Configuring a Global Service Profile (GSP) in UCS (Unified Computing System) Central and troubleshooting alerts along the way

Contents

Introduction

This document describes how to configure a Global Service Profile (GSP) in UCS (Unified Computing System) Central and we also take a look at how to address some of the alerts that we may encounter while creating a GSP.

Prerequisites

Requirements

Fimiliarity with creating a service profile and service profile template in UCSM (Unified Computing Systems Manager)

Basic knowledge of UCS Central.

Components Used

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

Cisco UCSM 3.1(1h)

Cisco UCS Central 1.5(1a)

Cisco UCS Blade Servers

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, make sure that you understand the potential impact of any command.

Background Information

Global service profile centralizes the logical configuration deployed across the data center.

This centralization enables the maintenance of all service profiles in the Cisco UCS domains from one central location in Cisco UCS Central.

When you use a global service profile, you can do the these across the data center:

• Pick a compute element for the service profile from any of the Cisco UCS domains.

• Migrate the service profile from one element to another.

• Select servers from the available global server pools from any of the Cisco UCS domains.

• Associate global resources such as ID pools and policies.

• Reference to any of the global policies in the Cisco UCS domain
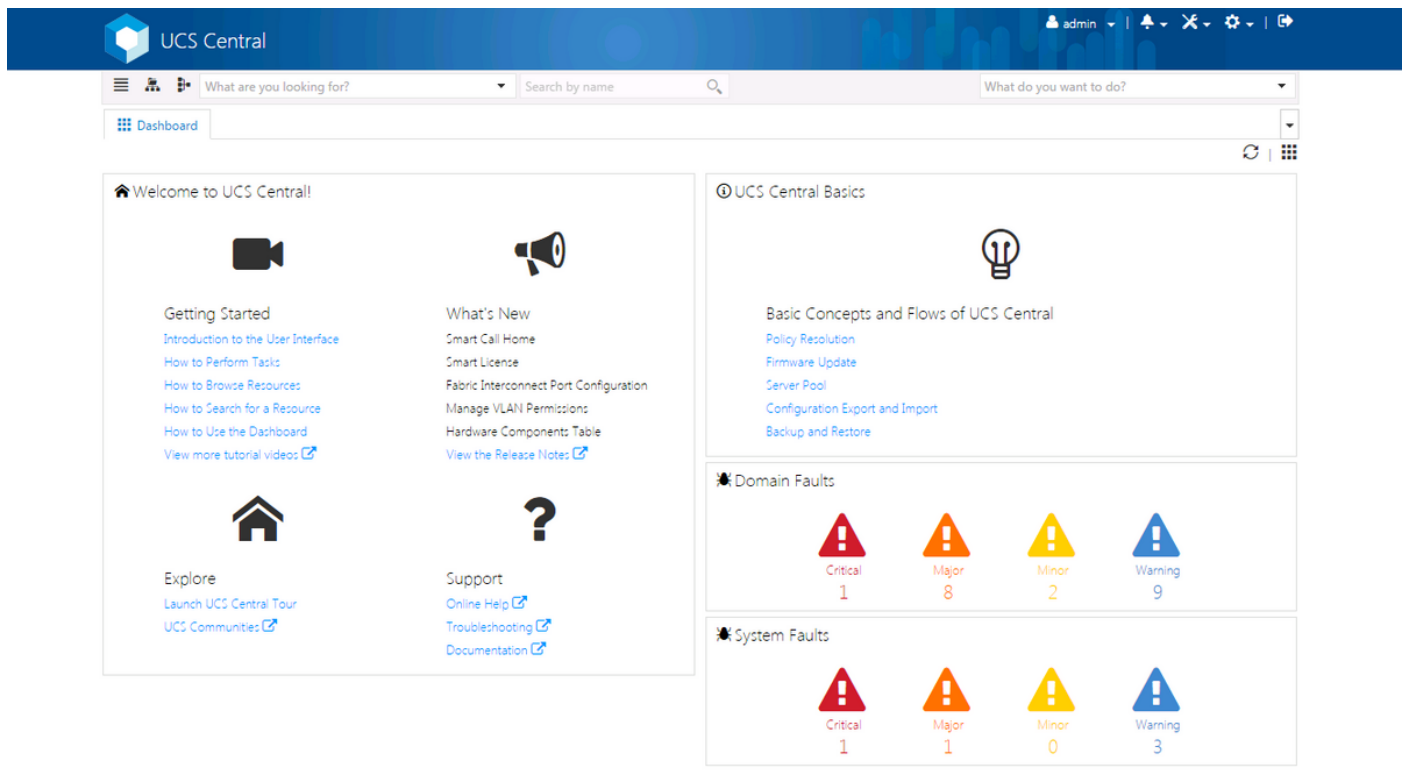
Configure

UCS Central HTML GUI Layout
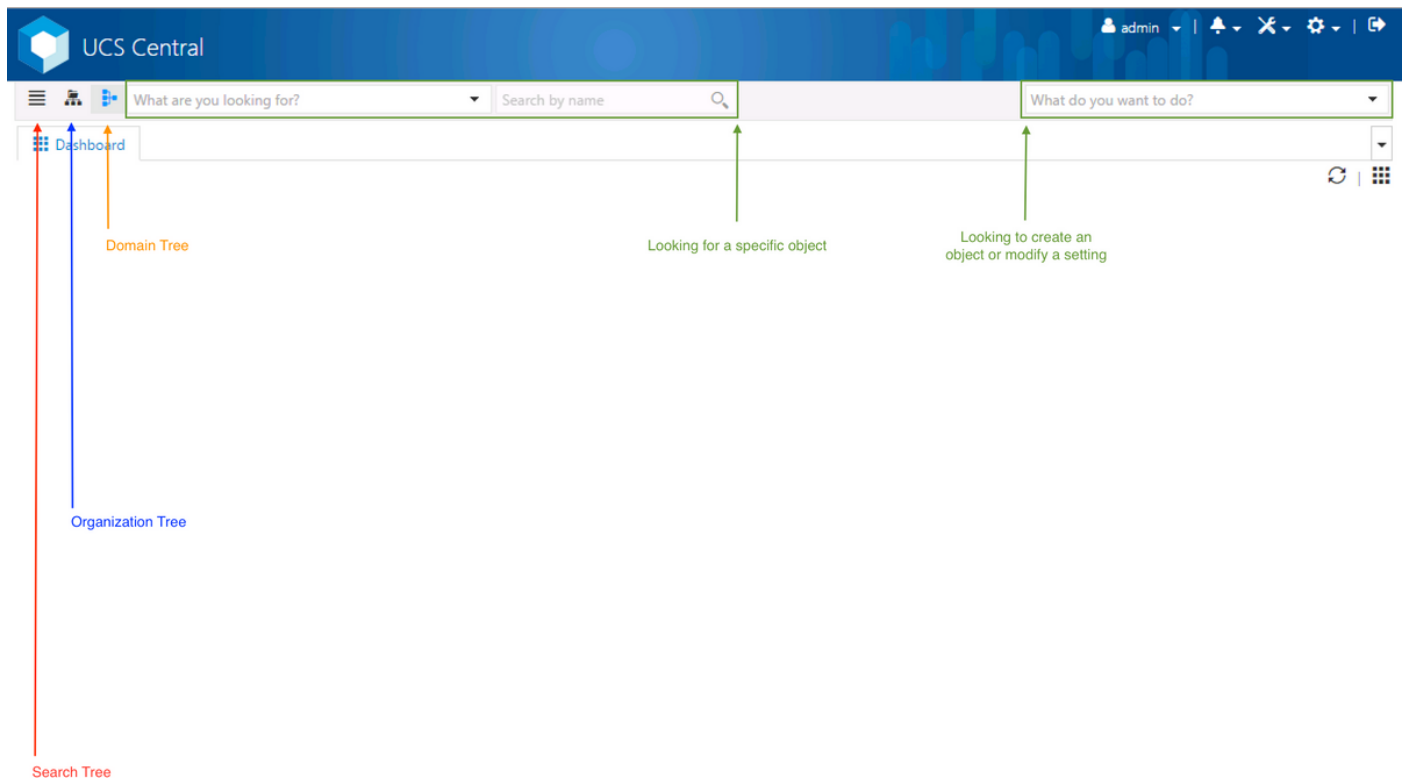
These are the sections within the Central HTML GUI.

It also provides a brief idea of what each button/selection allows us to do within the HTML5 GUI.

This is the initial page that you will see after logging into the new UCS Central GUI (the Dashboard tab).
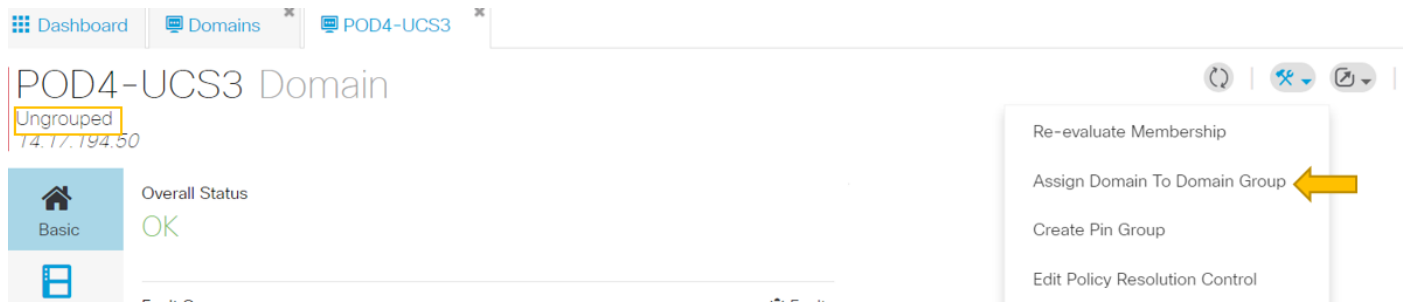
This can be customized for each individual user, however this an example of a default setup.

Assigning a UCS Domain to a Domain Group
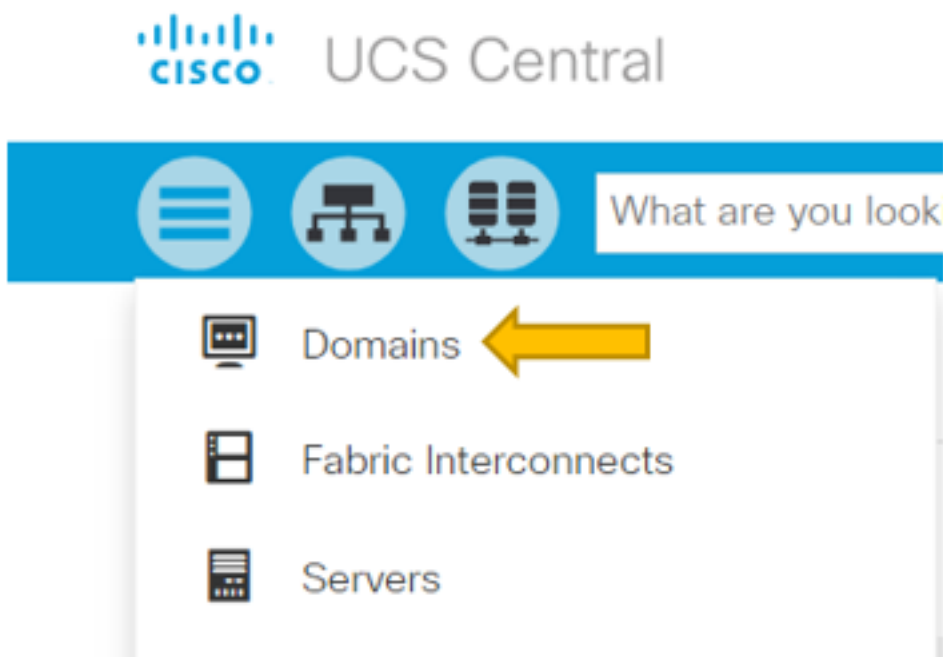
Under the Search Tree, click on the Domains selection.

The Domains tab will allow us to select a domain to modify.

When a domain is registered with UCS Central it will be set as an Ungrouped domain.

You can see that in this instance, the selected domain is Ungrouped.

To move the domain into a domain group, select the tools icon and click on Assign Domain to Domain Group from the drop down.

Once the Assign Domain to Domain Group option is selected you will see a pop-up like so.
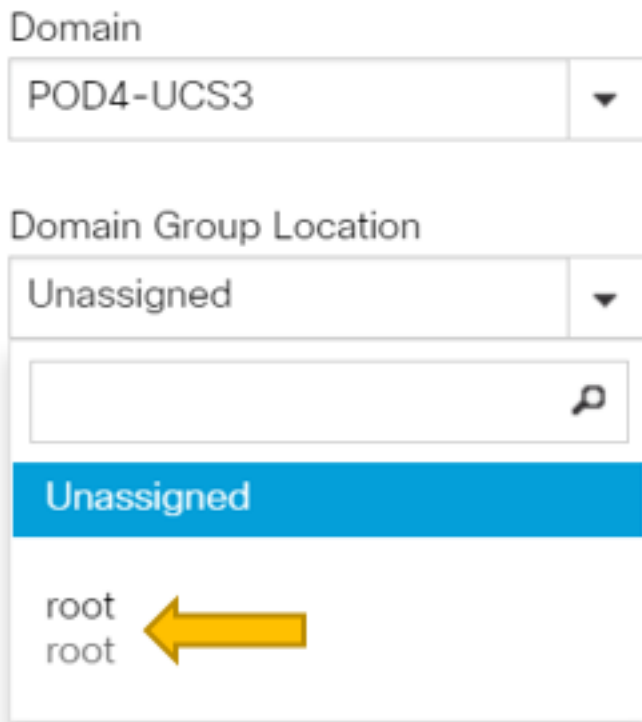
POD4-UCS3 Assign

Domain

POD4-UCS3

Domain Group Location

Unassigned

Unassigned

root
root ⬅

Select the Domain Group Location dropdown and then move the domain to the appropriate domain group.

In this example, the root domain group is used.
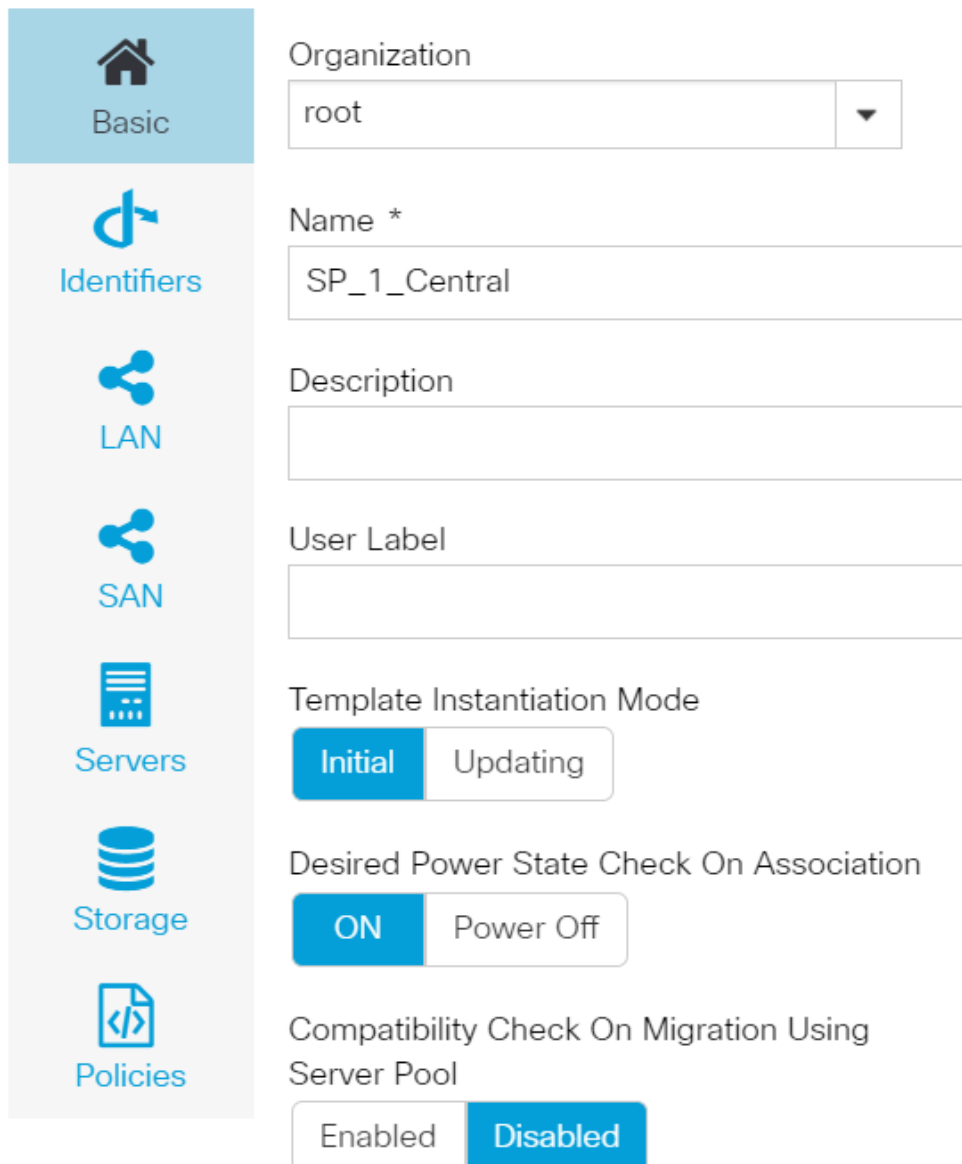
Creating a Service Profile
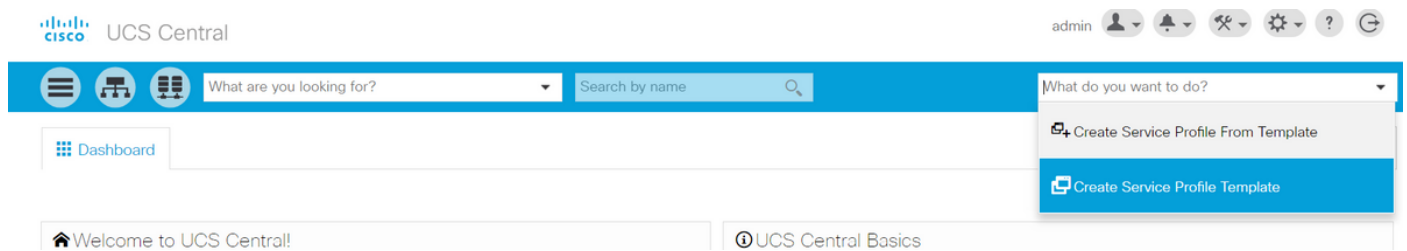
To create a GSP, you must first create a GSP Template.

Since you are looking to create (or modify) an object, which in this example is a GSP template, you go to the top right section and look for Create Service Profile.

From the dropdown, click on Create Service Profile Template

Service Profile Template Create
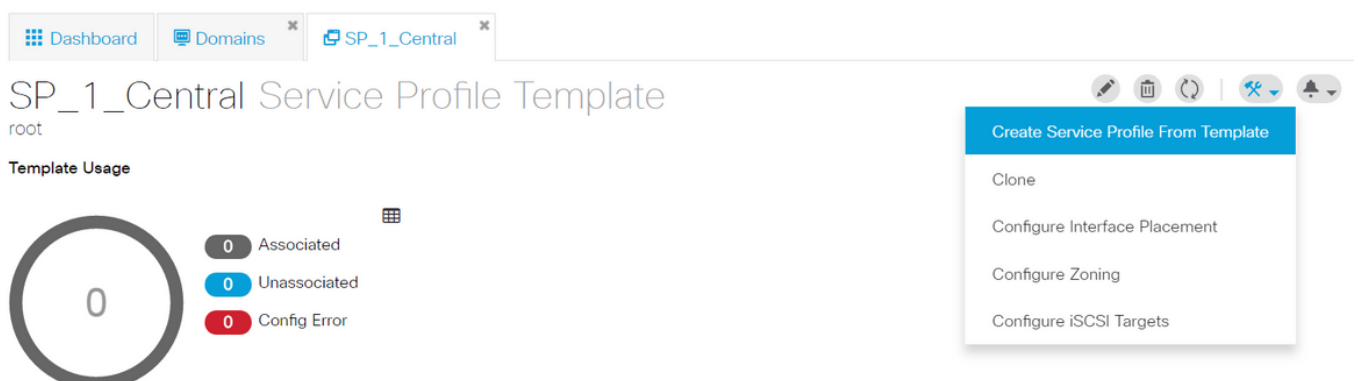
This shows the basic information you will see from a GSP Template (or just GSP) tab.

Choose the appropriate settings, just like you would while creating a service profile template in UCSM.

Once a service profile template is created, you can now move towards creating a service profile in

UCS Central.

Select the tools option and then click on Create Service Profile From Template from the dropdown to create a GSP.

A pop up like this one will be seen, similar to what is seen in UCSM.

In this example, two service profiles with a prefix of Test are being created.

If you want to create a GSP with a specific name select the Manual Entry option instead.

You can see that two Service Profile instances have been created.
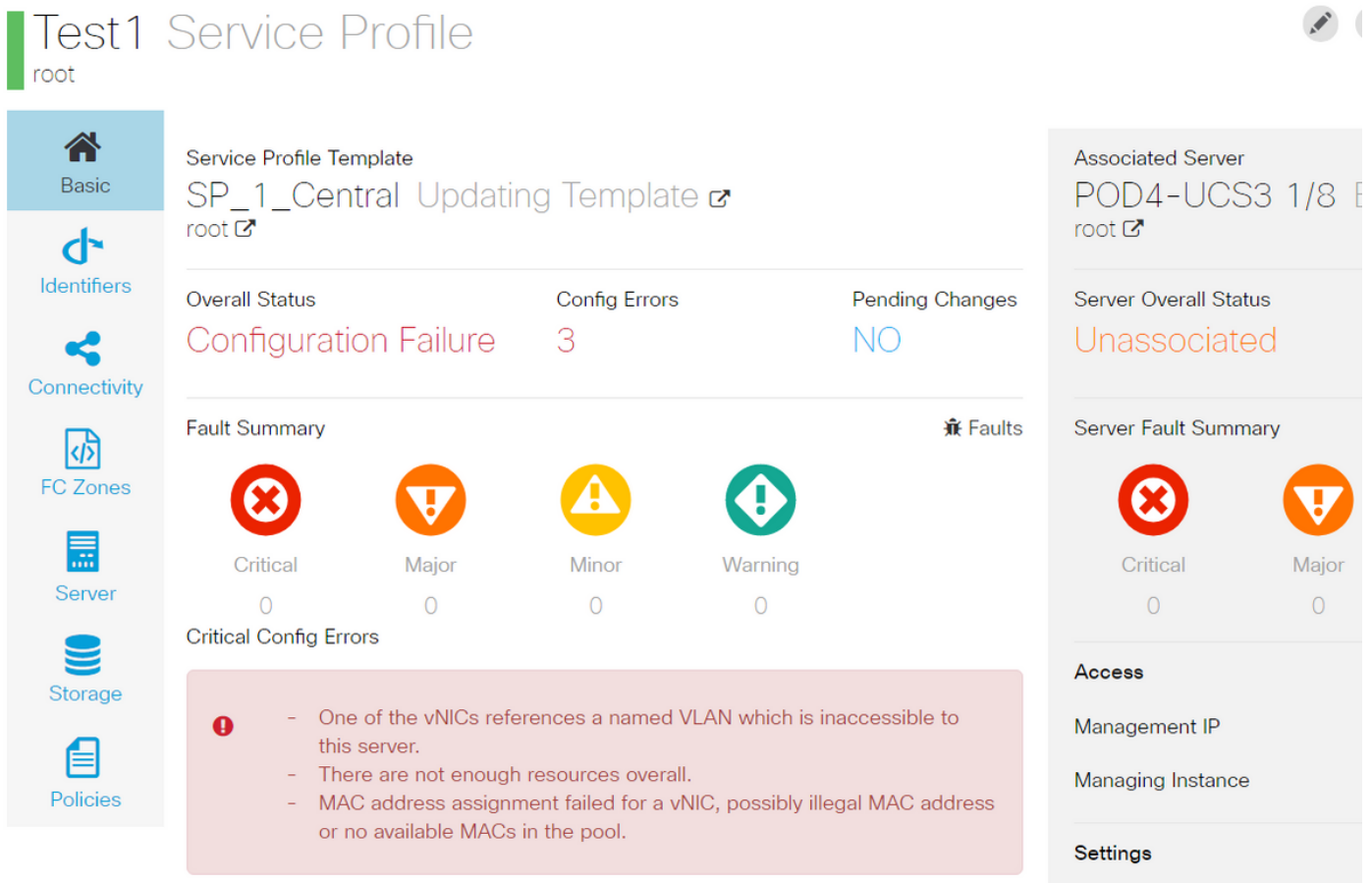
You look for these from the search bar, however you could use the Search Tree on the left as well.

Assigning a GSP
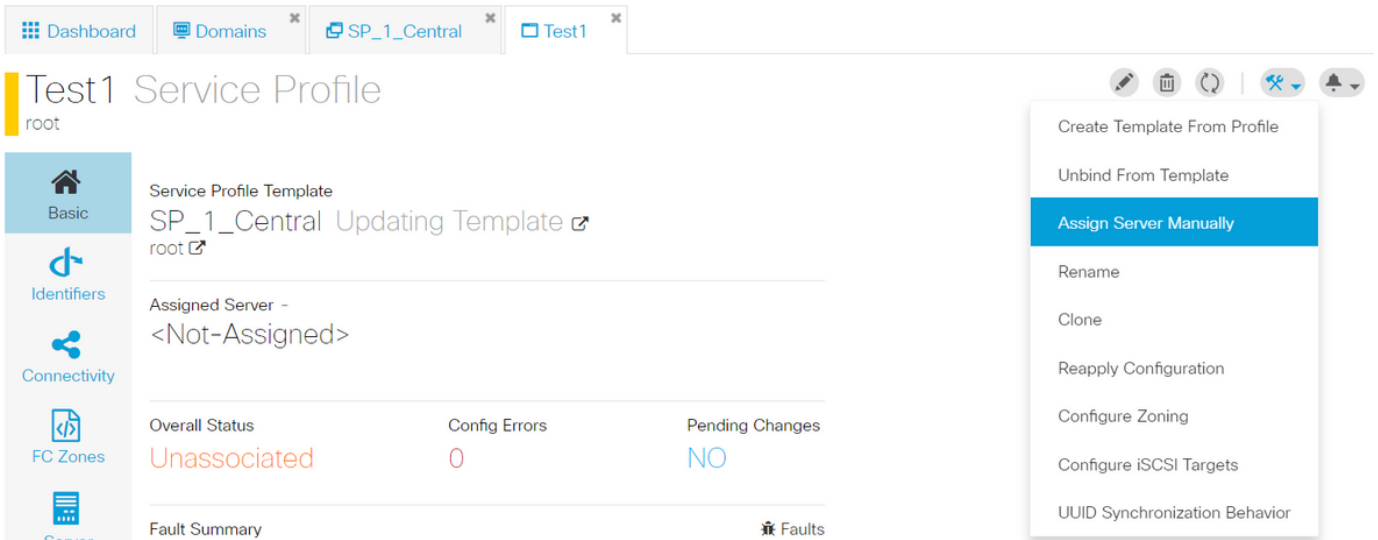
In this example, the option of Assign Server Manually was chosen.

This will bring up a pop up where you can manually assign the profile to a server of our choosing (similar to UCSM).

By default, two vnics are created even though you never configured vnics in our service profile creation.

Remember, a vnic is associated with a mac address and has vlan(s) on it, neither of which were defined when you created the service profile.

This gives you an idea as to how you can address these alerts.

A GSP even with configuration errors, once created should be seen in UCSM as shown.

A Service Profile that is pushed from Central to UCSM, would have green globe beside it.

VLAN Create

Basic

Private VLAN

Access Control

Aliased VLANs

Type

| LAN | Appliance |

Domain Group Location

Please Select ▼

Name *

Fabric Visibility

Same on A & B (Dual Fabric)

ID *

1

VLAN Name Overlap Check

| Enabled | **Disabled** |

VLAN ID Overlap Check

| Enabled | **Disabled** |

Multicast Policy

Let's now move towards creating a vlan

Vlan-Central-215 Edit
root

Basic	**Fabric Visibility**
	Same on A & B (Dual Fabric)
Private VLAN	**ID ***
	215
Access Control	**VLAN ID Overlap Check**
	Enabled / Disabled
Aliased VLANs	**Multicast Policy**

Specify the vlan ID and name the vlan.

Vlan-Central-215 Edit
root

Basic

Private VLAN

Access Control

Aliased VLANs

+ 🗑

| ☐ | Type to Filter... |
| ✔ | root |

Records: 1   Cancel   Select

You have to specify the domain group this vlan would use, until which the vlan won't show up in UCSM.

The next task is to create mac addresses and vnic(s). (Recall, the configuration alert the GSP was throwing)

Create MAC Pool ▼

MAC Pool Create

Basic

MAC Blocks

Organization
root ▼

Name *
Central-MAC

Description

Begin populating the details for the mac pool as shown.

MAC Pool Create

	MAC Block Start	Size
	00:25:B5:C0:C1:C2	20

Basic

MAC Blocks

MAC Addresses | Access Controls

Block Utilization

20		

■ Available ■ In Use ■ Duplicate

MAC Address	Status
00:25:B5:C0:C1:C2	Available
00:25:B5:C0:C1:C3	Available
00:25:B5:C0:C1:C4	Available
00:25:B5:C0:C1:C5	Available
00:25:B5:C0:C1:C6	Available
00:25:B5:C0:C1:C7	Available
00:25:B5:C0:C1:C8	Available
00:25:B5:C0:C1:C9	Available
00:25:B5:C0:C1:CA	Available
00:25:B5:C0:C1:CB	Available
00:25:B5:C0:C1:CC	Available

Create a block of mac-address as shown

Test1 Edit
root

LAN Settings

Policy | **Advanced**

vNICs | iSCSI vNICs | Connectivity

Basic

Identifiers

LAN

SAN

Servers

Storage

vNIC Name
☐ vNIC0

Properties

Manual | Template | Redundancy Pair

Basic | MAC Address | VLANs | Policies

MAC Address Pool

No selection has been made, hardware default will apply.

<Not-Assigned> derived

Not-Assigned
global-default
Central-MAC

Create vNIC(s) and assign the mac pool (Central-MAC in this example) to it.

Associate the vNIC with the vlan that was created earlier (Vlan-Central-215) in this case.

Once done, the service profile still has these configuration failures.

The information is vague in the Critical Config Errors section, to get more details on how to address the alarms, click on Error Details as shown

Errors

Resource Ownership Conflict

Resource Ownership Conflict

Error Message

⊘ Found a candidate **Adapter Policy** in **org-root/eth-profile-global-default** of registered UCS domain: **14.17.194.50**, whose ownership is local. This conflicts with global policy **org-root/eth-profile-global-default** used in Service Profile.

Recommendation

💡 Modify the global Service Profile to reference a different policy, or delete the local policy in the UCS Domain, which might cause other side effect.

This particular domain had an earlier instance of central that was deleted before this one was created, hence leaving duplicate objects, which would have the same repercussions if you were to unregister central from UCSM.

It's highly suggested that you don't ever unregister Central from UCSM to troubleshoot a problem. It's not a troubleshooting step.
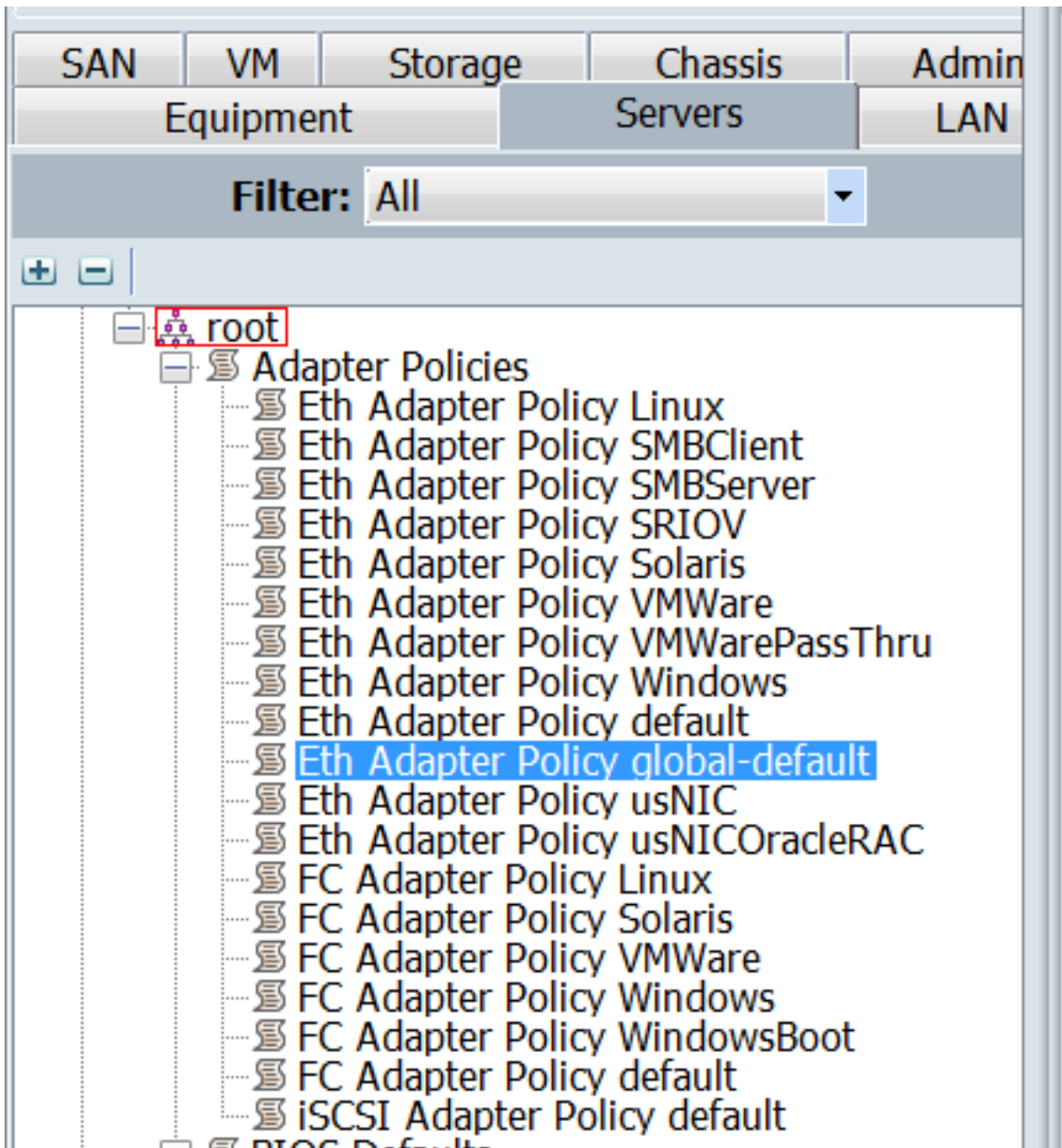
One such duplicate object caused by the consequences as explained has been listed, which was the cause of the alarm.

The key take ways from this are:

- If the error messages are vague, look at the Error details section to get more of an insight.
- Never unregister Central from UCSM as a troubleshooting step.

After taking necessary actions to address the alert, hit Reapply Configuration for the service profile to detect the changes that were made.

Once you are able to address the alerts, the service profile should display an overall status of OK.

This would mean you have successfully addressed the alerts and the service profile has bound itself to the server.
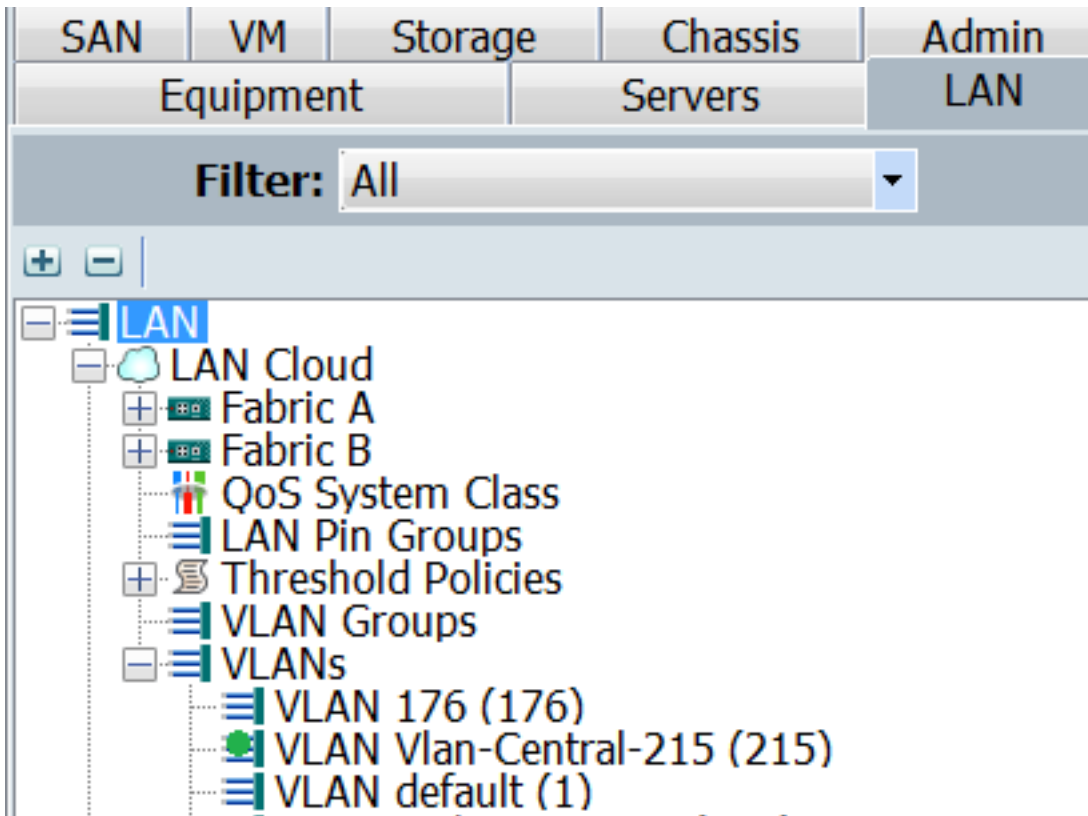
The Vlan created in Central would only show up in UCSM, only when it is active in Central (meaning it is associated with a vNIC)