

Login and Exec Banners



- Messages can be displayed in the CLI before and/or after an administrator logs in to a Cisco IOS device
- This is most commonly used to display security warnings

Login and Exec Banners



```
R1(config)#banner login " (hit enter here)
Enter TEXT message. End with the character '"'.
Authorized users only"
```

```
R1(config)#banner exec "
Enter TEXT message. End with the character '"'.
Please log out immediately if you are not an authorized
administrator"
```

Login and Exec Banners



```
C:\> telnet 10.0.0.1  
Trying 10.0.0.1 ...Open
```

Authorized users only

```
User Access Verification
```

```
Password: Flackbox3
```

Please log out immediately if you are not an authorized administrator

```
R1>enable
```

Disable Unused Services



- It is best practice to disable unused services
- This reduces the attack surface and also the load on the device
- HTTPS is sometimes used by GUI administration tools but HTTP should be disabled
- CDP should also be disabled in highly secure environments

```
R1(config)#no ip http server
```

```
R1(config)#no cdp run
```

Time Synchronisation



- All servers and infrastructure devices in your network should be synchronised to the same time
- This aids in troubleshooting as logs will report the correct time that events occurred
- It is also required by several security features such as Kerberos authentication and digital certificates

NTP Network Time Protocol



- Servers and infrastructure devices can use their own internal clock or synchronise with an external NTP server
- An NTP server should be used to ensure all devices have the same time
- A Cisco router can function as an NTP server and/or client

NTP Configuration



```
R1(config)#clock timezone PST -8
R1(config)#ntp server 10.0.1.100 (configures router to be NTP client)
R1(config)#ntp master (configures router to be NTP server)
```

```
R1#show clock
16:19:36.51 PST Mon Oct 2 2017
```

```
R1#show ntp status
Clock is synchronized, stratum 2, reference is 10.0.1.100
nominal freq is 250.0000 Hz, actual freq is 249.9990 Hz, precision is 2**19
reference time is DD53255C.0000039C (00:16:28.924 UTC Tue Jan 2 2018)
clock offset is 0.00 msec, root delay is 0.00 msec
root dispersion is 0.02 msec, peer dispersion is 0.02 msec.
```

Lab

