

NASA Lab: Cisco Basic Commands

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Connection to a switch

- Console Port (Serial, USB)



- VTY (Telnet, SSH)
- HTTP, HTTPS

Command Line Modes

- **User Mode**

```
Switch>
```

- **Privileged Mode**

```
Switch>enable  
Switch#
```

- **Configuration Mode**

```
Switch#configure terminal  
Switch(config)#exit  
Switch#
```

Command Line Basics

- **Auto Complete : <TAB>**

```
Switch#sh ru<TAB>  
Switch#show running-config
```

- **List Available Commands : <?>**

```
Switch#show ?  
aaa                Show AAA values  
access-expression  List access expression  
access-lists       List access lists  
adjacency          Adjacent nodes  
aliases            Display alias commands  
archive            Archive functions  
arp                ARP table  
...
```

Command Line Basics

- **Interface Numbers :**

- FastEthernet0/1 (Fa0/1)
- GigEthernet1/0/1 (Gi1/0/1)
- Vlan1 (Vl1)

- **Output Modifiers : <|>**

- include <expr> : output lines that include <expr>.

```
show arp | include 28.52.52.52
```

- exclude <expr> : output lines without <expr>.
- begin <expr> : output begins from the first line that include <expr>.
- <|> cannot be omitted!

Show

- show running-config : running configuration.
- show interfaces : detail of all interfaces.
- show interfaces Fa0/1 : detail of interface Fa0/1.
- show interface status : interface status.
- show vlan : VLANs in VLAN database.
- show mac address-table : MAC address/port mappings.
- show arp : ARP table.
- show version : hardware/software info.
- show ?

Global Configurations

- Available under configuration mode.

```
Switch#configure terminal
Switch(config)#
```

- hostname <name> : set hostname.
- enable password / enable secret : set enable password.

```
Switch(config)#enable password PASSWORD
Switch(config)#enable secret [0 PASSWORD]/[5 $1$mERr$cP1uxB/ASHbnPQTLzT8H10]
(enable secret will override enable password!)
Switch(config)#do show running-config | include enable
enable secret 5 $1$mERr$cP1uxB/ASHbnPQTLzT8H10
enable password PASSWORD
```

- service password-encryption : enable password encryption feature.

```
Switch(config)#enable password PASSWORD
Switch(config)#service password-encryption
Switch(config)#do show running-config | include enable
enable password 7 08116D7D3A2E2A2536
```

- no <command> : negates a command.

Interface Configurations

- **Choose interface :**

interface <interface> / interface range <interface range>

```
Switch(config)#interface Fa0/1  
Switch(config-if)#
```

```
Switch(config)#interface range Fa0/1-4  
Switch(config-if-range)#
```

- **Set port access VLAN :**

switchport mode access

switchport access vlan <VlanID>

```
Switch(config-if)#switchport mode access  
Switch(config-if)#switchport access vlan 252
```

- **Set port as trunk port :**

switchport mode trunk

switchport trunk allowed vlan <VlanID(s)>

```
Switch(config-if)#switchport mode trunk  
Switch(config-if)#switchport trunk allowed vlan 1,28-31,90,99
```

- **Set IP on VLAN interfaces :**

ip address <ip addr> <netmask>

```
Switch(config-if)#ip address 192.168.252.254 255.255.255.0
```


Line (Console) Configurations

- **Choose line :**

line vty <start num> <end num>

(Base on how many users you want to allow)

```
Switch(config)#line vty 0 4 (enable 5 users, which is 0 to 4)
Switch(config-line)#
```

- **set password :**

password <password>

```
Switch(config-line)#password PASSWORD
```

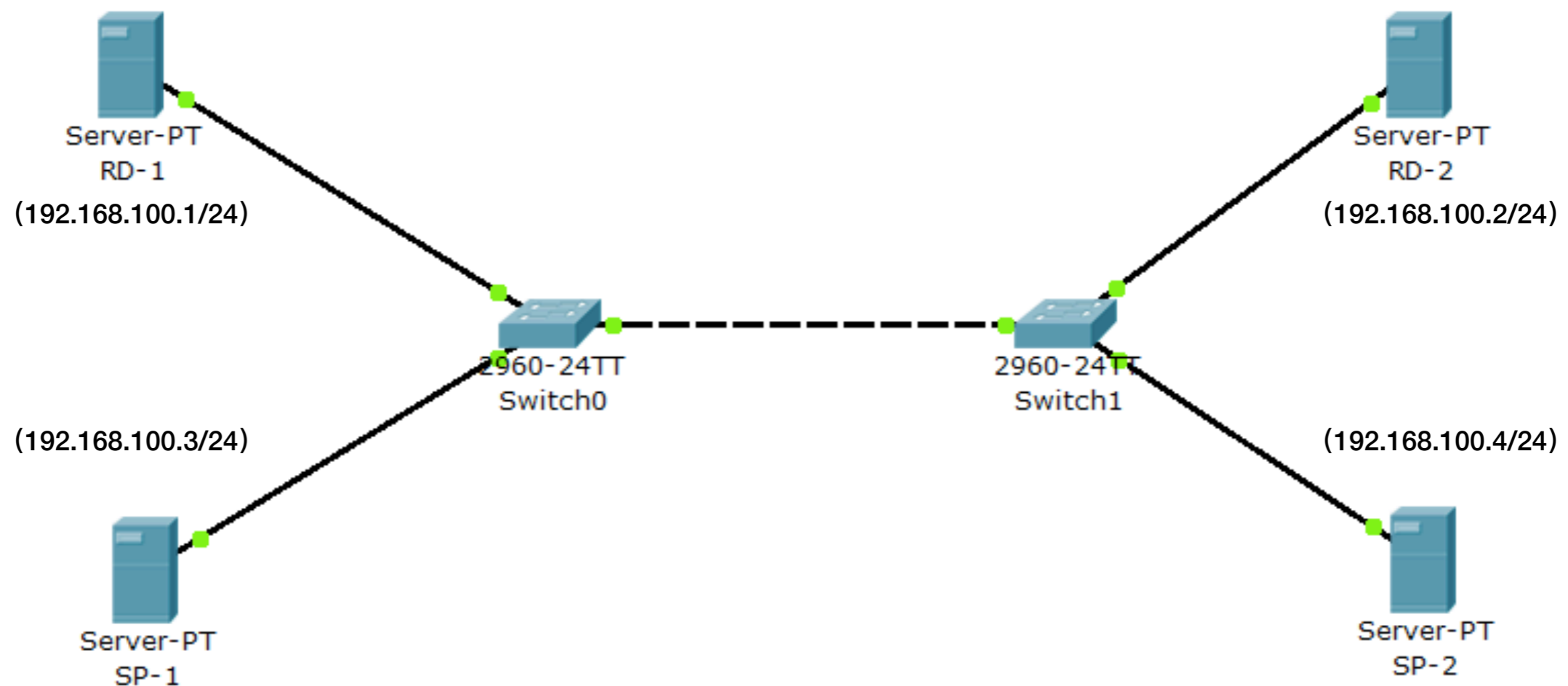
- **enable login : (use until password is set)**

login

```
Switch(config-line)#login
```

Lab

- make RD-1 and RD-2 under VLAN100.
- make SP-1 and SP-2 under VLAN200.
- servers in the same VLAN should be able to ping each other.



Cisco Packet Tracer

- Download Cisco Packet Tracer and the in-class lab file in this [link!](#)
- Unzip Cisco Packet Tracer and double click on bin/PacketTracer6

