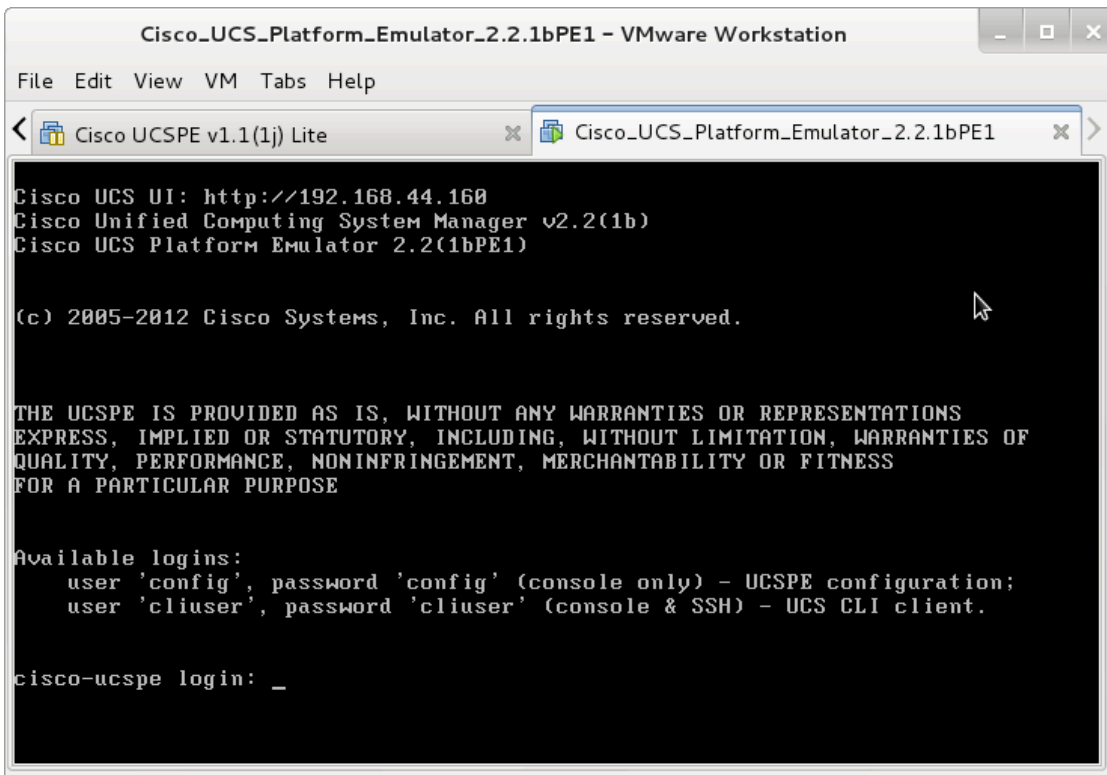


Cisco Unified Computing System Platform Emulator - UCSPE

Section 1 - Installation and initial cluster configuration

UCSPE is a virtual machine in Open Virtual Archive (OVA) format. A recent version of VMWare Workstation is required to import the OVA bundle. This seminar is using VMWare Workstation 11

1. Download UCSPE from following link <https://communities.cisco.com/docs/DOC-37827> This seminar is using Cisco UCS Platform Emulator version 2.2(1bPE1) and file name is Cisco_UCS_Platform_Emulator_2.2.1bPE1.zip (Note: Login is required)
2. Import OVA bundle into VMWare Workstation; refer to VMWare Workstation documentation for more details. Start the VM and wait until the IP information and login information will be displayed on console screen.
3. Using the IP information displayed on the console screen of the VM, start your browser and navigate to the IP address. i.e <http://192.168.44.160> At this point you will be greeted with the Cisco UCS Manager - 2.2(1b) Home page



```
Cisco UCS UI: http://192.168.44.160
Cisco Unified Computing System Manager v2.2(1b)
Cisco UCS Platform Emulator 2.2(1bPE1)

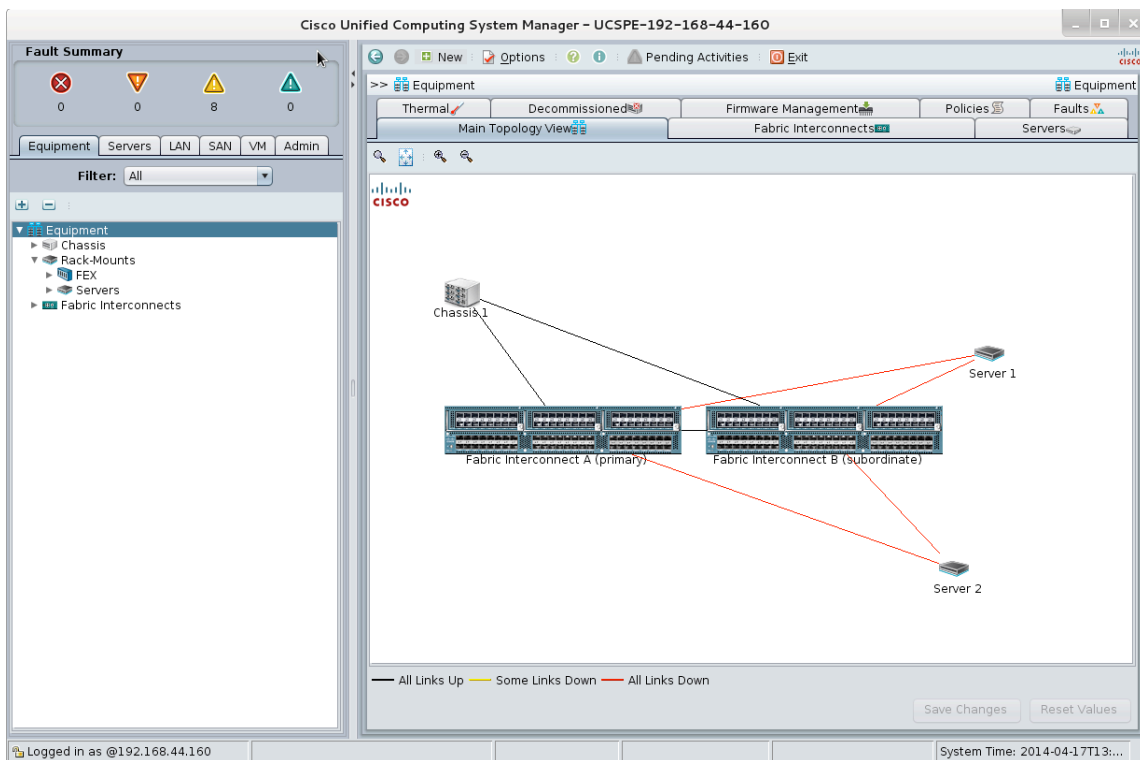
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THE UCSPE IS PROVIDED AS IS, WITHOUT ANY WARRANTIES OR REPRESENTATIONS
EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF
QUALITY, PERFORMANCE, NONINFRINGEMENT, MERCHANTABILITY OR FITNESS
FOR A PARTICULAR PURPOSE

Available logins:
  user 'config', password 'config' (console only) - UCSPE configuration;
  user 'cliuser', password 'cliuser' (console & SSH) - UCS CLI client.

cisco-ucspe login: _
```

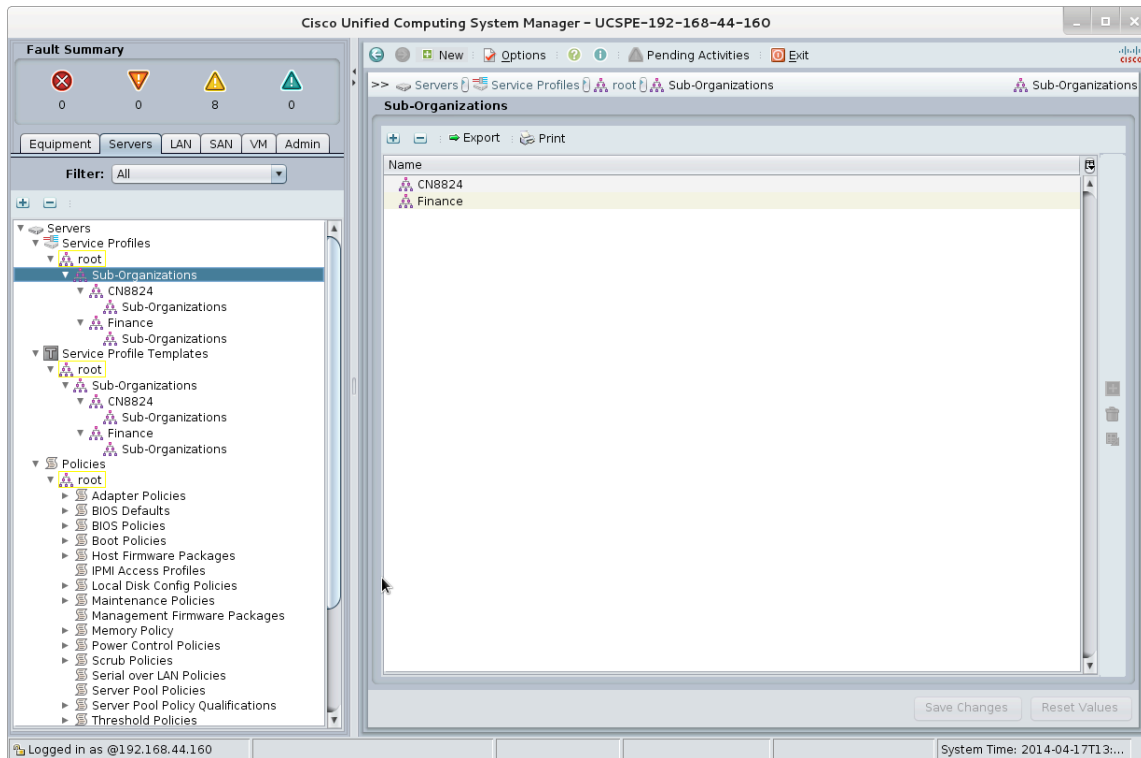
4. Click on “Launch UCS Manager” button which will launch a Java Application. The application will require login; use “admin” for username and “admin” for password.
5. Navigate around the Manager GUI and get familiar with the different tabs functions available.
6. Locate the “Admin” tab in the Navigation Pane then click on “General” tab in the Work Pane. Ensure that both Fabric Interconnect A and Fabric Interconnect B have an IP address assigned to their Out-Of-Band Management Interfaces. **Question: Find the IP Information assigned to both interfaces and indicate which FI is the primary.**
7. Using the Navigation Pane, click on the Equipment tab and list the major equipment reported by the UCS Manager.



Section 2 - Server Configuration

In preparation for a service policy, many resource pools must be provisioned first. Start with creating a Sub-Organization to hold all pools and policies pertaining to that organization, then create all other pools required by a service profile template. This Service Profile Template will be used to deploy a service profiles as needed.

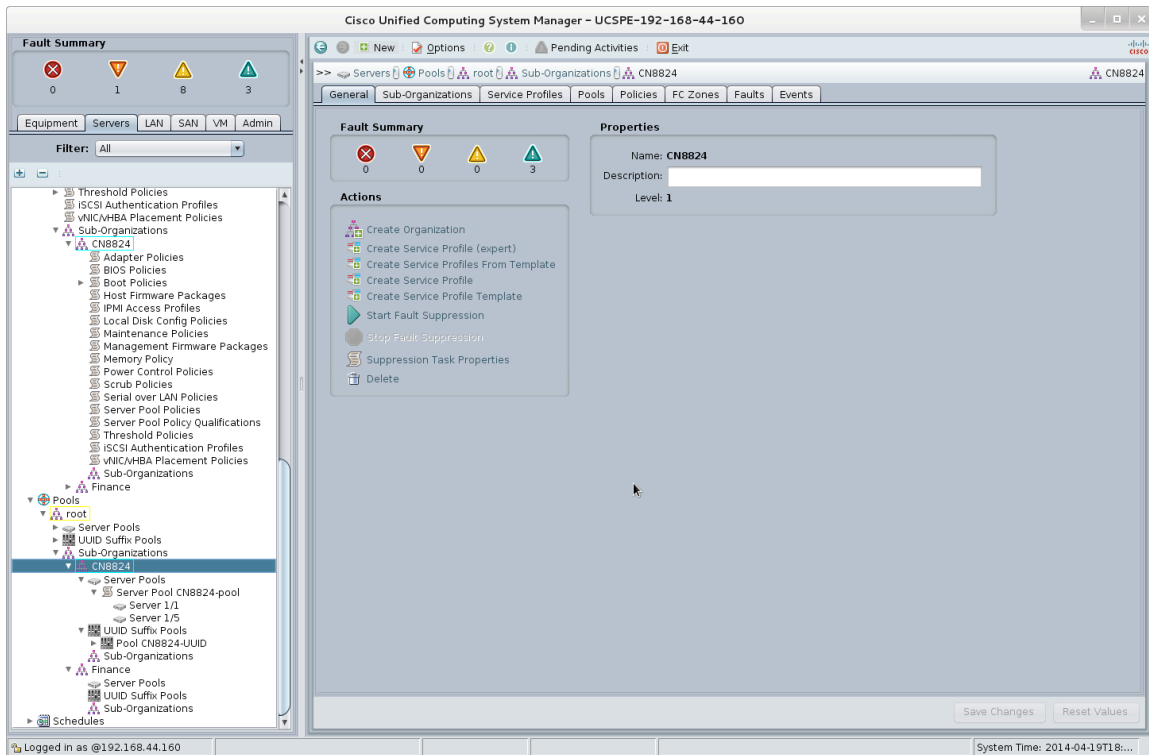
1. Create a new organization and give it a name, i.e CN8824. Using the Navigation Pane, click on Servers tab and then click on “root” under “Service Profiles”. In the Work Pane, click on Create Organization then fill in the required information. Note: CN8824 will be used for Org. Name in this seminar



2. Navigate to “Policies” in the Navigation Pane and expand the Sub-Organization Item to reveal CN8824 Organization. Locate the “Boot Policies” from list then right-click on it to show available tasks. From the list of task, choose “Create Boot Policy” then give it a name. i.e CN8824-local. For this task, select from “Local Devices” Pane on the right “Add Local LUN”. This step will add a boot option to the provisioned server to boot from local hard drive.
3. Navigate to Pools in the Navigation Pane and expand the Sub-Organizations Item to show the CN8824 Organization created in step 1. Create two Pools; first one is a pool of servers “Server Pools” to be used for deployment and second one is “UUID Suffix Pool” for Universally Unique ID pool for servers.

4. Server Pool: right-click on “Server Pools” item under the CN8824 Sub-Organization and choose “Create Server Pool” from the list of tasks. Give the pool a name and click on “Next” Select blades 1, 2, 5, 6 from the Servers list on Chassis 1 then click “Finish”. Note: Some of these blades will fail to boot up and will be fixed by provisioning new hardware.

5. UUID Suffix Pools: right-click on “UUID Suffix Pools” item under the CN8824 Sub-Organization and choose “Create UUID Suffix Pool” from the list of tasks. Give the pool a name and click on “Next”. i.e CN8824-UUID. Click on the Red Plus sign next to “Add”. A new Windows will appear; the “From:” field can be left as is and in “Size:” field enter “100”. Click OK then click “Next” the “Finish” to complete this task.

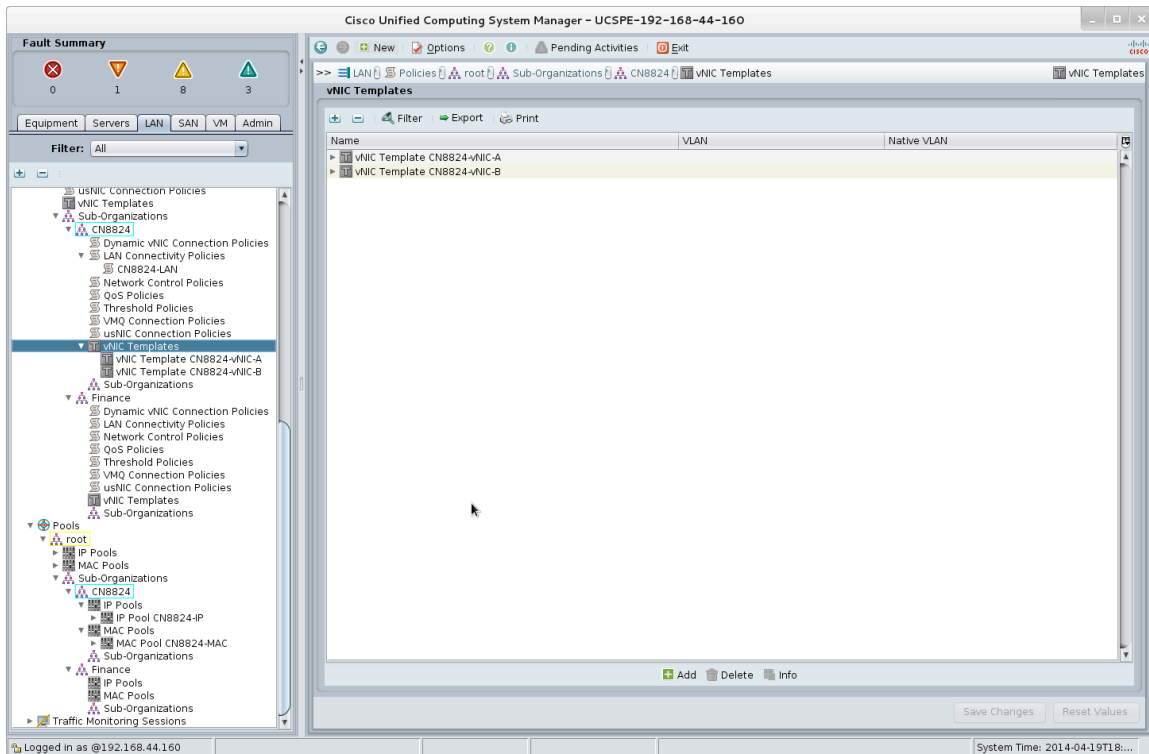


Section 3 - Local Area Network Configuration

In this section you continue creating more resources and pools that will be consumed by a service profile template or a service profile. You will create VLANs; one for management and another for LAN traffic. You will create an IP and MAC pools to be used by servers. Finally you will create a vNIC Template policy to control the creation of a virtual Network Interface Card. Note: All these task will be done from the LAN tab in the Navigation Pane.

1. Create two VLANs; management and LAN VLANs. From Navigation Pane right-click on "LAN Cloud" and choose "Create VLANs" from the list of task. In the VLAN Name/Prefix field use VLAN10 and in the VLAN IDs: field use "10". Note: make sure the VLAN is Common/Global to all Fabric Interconnects.
2. Repeat steps from "1" to create another VLAN and call it VLAN20
3. Expand VLANs item in Navigation Pane under "LAN Cloud-> VLANs" to ensure both VLANs are created.
4. Select Pools->Sub-Organization->CN8824->IP Pools; the Working Pane should be empty as non have been created yet. Create an IP Pool and call it CN8824-IP by right-clicking on "IP Pools" and selecting "Create IP Pool" from tasks list. Give an appropriate name and click "Next". This step will create a block of IPv4 IP addresses; click on the Red Plus sign next to "Add". A new Windows will appear; in the "From:" field enter "192.168.10.100" and in "Size:" field enter "100". Click OK then click "Next" the "Finish" to complete this task.
5. Select Pools->Sub-Organization->CN8824->MAC Pools; the Working Pane should be empty as non have been created yet. Create a MAC Pool by right-clicking on "MAC Pools" and selecting "Create MAC Pool" from tasks list. In the "Name:" field enter "CN8824-MAC" and click "Next". This step will create a block of MAC addresses; click on the Red Plus sign next to "Add". A new Windows will appear to Create a Block of MAC Addresses; in the "Size:" field enter "100". Click OK then click "Next" the "Finish" to complete this task.
6. Select Policies->Root->Sub-Organization->CN8824->vNIC Templates; the Working Pane should be empty as non have been created yet. Create a vNIC Template by right-clicking on "vNIC Templates" and selecting "Create vNIC Template" from tasks list. In the New Window, provide "CN8824-vNIC-A" in the "Name:" field. Ensure that "Fabric A" is checked in the "Fabric ID:" filed. Change Template Type to "Updating Template" in the "Template Type:" field. Select VLANs 10 and 20 from the list of VLANs available and check "Native VLAN" for default VLAN. Select CN8824-MAC from the "MAC Pool:" drop-down list then click "OK"
7. Repeat steps from "6" but change name from CN8824-vNIC-A" to "CN8824-vNIC-B"

8. Select Policies->Root->Sub-Organization->CN8824->LAN Connectivity Policy; the Working Pane should be empty as non have been created yet. Create a LAN Connectivity Policy by right-clicking on “LAN Connectivity Policy” and selecting “Create LAN Connectivity Policy” from tasks list. In the New Window, provide “CN8824-LAN” in the “Name:” field. Click on the Red Plus sign next to “Add”. A new Windows will appear to Create vNIC. Give it a name; i.e CN8824-LAN, check “Use vNIC Template” then select “CN8824-vNIC-A” from drop-down menu for “vNIC Template:” field. Select “VMWare” from drop-down list for “Adapter Policy:” field then click “OK”



Section 4 - Storage Area Network Configuration

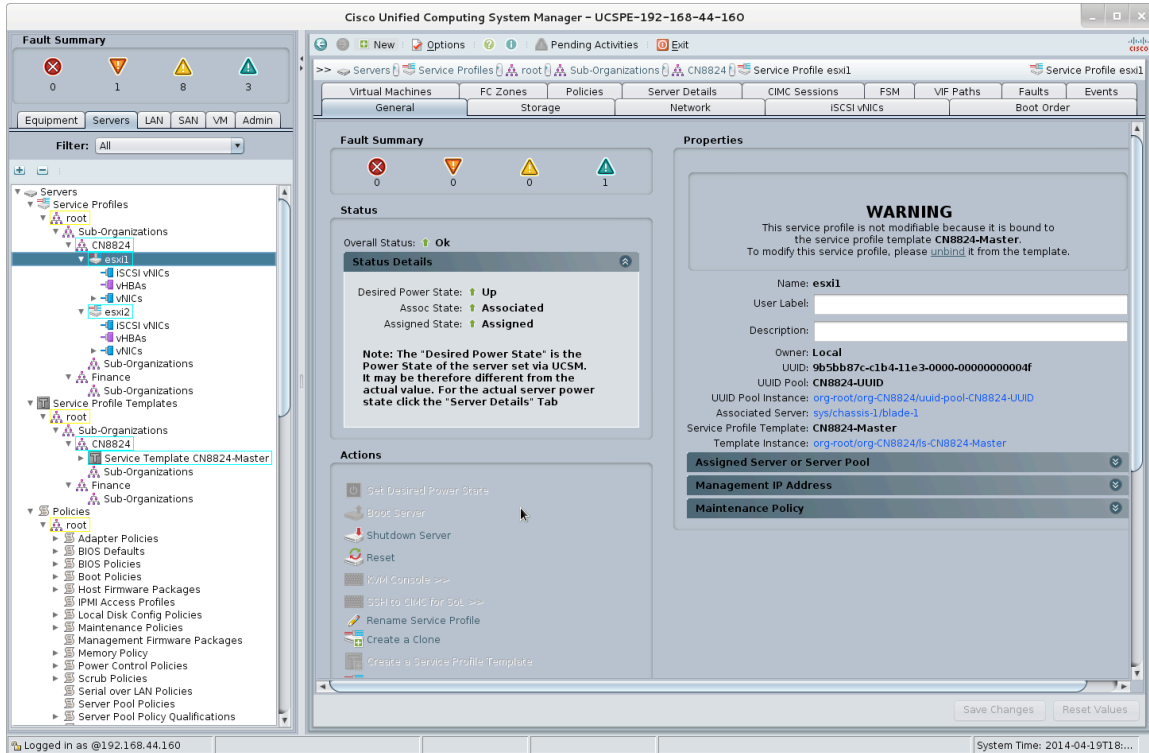
This section was intentionally left out.

Section 5 - Provisioning Service Templates

This section will walk you thru the creation of a service template that will consume all of the resources and pools created in the previous sections. This template will be used to instantiate service profiles as need. Note: In the Navigation Pane, ensure that “Servers” Tab is selected.

1. Navigate to Servers->Service Profiles Templates->Sub-Organizations->CN8824.
From the list of Actions in the Working Pane, choose “Create Service Profile Template”. Give it a name, for example: CN8824-Master in the “Name:” field. Select “Updating Template” from “Type:” field and select “CN8824-UUID from the drop-down list under “UUID Assignment:” field then click “Next”.
2. On the Next page titled “Networking”; for vNIC0, select VLAN10 from the drop-down menu and VLAN20 for vNIC1 then click “Next”
3. On the Next Page titled “Storage” choose no vHBA from “How would you like to configure SAN connectivity?” then click “Next”.
4. On the Next Page titled “Zoning” click “Next”.
5. On the Next Page titled “vNIC/vHBA Placement” click “Next”
6. On the Next Page titled “Server Boot Order”, select “CN8824-local” from the drop-down menu for “Boot Policy”, click “Next”. Note: there should be one item list in the Boot order which is Local LUN.
7. On the Next Page titled “Maintenance Policy”, click “Next”.
8. On the Next Page titled “Server Assignment”, select “CN8824-pool” from the drop-down list for “Pool Assignment:” field. Select “all-chassis” from the drop-down list for “Server Pool Qualification:” field then click “Next”.
9. On the Next Page titled “Operational Policies” click “Finish” to accept default options.
10. Test the Master Template by creating service profile from template; choose 2 for the number of instances.

At this point two service profiles will be instantiated from the Master template and deployed onto two available blades from the pool of available servers.



Test yourself:

The Master template is an Updating template, meaning when changes are made to the template, those changes will be reflected onto the instances. In Section 3 Item 8, a “LAN Connectivity Policy” was created with the name of “CN8824-LAN”. This policy only adds one vNIC to the instance; add another vNIC but make sure it is using the “CN8824-vNIC-B” vNIC template. **What would be the expected behavior when changes made to the Master Template?**