document to be deleted identified by document type, document name, and language.
Step 2	**show ccn document** {**tiff** | **template** | **generic** | **all**} [**language** *xx_YY*] **Example:** `se-10-0-0-0# show ccn document all`	Displays the document types. • After the document is deleted, use the command output to confirm that the specified document was deleted.

Examples

The following example displays the output of the **show ccn document** command with the language specified as US English.

```
se-10-0-0-0# show ccn document template language en_US

Name:                document.txt
Language:            en_US
Last Modified Date:  Thu Dec 08 15:18:22 EST 2005
Length in Bytes:     1200
```

Configuring the IVR Fax Subsystem

Last Updated: July 24, 2008

This chapter describes how to configure Cisco Unity Express IVR fax subsystem parameters. The following sections describe the procedures for configuring IVR fax parameters:

- Configuring the Fax SMTP DNS Hostname or IP Address, page 31
- Configuring the Fax Default-From Address, page 33

The Cisco Unity Express IVR fax subsystem uses e-mail components to generate an e-mail or e-mail attachments. Faxes are sent to a configurable fax SMTP server. The fax SMTP server configuration is different from the SMTP server configuration you use for sending outbound e-mails (see the "Configuring the IVR Outgoing E-Mail Subsystem Notifications" section on page 35). Outbound faxes are generated using a specially formatted e-mail address.

The fax subsystem can generate an e-mail notification to describe the disposition of the fax message. If this option is enabled, an e-mail is generated and sent to the address listed in the *from* field for both successful and unsuccessful conditions.

The fax subsystem maintains a queue of outbound fax requests. Any request by the script to send a fax from the Editor step inserts the request in the queue and returns to prevent waiting for a response from the router (see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts*). The system does not return an SMTP reply until the fax is completely sent, and this can take 10 minutes. If the reply from the SMTP server indicates that the fax was sent successfully, the request is removed from the queue. If the reply indicates that there was a failure in sending the fax, sending the fax is retried after 10 minutes. If it is unsuccessful after three retries, then the fax request is marked as failed.

The queue is maintained in the database so that it can persist across a reboot of the system. If the fax was generated using a document or TIFF attachment, then the pointer to the document is stored in the database. If the fax was generated using a text substituted template file, then the file is stored in a temporary directory and stored in the database.

Configuring the Fax SMTP DNS Hostname or IP Address

Use the **fax gateway outbound address** command to configure the fax SMTP server for fax steps in running the script (see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts*). The outbound address is the address of the fax SMTP server on the Cisco IOS gateway, which generates the fax call. An error message appears if an attempt is made to enter a DNS hostname without first configuring the DNS server.

The **no** and **default** form of this command removes the fax SMTP server configuration.

SUMMARY STEPS

1. **config t**
2. **fax gateway outbound address** {*hostname* | *ip-address*}
3. **smtp server address** {*hostname* | *ip-address*} {**none** | **credentials** *credential-string* | **username** *userid* **password** *password*}
4. **end**
5. **exit**
6. **show ccn subsystem fax**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**config t** **Example:** `se-10-0-0-0# config t`	Enters global configuration mode.
Step 2	**fax gateway outbound address** {*hostname* | *ip-address*} **Example:** `se-10-0-0-0(config)# fax gateway outbound address 10.0.0.1`	Specifies the fax gateway outbound address DNS hostname or IP address.
Step 3	**smtp server address** {*hostname* | *ip-address*} {**none** | **credentials** *credential-string* | **username** *userid* **password** *password*} **Example:** `se-10-0-0-0(config)# smtp server address 172.16.0.0 credentials abcdefg`	Specifies the SMTP server DNS hostname or IP address and authentication. This step is required to generate the disposition notification e-mails.
Step 4	**exit** **Example:** `se-10-0-0-0(config)# exit`	Exits global configuration mode.
Step 5	**show fax configuration** **Example:** `se-10-0-0-0# show fax configuration`	Displays the fax configuration parameters.

Examples

The following example displays the output of the **show fax configuration** command.

```
se-10-0-0-0> show fax configuration
Inbound Fax Gateway:
Outbound Fax Gateway:                    10.0.0.1
Fax Printing Number:
```

Configuring the Fax *Default-From* Address

Use the **default-from** fax command to configure the *default-from* e-mail address for the fax application.

The *default-from* address is the address that your recipients see in the *From* field of outgoing e-mails and, if undeliverable, e-mails are returned to this address. Although the message is being sent from Cisco Unity Express servers and e-mail domains, you can set this to read *name@domain.com*. The *default-from* address can be customized for your chosen e-mail address, meaning the e-mail can be from a specific address on your domain.

Enter a valid e-mail address string that is capable of receiving e-mail deliveries. This address must also be capable of receiving notifications of delivery failures. The *Send Fax* step in the script forces the application to use this address for successful delivery notifications (see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts*).

If the *Send Fax* step has the Use Default option checked and the *default-from* address is not configured, Cisco Unity Express uses *user@localhost.com* as the address.

The **no** and **default** form of this command removes this configuration.

SUMMARY STEPS

1. **config t**
2. **ccn subsystem fax**
3. default-from *email-address-string*
4. default
5. **end**
6. **exit**
7. **show ccn subsystem fax**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**config t** **Example:** `se-10-0-0-0# config t`	Enters configuration mode.
Step 2	**ccn subsystem fax** **Example:** `se-10-0-0-0(config)# ccn subsystem fax` `se-10-0-0-0(config-fax)#`	Enters fax configuration mode.
Step 3	**default-from** *email-address-string* **Example:** `se-10-0-0-0(config-fax)# default-from name@domain.com`	Specifies the *default-from* e-mail address.

	Command or Action	Purpose
Step 4	**default** **Example:** `se-10-0-0-0(config-fax)# default default-from name@domain.com`	Deletes the IVR fax subsystem *default-from* e-mail address.
Step 5	**end** **Example:** `se-10-0-0-0(config-fax)# end`	Saves and exits fax configuration mode.
Step 6	**exit** **Example:** `se-10-0-0-0(config)# exit`	Exits global configuration mode.
Step 7	**show fax configuration** or **show ccn subsystem fax** **or** **show ccn subsystem fax outbound queue** **Example:** `se-10-0-0-0# show fax configuration` or `se-10-0-0-0# show ccn subsystem fax` or `se-10-0-0-0# show ccn subsystem fax outbound queue`	Displays the fax configuration parameters, fax *default-from* address, or queued outbound fax messages.

Examples

The following example displays the output of the **show fax configuration** command.

```
se-10-0-0-0> show fax configuration
Inbound Fax Gateway:
Outbound Fax Gateway:                   10.0.0.1
Fax Printing Number:
```

The following example displays the output of the **show ccn subsystem fax** command.

```
se-10-0-0-0> show ccn subsystem fax
FAX Default From Address:               man2821-cue@cisco.com
```

Faxes are always sent in queued mode. The following example displays the output of the **show ccn subsystem fax outbound queue** command. If no faxes are in the outbound queue, the system responds with “No jobs in queue.”

```
se-10-0-0-0> show ccn subsystem fax outbound queue
============================================================================
Fax ID    Recipient      Subject                         Retry     Scheduled
                                                         Count     Send Time
============================================================================
15        9784551212     subject of Fax - max 30 char    1         2007/05/30 10:52:00
```

Configuring the IVR Outgoing E-Mail Subsystem Notifications

Last Updated: July 24, 2008

Use the IVR e-mail configuration CLI commands to configure Cisco Unity Express IVR outbound e-mail notification.

This chapter describes how to configure Cisco Unity Express IVR outbound e-mail notifications. The following sections describe the procedures for configuring IVR e-mail parameters:

- Configuring the SMTP Server, page 35
- Configuring the E-Mail Default-From Address, page 36

E-mails sent from Cisco Unity Express are directed to a configurable SMTP server. The outbound e-mail Notification steps in running the script allow you to:

- Create e-mail messages
- Attach files to an outbound e-mail message
- Send e-mail messages from the Cisco Unity Express scripts

Configuring the SMTP Server

Use one of the following commands to configure the e-mail SMTP server, depending on the authentication method chosen, if authentication is required (See the *Cisco Unity Express Command Reference)*:

For e-mail SMTP server configuration where no SMTP server authentication is required enter:

```
se-10-0-0-0(config)# smtp server address {hostname | ip-address} authentication none
```

For e-mail SMTP server configuration where authentication of the SMTP server is required using the DNS hostname or IP address enter:

```
se-10-0-0-0(config)# smtp server address {hostname | ip-address} authentication username
userid password password
```

For e-mail SMTP server configuration where authentication of the SMTP server is required using the credential string, enter:

```
se-10-0-0-0(config)# smtp server address {hostname | ip-address} authentication
credentials credential-string
```

E-mail uses the Document script *EmailMessageSent* steps for loading templates documents, substituting text in the templates, and loading attachments (see the *Cisco Unity Express 3.2 Guide to Writing and Editing Scripts*). The templates are accessed by the *CreateFileDocument* step in the Script Editor to create a document. The document can then be used by the *Text Substitution for Keywords* step to replace keywords with dynamic parameters. The *Create eMail* step inserts a document into the body of an e-mail. The *Attach to eMail* step sends documents as e-mail attachments. A maximum of five attachments can be added to an e-mail. The *Send eMail* step uses properties fields to set the destination and source addresses and submits the e-mail to the SMTP server for delivery.

The *Outbound eMail Notification* steps uses the e-mail subsystem to send e-mail messages. The e-mail subsystem supports both synchronous and asynchronous methods of sending an e-mail.

Configuring the E-Mail *Default-From* Address

Use the **default-from** e-mail command to configure the *default-from* address for the e-mail application.

The *default-from* address is the address that your recipients see in the *From* field of outgoing e-mails and, if undeliverable, e-mails are returned to this address. Although the message is being sent from Cisco Unity Express servers and e-mail domains, you can set this to read *name@domain.com*. The *default-from* address can be customized for your chosen e-mail address, meaning the e-mail can come from a specific address on your domain.

Enter a valid e-mail address string that is capable of receiving e-mail deliveries. This address must also be capable of receiving notifications of delivery failures.

The **no** and **default** form of this command removes this configuration.

SUMMARY STEPS

1. **config t**
2. **ccn subsystem email**
3. **default-from** *email-address-string*
4. **default**
5. **end**
6. **exit**
7. **show ccn subsystem email**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**config t** **Example:** `se-10-0-0-0# config t`	Enters global configuration mode.
Step 2	**ccn subsystem email** **Example:** `se-10-0-0-0(config)# ccn subsystem email` `se-10-0-0-0(config-email)#`	Enters e-mail configuration mode.
Step 3	**default-from** *email-address-string* **Example:** `se-10-0-0-0(config-email)# default-from customer25@abccomany.com`	Specifies the default-from e-mail address.
Step 4	**default** **Example:** `se-10-0-0-0(config-email)# default default-from customer25@abccomany.com`	Deletes the IVR e-mail subsystem *default-from* e-mail address.
Step 5	**end** **Example:** `se-10-0-0-0(config-email)# end`	Saves and exits e-mail configuration mode.
Step 6	**exit** **Example:** `se-10-0-0-0(config)# exit`	Exits global configuration mode.
Step 7	**show ccn subsystem email** or **show ccn subsystem email queue** **Example:** `se-10-0-0-0# show ccn subsystem email` or `se-10-0-0-0# show ccn subsystem email queue`	Displays the e-mail *default-from* address or, if the e-mails are queued, those queued e-mail messages.

Examples

The following example displays the output of the **show ccn subsystem email** command.

```
se-10-0-0-0# show ccn subsystem email

Default From Address :                    customer25@abccompany.com
```

When generating e-mails from the Cisco Unity Express system, the e-mails can be sent synchronously or in a queued mode. If the e-mails are sent in a queued mode, the following example displays the output of the **show ccn subsystem email queue** command.

```
se-10-0-0-0# show ccn subsystem email queue
================================================================================
Email ID       Recipient             Subject                         Scheduled
                                                                     Send Time
================================================================================
1196220172243  max20char@cisco.com   subject of Email - max 30 char  2007/05/30 10:52:00
```

Deploying an IVR Web Application

Last Updated: July 24, 2008

The Cisco Unity Express Interactive Voice Response (IVR) feature allows you to deploy your VoiceXML scripts, which represent the static content of the IVR application, and JSP and Java files, which generate the dynamic content of the IVR application. IVR applications are packaged using the Web Archive (WAR) file format, which contain VoiceXML and compiled versions of the JSP and Java files, including the property and configuration files.

Use the IVR CLI commands associated with your written Web applications to deploy and manage the Cisco Unity Express IVR Web application. The following sections describe how to deploy a Web application represented by a WAR file on to a Cisco Unity Express module:

Before Deploying an IVR Web Application

Before deploying a Web application, prompts must be loaded on the Cisco Unity Express system using the following command (see "Copying a Document from a URL Location to the Cisco Unity Express IVR System" procedure on page -26):

ccn copy url *xxx://xxx/xxx.wav* **prompt** *xxx.wav* **language** *xx_YY*

Databases to be used by the Web application must be configured first (see "Configuring the IVR Enterprise Database Subsystem" section on page 15). Also, fax (see "Configuring the IVR Fax Subsystem" section on page 31) or e-mail (see "Configuring the IVR Outgoing E-Mail Subsystem Notifications" section on page 35) resources used by the application must be configured. The WAR file must be located in a directory that can be accessed using FTP, SFTP, or TFTP.

Defining the Web Application

After executing the **webapp deploy** command to deploy and start the Web application, and the s**how webapp** command to verify that the application has started correctly, an application definition must be provided to define the Web application to the remainder of the Cisco Unity Express environment. The definition is made in Cisco Unity Express configuration mode, as shown in the following commands:

```
ccn application app-name ivr
  description "description"
  enabled
  script "webapp.aef"
  parameter "startPage" "relative/path/to/webapp/start/page.vxml"
  parameter "appName" "<webappname>"
  end application
```

Where:

- *app name* is the name of the application as recognized by Cisco Unity Express. It is typically the same name given to the application during the **webapp deploy** command, and use of this name is not a requirement.
- *description* is the text used to describe the Web application.
- *relative/path/to/webapp/start/page.vxml* is the pathname (including file and extension) to the first page of the application relative to the remainding files in the WAR file. For example, if the WAR file contains the file *vxml/start.vxml*, and this is where the startup logic of the Web application is contained, then the string *vxml/start.vxml* is configured as the *startPage* parameter of this application.
- *webappname* is the name given to the application during the **webapp deploy** command.

Note This is a standard **ccn application** definition, with the following:

- **ivr** keyword is required to define an Interactive Voice Response application.
- **webapp.aef** script is used to connect to the Web application.
- **webapp.aef** script uses the *startPage* and *webappname* parameters to locate the desired Web application and use the desired starting page within that Web application.

Setting a Trigger

After defining the Web application, one or more triggers can be defined to trigger operation of the application. A trigger must have the following format:

```
ccn trigger protocol phonenumber number
  application appname
  enabled
  end trigger
```

Where:

- *protocol* is the protocol used by the incoming event trigger, usually SIP or JTAPI (to define an HTTP trigger, see "Configuring IVR HTTP Triggers" section on page 21).
- *number* is the phone number dialed to invoke this trigger.
- *appname* is the name of the Cisco Unity Express Web application.

Deploying the Web Application

Use the **webapp deploy** command to upload and start the WAR file onto the Cisco Unity Express system.

The **webapp** command deploys and manages a specified Web application in the Cisco Unity Express IVR system. The following is the full syntax of the **webapp** command in Cisco Unity Express IVR EXEC mode:

webapp {**delete webappname** *name* | **deploy url** *war-url* **webappname** *name* [**allow-network-connect** | **username** *userid* [**password** *password* [**allow-network-connect**]]] | **reload webappname** *name* | **start webappname** *name* | **stop webappname** *name*}

SUMMARY STEPS

1. **webapp deploy url** *war-url* **webappname** *name* [**allow-network-connect** | **username** *userid* [**password** *password* [**allow-network-connect**]]]
2. **webapp start webappname** *name*
3. **webapp stop webappname** *name*
4. **webapp reload webappname** *name*
5. **webapp delete webappname** *name*
6. **show webapp**

DETAILED STEPS

	Command or Action	Purpose
Step 1	**webapp deploy url** *war-url* **webappname** *name* [**allow-network-connect** | **username** *userid* [**password** *password* [**allow-network-connect**]]] **Example:** `se-10-0-0-0# webapp deploy url ftp://10.0.0.1/hr.war webappname myapp username tbdonald password ******* allow-network-connect`	Installs and starts the Web application using the following information: • Name of the application (for example, *myapp*). This name must be less than 8 characters in length and is used to generate the: – Name of the Web application subdirectory that hosts the application files, – URL path matched against incoming URLs to access this Web application. • URL of the WAR file to be uploaded Based on this information, the command uploads the WAR file and deploys it. If one of the following errors is detected, the corresponding error message appears: • Webapp *appname* already exists • Web archive *war-url* does not exist • Webapp *appname* produced exception • Webapp *appname* is too large • Too many webapps already deployed When the WAR file contains content that is not allowed, the following warning appears: `Web archive war-url contains unexpected file filename which will be ignored`
Step 2	**webapp start webappname** *name* **Example:** `se-10-0-0-0# webapp start url ftp://10.0.0.1/hr.war webappname myapp`	Starts the specified Web application after it was stopped using the **webapp stop** command. If one of the following errors is detected, the corresponding error message appears: • Webapp *appname* is already started • Webapp *appname* does not exist • Webapp *appname* produced exception
Step 3	**webapp stop webappname** *name* **Example:** `se-10-0-0-0# webapp stop url ftp://10.0.0.1/hr.war webappname myapp`	Stops the specified Web application. If one of the following errors is detected, the corresponding error message appears: • Webapp *appname* is already stopped • Webapp *appname* does not exist • Webapp *appname* produced exception

	Command or Action	Purpose
Step 4	**webapp reload webappname** *name* **Example:** `se-10-0-0-0# webapp reload url ftp://10.0.0.1/hr.war webappname myapp`	Reloads the specified Web application. The **webapp reload** command is equivalent to the **webapp stop** command immediately followed by **webapp start** and used to reload misbehaving Web applications. If one of the following errors is detected, the corresponding error message appears: • Webapp *appname* does not exist • Webapp *appname* produced exception
Step 5	**webapp delete webappname** *name* **Example:** `se-10-0-0-0# webapp delete url ftp://10.0.0.1/hr.war webappname myapp`	Deletes the specified Web application. The **webapp delete** command removes the Web application and deletes all the resources of the Web application from the module. If one of the following errors is detected, the corresponding error message appears: • Webapp *appname* is not stopped • Webapp *appname* does not exist • Webapp *appname* produced exception
Step 6	**show webapp** **Example:** `se-10-0-0-0# show webapp`	Displays the Web application name, status (*running* or *stopped*), and number of Web application sessions connected.

Examples

After executing the **webapp deploy** command to deploy and start the Web application, use the **show webapp** EXEC command to verify that the application starts correctly. The name of the Web application must be provided in the **show** command to display the status of a specific Web application. Use the **show webapp** command to monitor the applications. The following **show webapp** command is an example of the command output for all Web applications:

```
se-10-0-0-0# show webapp
Webapp      Status  #Sessions
Webapp1     running         2
Webapp2     stopped         0
```

The output displays the name, status (*running* or *stopped*), and number of connected sessions of the Web application.

Until the first call that matches an application trigger reference is received, the status of the Web application when it is initially deployed is shown as *running* and the number of sessions is *0*. After the initial deployment, the session count increments by one for each triggered call received, and decrements by one for each triggered call terminated. Sessions persist for a short period of time after the call is terminated, so the session count lags the real-time call termination for a short period.

Note These triggered sessions are those recognized by the Web application server and not sessions recognized by the remainder of the Cisco Unity Express environment.

If you use the **webapp stop** command, the Web application stops, and its status is *stopped*. If the **webapp stop** command is followed immediately by a **webapp start** command, the web application is reinitialized, starts execution, and its status becomes *running*. The **webapp reload** command is equivalent to the **webapp stop** command immediately followed by **webapp start** and used to reload misbehaving Web applications. The **webapp delete** command removes the Web application from the **show webapp** output, and deletes all the resources of the Web application from the module.

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