Instruction for cisco packet tracer lab

Help us to improve this tutorial by giving suggestions in comments

**Open console of router by default you are in user mode**

Router>  
  
**Write command enable to enter privilege mode**  
Router>enable                                   
Router#      
  
**Write command configure terminal to enter global config mode**  
Router#configure terminal  
Router(config)#  
  
**All the configuration are done in  global config mode**

**Assigning IP address to an interface**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command -> interface interface-name**  
**Router(config)#interface fa0/0**  
  
**Enter command ->ip address IPaddress SubnetMask**  
  
**Router(config)#ip address 10.0.0.1 255.255.255.0**  
  
**Enter command ->no shutdown to turn on interface**  
**Router(config)#no shutdown**

**Setting password for console**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->line console 0 to enter into config-line mode which is used for configuring console**  
**Router(config)#line console 0**  
  
**Enter command ->password yourConsolePassword**  
**Router(config-line)#password cisco**  
  
**Enter command ->login**  
**Router(config-line)#login**  
  
**Enter command ->end to come out to privilege mode**  
**Router(config-line)#end**

**Setting password for virtual terminal (vty)**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->line vty 0 4 to enter into config-line mode which is used for configuring console**  
**Router(config)#line vty 0 4**  
  
**Enter command ->password yourVtyPassword**  
**Router(config-line)#password cisco**  
  
**Enter command ->login**  
**Router(config-line)#login**  
  
**Enter command ->end to come out to privilege mode**  
**Router(config-line)#end**

**Show running configuration file**

**Go to  privilege mode**  
**Router#**  
  
**Enter command ->show running-config enter space bar to view more**  
**Router#show running-config**

**Setting enable password to apply access control on privilege mode**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->enable password yourEnablePassword**  
**Router(config)#enable password cisco**

**Applying type-7 encryption to all the password stored in config file**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->service password-encryption**  
**Router(config)#service password-encryption**

**Removing enable password**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->no enable password**  
**Router(config)#no enable password**

**Setting enable password encrypted using MD5 hash**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->enable secret yourEnablePassword**  
**Router(config)#enable secret cisco**

**Some special security features**

**Go to  global config mode**  
**Router(config)#**  
  
**Set minimum password length**  
**Router(config)#security password min-length 10**  
 **Enable log for unsuccess login**  
**Router(config)#login on-failure log**  
 **Enable log for success login**  
**Router(config)#login on-success log**  
 **Apply login delay per period of time default is 1 second**  
**Router(config)#login delay 3**  
 **Blocking user for unsuccess full login**  
**Example:- Block user from login for 180 seconds or 3 minutes after 5 unsuccessful login within 60 seconds or 1 minutes**  
**Router(config)#login block-for 180 attempts 5 within 60**  
 **Setting timeout for console or vty**  
**For console go to global config mode and enter command line console 0**  
**Router(config)#line console 0**  
  
**Change default timeout of console for 10minutes to 3 minutes**  
**Router(config-line)#exec-timeout 3**  
 **Similarly vty timeout can be reset**

**Adding username and password to console login**

**Go to  global config mode**  
**Router(config)#**  
 **Enter command ->line console 0 to enter into config-line mode which is used for configuring console**  
**Router(config)#line console 0**  
 **Disable global login**  
**Router(config-line)#no login**  
 **Setting  password from local data base**  
**Router(config-line)#login local**  
 **Enter command ->end to come out to privilege mode**  
**Router(config-line)#end**  
  
**Go to  global config mode**  
**Router#configure terminal**  
  
**Add username and password with MD5 encrypation command -> username yourUserName secret yourPassword**  
**Router(config)#username dan secret cisco**

**Show IP routing table of router**

**Go to  privilege mode**  
**Router#**  
  
**Enter command->show ip route**  
**Router#show ip route**

**Configuring Router Statically**

**Go to  global config mode**  
**Router(config)#**

**Enter command->ip route networkID subnetMask  nextHopIP, herenetworkID is the ID of network that is not directly attach to the router and  subnetMask is the subnet mask of**  
**networkID. Next hop is the IP of the interface which receive the packet belongs to subnet**  
**networkID.**  
**Router(config)#ip route 172.31.132.0 255.255.255.0 172.31.144.2**

**Removing routing entries**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command->no ip route networkID subnetMask  nextHopIP  
Router#show ip route 172.31.132.0 255.255.255.0 172.31.144.2**

**Configuring Router Dynamically**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command->router rip to enter in to router config mode**  
**Router(config)#router rip**  
  
**Enter command->network networkID, here networkID is network ID of directly connected sub networks.**  
**Router(config-router)#network 10.0.1.0**  
  
**Enter command ->end to come out to privilege mode**  
**Router(config-router)#end**   
  
**Enter command ->**write  
**Router#write**

**Show all the vlan of a switch**

**Go to  privilege mode**  
**Router#**  
  
**Enter command ->show valn**  
**Router#show valn**

**Create a vlan**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->vlan vlanNumber**  
**Router(config)#vlan 50**  
 **Enter command ->name vlanName**  
**Router(config-vlan)#name data**  
 **Enter command ->exit for switching to global config mode**  
**Router(config-vlan)#exit**

**Assign ports of switch to a vlan**

**Go to  global config mode**  
**Router(config)#**

**Enter command ->interface interfaceName**  
**Router(config)#interface fa0/10**  
  
**Enter command ->switch port mode access**  
**Router(config-if)#switch port mode access**  
  
**Enter command ->switch port access vlanNumber**  
**Router(config-if)#switch port access 50**  
**Enter command ->exit for switching to global config mode**  
**Router(config-if)#exit**

**Assign IP address to vlan interface**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->interface vlan vlanNumber**  
**Router(config)#interface valn 99**  
  
**Enter command ->ip address VlanIP netMask**  
**Router(config-if)#ip address 192.168.99.2 255.255.255.0**  
  
**Enter command ->no  shutdown**  
**Router(config-if)#no  shutdown**

**Makeing a port trunk**

**Go to  global config mode**  
**Router(config)#**

**Enter command ->interface interfaceName**

**Router(config)#interface fa0/10**

**Enter command ->switchport mode trunk**

**Router(config-if)#switch port mode trunk**

**Enter command ->switchport trunk allowed valn from-to**

**Router(config-if)#switch port trunk allowed valn 1-99**

**Enter command ->exit for switching to global config mode**  
**Router(config-vlan)#exit**

**Config Native Vlan**

**Go to  global config mode**  
**Router(config)#**  
  
**Enter command ->vlan vlanNumber**  
**Router(config-if)#vlan 80**  
  
**Enter command ->name native**  
**Router(config-vlan)#name native**  
 **Enter command ->switchport trunk native vlanNumber**  
**Router(config-vlan)#switchport trunk native 80**

**Show details of interfaces of switch**

**Go to  privilege mode**  
**switch#**  
  
**Enter command ->show interfaces switch-port**  
**switch#show interfaces switch-port**

**Show details of spanning tress of switch**

**Go to  privilege mode**  
**switch#**  
  
**Enter command ->show spanning-trees**  
**switch#show interfaces spanning-trees**

**Enable security on interfaces**

**Go to  global config mode**  
**switch(config)#**  
  
**Enter command -> interface interface-name0/fromInt-ToInt**  
**eg. Below command will configure interface 1 to 3**  
**switch(config)#interface range fa0/1-3**  
  
**Change switch port mode to access  mode**  
**switch(config-if-range)#switchport mode access**  
  
**Assign vlan interfaces to a vlan (this command automatically creates vlan if they does not exist)**  
**switch(config-if-range)#switchport mode access vlan 22**  
 **Disable CDP on all port**  
**switch(config-if-range)#no cdp enable**  
  
**Enable BPDU gaurd**

**switch(config-if-range)#spanning-tree portfast bpduguard enable**

**Close**  
**switch(config-if-range)#shutdown**

**Access security on port**

**Go to  global config mode**  
**switch(config)#**  
  
**Enter command -> interface interface-name0/fromInt-ToInt**  
**eg. Below command will configure interface 1 to 3**  
**switch(config)#interface range fa0/1-3**  
  
**Enter command ->switchport port-security maximum num**  
**Here num is number of mac or devices allowed in single port**  
**switch(config-if-range)#switchport port-security maximum 1**  
  
**Enter command ->switchport port-security violation shutdown**  
**It will shutdown interface on voilation of  security**  
**switch(config-if-range)#switchport port-security violation shutdown**  
  
  
  
**Enter command ->strom-control broadcast level percentage**  
**Here percentage in amount of broadcast traffic allowed**  
**switch(config-if-range)#strom-control broadcast level 75**