



Lab 5.2.5 Manage AP Configuration and Image Files

Estimated Time: 30 minutes

Number of Team Members: Students will work in teams of two.

Objective

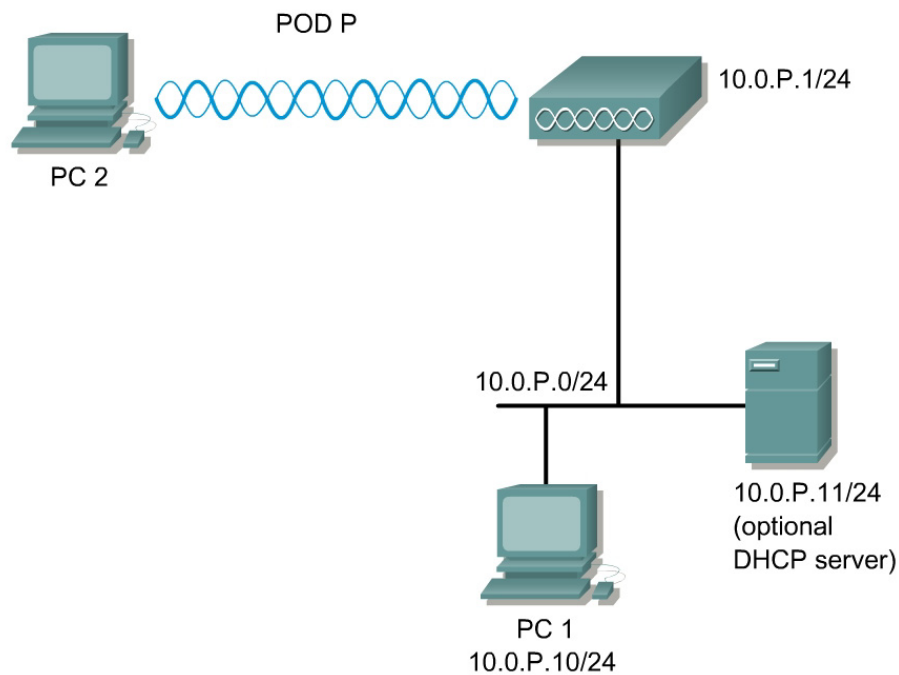
In this lab, the student will learn to manage configuration and image files.

Scenario

Students will learn the file management features of the AP IOS and GUI.

Note The command outputs shown in this lab were produced in IOS version 11.

Topology



Preparation

<u>Team</u>	<u>AP Name</u>	<u>SSID</u>	<u>Address</u>
1	Pod1	AP1	10.0.1.1/24
2	Pod2	AP2	10.0.2.1/24

Download and install TFTP server software on PC1.

Tools and Resources

Each team will need:

- The AP
- A PC or laptop
- Console cable

Additional Materials:

http://www.cisco.com/en/US/products/hw/wireless/ps430/products_installation_and_configuration_guide_book09186a0080147d69.html

SolarWinds TFTP

<http://www.solarwinds.net/Download-Tools.htm>

Command List:

In this lab exercise, the following commands will be used. Refer to this list if assistance or help is needed during the lab exercise.

Command	Description
show file systems	Display the available file systems on the AP
dir	View directory information
ping	Ping a IP address to test connectivity
copy	Move files between the AP and a backup server.

Step 1 Erase the existing configuration

- a. Enter privileged mode. Cisco is the default password.

```
ap>enable  
Password:  
ap#
```

- b. If there is an existing configuration on the AP, erase the configuration and reload.

```
ap#erase startup-config  
ap#reload
```

1. What command is used to check the existing running configuration?

2. What command is used to check the existing startup configuration?

c. Configure the AP according to the Preparation table. Also make sure the equipment is cabled and configured as shown in the Topology.

Step 2 Display the AP file system

a. Display the available file systems on the AP.

```
PodP#show file systems
File Systems:
```

	Size (b)	Free (b)	Type	Flags	Prefixes
*	7741440	4412416	flash	rw	flash:
	-	-	opaque	rw	bs:
	7741440	4412416	unknown	rw	zflash:
	32768	32716	nvr	rw	nvr:
	-	-	network	rw	tftp:
	-	-	opaque	rw	null:
	-	-	opaque	rw	system:
	-	-	opaque	ro	xmodem:
	-	-	opaque	ro	ymodem:
	-	-	network	rw	rcp:
	-	-	network	rw	ftp:
	-	-	network	rw	scp:

b. What do the Flags value represent?

Step 3 Display information on the file system

Display information about files on a file system

a. View the available options for the dir command.

```
PodP#dir ?
/all          List all files
/recursive    List files recursively
all-filesystems List files on all filesystems
bs:           Directory or file name
flash:        Directory or file name
null:         Directory or file name
nvr:          Directory or file name
system:       Directory or file name
xmodem:       Directory or file name
ymodem:       Directory or file name
<cr>
File Systems:
```

- b. List all files for the current directory.

```
PodP#dir /all
Directory of flash:/

   2  -rwx           167   Mar 01 1993 00:12:51  env_vars
   4  -rwx             5   Mar 01 1993 00:08:45  private-config
   6  drwx           320   Jan 01 1970 00:07:15  c1200-k9w7-mx.122-
11.JA

7741440 bytes total (4412416 bytes free)
```

- c. View the NVRAM files.

```
PodP#dir nvram:
Directory of nvram:/

   30  -rw-             0               <no date>  startup-config
   31  ----             0               <no date>  private-config

32768 bytes total (32716 bytes free)
```

- d. View the System files.

```
PodP#dir system:
Directory of system:/

   2  dr-x             0               <no date>  memory
   1  -rw-           1748             <no date>  running-config

No space information available
```

- e. View all files in all directories.

```
PodP#dir all- filesystems:
```

Step 4 Backup configurations using TFTP

Backup configurations can save an administrator much time when restoring, deploying, or modifying configurations.

- a. First, view the available copy commands.

```
PodP#copy ?
/erase          Erase destination file system.
bs:             Copy from bs: file system
flash:          Copy from flash: file system
ftp:            Copy from ftp: file system
null:           Copy from null: file system
nvram:          Copy from nvram: file system
rcp:            Copy from rcp: file system
running-config  Copy from current system configuration
scp:            Copy from scp: file system
startup-config  Copy from startup configuration
```

```

system:      Copy from system: file system
tftp:        Copy from tftp: file system
xmodem:      Copy from xmodem: file system
ymodem:      Copy from ymodem: file system
zflash:      Copy from zflash: file system

```

- b. Ping the TFTP server to check connectivity. Make sure the TFTP server is enabled and configured properly.

```
PodP#ping 10.0.1.10
```

```

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.0.1.10, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms

```

- c. Save the current configuration to flash.

```
PodP#copy run start
```

- d. Upload a configuration file from the AP running configuration to a TFTP server.

```
PodP#copy running-config tftp://10.0.P.10
```

or

```

PodP#copy run tftp
Address or name of remote host []? 10.0.P.10
Destination filename [PodP-config]?

```

- e. On PC1, verify the file is saved. Open the file with a text editor such as WordPad to verify the configuration.
- f. Upload a configuration file from an AP startup configuration to a TFTP server for storage.

```
PodP#copy startup-config tftp://10.0.P.10
```

or

```

PodP#copy start tftp
Address or name of remote host []? 10.0.P.10
Destination filename [Podp-config]?

```

- g. Modify the saved AP configuration on PC1. Change the hostname to PodPrestore
- h. Upload a configuration file TFTP server to the AP startup-config.

```

PodP#copy tftp start
Address or name of remote host []? 10.0.P.10
Destination filename [Podp-config]?

```

- i. Verify the uploaded configuration file in NVRAM.

```
PodP#show start
```

Step 5 Manage system image files

***** Cisco 1200 Access Point

HOME	Hostname PodP	PodP uptime is 2 hours, 5 minutes
EXPRESS SET-UP		
NETWORK MAP +		
ASSOCIATION		
NETWORK INTERFACES +		
SECURITY +		
SERVICES +		
WIRELESS SERVICES +		
SYSTEM SOFTWARE	System Software Version: IOS (tm) C1200 Software (C1200-K9W7-M)	
Software Upgrade		
System Configuration		
EVENT LOG +		

Product/Model Number:	AIR-AP1220-IOS-UPGRD
Top Assembly Serial Number:	
System Software Filename:	c1200-k9w7-tar.122-11.JA
System Software Version:	12.2(11)JA
Bootloader Version:	12.2(11)JA
System Uptime:	2 hours, 5 minutes

Maintaining a record of the AP System Software Version is important for security and operation.

- Open a browser on PC1. Enter the IP address of the AP in the URL locator. Press Enter.
- Login to the AP.
- From the Home page, go to the **SYSTEM SOFTWARE** Page.
- What is the Product/Model Number?

- What is the System Software Filename?

***** Cisco 1200 Access Point

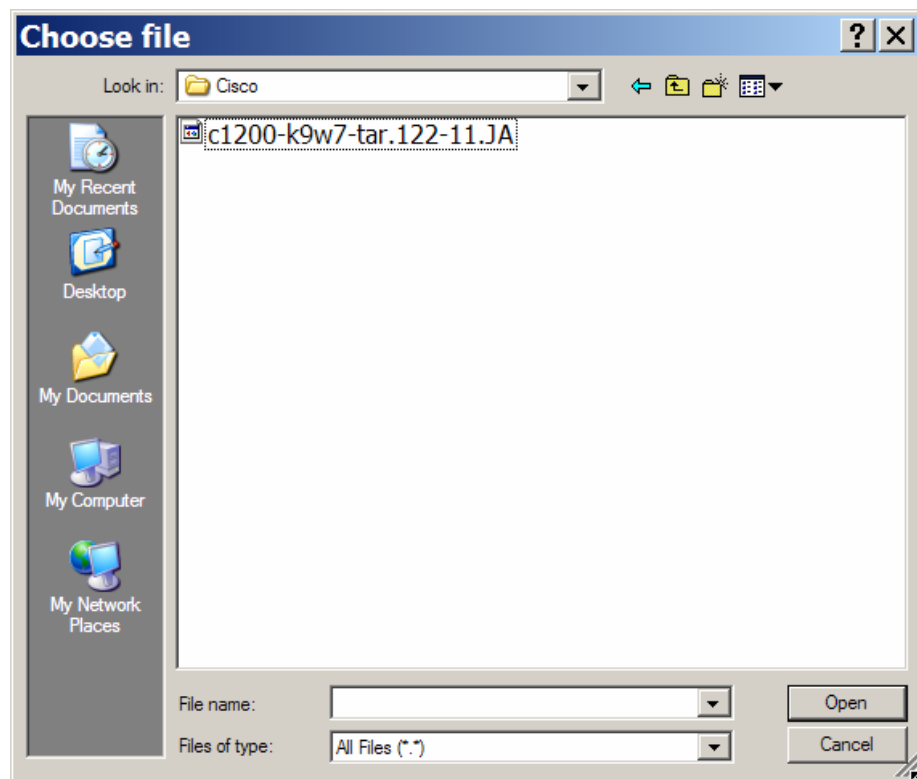
HOME	HTTP UPGRADE	TFTP UPGRADE
EXPRESS SET-UP	Hostname PodP	
NETWORK MAP +	PodP uptime is 2 hours, 16 minutes	
ASSOCIATION		
NETWORK INTERFACES +		
SECURITY +		
SERVICES +		
WIRELESS SERVICES +		
SYSTEM SOFTWARE	System Software: Upgrade- HTTP Upgrade	
Software Upgrade		
System Configuration		
EVENT LOG +		

System Software Filename:	c1200-k9w7-tar.122-11.JA
System Software Version:	12.2(11)JA
Bootloader Version:	12.2(11)JA
Upgrade System Software Tar File:	<input type="button" value="Upgrade"/> <input type="text"/> <input type="button" value="Browse..."/>

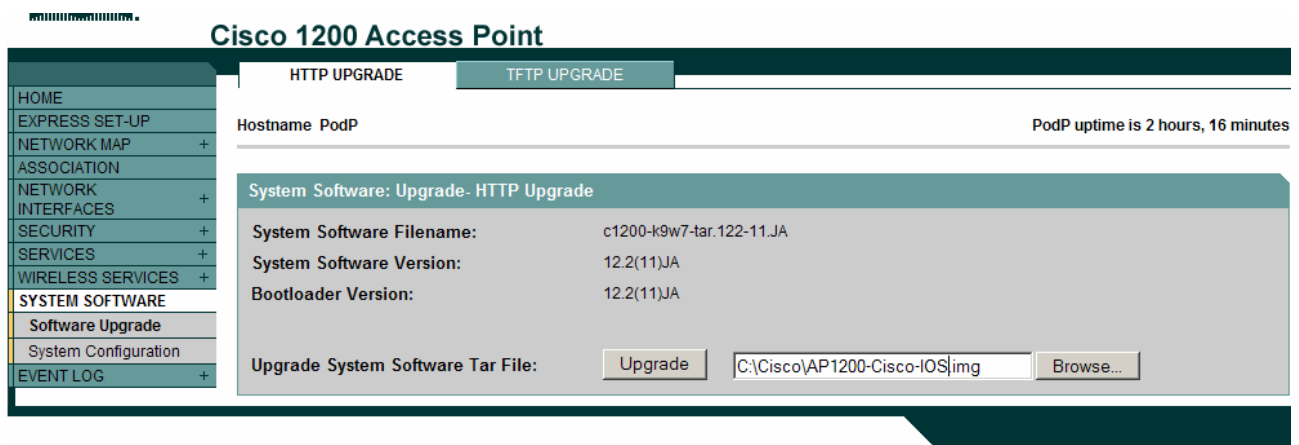
The **SYSTEM SOFTWARE>Software Upgrade** Page provides the easiest method to upgrade a system image.

- Click on the browse button to locate the desired Tar file located on PC1.

Note The AP image files are available at the following address: <http://www.cisco.com/public/sw-center/sw-wireless3.shtml>



- g. Select the image file and click **Open**.



- h. The image will now appear in the File: box.

Note Before proceeding with Upgrade, get the instructors approval

- i. Click the Upgrade button.
j. It is best to maintain a console connection to monitor the upgrade progress.

Note NEVER reboot once the upgrade process begins! It is a good practice to connect the AP to a UPS.

Step 6 Backup configurations using FTP (Optional challenge)

Download, install and configure a FTP server on PC1. Configure a user of **netadmin1** with a password of **mypass**.

- a. From a console or telnet connection to the AP, copy the running-config to a FTP server without configuring the username and password.

```
PodP# copy run ftp://netadmin1:mypass@10.0.P.10/ap1-config
Write file ap1-config on host 10.0.P.10?[confirm]
Building configuration...[OK]
Connected to 10.0.P.10
PodP#
```

- b. Now, copy the startup-config to a FTP server.

```
PodP(config)#ip ftp username netadmin1
PodP(config)#ip ftp password mypass
PodP(config)#end
PodP#copy start ftp
Remote host[]? 10.0.P.10
Name of configuration file to write [ap1-config]?
Write file ap1-config on host 10.0.P.10?[confirm]
![OK]
```

- c. Finally, copy a backup configuration to the startup-config.

```
PodP#configure terminal
PodP(config)# ip ftp username netadmin1
PodP(config)# ip ftp password mypass
PodP(config)# end
PodP# copy ftp start
Address of remote host []? 10.0.P.10
Name of configuration file[rtr1-config]? host1-config
Configure using host1-config from 10.0.P.10?[confirm]
Connected to 10.0.P.10
Loading 1112 byte file host1-config:![OK]
[OK]
```