LAB GUIDE

a Hewlett Packard Enterprise company

Saving Lab Configurations

IMPORTANT! THIS GUIDE ASSUMES THAT THE AOS-CX OVA HAS BEEN INSTALLED AND WORKS IN GNS3 OR EVE-NG. PLEASE REFER TO GNS3/EVE-NG INITIAL SETUP LABS IF REQUIRED.

https://www.eve-ng.net/index.php/documentation/howtos/howto-add-aruba-cx-switch/

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Lab Objective

In this lab you will learn how to save configurations of your virtual lab switches and restore them on a clone of the original lab. This procedure will allow you to preserve configurations between subsequent labs in the same lab series.

Lab Overview

In this lab you will:

1. Create a small network with a simple configuration
2. Save the configurations
3. Clone the lab
4. Restore and test the configurations on the new lab switches

Lab Network Layout

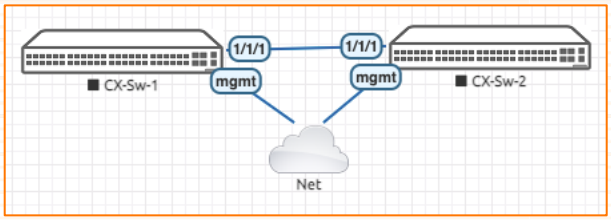


Figure 1. Lab topology

Task 1. Create and configure the network

- Create a new lab called **CXConfigSave**
- Create the network topology shown in Figure 1, using the same device names.
- Remember that the small cloud in the diagram represents a connection to the outside network. You will need this connection to access the management interface of the switches.
- Start the switches and access their console

Configure CX-Sw-1

- Login using
  - Username: admin
  - Password: (no password)
- When prompted assign the password: admin
- Configure the hostname and the management interface
  Note: you can replace the management IP addresses used in this example to fit in your virtual environment.

```
configure
  hostname CXSw01
  interface mgmt
    ip static 192.168.1.201/24
    default-gateway 192.168.1.1
    exit
```

- Prepare the configuration you will want to save and restore later
- Configure interface 1/1/1 as routed, with IP address 10.0.0.1/30 and enable it

```
  interface 1/1/1
    ip address 10.0.0.1/30
    routing
    no shutdown
    end
```

- Save the configuration

```
write memory
```

Configure CX-Sw-2

- Login using
  - Username: admin
  - Password: (no password)
- When prompted assign the password: admin
- Configure the hostname and the management interface
  Note: you can replace the management IP addresses used in this example to fit in your virtual environment.

```
configure
  hostname CXSw02
  interface mgmt
    ip static 192.168.1.202/24
    default-gateway 192.168.1.1
    exit
```

- Prepare the configuration you will want to save and restore later

- Configure interface 1/1/1 as routed, with IP address 10.0.0.1/30 and enable it

```
interface 1/1/1
  ip address 10.0.0.2/30
  routing
  no shutdown
  end
```

- Test connectivity with CXSw01

```
ping 10.0.0.1
108 bytes from 10.0.0.1: icmp_seq=1 ttl=64 time=21.7 ms
108 bytes from 10.0.0.1: icmp_seq=2 ttl=64 time=1.51 ms
108 bytes from 10.0.0.1: icmp_seq=3 ttl=64 time=1.69 ms
108 bytes from 10.0.0.1: icmp_seq=4 ttl=64 time=1.80 ms
108 bytes from 10.0.0.1: icmp_seq=5 ttl=64 time=1.59 ms

--- 10.0.0.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 1.514/5.668/21.733/8.033 ms
```

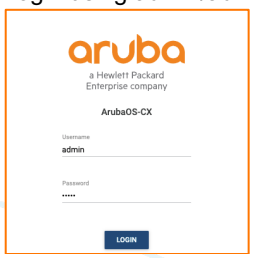
- Save the configuration

```
write memory
```

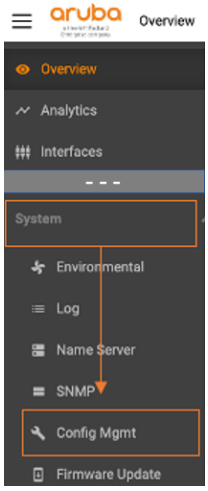
Task 2. Access the WebUI of the switches and save their configurations to your PC

Access CX-Sw-1

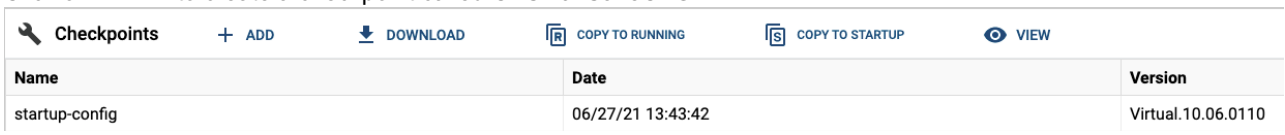
- In your browser open the WebUI of CXSw01
  https://192.168.1.201/
- Login using admin/admin

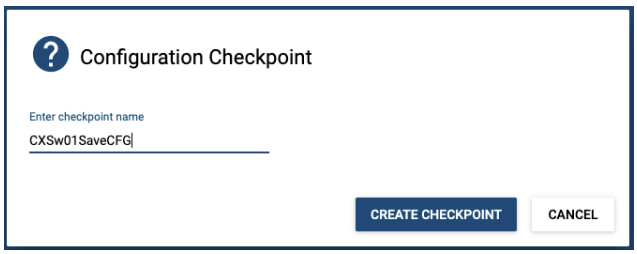


- On the left menu, go to **System** / **Config Mgmt**

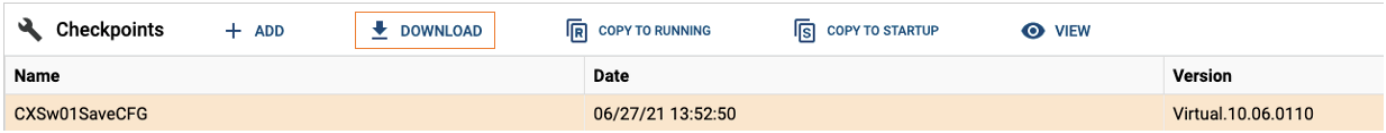


- Click on **+ ADD** to create a checkpoint called CXSw01SaveCFG





- Select the new checkpoint and download it to your PC

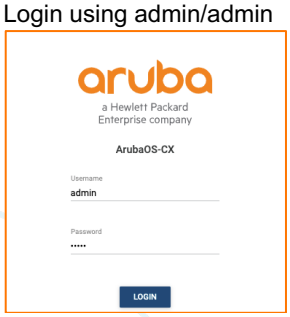


Note: the process adds a timestamp at the end of the checkpoint name (you can see it in the download list of your browser or in your Downloads folder)

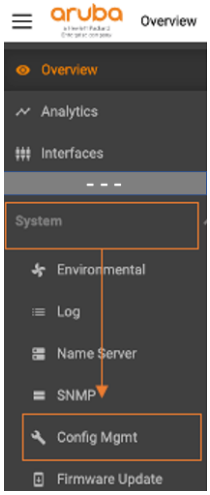
- Close this browser tab

Access CX-Sw-2

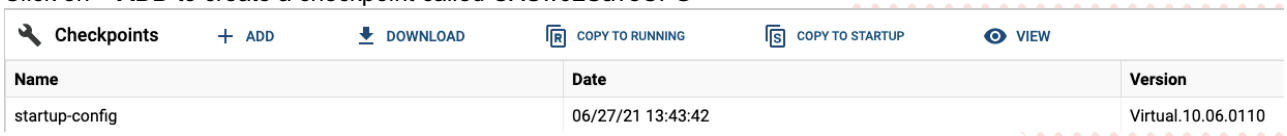
- In your browser open the WebUI of CXSw01
  https://192.168.1.202/
- Login using admin/admin

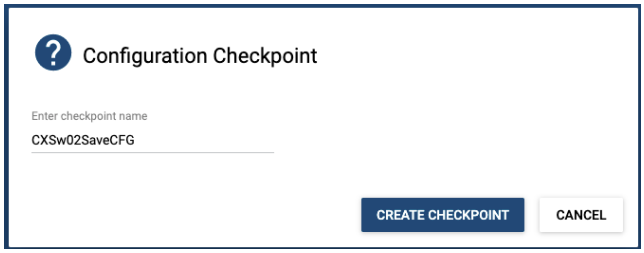


- On the left menu, go to **System** / **Config Mgmt**

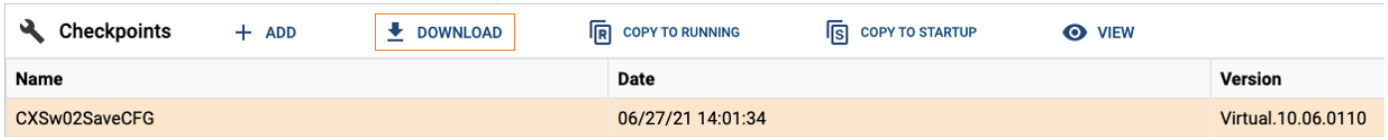


- Click on **+ ADD** to create a checkpoint called CXSw02SaveCFG





- Select the new checkpoint and download it to your PC



Note: the process adds a timestamp at the end of the checkpoint name (you can see it in the download list of your browser or in your Downloads folder)

- Close this browser tab

Task 3. Create a new lab with the same topology

IMPORTANT: This part will depend on your virtualization environment. This example shows how it is done in EVE-NG.

- Close the console of both switches
- Stop both switches
- Exit the lab
- Clone the lab and rename it to **CXConfigRestore**
- Open the new lab (the topology should be the same as in Figure 1.
- Start both switches and open their consoles

  Note: the switches should be in their default configuration as this is a new lab. The login prompt should be: “switch login:”

Task 4. Access the WebUI of the switches in the new lab, upload, apply and test the configuration checkpoints

CX-Sw-01

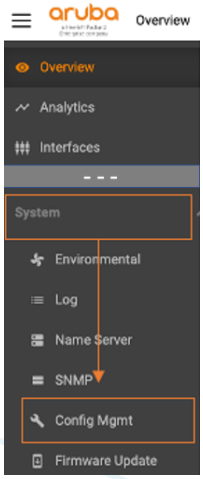
- Login as before: admin / no password
- When prompted, assign the password: admin
- Check the IP address of the management interface

```
show interface mgmt
```

```
  Address Mode: dhcp
  Admin State: up
  Link State: up
  Mac Address: 50:00:00:01:00:00
  IPv4 address/subnet-mask: 192.168.1.13/24
  Default gateway IPv4: 192.168.1.1
. . .
  Secondary Nameserver: 2001:558:feed::2
```

Note: In this example, the DHCP server on the external network provided the IP address 192.168.1.13. If your environment does not have a DHCP server, enter a temporary IP address in the management interface context.

- Open the browser and go to the management interface of CX-Sw-1
- Login using admin/admin
- Go to System / Config Mgmt



- At the bottom of that page, you will find the Upload tool. Use it to upload the configuration checkpoint you saved for the first switch

  IMPORTANT: When you upload a checkpoint through the WebUI, it is applied directly to the running configuration. In this case, as the file you are uploading has a different management IP address, your browser will lose its connection to the switch.

Prepare CX-Sw-02

- Repeat the previous procedure on the second switch.

Test the configurations

On the console of each switch display the running configuration. Verify the hostnames and IP addresses on the management and 1/1/1 interfaces.

```
show running-config
```

Output CX-Sw-1

```
Current configuration:
!
!Version ArubaOS-CX Virtual.10.06.0110
!export-password: default
hostname CXSw01
user admin group administrators password
ciphertext . . .
led locator on
!
!
!
!
ssh server vrf mgmt
vlan 1
interface mgmt
    no shutdown
    ip static 192.168.1.201/24
    default-gateway 192.168.1.1
interface 1/1/1
    no shutdown
    ip address 10.0.0.1/30
!
!
!
!
!
https-server vrf mgmt
```

Output CX-Sw-2

```
Current configuration:
!
!Version ArubaOS-CX Virtual.10.06.0110
!export-password: default
hostname CXSw02
user admin group administrators password
ciphertext . . .
led locator on
!
!
!
!
ssh server vrf mgmt
vlan 1
interface mgmt
    no shutdown
    ip static 192.168.1.202/24
    default-gateway 192.168.1.1
interface 1/1/1
    no shutdown
    ip address 10.0.0.2/30
!
!
!
!
!
https-server vrf mgmt
```

- On CX-Sw-1 run a ping to CX-Sw02

```
ping 10.0.0.1
```

```
PING 10.0.0.1 (10.0.0.1) 100(128) bytes of data.
108 bytes from 10.0.0.1: icmp_seq=1 ttl=64 time=0.097 ms
108 bytes from 10.0.0.1: icmp_seq=2 ttl=64 time=0.033 ms
108 bytes from 10.0.0.1: icmp_seq=3 ttl=64 time=0.034 ms
108 bytes from 10.0.0.1: icmp_seq=4 ttl=64 time=0.034 ms
108 bytes from 10.0.0.1: icmp_seq=5 ttl=64 time=0.052 ms

--- 10.0.0.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
```

```
rtt min/avg/max/mdev = 0.033/0.050/0.097/0.024 ms
```

- On both switches, save the running configuration

  ```
  write memory
  ```

Summary

This procedure will allow you to stop and close a lab, and later, create a new lab with the same topology and upload the configurations of the first lab, to continue working at the end of the first lab.

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