



# Self-Provisioning

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## Self-Provisioning

### Self-Provisioning for End Users and Administrators

With the Self-Provisioning feature, you or an end user can add an unprovisioned phone to a Cisco Unified Communications Manager system with minimal administrative effort. A phone can be added by plugging it into the network and following a few prompts to identify the user.

The feature lets administrators and users deploy a large number of devices without interacting directly with the Cisco Unified Communications Manager Administration GUI, but from the device itself. The feature relies on you preconfiguring a number of templates and profiles, so that when the phone attempts to self-provision, the necessary information is available in the system for it to create a new device.



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**Note** Self-provisioning is not supported for secured endpoints.

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There are two levels of configuration for Self-Provisioning:

- The system level
- The user level

You can set up this feature at the system level from Cisco Unified Communications Manager Administration under the **User Management > Self-Provisioning** menu.

To set up this feature, you can select one of the following modes:

- **Secure Mode**
  - Administrators can provision devices on behalf of end users

- End users can provision devices with their credentials
- **Non-Secure Mode**
  - End users/administrators can enter Self-Service ID for the device that is being provisioned.

With appropriately configured User Profiles, end users can provision their own devices. These User Profiles may be shared by a group of users that share the same characteristics. The User Profile contains the following settings:

- Universal Device Templates
- Universal Line Template
- End user Self-Provisioning settings




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**Note** The administrator can set any User Profile as the system default.

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In order to allow a user to provision a new device using Self-Provisioning, the user must meet the following criteria:

If you do not configure a UDT in the User Profile, user assignment fails and plays the following error message on the phone: `This device could not be associated to your account. Please contact the System administrator to complete provisioning.`

- Self-Provisioning must be enabled for the end user.




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**Note** Self-Provisioning must be enabled even if the administrator performs device self-provisioning on behalf of the user.

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- The user must have a primary extension.
- The user must have the appropriate universal device template linked to the User Profile.
- The total number of owned devices must be less than the Self-Provisioning limit that is specified on the associated User Profile.

### Self-Provisioning IVR Service

The Self-Provisioning feature introduces a new service called Self-Provisioning IVR service. When you dial the CTI RP DN that is configured on the Self-Provisioning page, from an extension of a user that uses the IVR service, the phone connects to the Self-Provisioning IVR application and prompts you to provide the Self-Service credentials. Based on the validation of the Self-Service credentials that you provide, the IVR service assigns the autoregistered IP phones to the users.

You can configure self-provisioning even if the service is deactivated, but the administrator cannot assign IP phones to users using the IVR service. By default, this service is deactivated.



**Note** When you upgrade a previous release Cisco Unified Communications Manager to Release 10.0, the Cisco Unified Communications Manager will create a Universal Device Template and a Universal Line Template which will retain the previous configurations for Auto-Registration settings. After the upgrade, the values of **Partition** and **External Phone Number Mask** will be populated in the new Universal Line Template by Cisco Unified Communications Manager and in the Line field of the Universal Device Template respectively. And also, the Cisco Unified Communications Manager populates the Cisco Unified Communications Manager name for the Universal Device Template and a Universal Line Template and configures the same values for Auto-Registration settings.

## Self-Provisioning Settings

Name	Description
<b>Status</b>	
Status	<p>Displays the success or failure messages for Self-Provisioning save and Self-Provisioning IVR service restart actions.</p> <p>Displays <b>Ready</b> message when the following features are turned on:</p> <ul style="list-style-type: none"> <li>• Auto-Registration</li> <li>• Self-Provisioning IVR service</li> </ul> <p>When either feature is turned off, the status displays the name of the feature that is turned off.</p> <p>When both Auto-Registration and Self-Provisioning IVR service are turned off, you can still save the configuration.</p>
<b>Authentication Mode</b>	

Name	Description
Require Authentication	<p>Requires authentication for self-provisioning. Select one of the following authentication options:</p> <p><b>Allow authentication for users only (via Password/PIN)</b></p> <p>Allows users to use their password or PIN to authenticate and provision devices based on the permissions in their User Profile.</p> <p><b>Allow authentication for users (via Password/PIN) and Administrators (via Authentication Code)</b></p> <p>Allows users and administrators to provision on behalf of an end user through an authentication code. The authentication code must be an integer ranging from 0 to 20 digits but cannot be empty (null).</p> <p><b>Note</b> Self-Provisioning from the phone interface uses the user password instead of a PIN. A PIN is used for Self-Provisioning through the IVR interface.</p> <p>By default, <b>Require Authentication mode</b> is selected with the <b>Allow Authentication for users only (via Password/PIN)</b> radio button checked and the <b>Authentication Code</b> text box disabled.</p>
No Authentication Required	<p><b>Note</b> This mode is not recommended for day-to-day operation.</p> <p>Users and administrators do not require authentication. In this open mode, authentication is disabled when a device is self-provisioned. The administrator or end user can enter a user ID or self-provisioning ID into an endpoint and the endpoint is associated to the user account.</p>
<b>IVR Settings</b>	
Language Preference	<p>Displays the available and selected language based on the language pack that is installed on the Cisco Unified Communications Manager. You can select the priority of the language for the IVR to play by using the up and down arrows.</p> <p>English, United States is the default language in the <b>Selected Language</b> list if no other language pack is installed. You can have a maximum of nine languages in the <b>Selected Language</b> list depending on the language pack that is installed on the Cisco Unified Communications Manager.</p> <p>If you try to remove the only language from the <b>Selected Language</b> list, a warning message appears as follows: Selected Language should contain at least one language.</p>

Name	Description
CTI Route Point	<p>Select a CTI Route Point from the drop-down list. The selected CTI Route Point can have one or multiple DNs associated to it. The DNs are autopopulated when you select a route point.</p> <p>For the selected route point, the corresponding DN appears with the following message: Dial 2000 from the phone to assign an extension. If no DN is assigned to the selected route point, the following message appears: No DN is assigned to the Route Point. Please assign a DN to the Route Point.</p> <p>The default value is Not Selected.</p> <p>The CTI RP supports the following codecs:</p> <ul style="list-style-type: none"> <li>• G711 u-law 64K</li> <li>• G711 a-law 64K</li> <li>• G729</li> <li>• L16 256K</li> </ul> <p>When you dial the CTI Route point to associate a phone to the user, the IVR prompts play. When this process is still in progress and you click on any softkey (for example, hold, transfer, conference, and so on), the CTI Route Point IVR call disconnects and 20 seconds later, the phone display shows that the call is disconnected.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• Self Provisioning IVR supports a maximum of 100 ports (calls to the CTI Route Point). When a new CTI Route Point is created, the default Max Calls for the Route Point is 5000.</li> <li>• The number of CTI Route Point ports can be further reduced below 100 (for example, to 50 or 20) based on the size of the Unified Communications Manager cluster and the number of users. Reduce the max calls to reduce the virtual memory footprint of a process Plug-and-Play Launcher.</li> </ul>

Name	Description
Application User	<p>Select an Application User from the drop-down list. For the selected application user, if <i>Standard CTI Enabled</i> role is not assigned, the following warning message appears: Standard CTI Enabled role is not assigned for this application user. Self-Provisioning IVR service will not work.</p> <p>You must select an Application User for the Self-Provisioning IVR to work.</p> <p>If the selected application user does not have valid credentials set (for example, password), the following warning message appears: Valid credentials not set for this application User. Self-Provisioning IVR service will not work.</p> <p>The default value specifies Not Selected.</p>

Name	Description
Save	<p>Saves the Self-Provisioning configuration.</p> <p>If you modified the CTI Route Point or the Application User, a popup message appears: Changing the CTI Route Point Selection requires the Self-Provisioning service to restart. Any active Self-Provisioning sessions will be terminated. If you do not restart now, you will have to manually restart Self-Provisioning through the Cisco Unified Communications Serviceability interface.</p> <p>The popup message provides the following three options and, based on what you select, it displays the appropriate status message in the <b>Status</b> field:</p> <ul style="list-style-type: none"> <li>• <b>Save and Restart Now:</b> Saves the configuration and restarts Self-Provisioning IVR service automatically, which displays the message: Save successful. Self-Provisioning IVR service restarted successfully.</li> </ul> <p><b>Note</b> There is a delay of 30 seconds between Self-Provisioning IVR service restart and call establishment with CTI RP. During this delay time, you will hear a reorder tone until the CTI RP gets registered and the IVR service gets activated again.</p> <p><b>Note</b> When the Self-Provisioning IVR service goes down during a call in-progress, the call disconnects immediately.</p> <p><b>Note</b> When you select <b>Save and Restart Now</b>, it saves the configuration but fails to restart the Self-Provisioning IVR service, and the following status message appears: Save successful. Failed to restart Self-Provisioning IVR service.</p> <ul style="list-style-type: none"> <li>• <b>Save Without Restarting:</b> Saves the configuration but does not restart Self-Provisioning IVR service, which displays the message: Save successful.</li> <li>• <b>Cancel:</b> Closes the popup message and displays the new changes configured for Self-Provisioning without saving. If you want to retain the old configuration, refresh the page.</li> </ul> <p>Changes to the Self-Provisioning configuration do not take effect until you restart the Self-Provisioning IVR service. For information about restarting a service, see the <i>Cisco Unified Serviceability Administration Guide</i>.</p>

# User Profile Settings

Name	Description
<b>User Profile</b>	
Name	Enter a name to identify the User Profile.
Description	(Optional) Enter a description for the User Profile.
Make this the default User Profile for the system	Check this check box to specify this User Profile as the default for the system.
<b>Universal Device Template</b>	
<b>Note</b>	These templates are used to create new phones or move phones for the users that are associated with this feature group template.
<b>Note</b>	If you do not configure a UDT in the User Profile, user assignment fails and plays the following error message on the phone: This device could not be associated to your account. Please contact the System administrator to complete provisioning.
Desk Phones	From the drop-down list box, select a universal device template for desk phones that are associated to this user.
Mobile and Desktop Devices	From the drop-down list box, select a universal device template for mobile devices that are associated to this user.
Remote Destination/Device Profiles	From the drop-down list box, select a universal device template for profiles that are associated to this user.
<b>Universal Line Template</b>	
Universal Line Template	From the drop-down list box, select a universal line template to associate to this feature group template.  <b>Note</b> You can create universal line templates from <b>User Management &gt; User/Phone Add &gt; Universal Line Template</b> .  <b>Note</b> A universal line template is not required for the Self-Provisioning feature.
<b>Self-Provisioning</b>	
Allow end user to provision their own phones	Check this check box to enable user self-provisioning, which provides users with permission to provision their phones.



Name	Description
Limit Provisioning once End User has this many phones	Specify a limit to the number of provisions a user can perform. The maximum is 20 and the default is 10.

## Set Up Self-Provisioning for New User



**Note** A newly self-provisioned device may not immediately appear as Registered in Cisco Unified Communications Manager.

### Procedure

**Step 1** Select **User Management > Self Provisioning**.

**Step 2** Select one of the following options:

- Requires Authentication: Allow authentication for users only
- Requires Authentication: Allow authentication for users and administrators

**Note** For administrator authentication, specify the authentication code. The authentication code must be an integer ranging from 0 to 20 digits but cannot be empty (null).

**Step 3** Select **User Management > User Settings > User Profile**.

**Step 4** Create or choose an existing user profile.

**Note** Make sure the proper universal device template is associated with the user profile and self-provisioning is configured properly.

**Step 5** Check the **Allow end user to provision their own phones** check box.

**Step 6** Create or choose an existing Feature Group Template. Make sure the proper User Profile is associated.

**Step 7** Create a user from **User Management > User/Phone Add > Quick User/Phone Add**.

**Step 8** Select a Feature Group Template.

**Step 9** Specify a line extension.

**Step 10** Select **Save**.

The new user is now able to perform self-provisioning on the device.

# Set Up Self-Provisioning for Existing User



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**Note** A newly self-provisioned device may not immediately appear as Registered in Cisco Unified Communications Manager.

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## Procedure

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**Step 1** Select **User Management > Self Provisioning**.

**Step 2** Select one of the following options:

- Requires Authentication: Allow authentication for users only
- Requires Authentication: Allow authentication for users and administrators

**Note** For administrator authentication, specify the authentication code. The authentication code must be an integer ranging from 0 to 20 digits but cannot be empty (null).

**Step 3** Find an existing user in the Unified Communications Manager database.

**Step 4** Find the User Profile that is associated with the user.

**Step 5** Open the User Profile.

**Step 6** Check the **Allow end user to provision their own phones** check box.

**Step 7** Select **Save**.

The user is now able to perform self-provisioning on the device.

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# Set Up Cisco Unified Communications Manager to Support Self-Provisioning

## Before you begin

The administrator must first either add the end user using the Bulk Administration Tool or synchronize the end user from LDAP to add the end users to the Cisco Unified Communications Manager.

## Procedure

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**Step 1** Select **User Management > User Phone/Add > Universal Device Template** and **User Management > User Phone/Add > Universal Line Template**. Create a Universal Device Template (UDT) and a Universal Line Template (ULT) for the end user.

For information about UDT and ULT settings, see [Universal Device Template Settings](#) and [Universal Line Template Settings](#).

**Step 2** Select **User Management > User Settings > User Profile**. Create a User Profile and assign the created UDT and ULT to the end user. Ensure that you check the **Allow End User to Provision Their Own Phones** check box.

For information about User Profile settings, see [User Profile Settings, on page 8](#).

The end user is now associated with a UDT and ULT.

**Step 3** Select **User Management > User Phone/Add > Feature Group Template**. Create a Feature Group Template (FGT) and select the user profile in the **User Profile** drop-down list that you created in the preceding step.

For information about FGT, see [Feature Group Template Setup](#).

**Step 4** Select **System > LDAP > LDAP Directory**. Select the FGT from the **Feature Group Template** drop-down list and synchronize the end user.

For information about LDAP directory page, see [LDAP Directory Settings](#).

**Note** The first four steps show how to add users, how to configure User Profile and associate the UDT and ULT, how to create a FGT, and how to synchronize LDAP users. If you are adding users manually or using BAT, perform steps 1 and 2 where you must create a User Profile with appropriate UDT and ULT and associate the User Profiles to particular users.

**Step 5** Select **Device > CTI Route Point**. Create a CTI Route Point and an Application User and associate the CTI Route Point with the Application User. You must have the *Standard CTI Enabled* role enabled for the Application User.

For information about CTI Route Point and Application User, see [CTI Route Point Settings](#) and [Application User Settings](#).

**Step 6** Select **System > Cisco Unified CM** and configure the **Auto-Registration Information**.

For information about autoregistration, see [Autoregistration Settings](#).

**Step 7** Select **User Management > Self-Provisioning** and configure the authentication mode, IVR settings, and CTI Route point.

For information about Self-Provisioning, see [Self-Provisioning Settings , on page 3](#).

**Step 8** Autoregister the phone to the Cisco Unified Communications Manager.

**Step 9** Dial the CTI Route Point from the autoregistered IP phone to associate the device to an end user.

When you dial the CTI Route Point, the phone connects to the Self-Provisioning IVR application and plays the IVR prompts. Based on the validation of the Self-Service credentials that you provide, the IVR service assigns the autoregistered IP phone to the user.

