Practical No.6

Aim: Understanding blade server with Cisco UCS/HP Eva simulator.

Blade

Cisco UCS ™ Manager provides unified, embedded management of all software and hardware components of the Cisco Unified Computing System ™ (Cisco UCS) across multiple chassis, rack-mount servers, and thousands of virtual machines. Cisco UCS Manager is a device manager that manages Cisco UCS as a single entity through an intuitive GUI, a command-line interface (CLI), or an XML API for comprehensive access to all Cisco UCS Manager functions.

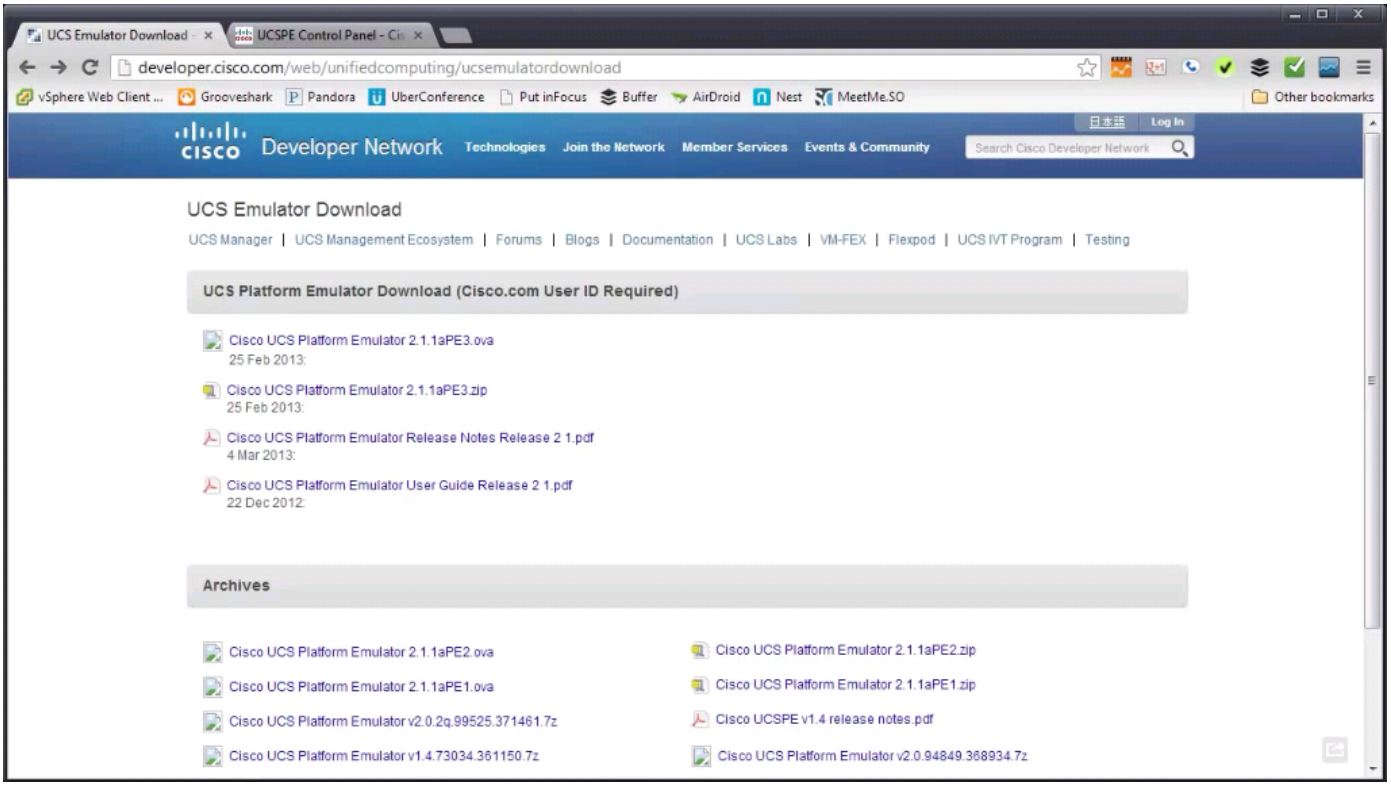
The management solution of an integrated data center infrastructure must control the network and storage resources required by the computing platform. Server management software typically becomes more complex with the need for various products to control and maintain the integrated infrastructure. Each component vendor has its own management interface and communication protocols. However, Cisco UCS Manager, which runs embedded in the fabric interconnect, manages all components of Cisco UCS through a single pane. Managing the server, networking, and storage resources with a unified approach greatly decreases complexity, providing the capability to deploy and alter applications quickly with the innovative use of policies, role-based access control (RBAC), service profiles, and templates.

Security

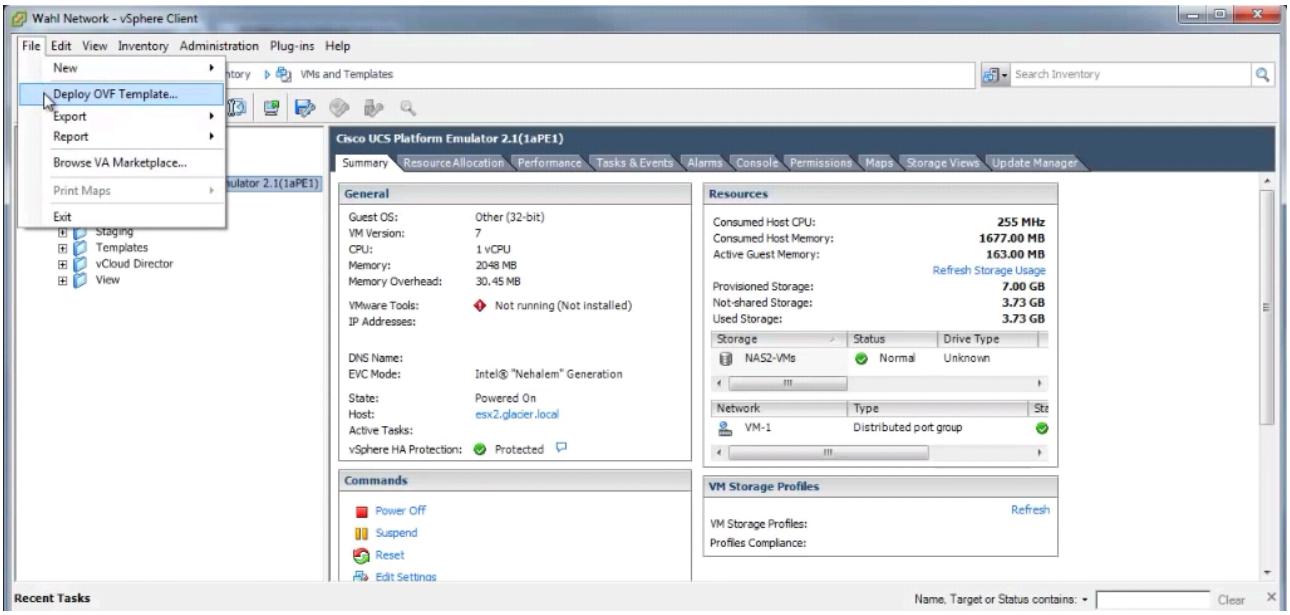
This flexibility in client interfaces facilitates role-based management because it enables IT administrators from network, storage, and server domains to work with the terminology with which they are most familiar. Users may choose to adapt their tools for specific needs. For example, one administrator may be responsible for servers, one for SAN configuration, one for LAN configuration, and one for managing the rest of the Cisco UCS infrastructure. In large-scale environments, teams of users may be responsible for managing each of these components across the entire organization. Within these teams, some individuals may specialize in the management of subcomponents (for example, on the IT management team, one user may be responsible only for virtual NIC [vNIC] configuration). Standard roles are built into Cisco UCS Manager, and you can also create custom roles.

1. Platform Emulator is a platform where basically on the chip we can play the Cisco UCS manager without having any Cisco UCS hardware or just we need vSphere Client or VMware workstation.

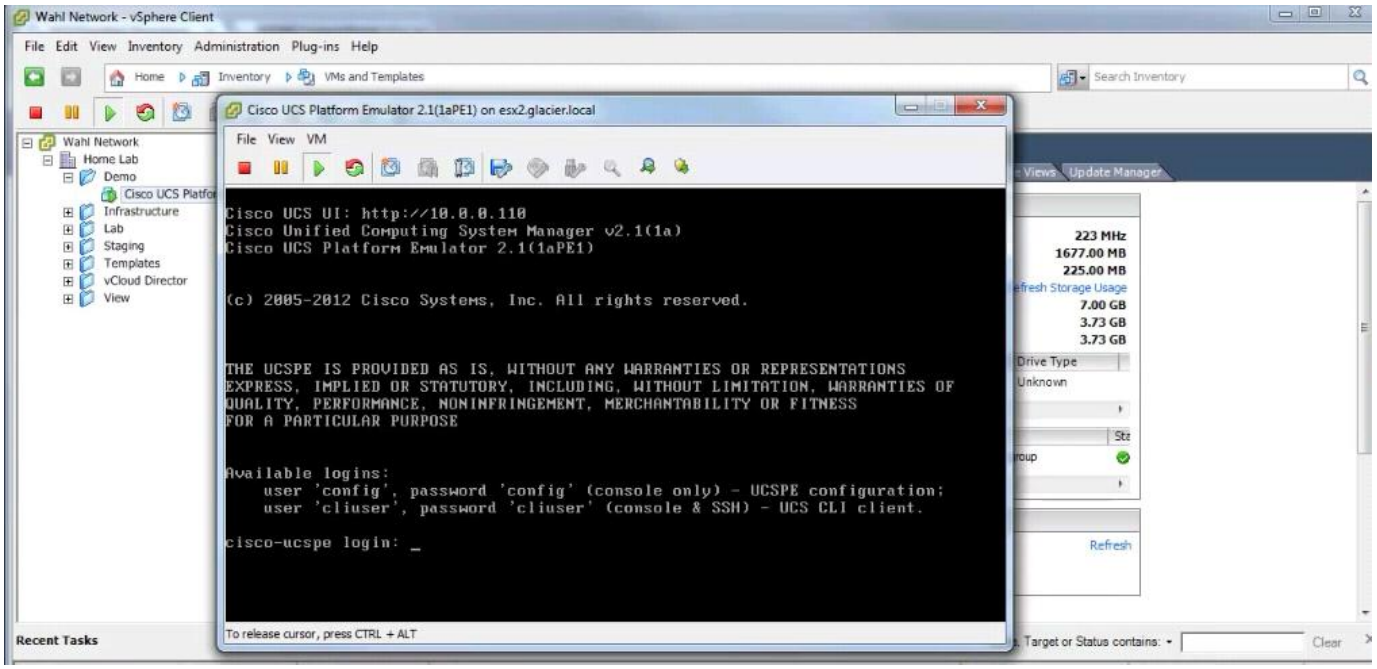
2. Go on website ww.developer.cisco.com as shown below & download Cisco UCS Platform Emulator 2.1.1aPE3.ova



3. After downloading the Cisco UCS Platform Emulator 2.1.1aPE3.ova, deploy it on vSphere Client or VMware workstation.

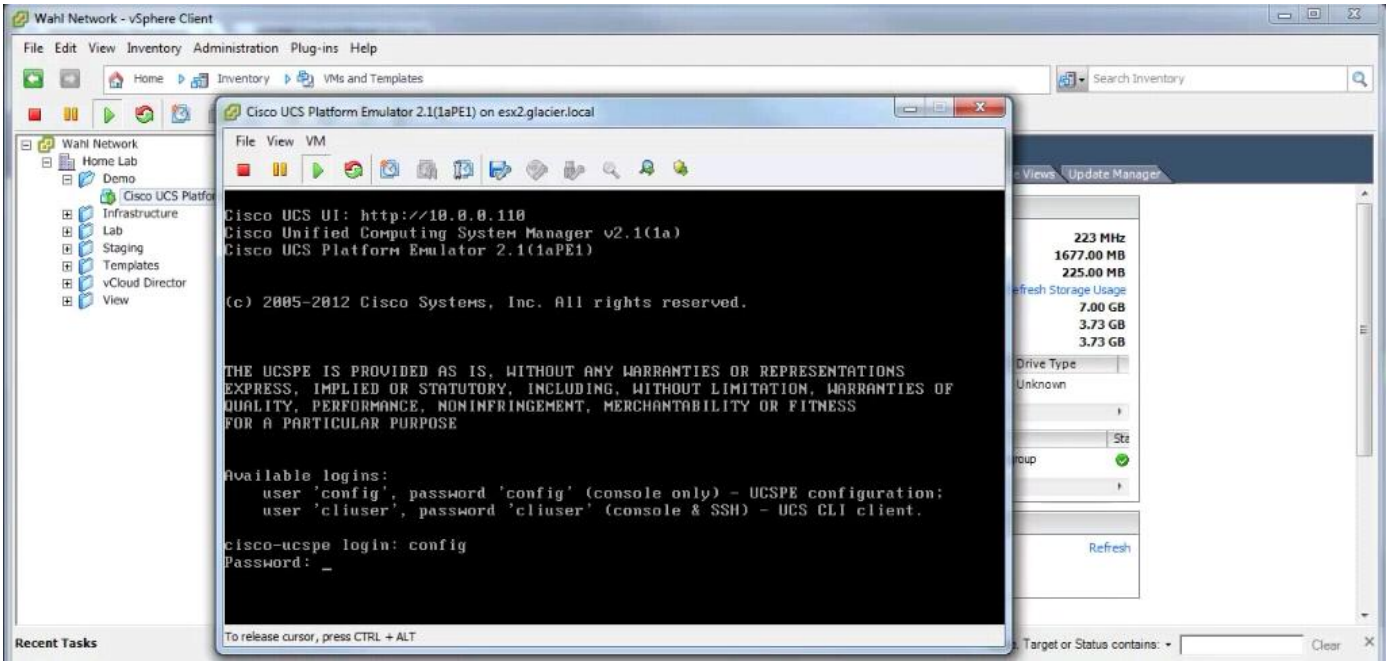


4. Power on & open the console, there will be some boot process that takes few minutes, then you will get the following screen.

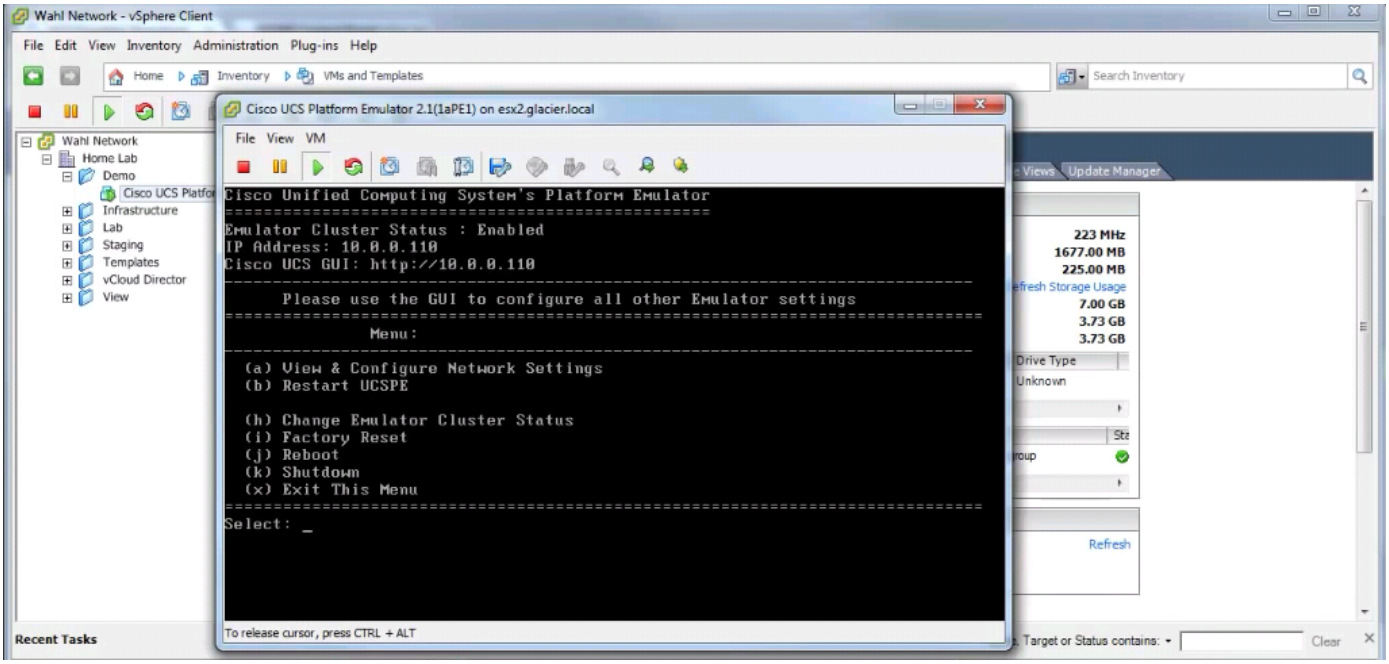


5. If we don't have DHCP running on the sub-network, then we will not get to see Cisco UCS UI address at the top because it need an IP address, here it is 10.0.0.110

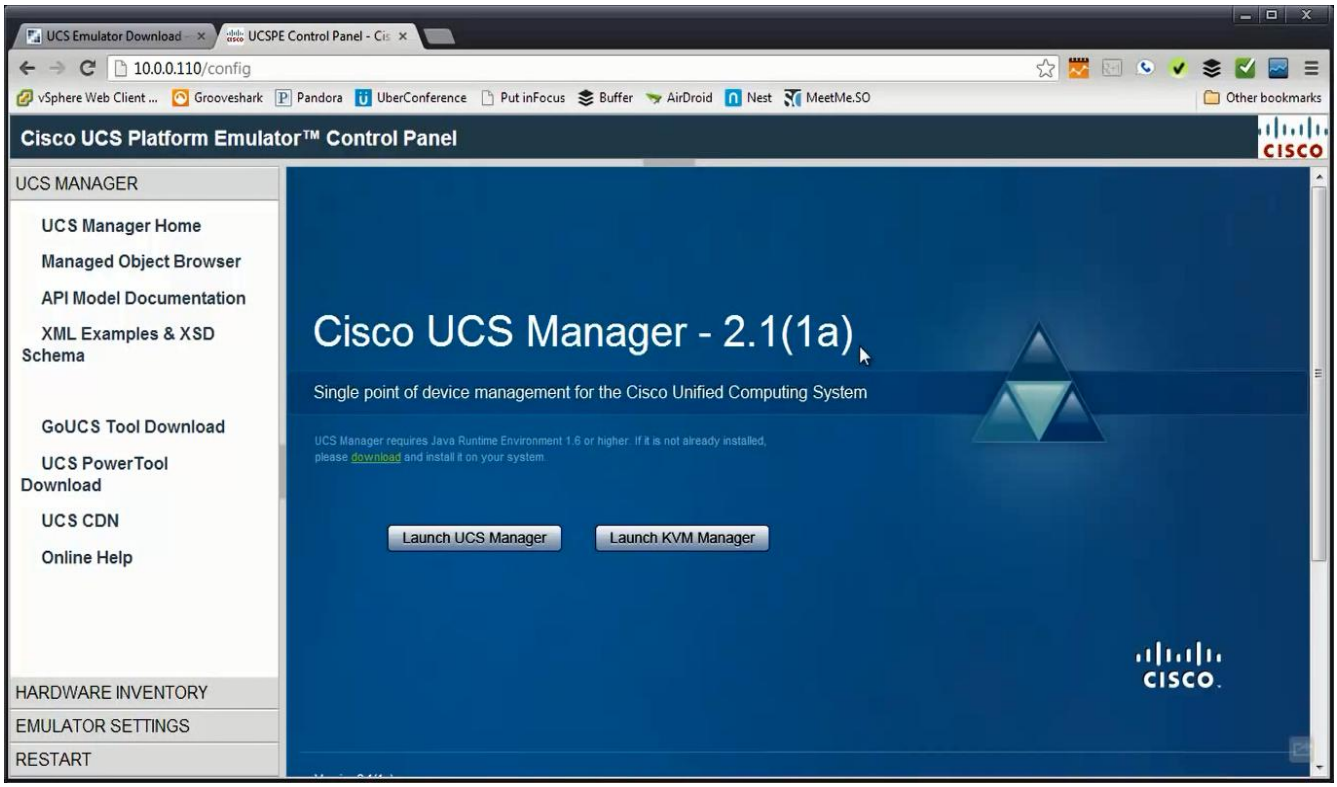
6. If you don't have DHCP running, then type config as login username & password.



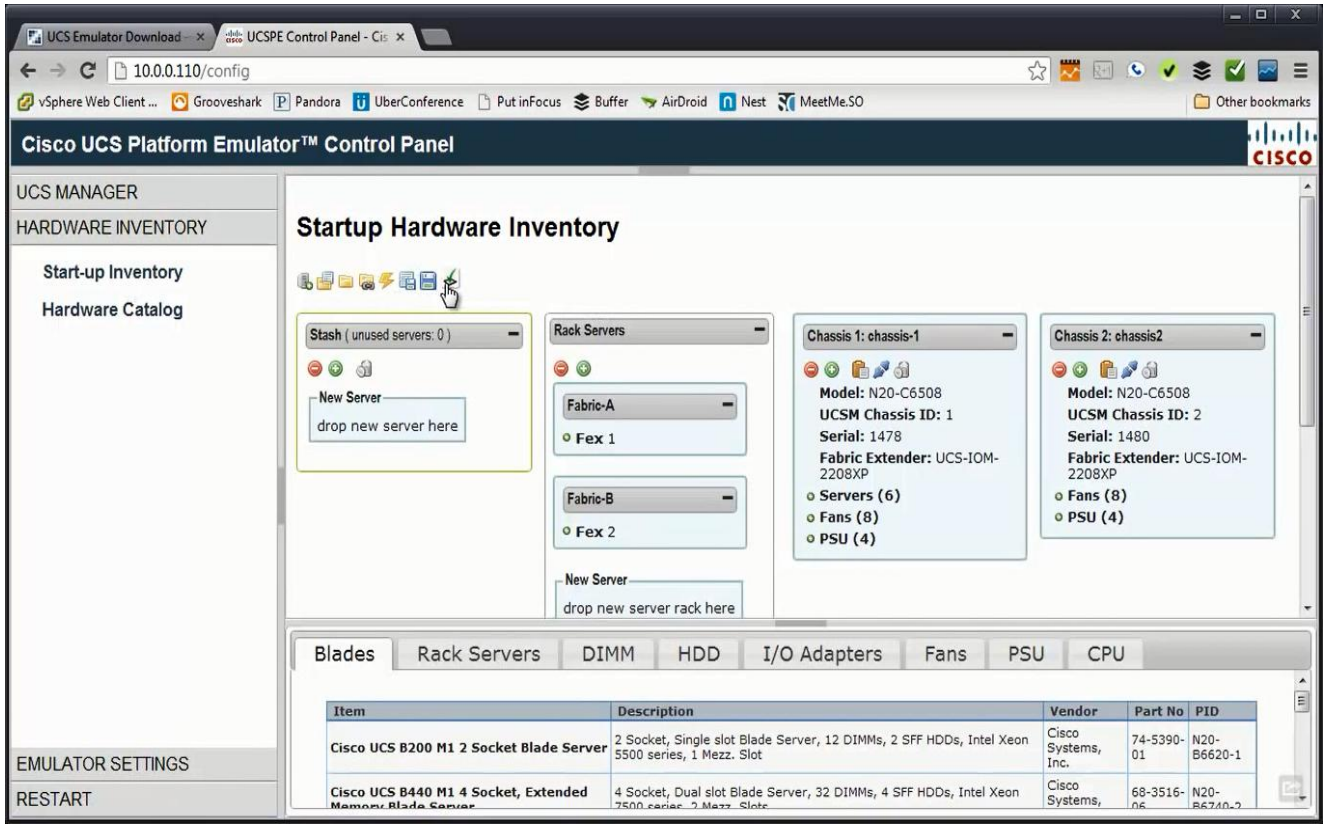
7. And we will get the below screen which shows Emulator Cluster Status enabled & also the IP address.



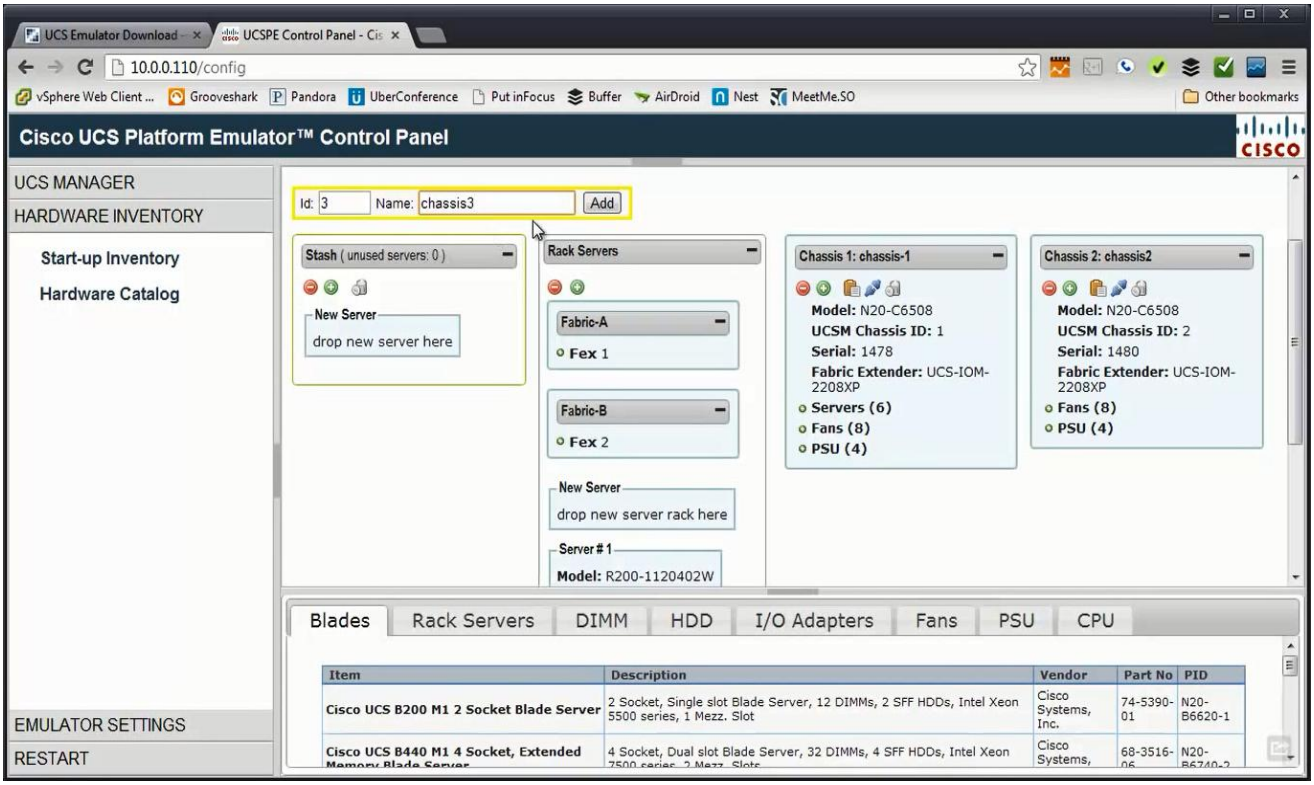
8. Now to navigate this IP address with the IP. So open the browser & type the IP address in the URL as 10.0.0.110/config & we will get the below Cisco UCS Manager Login screen.



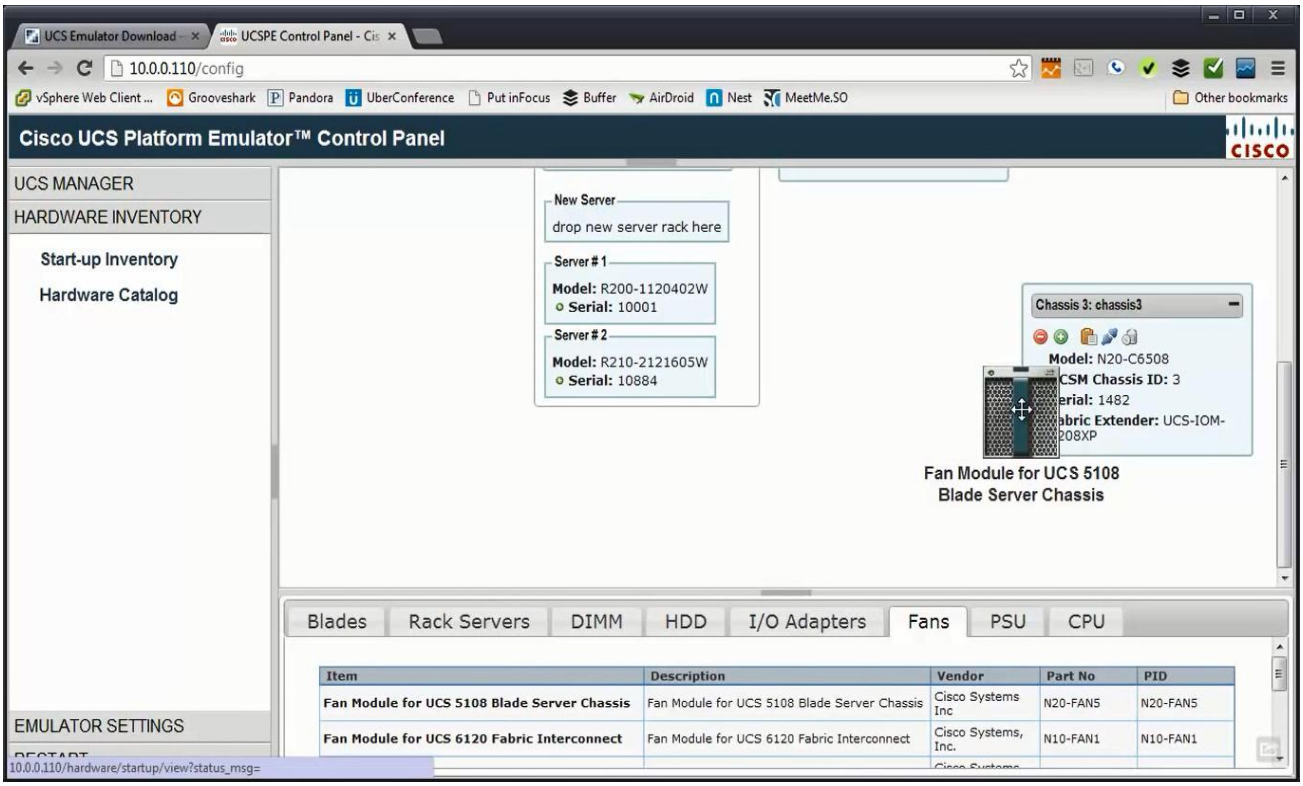
9. At the right side of the screen, below UCS Manager section, there is Hardware Inventory section, click on it, & then select Start-up Inventory.

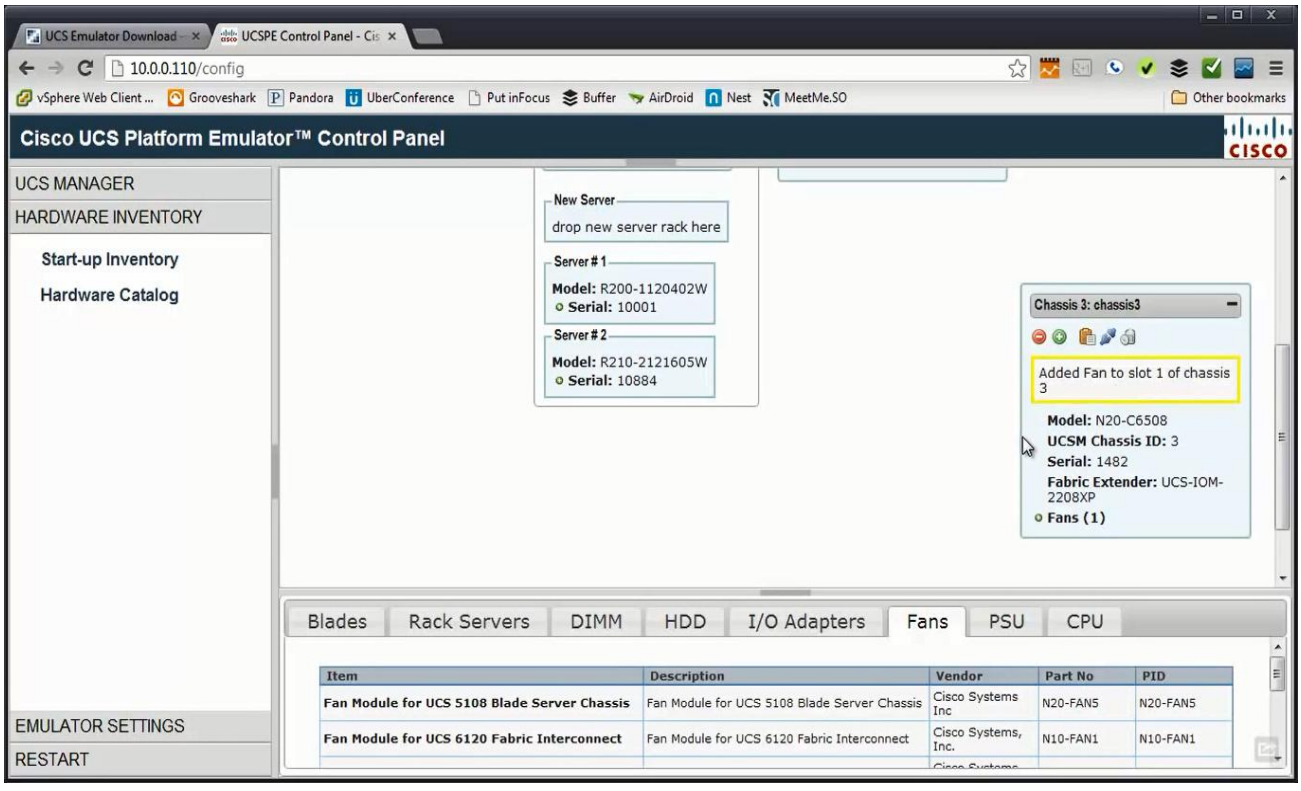


10. There are Rack Server infrastructures with Chassis. To add a new chassis, click the first icon which is Add New Chassis. Then give id & different chassis name.

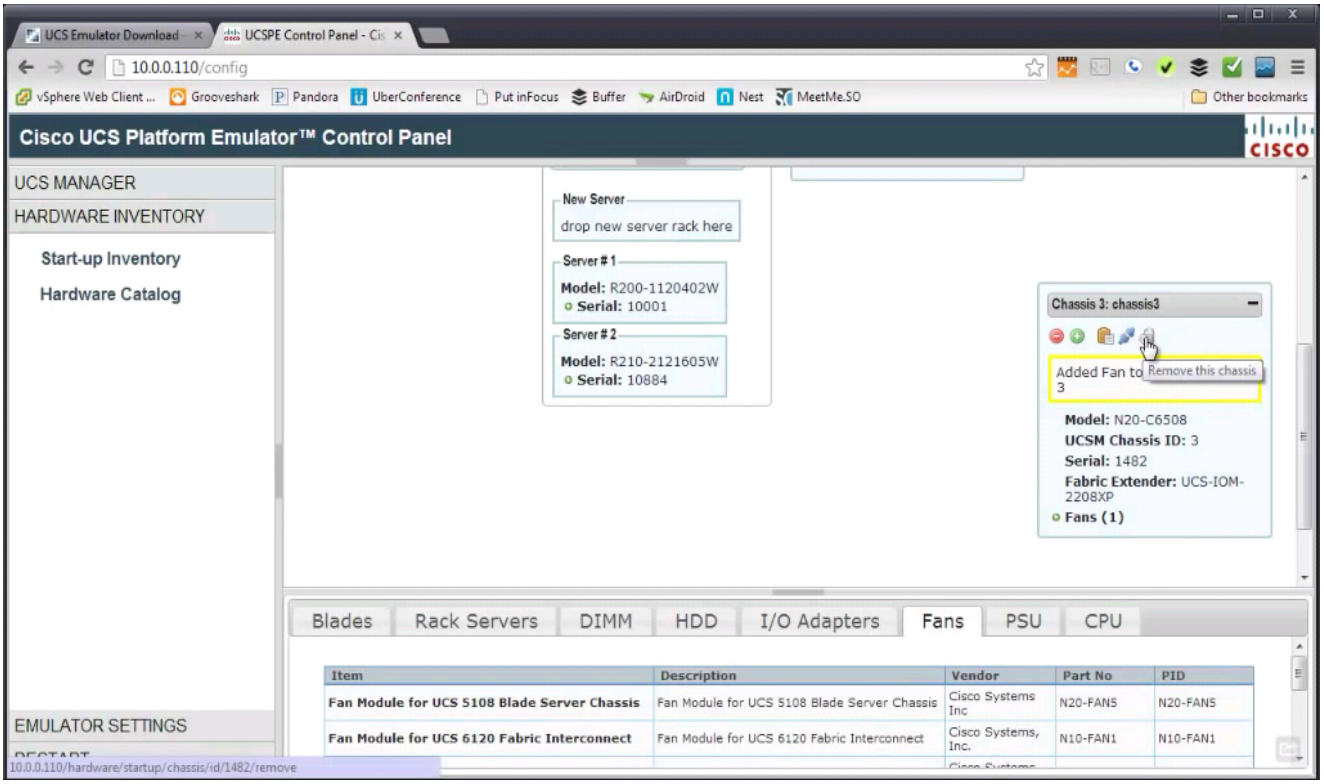


11. To put the fans & power supplies in this chassis, drag the fan onto the chassis & Enter Fan Slot as 1.

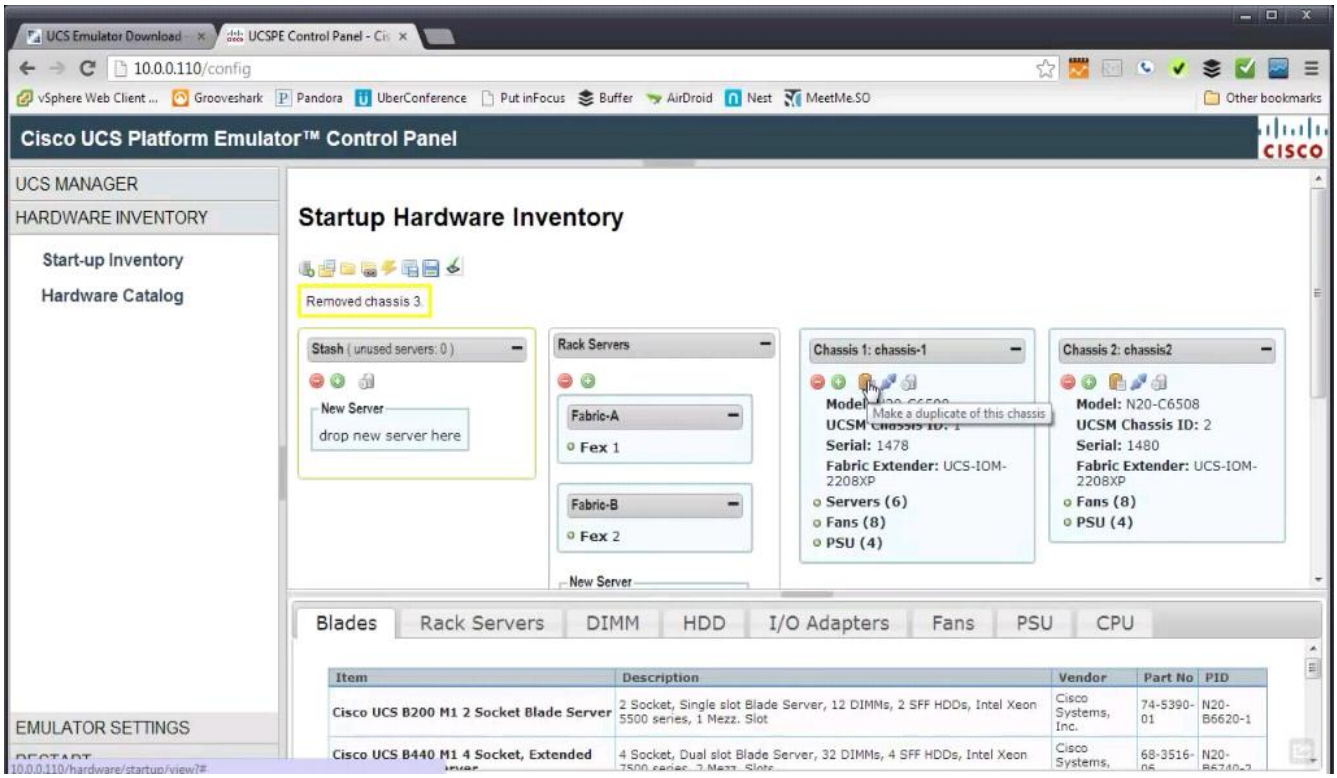




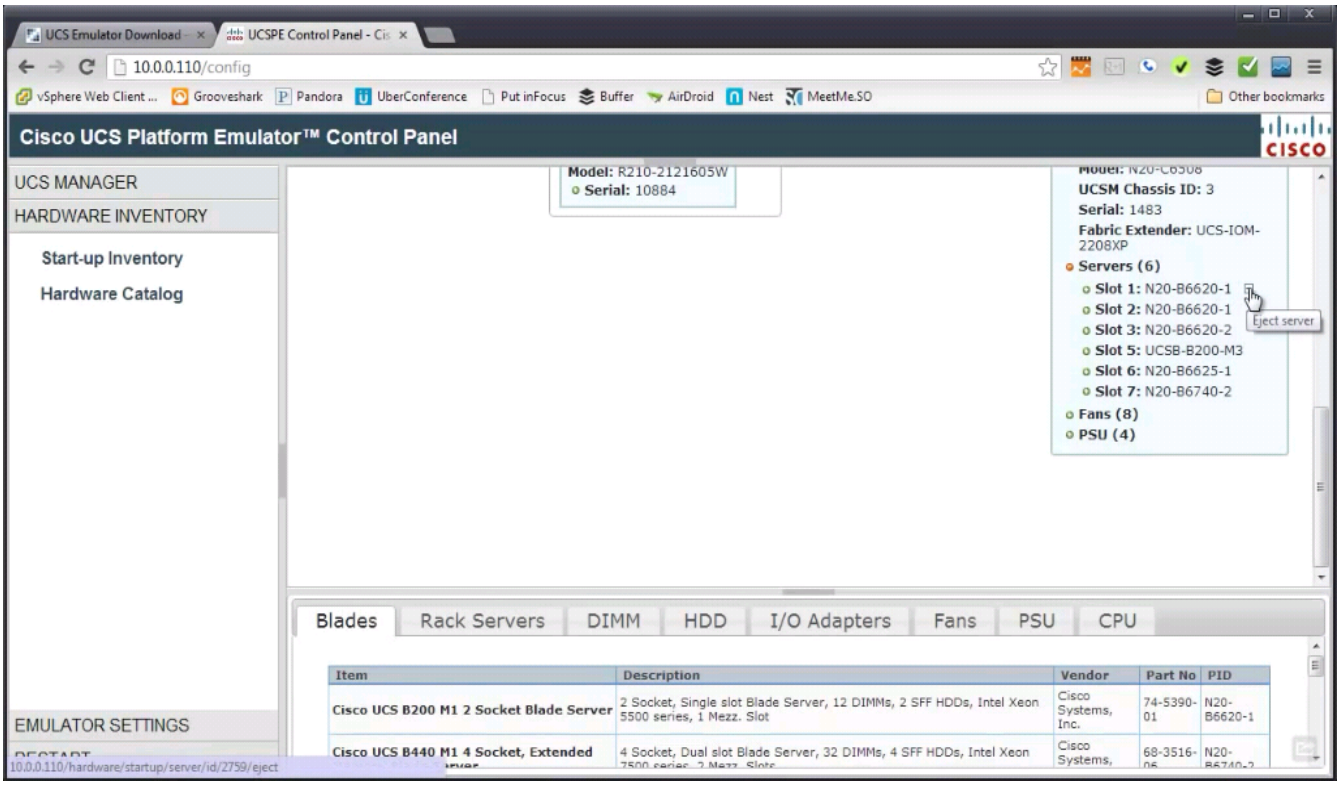
12. We have to repeat the step 10 & 11 to add fans (for 8 times) & power supplies (for 4 times); so better we remove the chassis (see last icon on the chassis3).



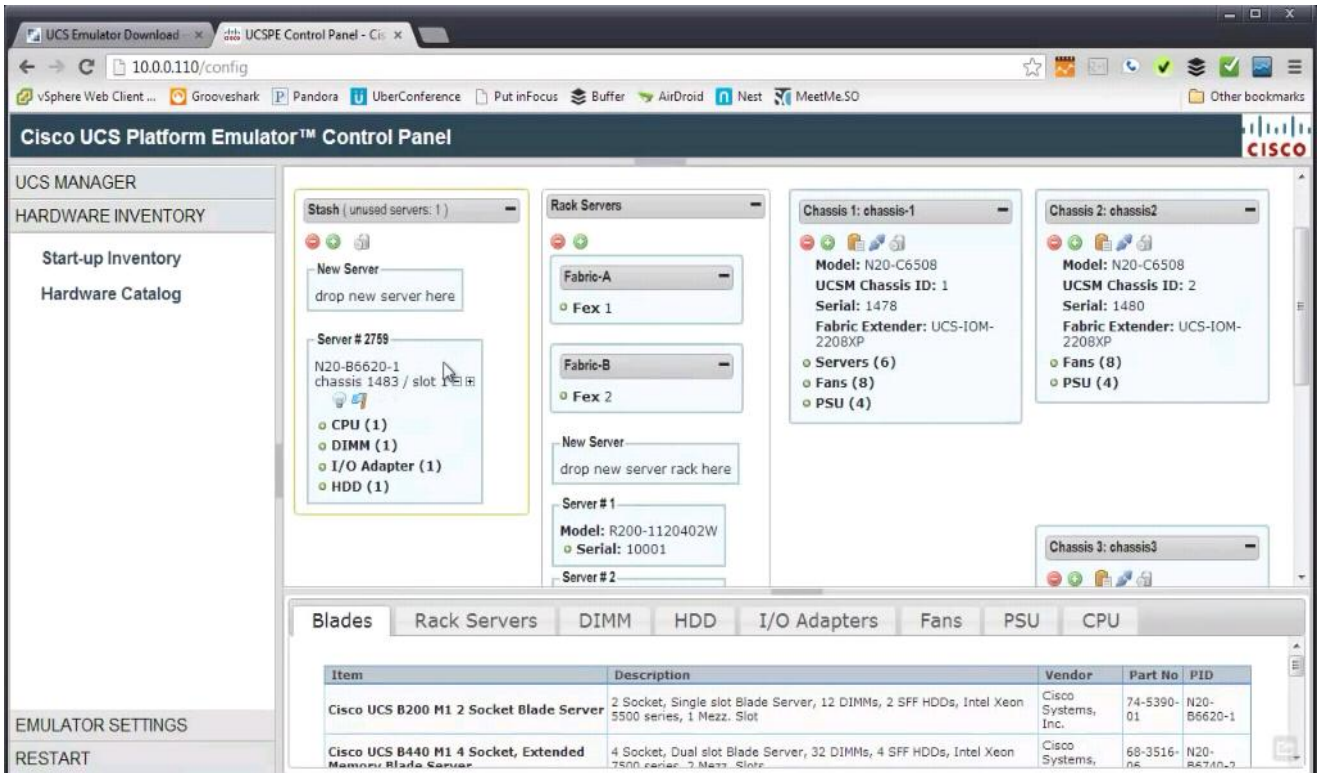
13. Just copy the chassis-1 (which is default chassis) & repeat step 10. The new Chassis3 is added now.

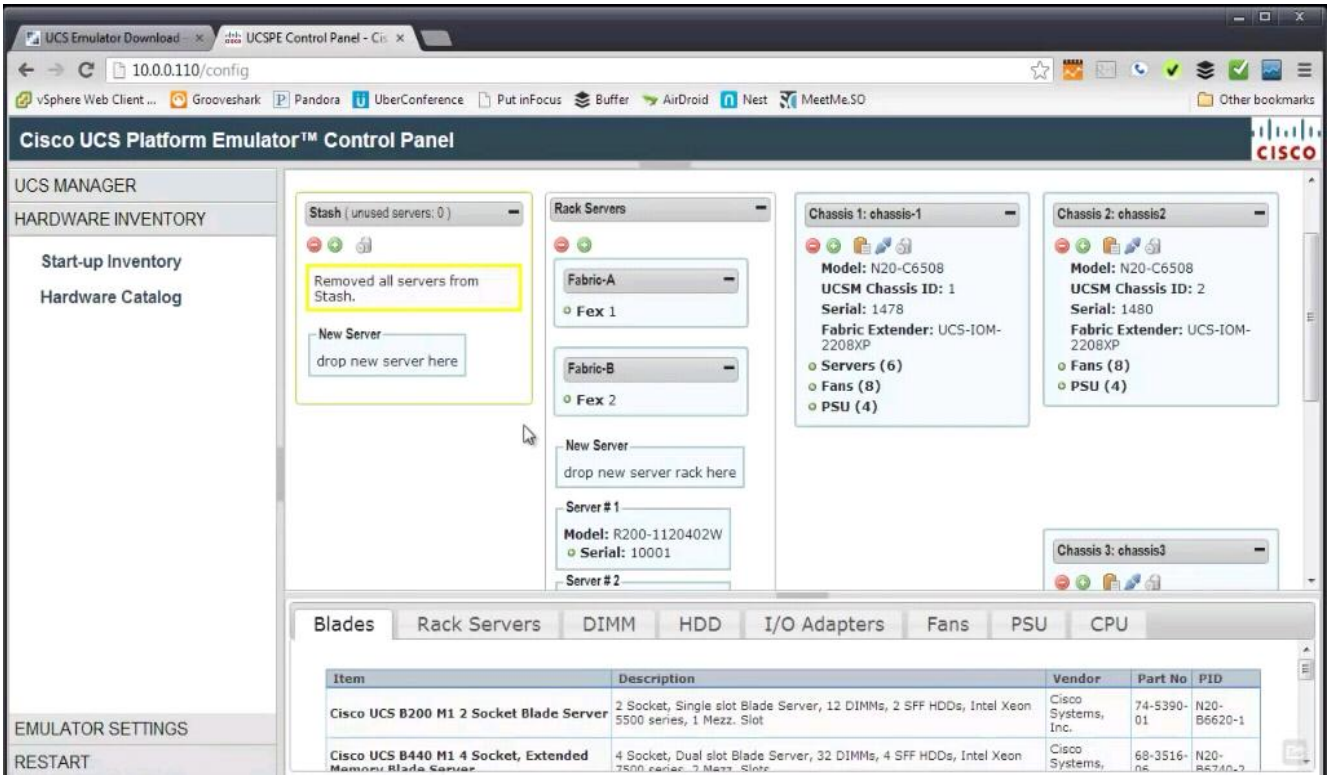


14. Expand the Servers in chassis3 & eject the negative symbol server slot.

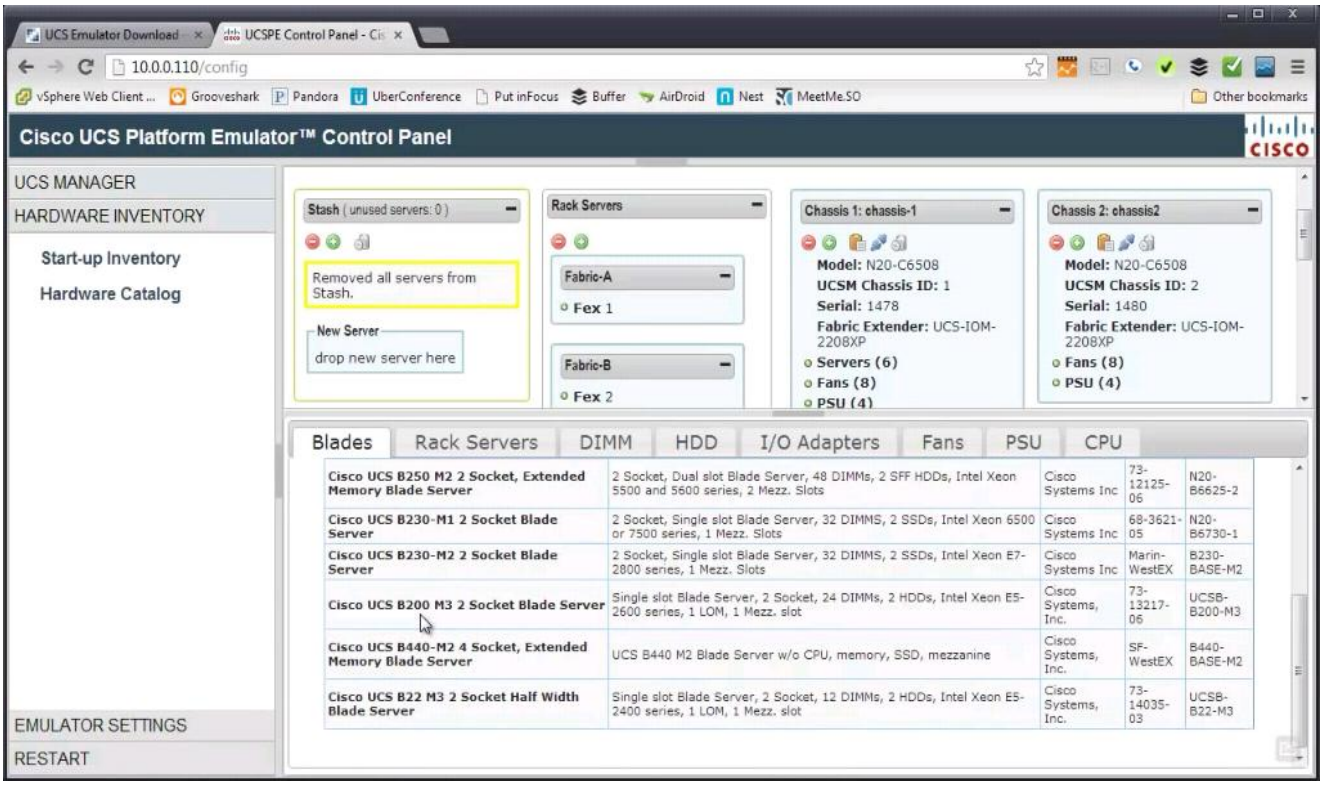


15. Empty the unused servers in Stash area (last icon).

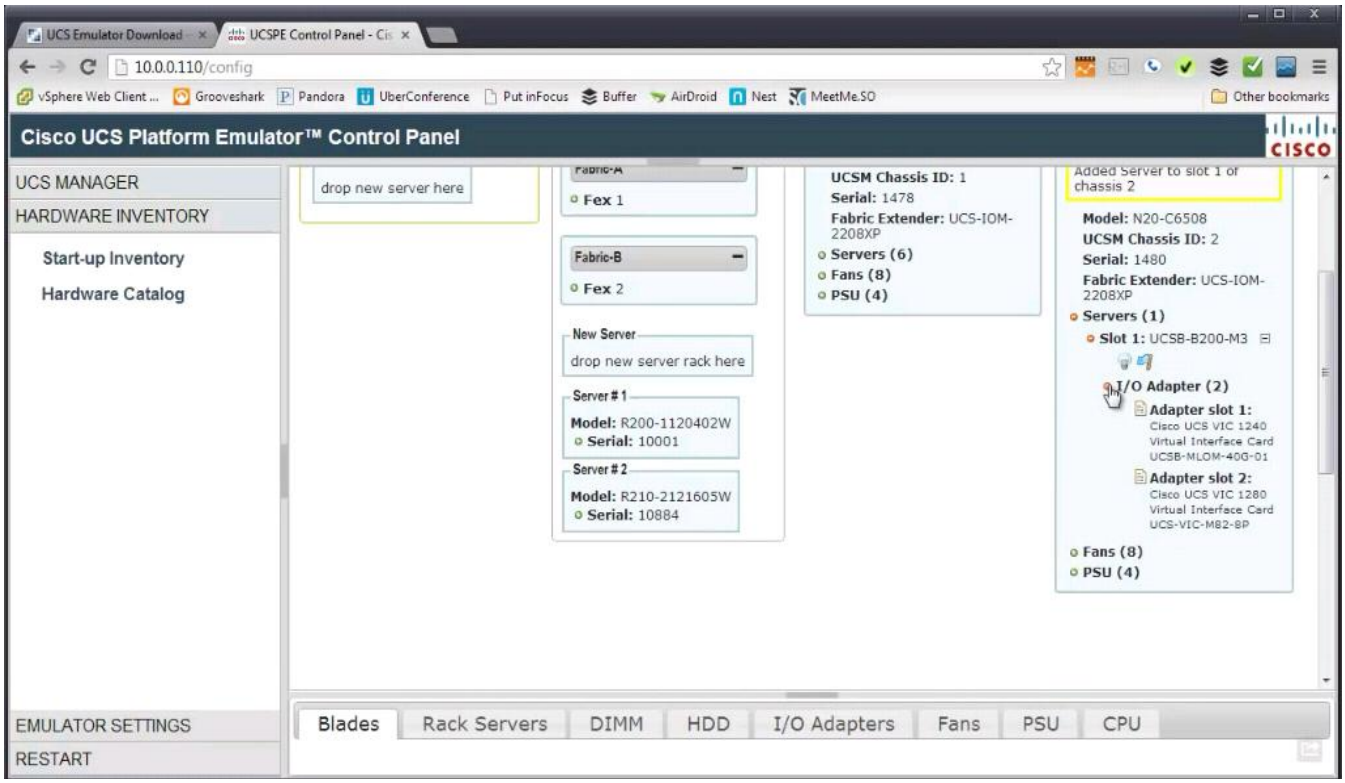




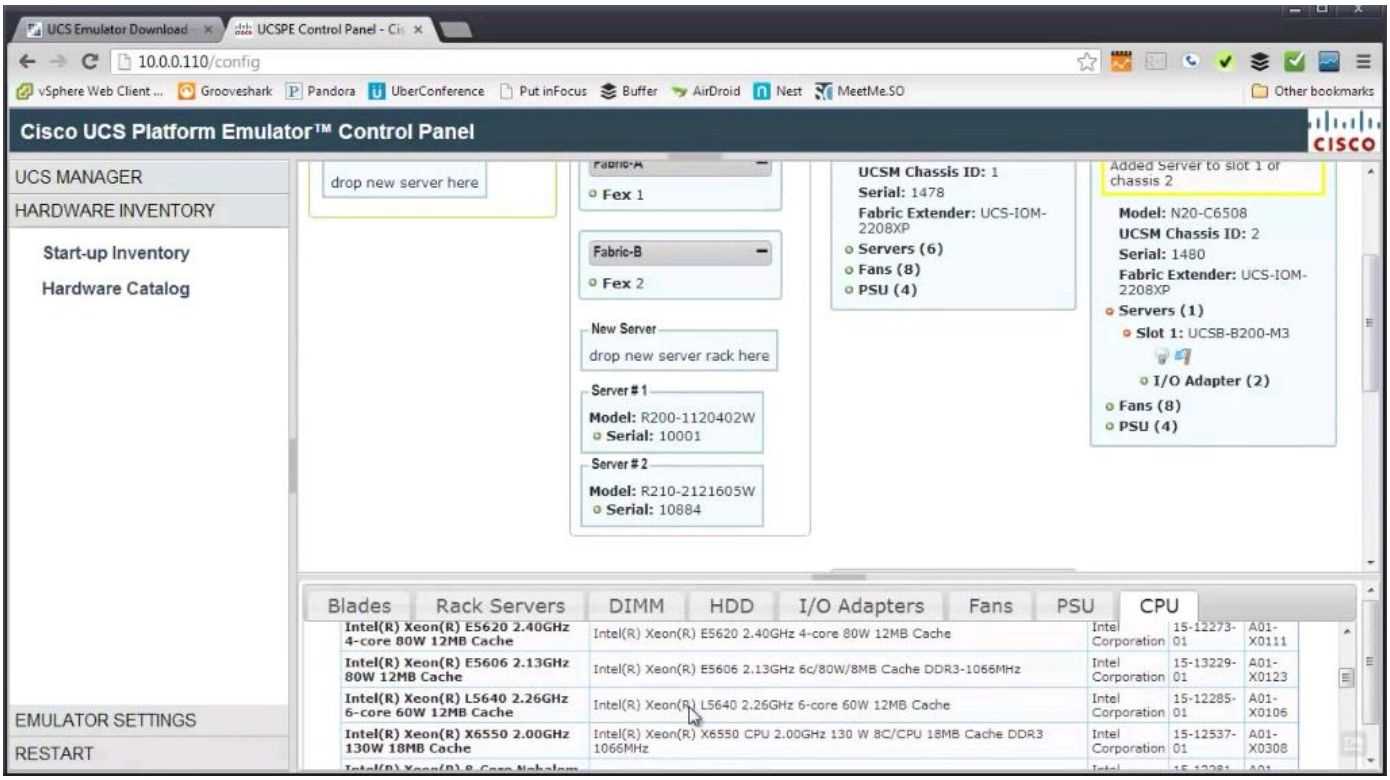
16. Configure the Blades, select Cisco UCS B200 M3 2 Socket Blade Server & drag it to chassis2 (within slot 1).



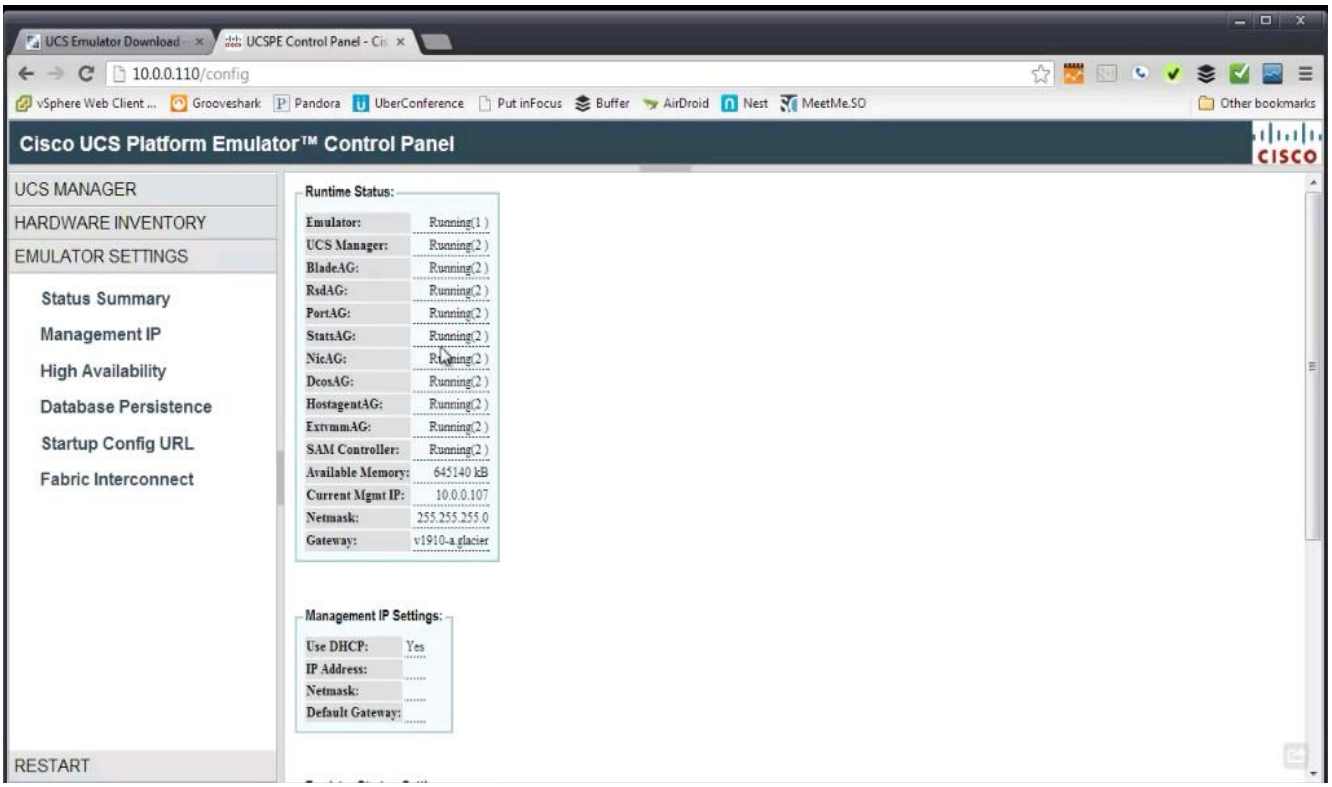
17. There is no RAM or CPU, it is an empty Blade.



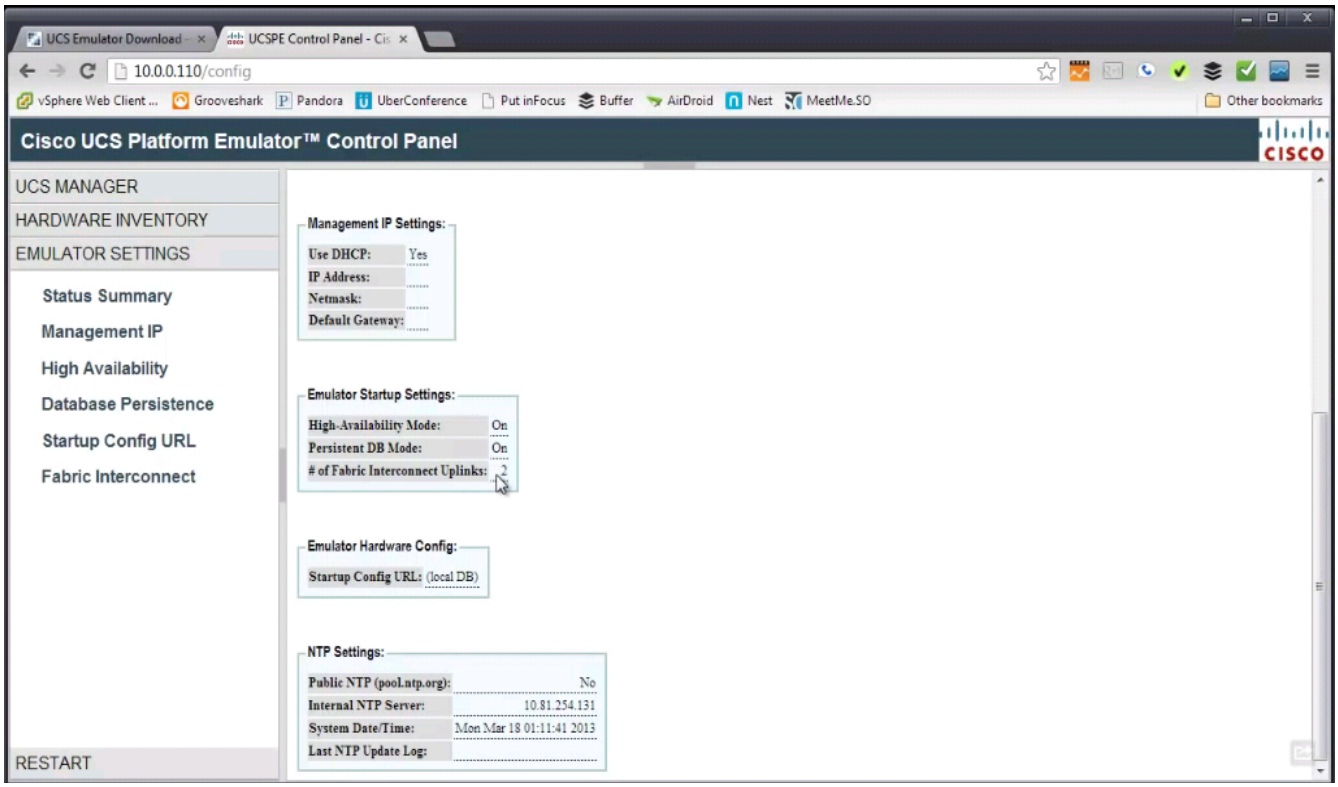
18. Likewise add the CPU.



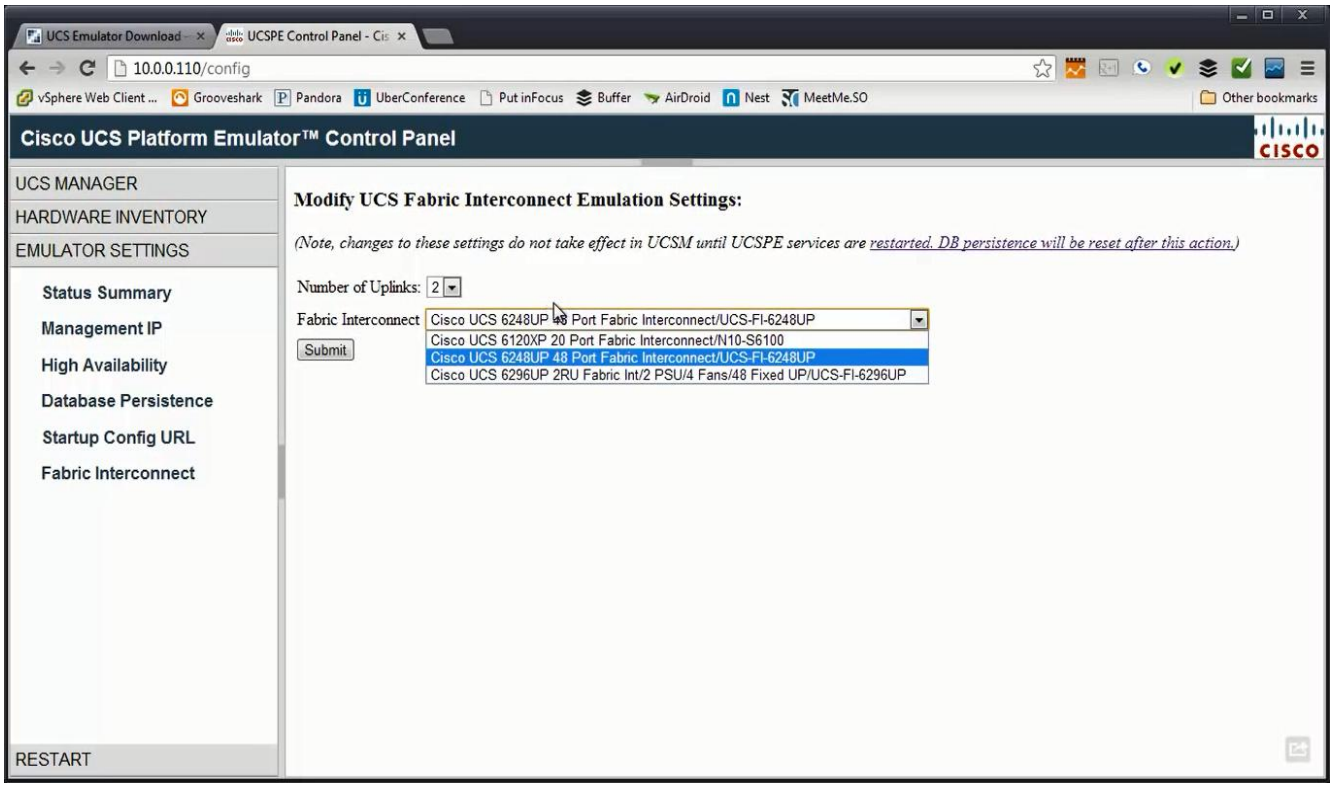
19. Now at the right side of the screen, below Hardware Inventory section, there is Emulator Settings section, click on it, & then select Status Summary.



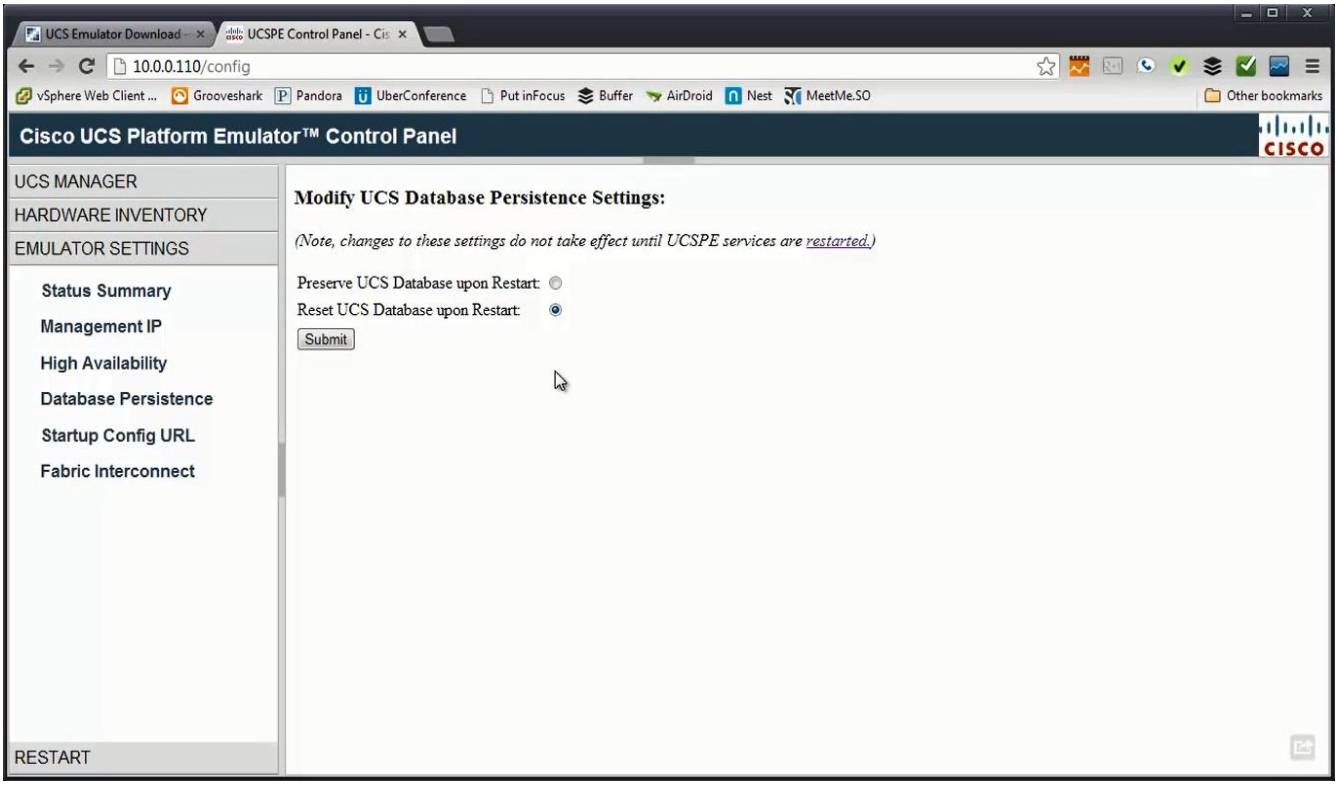
20. We can change the number of uplinks that fabric interconnect will have.



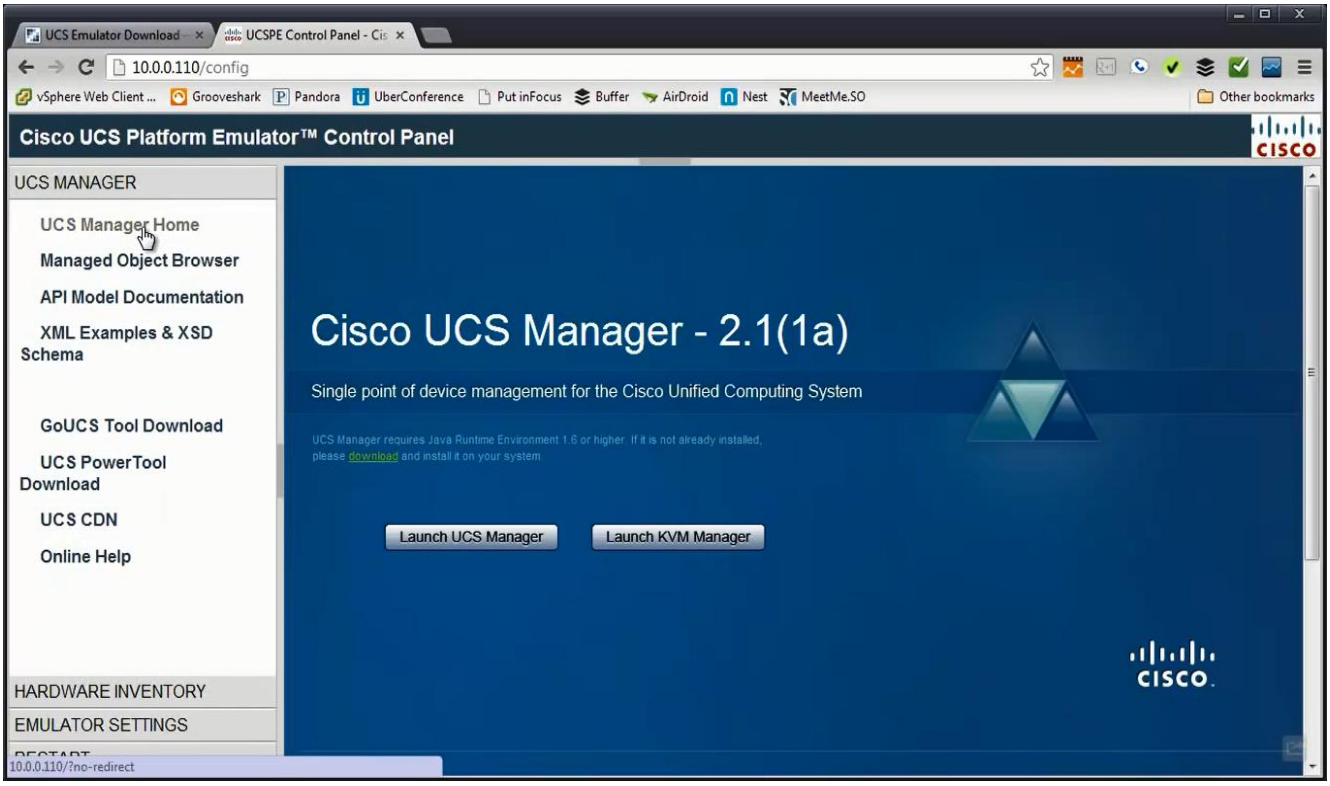
21. At the right side of the screen, there is Fabric Interconnect, click on it.



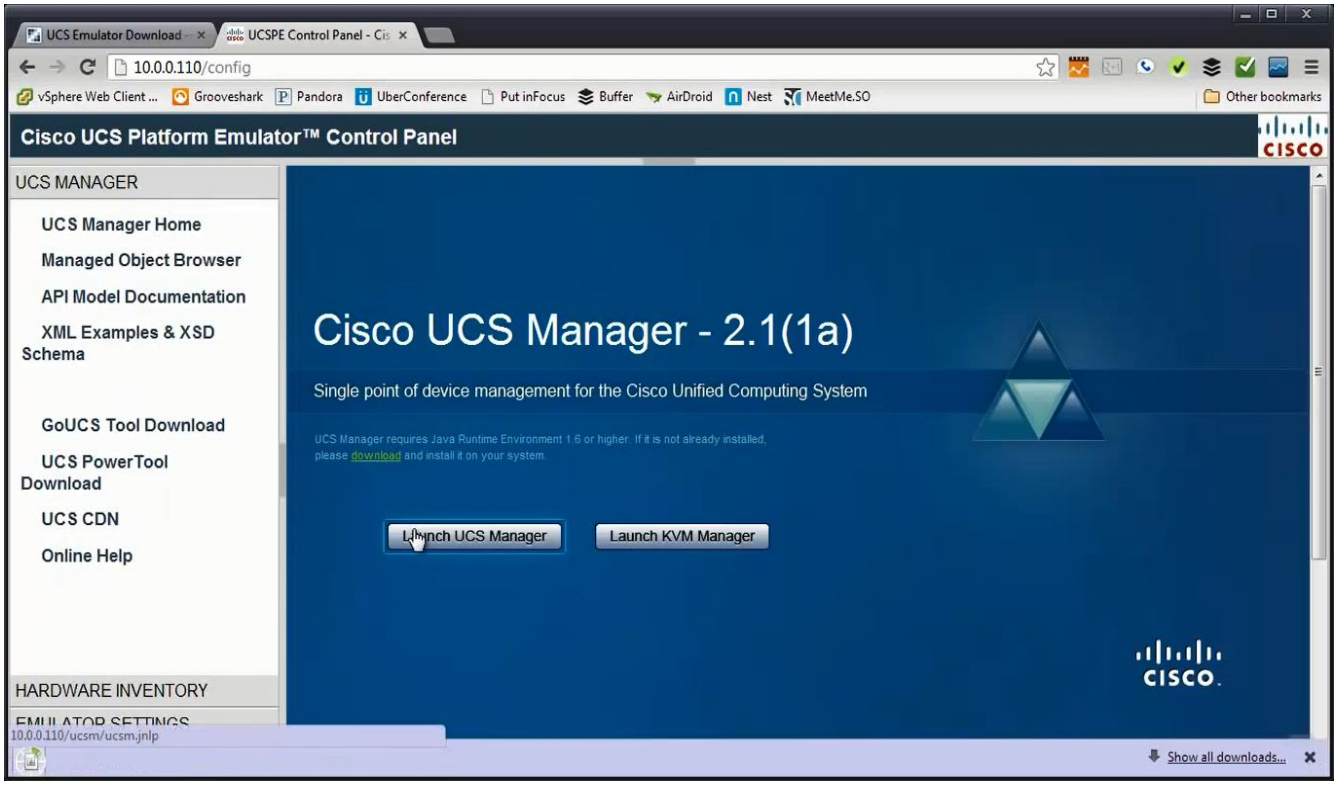
22. At the right side of the screen, there is Database Persistence, click on it. Select option Preserve UCS Database upon Restart (to preserve the changed settings) or select option Reset UCS Database upon Restart (to reset the changed settings).



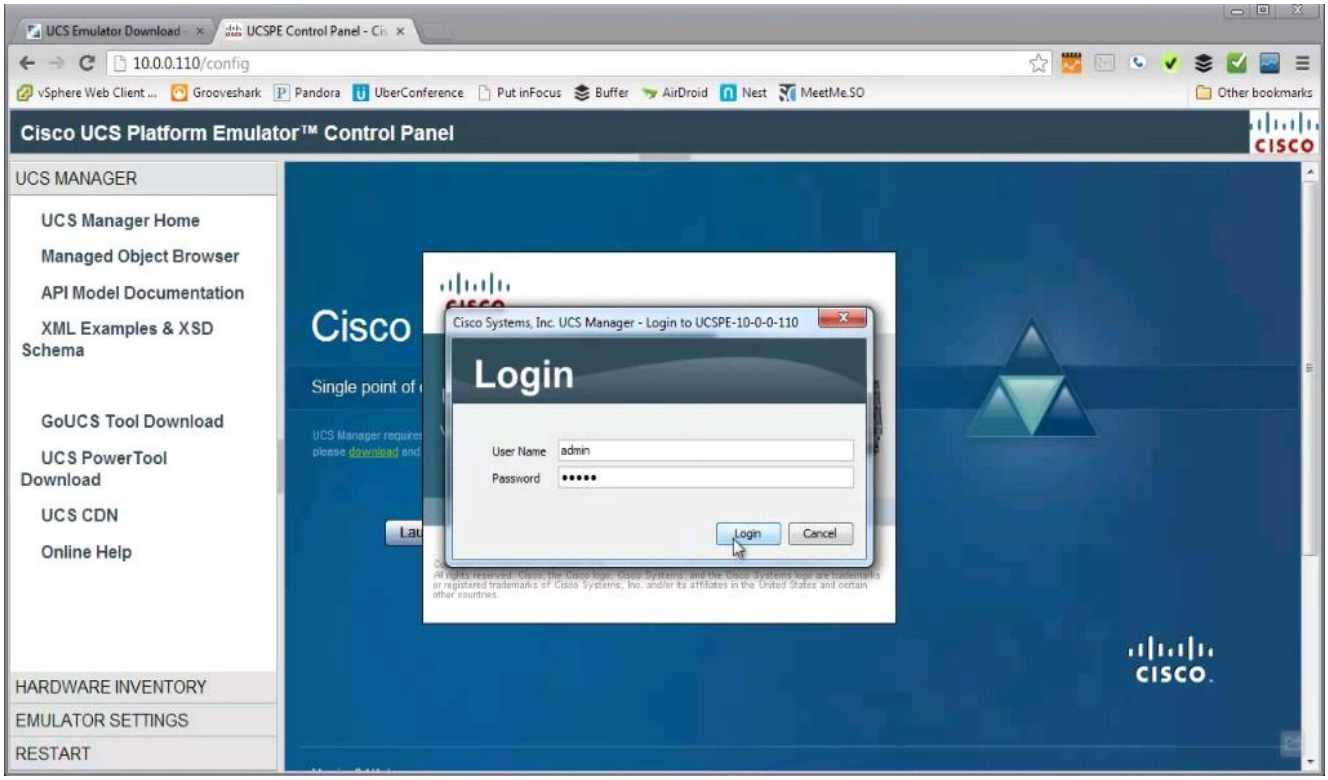
23. At the right side of the screen, below UCS Manager Section, click on UCS Manager Home, & then select Start-up Inventory.



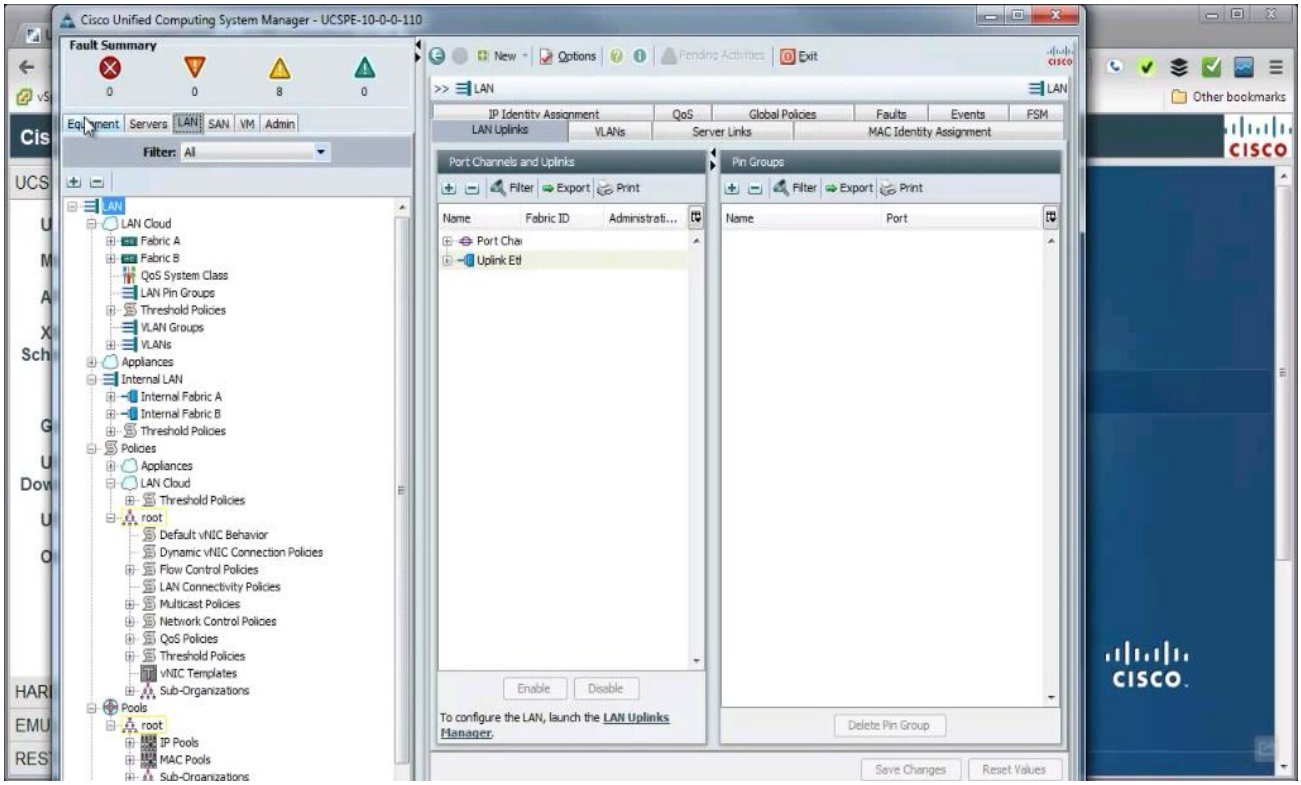
24. Then Launch UCS Manager.



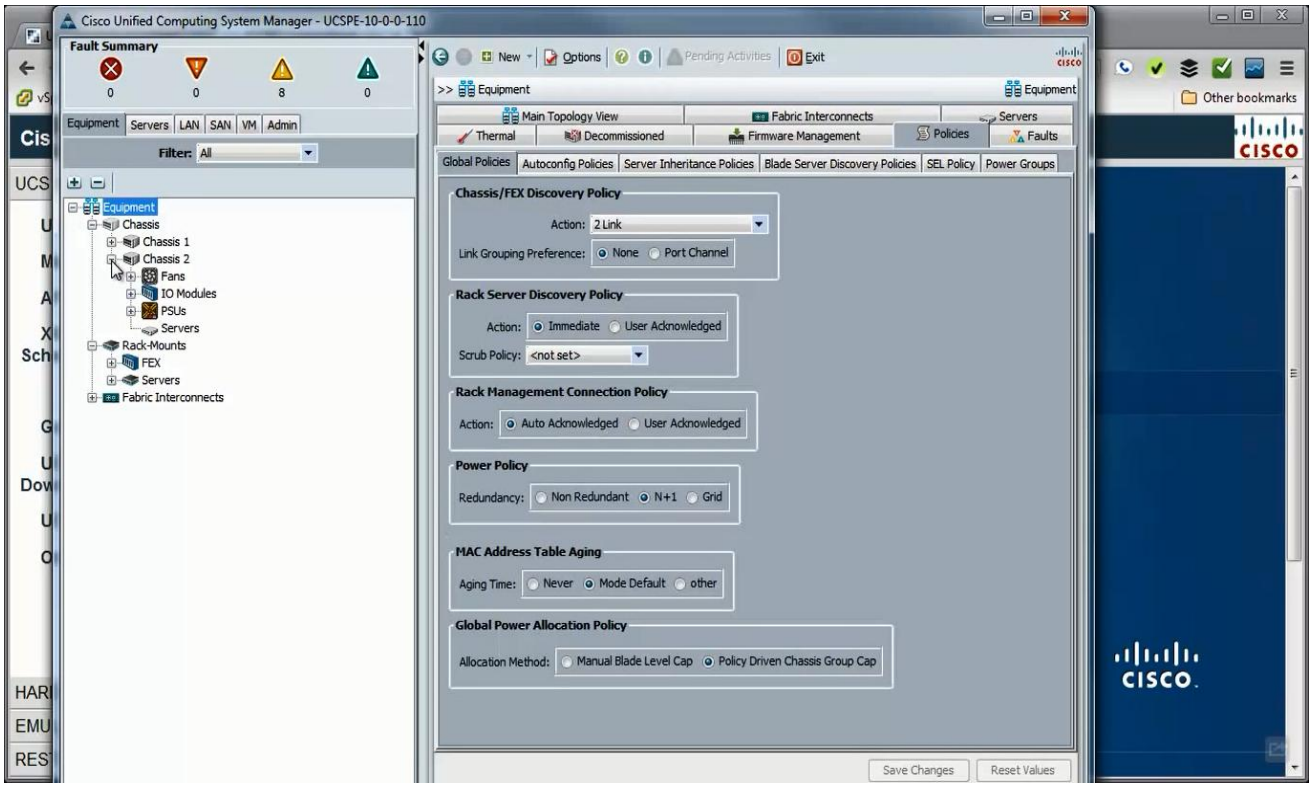
25. Login



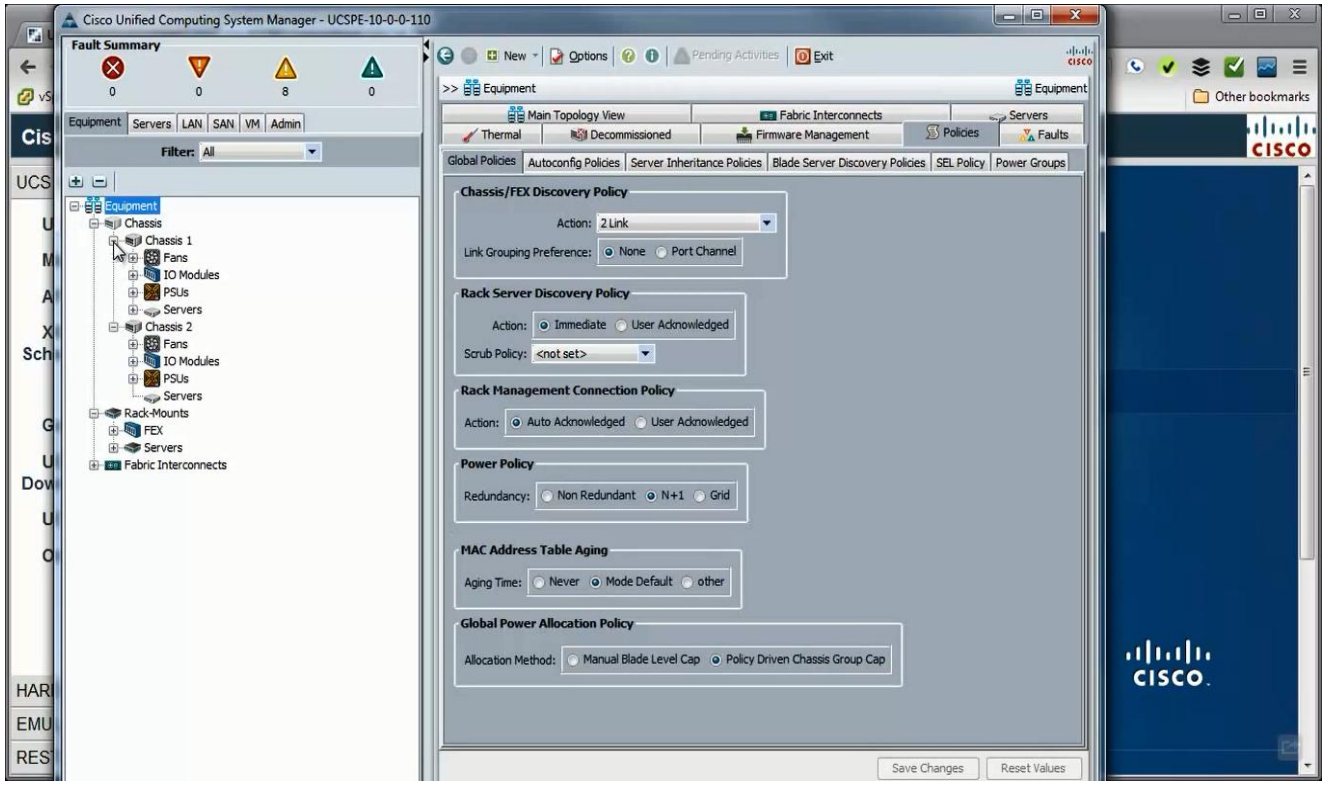
26. Under Equipment

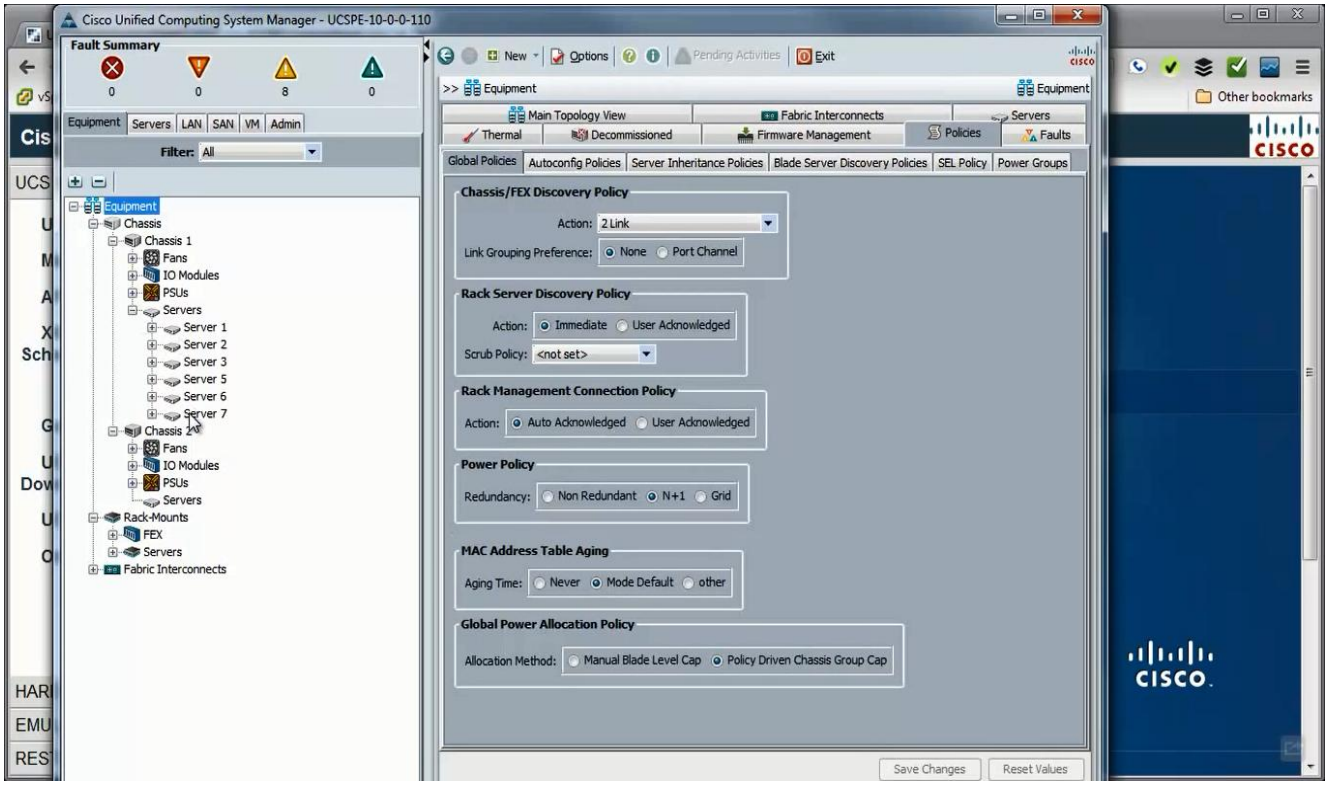


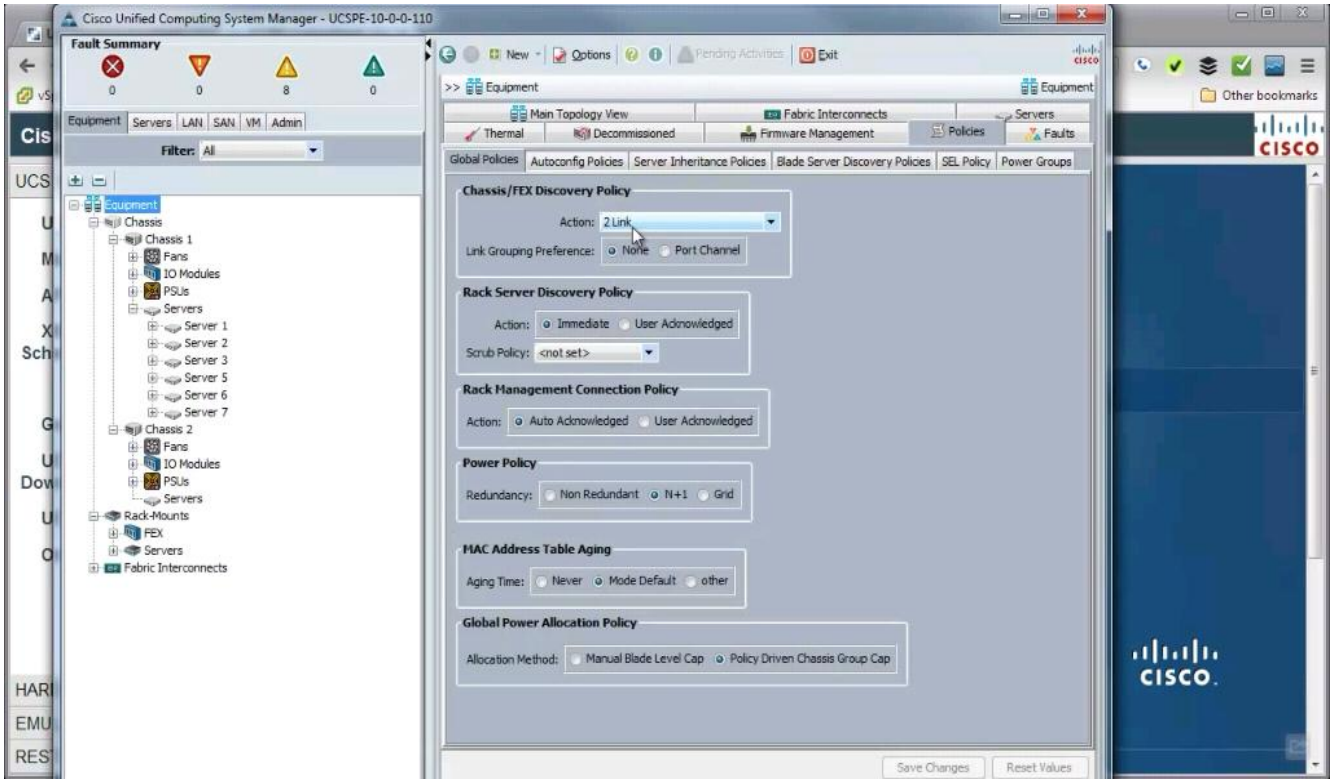
27. There is empty chassis 2.



28. There is standard chassis 1with 6 servers & below changes that were made.






Cisco Unified Computing System Manager - UCSPE-10-0-0-110
Fault Summary
0
0
8
0
Equipment
Servers
LAN
SAN
VM
Admin
Filter: All
Equipment
Chassis
Chassis 1
Fans
IO Modules
PSUs
Servers
Server 1
Server 2
Server 3
Server 5
Server 6
Server 7
Chassis 2
Fans
IO Modules
PSUs
Servers
Rack-Mounts
FEX
Servers
Fabric Interconnects
New
Options
Pending Activities
Exit
>> Equipment
Equipment
Main Topology View
Fabric Interconnects
Servers
Thermal
Decommissioned
Firmware Management
Policies
Faults
Global Policies
Autoconfig Policies
Server Inheritance Policies
Blade Server Discovery Policies
SEL Policy
Power Groups
Chassis/FEX Discovery Policy
Action: 2 Link
Link Grouping Preference: None Port Channel
Rack Server Discovery Policy
Action: Immediate User Acknowledged
Scrub Policy: <not set>
Rack Management Connection Policy
Action: Auto Acknowledged User Acknowledged
Power Policy
Redundancy: Non Redundant N+1 Grid
MAC Address Table Aging
Aging Time: Never Mode Default other
Global Power Allocation Policy
Allocation Method: Manual Blade Level Cap Policy Driven Chassis Group Cap
Save Changes
Reset Values
Other bookmarks
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