

Simplify Resource Selection Through Folders and Prefix Rules

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Introduction

This document describes how to simplify resource selection through folders and prefix rules in Contact Center Management Portal (CCMP) and Contact Center Domain Manager (CCDM).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Unified Contact Center Enterprise (UCCE) 12.x
- Contact Center Management Portal (CCMP) 12.x
- Contact Center Domain Manager (CCDM) 12.x

Components Used

The information in this document is based on these software versions:

- CCMP 12.0(1)
- UCCE 12.0(1)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

CCMP and CCDM users wish to use agent teams, sites, or regions to filter the resources shown in the selection areas of the product. In the previous versions (9.0 and prior) of the Reskilling tool that was bundled with UCCE, there was a way to filter by multiple fields, one of which was Agent Team. This is not a feature of CCMP/CCDM but you can emulate the behavior through the use of set a of folders, prefix rules, import rules, and a structured name convention for the Enterprise Name of the objects.

Example Layout

Throughout this document, a lab system is used for screenshots and example commands. This section lists the configuration details that are shown in the examples throughout the document.

The name of the Tenant in CCMP is UCLAB12.

These object names are used in the rules shown:

- Logical Interface Controller – PG01
- Peripheral – PG1
- Routing Client – CM125

To prepare for this, each resource that we wish to sort into folders has been renamed to a common format.

In the examples, {LOC} represents the common name convention that UCCE assigns based on the Logical Interface Controller, Peripheral, and Routing Client name. In the examples used, this is, PG01_PG1_CM125.

When we wish to place the resource in a city level folder, the format is:

{LOC}.{Country}.{City}_{ResourceIdentifier}

If there is only a country and no city, then the format is:

{LOC}.{Country}_{ResourceIdentifier}

The key to this format is that the identification portion which is used to apply the prefix to starts after the {LOC} plus period and ends with an underscore just before the {ResourceIdentifier}. This is done to both promote consistency and to ensure resources are not moved inadvertently by the prefixes.

Table 1. Resource Identifier and Folder to where resource should be moved

Resource Identifier Prefix	Home Folder
PG01_PG1_CM125.FR.CAL_	/UCLAB12/France/Calais
PG01_PG1_CM125.FR.PAR_	/UCLAB12/France/Paris
PG01_PG1_CM125.FR_	/UCLAB12/France
PG01_PG1_CM125.DE.BER_	/UCLAB12/Germany/Berlin
PG01_PG1_CM125.DE.STU_	/UCLAB12/Germany/Stuttgart
PG01_PG1_CM125.DE_	/UCLAB12/Germany
PG01_PG1_CM125.UK.LON_	/UCLAB12/United Kingdom/London
PG01_PG1_CM125.UK_	/UCLAB12/United Kingdom
PG01_PG1_CM125.US.RTP_	/UCLAB12/United States/Research Triangle Park
PG01_PG1_CM125.US.RCH_	/UCLAB12/United States/Richardson
PG01_PG1_CM125.US.NY_	/UCLAB12/United States/New York
PG01_PG1_CM125.US_	/UCLAB12/United States

Configure

Step 1. Create Required Structure

1. Name or Rename Resources With the Chosen Name Convention

One of the key decisions that must be made to implement this design is a consistent object name convention. The example in this document is a multi-national company that wishes to categorize agents by country and city. There are some agents who do not work in the main offices in the various cites, so these agents are to

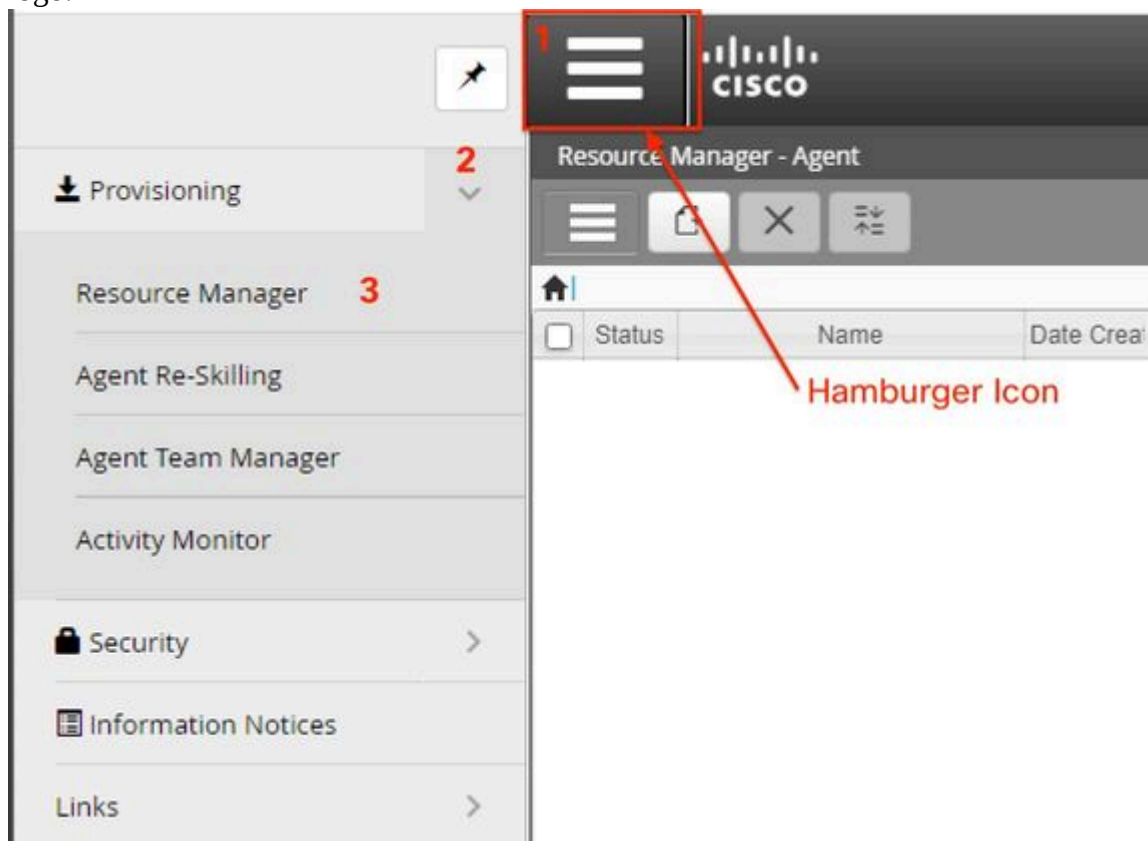
be sorted only to the country they are in. Before you proceed, either create new resources with the name convention you have chosen or rename resources you already have configured so they are able to be sorted correctly.

2. Create Folder Structure

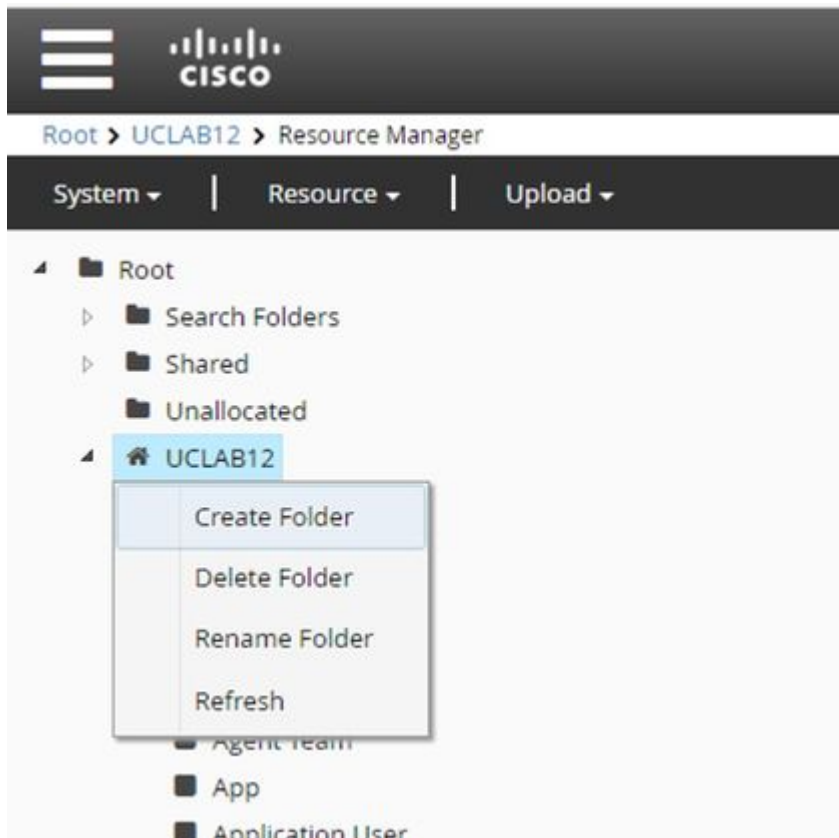
Under the Tenant folder, a folder must be created for each country. Under each country's folder, a folder must be created for each city. A few cities contain both a sales and a support team in the office. Under the folder for these cities, two additional folders are created to further sub-divide the agents into the two teams, Sales and Support. The membership in these last two folders is be done manually by the supervisors.

Use these steps to create the folder structure.

1. Login to the CCMP/CCDM server, then select the **Hamburger** icon at the top, left next to the Cisco logo.



2. In the menu that appears on the left, expand the **Provisioning** dropdown.
3. Select **Resource Manager** to launch the Resource Manager app.
4. Once Resource Manager loads in the middle pane, right-click the tenant folder and choose **Create Folder**.



5. Create the first folder named, France.
 6. Right-click the **France** folder and select **Create Folder**.
 7. Create the city folder for, Calais next.
 8. Repeat these steps to create the other required country, city, and team folders to build the complete tree.
- The completed folder tree is shown in the image.



3. Move Portal Users to Correct Folder

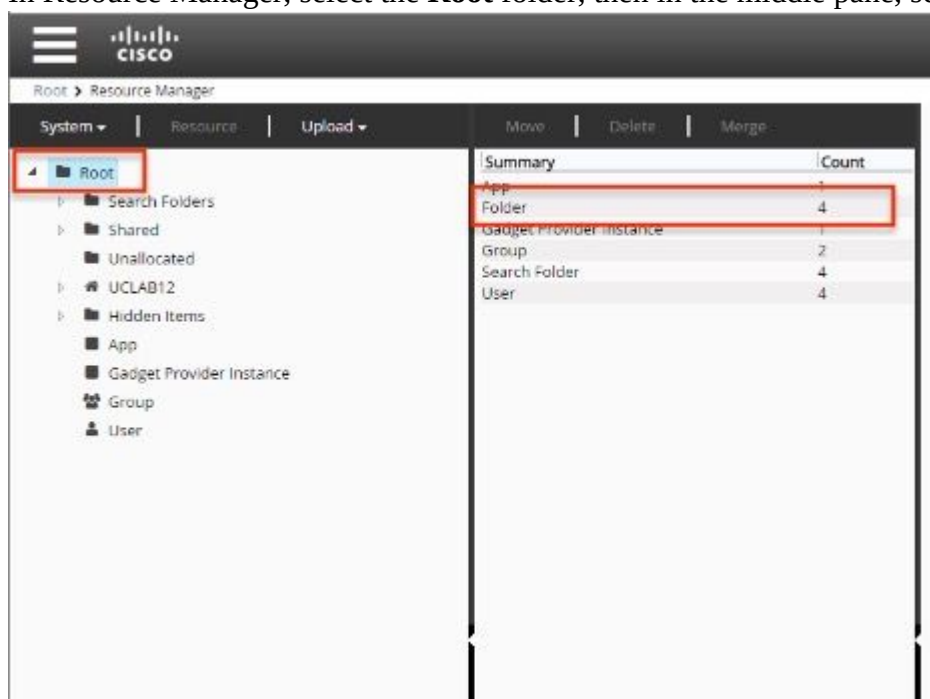
Each supervisor's portal user account is assigned to the folder that most closely matches their location. This folder is the default location that they see when they select resources in the tree. Supervisors may switch to any other folder they have access to. The folder layout in this example is not intended to be a security boundary, but could easily be adapted to be used in this way. See the section, Create or Modify Portal Users for how to move portal users that currently exist.

Step 2. Create Prefix Rules

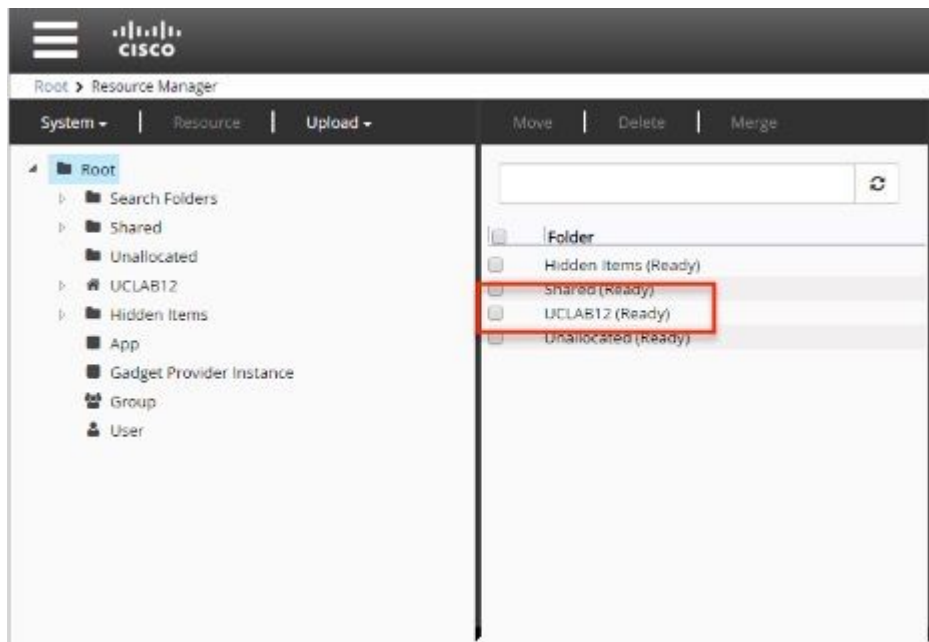
All Prefix configuration must be done via the legacy Resource Manager tool. The gadget interface has not yet been enhanced to support prefix management.

1. Create New Prefixes

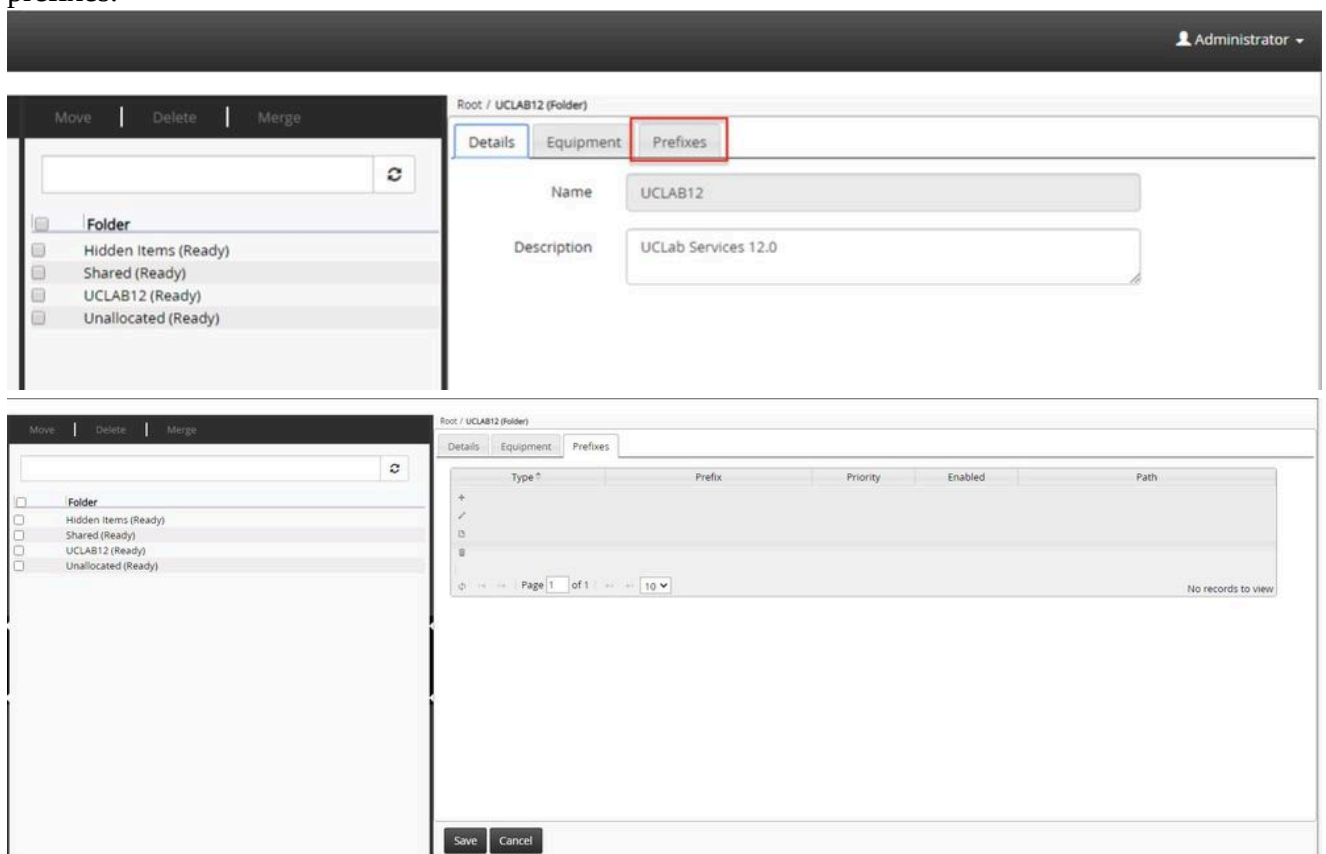
1. In Resource Manager, select the **Root** folder, then in the middle pane, select **Folder**.



2. Next, select the folder which corresponds to the name of the tenant. In this example, **UCLAB12**.



3. In the pane on the right, there are three tabs, select **Prefixes**. You now see the area to configure prefixes.



Keep these guidelines in mind as you create the prefixes.

- Ensure the rule is generic enough to capture all the resources you want to map but not so generic that you match resources you do not intend
The prefix rules shown in the image are too generic. %DE% not only captures the county identifier we have set, but, unless CCMP is installed with a database collation that enforces case, it also captures, Debra, Derrick, Hayden, and Madeline. For this reason, it is important to capture the punctuation in the name convention. While there still may be some names that are matched incorrectly, this reduces the chance for a mismatch.

Root / UCLAB12 (Folder)

Details Equipment Prefixes

Type	Prefix	Priority	Enabled	Path
Agent	%DE%	1	True	/UCLAB12/Germany

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- Each prefix must be unique for the resource type
You are able to configure a prefix of %PG1.US.% for both Agents and Skill Groups, but you cannot have two rules for Agent resources that have the same prefix with different priorities or paths.
- Use Priority to ensure that the prefix order goes from most specific to least specific
In the image, the rules with priority of 2, 3, and 4 are never matched since the prefix with priority 1 is more generic.
- When you setup the prefix list, make sure that you plan for the future
While prefix rules with priority of 1, 2, 3, 4, 5 are fine for a lab with very few changes or for very small deployments where the process to update the prefixes does not take long. For a larger system or one where growth is anticipated, the process to update the order of rules may require the need to delete and recreate each prefix if adequate gaps are not designed into solution. For this reason, it is a recommended best practice to design the prefix rules with gaps included even if those gaps are not used in the future. There is no performance impact if gaps are included, and the solution may become much more difficult to manage if gaps are not designed from the start. Priorities range from 0 - 9999 with 0 as the highest priority rule.

Root / UCLAB12 (Folder)

Details Equipment Prefixes

Type	Prefix	Priority	Enabled	Path
Agent	%CM125.DE.%	1	True	/UCLAB12/Germany
Agent	%CM125.DE_BER.%	2	True	/UCLAB12/Germany/Berlin
Agent	%CM125.DE_STU.%	3	True	/UCLAB12/Germany/Stuttgart
Agent	%CM125.DE_MUN.%	4	True	/UCLAB12/Germany/Munich

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The image shows the same prefix rules ordered correctly but does not allow for other cities in Germany to be added in the future without the need to either edit or delete and recreate the fourth rule.

Root / UCLAB12 (Folder)

Details Equipment **Prefixes**

Type	Prefix	Priority ⁺	Enabled	Path
Agent	%CM125.DE_BER.%	1	True	/UCLAB12/Germany/Berlin
Agent	%CM125.DE_STU.%	2	True	/UCLAB12/Germany/Stuttgart
Agent	%CM125.DE_MUN.%	3	True	/UCLAB12/Germany/Munich
Agent	%CM125.DE.%	4	True	/UCLAB12/Germany

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🔍 | < << Page 1 of 1 >> > | 10 ▼

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4. Select the + to add a new rule. The blank **Add Record** box is shown.
 1. Ensure that the appropriate resource is selected in the **Type** drop-down. Prefix rules can be created for many different resources, as shown in the image.

Add Record

×

Type

Agent ▼

Prefix

Priority

Enabled

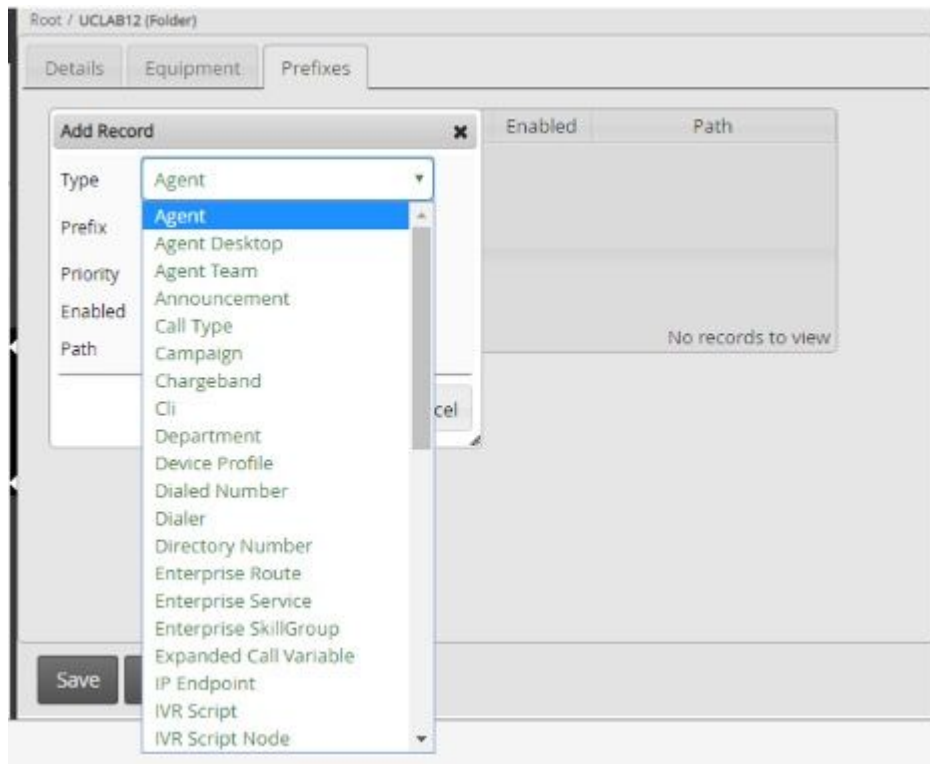
☒

Path

Submit

×

Cancel



2. Enter the value for the prefix in the **Prefix** box.
Note: The wildcard character is %.
3. Enter a value between 0 and 9999 in the **Priority** box.
4. Select the **Path** box, then select the folder where the resource should be moved to.
5. Select **Submit** once you have completed all items in the box.

5. Repeat these steps to add the other Prefix rules.
6. You must select **Save** at the bottom of the Prefixes rules list before you exit or log out CCMP/CCDM.
If your session times out, any changes that have not been saved are lost and must be re-entered.

2. Edit the Prefix List

Keep these guidelines in mind as you begin.

- Rules only act on resources in the base tenant resource folder (UCLAB12/Agent in this example)
If a rule is changed or if you wish to recategorize resources which have already been moved by previous rules, you must move the resource back to the base folder in the Tenant against which the rule has been written.
- The Priority of the prefix rules must run from most to least specific
If you add a new rule that is more specific than the other rules, ensure that you configure the new rule's priority to be lower than the less specific rule.

1. Edit a Prefix Rule that Exists

1. Navigate back to the Prefixes tab in the interface.
2. Select the row that you wish to modify, then select the pencil icon. The pencil is circled in red in the image.

Root / UCLAB12 (Folder)

Details Equipment Prefixes

Type	Prefix	Priority	Enabled	Path
Agent	%CM125.DE.%	799	True	/UCLAB12/Germany
Agent	%CM125.FR.%	1599	True	/UCLAB12/France
Agent	%CM125.UK.%	4599	True	/UCLAB12/United Kingdom
Agent	%CM125.US%	5999	True	/UCLAB12/United States

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✖
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3. In the Edit Record box, make any required changes. If you selected the wrong row by mistake, select the forward/back arrows at the bottom of the box to move between the rows. If you do not select **Submit**, any change made is lost. Each edit must be completed and submitted before you can edit or add another rule. If you make a change on one row, then use the arrows to change a second record the first change is lost.

Edit Record ✕

Type Agent ▼

Prefix

Priority

Enabled ☒

Path

◀ ▶

✕ Cancel

4. After you have made the desired changes changes, select **Save** at the bottom of the Prefixes

page to update the database.

Root / UCLAB12 (Folder)

Details Equipment Prefixes

Type	Prefix	Priority	Enabled	Path
Agent	%CM125.DE.%	799	True	/UCLAB12/Germany
Agent	%CM125.FR.%	1599	True	/UCLAB12/France
Agent	%CM125.UK.%	4599	True	/UCLAB12/United Kingdom
Agent	%CM125.US%	5999	True	/UCLAB12/United States

+
✎
🗑
🔍

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Save Cancel

2. Add a New Rule

- A new rule can be added at any time with the same steps listed in section 1.4. This allows you to easily add new locations, teams, etc. as well as further subdivide resources. Example: A company has one contact center location in a US state and uses a rule to move resources to the state's folder. They open another site in the same state and now want to have resources grouped by the office they are in. The rule that already exists can be edited to include a location identifier and a new rule added with the identifier of the second location and the relevant folder. Ensure that you move the resources that are affected by this change back to the base folder of the tenant so that the updated rules are applied correctly.

The full list of prefix rules are shown in the image.

Root / UCLAB12 (Folder)

Details
Equipment
Prefixes

Type	Prefix	Priority	Enabled	Path
Agent	%CM125.DE.BER_%	710	True	/UCLAB12/Germany/Berlin
Agent	%CM125.DE.STU_%	740	True	/UCLAB12/Germany/Stuttgart
Agent	%CM125.DE.%	799	True	/UCLAB12/Germany
Agent	%CM125.FR.CAL_%	1525	True	/UCLAB12/France/Calais
Agent	%CM125.FR.PAR_%	1570	True	/UCLAB12/France/Paris
Agent	%CM125.FR.%	1599	True	/UCLAB12/France
Agent	%CM125.UK.LON_%	4550	True	/UCLAB12/United Kingdom/London
Agent	%CM125.UK.%	4599	True	/UCLAB12/United Kingdom
Agent	%CM125.US.RCH_%	5910	True	/UCLAB12/United States/Richardson
Agent	%CM125.US.RTP_%	5920	True	/UCLAB12/United States/Research Triangle Park
Agent	%CM125.US.NY_%	5979	True	/UCLAB12/United States/New York
Agent	%CM125.US%	5999	True	/UCLAB12/United States

+

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Save
Cancel

Step 3. Create or Modify Portal User

Create New Portal User

1. In Resource Manager, select the Tenant folder.
2. Choose the Supervisor that you wish to provision as a portal user.
3. Select the **Person** tab, then select the link, shown in the image, at the top of the pane to switch to the Person record.

Root / UCLAB12 / TestAgent (Agent)

Details Person Supervisor Agent Teams Skill Groups Attributes Advanced History Custom Data



First Name

Last Name

Description

Login Name

Peripheral Login

Login Enabled ☒

SSO Enabled ☐

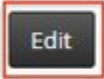
Reset Password ☐

Save Cancel  Ready

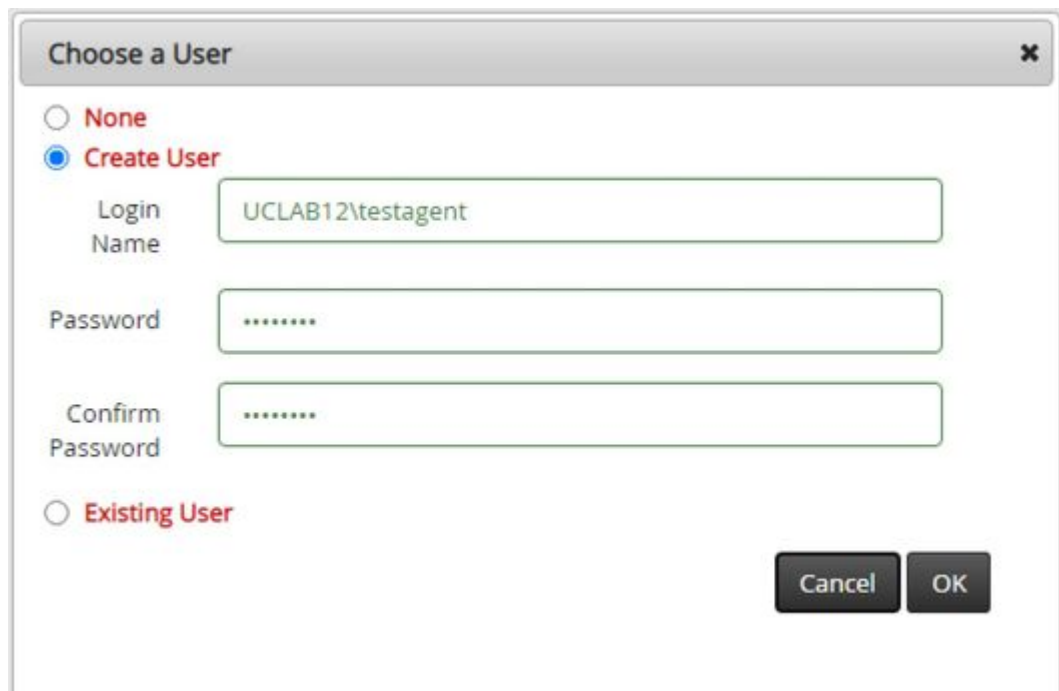
4. On the Person record, select the **Portal** tab.
5. Select the **Edit** button next to the Portal Account box.

Root / UCLAB12 / Test_Name_Agent (Person)

Details Equipment Portal Agent Advanced History

Portal Account 

1. In the Choose a User box, select **Create User**.
2. Enter the values in the form.
 1. If you wish to use Active Directory to authenticate the user, provide the username in the format of either DOMAIN\username or username@domain.com.
 2. The password must be provided, even for domain accounts. Password is ignored when the user is changed from a local user in the Update a Portal User that Already Exists section.
 3. Select **OK**.



Choose a User [X]

☐ None
☒ **Create User**

Login Name:

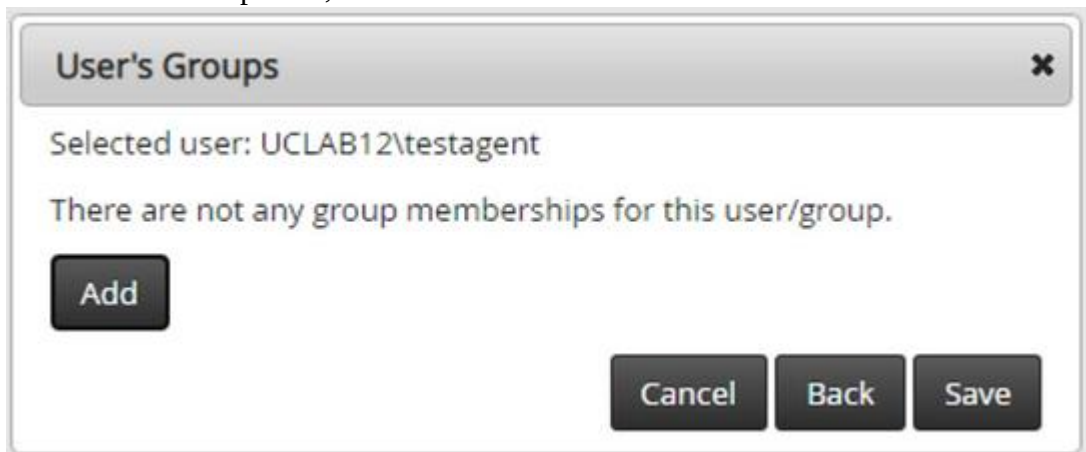
Password:

Confirm Password:

☐ Existing User

[Cancel] [OK]

3. In the User's Groups box, select the **Add** button.



User's Groups [X]

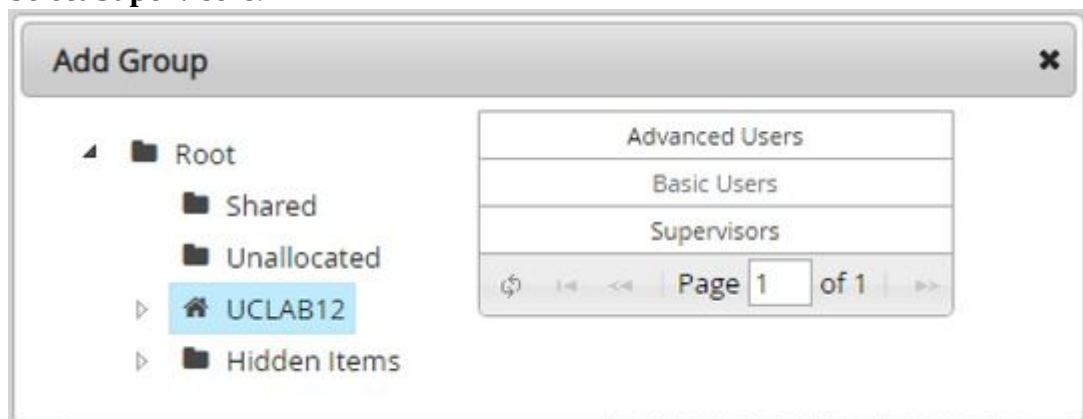
Selected user: UCLAB12\testagent

There are not any group memberships for this user/group.

[Add]

[Cancel] [Back] [Save]

1. Select **Supervisors**.



Add Group [X]

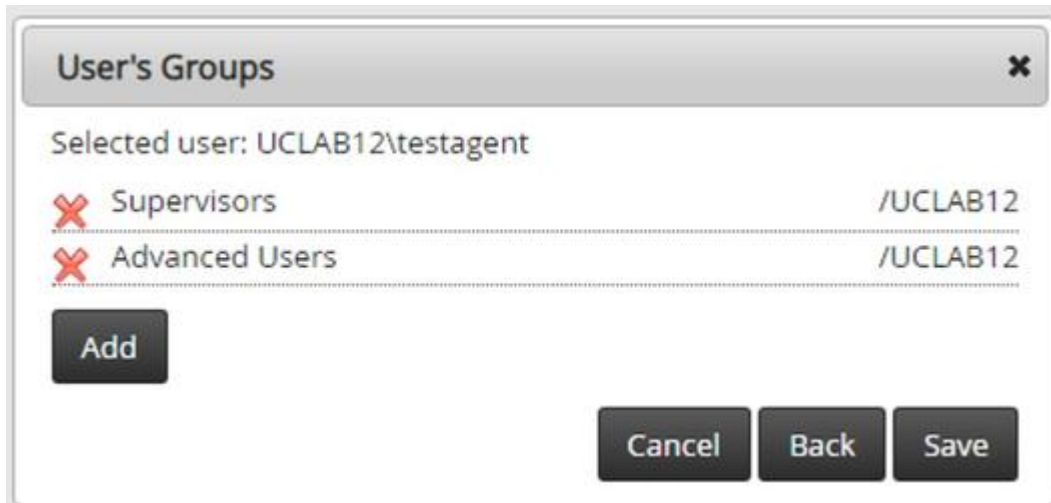
- Root
 - Shared
 - Unallocated
 - UCLAB12
 - Hidden Items

Advanced Users
Basic Users
Supervisors

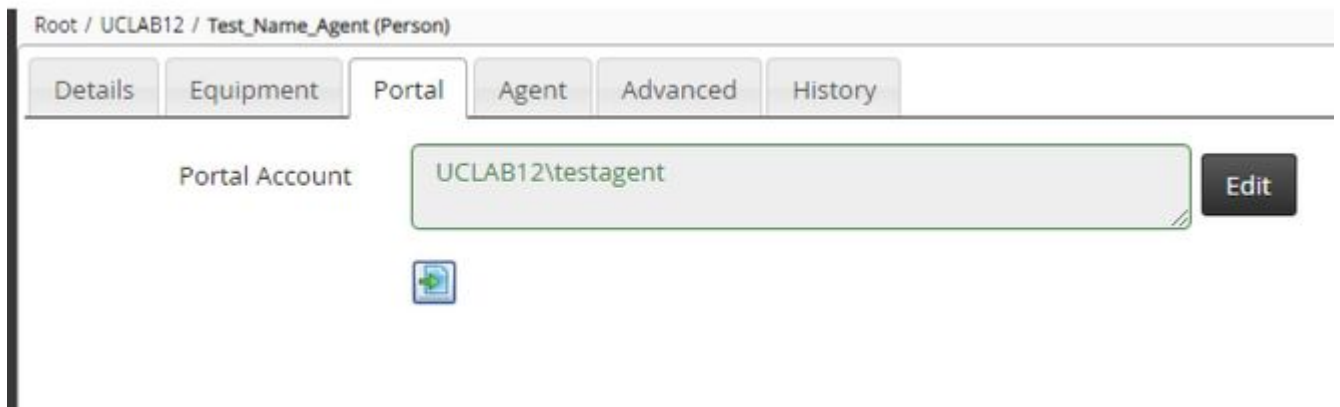
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2. Select **Add** again, then select **Advanced Users**.

4. Select **Save**.



6. Select **Save** to add the Portal account.



7. Continue on to the update steps to configure the user's default folder and update security.

Update a Portal User that Already Exists

1. Navigate to the **Security -> Users configuration**, then select the Tenant's folder from the list.
2. Select the user you wish to edit.
3. On the **Details** tab, make these changes.
 1. Select the **Edit** button next to **User Home Folder** box.
 2. Select the folder that contains the resources that the supervisor works with the majority of the time. As mentioned previously, the supervisor can change to different folders when he or she uses the application, this folder is simply where the user defaults to each time.
 3. If you wish to enable the Gadget interface for the supervisor, check the **Advanced Mode** box.

UCLAB12 / UCLAB12testagent (User)

Details Password Groups

Login Name: UCLAB12testagent

First Name:

Last Name:

Email:

Culture: English (United Kingdom)

Description:

User Home Folder: /UCLAB12/France/Paris

Associated Person:

☒ Advanced Mode

☒ Account Enabled

☐ Internet Script Editor Enabled

Save Back Ready

4. Select the **Password** tab if the user is to be a Windows authentication user, then ensure that the **Local Login Enabled** checkbox is not selected.
5. Select **Save** to write the change to the database.

Test

At this point, all the configuration necessary for supervisors to be able to filter agents based on common sets of identifiers has been completed. The prefixes you created however, do not take effect immediately. The process that sorts resources based on the prefix rules takes place each night when the database maintenance jobs run. These jobs run in the form of SQL Server Agent jobs and, for most systems, are scheduled to run just after 12:00AM local server time.

After the Maintenance Job runs, login to the CCMP Portal page and navigate through Resource Manager. Check that the resources you expect to be relocated have been and that no resources were moved that were not intended.

Use the account of a supervisor who you have configured to login to the CCMP Portal page. Navigate through the tools and observe the differences. As you select resources, the list is filtered to show those in the folder you selected as the default. Select a different folder and notice that you are able to see other resources. There is not a view that shows all resources from one point in the tree forward. The folders do limit what can be seen in any one location. This can be extended quite easily to create security boundaries.

Troubleshoot

There are no specific steps to troubleshoot this configuration.