# Packet Tracer - Skills Integration Challenge

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| 1.3.1.3 Packet Tracer - Skills Integration Challenge.pka | Connect Console cable from User-01 (RS 232) to ASw-1 (Console)  ASw-1 -> Startup Config  Switch>enable  Switch(config)#copy running-config startup-config  ASw-1 -> Ports -> Vlan1 -> IP Address/Subnet Mask  Switch#configure terminal  Switch(config)#interface vlan 1  Switch(config-if)#ip address 10.10.10.100 255.255.255.0  ASw-1 -> Ports -> Vlan1 -> Port Status  Switch(config-if)#no shutdown  Switch(config-if)#exit  ASw-1 -> Banner MOTD  Switch(config)#banner motd "Warning, you must be admin"  ASw-1 -> Console Line -> Password  Switch(config)#line console 0  Switch(config-line)#password xAw6k  Switch(config-line)#exit  ASw-1 -> Enable Secret  Switch(config)#enable secret 6EBUp  ASw-1 -> Host Name  Switch(config)#hostname ASw-1  ASw-1 -> Service Password Encryption  ASw-1(config)#service password-encryption  ASw-1 -> VTY Lines -> VTY Line 0 -> Password  ASw-1(config)#line vty 0  ASw-1(config-line)#password xAw6k  ASw-1(config-line)#exit  Connect Console cable from User-02 (RS 232) to ASw-2 (Console)  Do all ASw-1 steps (except hostname = ASw-2 and Vlan1 = ip address 10.10.10.150 255.255.255.0)  Open “IP Configuration” for User-01  IP Address: 10.10.10.4  Subnet Mask: 255.255.255.0  Open “IP Configuration” for User-02  IP Address: 10.10.10.5  Subnet Mask: 255.255.255.0 |
| 2.3.1.2 Packet Tracer - Skills Integration Challenge.pka | Click Switch -> CLI  S1 -> Banner MOTD  Switch>enable  Switch#configure terminal  Switch(config)#banner motd "Warning, you must be admin"  S1 -> Console Line -> Password & Login  Switch(config)#line console 0  Switch(config-line)#password cisco  Switch(config-line)#login  Switch(config-line)#exit  S1 -> Enable Secret  Switch(config)#enable secret class  S1 -> Host Name  Switch(config)#hostname S1  S1 -> IP Domain Name  S1(config)#ip domain-name cisco.com  S1 -> Ports -> FastEthernet0/x -> Port Status  S1(config)#interface range FastEthernet0/1-24  S1(config-if-range)#shutdown  S1(config-if-range)#exit  S1 -> Ports -> FastEthernet0/1 & 2 -> Port Security -> Enabled & Port Security Violation  S1(config-if-range)#interface range FastEthernet0/1-2  S1(config-if-range)#switchport mode access  S1(config-if-range)#switchport port-security  S1 -> Ports -> FastEthernet0/1 &2 -> Port Security -> Maximum Static MACs  (config-if-range)#switchport port-security maximum 2  S1 -> Ports -> FastEthernet0/6 -> Port Security -> Sticky Enabled  S1(config-if-range)#switchport port-security mac-address sticky  S1(config-if-range)#exit  S1 -> Ports -> GigabitEthernet0/1 & 2 -> Port Status  S1(config)#interface range GigabitEthernet0/1-2  S1(config-if-range)#shutdown  S1(config-if-range)#exit  S1 -> Ports -> Vlan 1 -> IP Address & Subnet Mask  S1(config)#interface vlan 1  S1(config-if)#ip address 10.10.10.2 255.255.255.0  S1 -> Ports -> Vlan 1 -> Port Status  S1(config-if)#no shutdown  S1(config-if)#exit  S1 -> Service Password Encryption  (config)# service password-encryption  ---  Generate RSA 768 bits token  S1(config)#crypto key generate rsa  How many bits in the modulus [512]: 768  % Generating 768 bit RSA keys, keys will be non-exportable...[OK]  ---  S1 -> SSH Server -> SSH Version  S1(config)#ip ssh version 2  S1 -> Usernames -> Username (hit “secret password”)  S1(config)#username admin secret ccna  S1 -> VTY Lines -> VTY Line 0 -> Login  S1(config)#line vty 0  S1(config-line)#login local  S1 -> VTY Lines -> VTY Line 0 -> Transport Input  S1(config-line)#transport input ssh  S1(config-line)#exit  Restart only two ports  S1(config)#interface range FastEthernet0/1-2  S1(config-if-range)#no shutdown  Open PC1 and PC2 -> Desktop -> IP Configuration  Set IP Address: 10.10.10.10 or 10.10.10.11  Subnet Mask: 255.255.255.0  Gateway: 10.10.10.1  Open Command Prompt  Ping: 10.10.10.2 (Switch)  Ping 10.10.10.10 (PC1)  Ping 10.10.10.11 (PC2) |
| 2.5.1.2\_Packet\_Tracer\_-\_Configure\_Cisco\_Routers  for\_Syslog,\_NTP,\_and\_SSH\_Operations[1].pka | R1 -> Logging -> Service timestamp log  R1>enable  Password: (ciscoenpa55)  R1#configure terminal  R1(config)#service timestamps log datetime msec  (Check on the Dashboard IP Address of “NTP Server”)  R1 -> NTP Client -> NTP Server Information -> IP  R1(config)#ntp server 192.168.1.5  R1 -> NTP Client -> NTP Server Information -> Update Calendar  R1(config)#ntp update-calendar  (Verify: R1(config)#do show ntp status)  (Verify: R1(config)#do show clock)  R1 -> SYSLOG Client -> Server Addresses  R1(config)#logging host 192.168.1.6  (Verify: R1(config)#do show logging)  Click on “Syslog Server” -> Services -> SYSLOG  Type in R1 -> CLI : R1(config)#exit  Do the same steps in R2 and R3 routers  ---  R3 -> IP Domain Name  R3(config)#ip domain-name ccnasecurity.com  ---  Generate RSA 1024 bits token (see notes)  S1(config)#crypto key generate rsa  How many bits in the modulus [512]: 1024  % Generating 768 bit RSA keys, keys will be non-exportable...[OK]  Verify: R3(config)#do show ip ssh)  ---  R3 -> SSH Server -> SSH Authentication Retries  R3(config)#ip ssh authentication-retries 2  R3 -> SSH Server -> SSH Timeout  R3(config)#ip ssh time-out 90  R3 -> SSH Server -> SSH Version  R3(config)#ip ssh version 2  R3 -> User Names -> Username  (Verify: R3(config)#username SSHadmin privilege ?  <0-15> User privilege level)  R3(config)#username SSHadmin privilege 15 secret ciscosshpa55  R3 -> VTY Lines -> VTY Line 0 to 4 -> Login  R3(config)#line vty 0 4  R3(config-line)#login local  R3 -> VTY Lines -> VTY Line 0 to 4 -> Transport Input  R3(config-line)#transport input ssh  R3(config-line)#exit  Open PC-C -> Desktop -> Command Prompt  C:\>telnet 192.168.3.1  Trying 192.168.3.1 ...Open  [Connection to 192.168.3.1 closed by foreign host]  C:\>ssh -l SSHadmin 192.168.3.1  Password: (ciscosshpa55)  R3#exit |
| 3.3.3.3\_Packet\_Tracer\_-\_Explore\_a\_Network[1].pka | It’s simulator demo from “Sales” PC |
| 3.4.1.2 Skills Integration Challenge.pka | Only S3 CLI is available we use connect console cables.  Open S3 CLI (some conflict Gig0/2 connection, temporary shutdown)  S3>enable  S3#configure terminal  S3(config)#  S3(config)#interface GigabitEthernet0/2  S3(config-if)#shutdown  S3(config-if)#exit  S3 -> Banner MOTD  S3(config)#banner motd "Authorized Access Only!!"  S3 -> Console Line -> Password  S3(config)#line console 0  S3(config-line)#password letmein  S3(config-line)#exit  S3 -> Default Gateway  S3(config)# ip default-gateway 172.31.88.1  S3 -> Enable Secret  S3(config)#enable secret itsasecret  S3 -> Ports -> FastEthernet0/11 -> Access VLAN  S3(config)#interface range FastEthernet0/7-12  S3(config-if-range)#switchport access vlan 10  S3(config-if-range)#exit  S3 -> Ports -> FastEthernet0/18 -> Access VLAN  S3(config)#interface range FastEthernet0/13-20  S3(config-if-range)#switchport access vlan 20  S3(config-if-range)#exit  S3 -> Ports -> FastEthernet0/6 -> Access VLAN  S3(config)#interface range FastEthernet0/1-6  S3(config-if-range)#switchport access vlan 30  S3 -> Ports -> FastEthernet0/6 -> Port Security -> Enabled  S3(config-if-range)#switchport mode access  S3(config-if-range)#switchport port-security  S3 -> Ports -> FastEthernet0/6 -> Port Security -> Maximum Static MACs  (config-if-range)#switchport port-security maximum 2  S3 -> Ports -> FastEthernet0/6 -> Port Security -> Port Security Violation  S3(config-if-range)#switchport port-security violation restrict  S3 -> Ports -> FastEthernet0/6 -> Port Security -> Sticky Enabled  S3(config-if-range)#switchport port-security mac-address sticky  S3(config-if-range)#exit  S3 -> Ports -> FastEthernet0/4 & 0/14 & 0/24 -> Port Status  S3(config)#interface range FastEthernet0/1-24  S3(config-if-range)#shutdown  S3(config-if-range)#exit  Check Dashboard - enable F0/6 & F0/11 & F0/18  S3(config)#interface FastEthernet0/6  S3(config-if)#no shutdown  S3(config-if)#exit  …  S3 -> Ports -> GigabitEthernet0/2 -> Native VLAN  S3(config)#interface GigabitEthernet0/2  S3(config-if)#switchport trunk native vlan 99  S3 -> Ports -> GigabitEthernet0/2 -> Nonegotiate  S3(config-if)# switchport nonegotiate  S3 -> Ports -> GigabitEthernet0/2 -> Port Mode  S3(config-if)#switchport mode trunk  S3 -> Ports -> GigabitEthernet0/2 -> Trunk VLANs -> 10 & 20 & 30 & 88 & 99  S3(config-if)#switchport trunk allowed vlan 10  etc. or  S3(config-if)#switchport trunk allowed vlan all  S3(config-if)#exit  S3 -> Ports -> Vlan88 -> Port Status  S3(config)#interface vlan 88  S3(config-if)#no shutdown  S3 -> Ports -> Vlan88 -> IP Address / Subnet Mask  S3(config-if)#ip address 172.31.88.4 255.255.255.0  S3(config-if)#exit  S3 -> Service Password Encryption  (config)# service password-encryption  S3 -> VLANS -> VLAN 10 -> VLAN Name  S3(config)#vlan 10  S3(config-vlan)#name Sales  S3(config-vlan)#exit  (Assign name for other VLANs)  S3 -> VTY Lines -> VTY Line 0 -> Password  S3(config)#line vty 0  S3(config-line)#password c1$c0  S3(config-line)#exit  Restart GigabitEthernet0/2  S3(config)#interface GigabitEthernet0/2  S3(config-if)#no shutdown |
| 3.6.1.2\_Packet\_Tracer\_-\_Configure\_AAA\_Authentication\_on\_Cisco\_Routers[1].pka  A close up of text on a white background  Description automatically generated | R1 -> AAA -> New-model  R1>enable  Password: (ciscoenpa55)  R1#configure terminal  R1(config)#aaa new-model  R1 -> AAA -> Authentication -> Authen Command 1  R1(config)#aaa authentication login TELNET-LOGIN local  R1 -> AAA -> Authentication -> Authen Command 2  R1(config)#aaa authentication login default local  R1 -> Console Line -> AAA Method List Name  R1(config-line)#line console 0  R1(config-line)#login authentication default  R1(config-line)#exit  R1 -> User Names -> Username  username Admin1 secret admin1pa55  R1 -> VTY Lines -> VTY Line 0 to 4 -> AAA Method List Name  R1(config)#line vty 0 4  R1(config-line)#login authentication TELNET-LOGIN  R1(config-line)#exit  Router R2  R2 -> AAA -> New-model  R2>enable  Password: (ciscoenpa55)  R2#configure terminal  R2(config)#aaa new-model  R2 -> AAA -> Authentication -> Authen Command 1  R2(config)#aaa authentication login default group tacacs+ local  R2 -> Console Line -> AAA Method List Name  R2(config-line)#login authentication default  R2(config-line)#exit  R2 -> TACACS Client -> TACAS Server Hosts -> 0  tacacs-server host 192.168.2.2  R2 -> TACACS Client -> TACAS server key  R2(config)#tacacs-server key tacacspa55  R2 -> User Names -> Username  R2(config)#username Admin2 secret admin2pa55  Router R3  R3 -> AAA -> New-model  R3>enable  Password: (ciscoenpa55)  R3#configure terminal  R3(config)#aaa new-model  R3 -> AAA -> Authentication -> Authen Command 1  R3(config)#aaa authentication login default group radius local  R3 -> Console Line -> AAA Method List Name  R3(config-line)#login authentication default  R3(config-line)#exit  R3 -> RADIUS Client -> RADIUS Server Hosts -> 0  R3(config)#radius-server host 192.168.3.2  R3 -> RADIUS Client -> RADIUS server key  R3(config)# radius-server key radiuspa55  R3 -> User Names -> Username  R3(config)#username Admin3 secret admin3pa55 |
| 5.4.1.2 Packet Tracer - Skills Integration Challenge.pka  A screenshot of a cell phone  Description automatically generated | R1(config)#interface G0/0  R1(config-if)#ip address 172.17.25.2 255.255.255.252  R1(config-if)#no shutdown  R1(config-if)#exit  R1 -> Ports -> GigabitEthernet0/1.10 -> 802.1Q -> VLAN ID  R1(config-if)#interface G0/1.10  R1(config-subif)#encapsulation dot1Q 10  R1 -> Ports -> GigabitEthernet0/1.10 -> 802.1Q -> IP Address & Subnet Mask  R1(config-subif)#ip address 172.17.10.1 255.255.255.0  R1(config-subif)#exit  R1 -> Ports -> GigabitEthernet0/1.20 -> 802.1Q -> VLAN ID  R1(config-if)#interface G0/1.20  R1(config-subif)#encapsulation dot1Q 20  R1 -> Ports -> GigabitEthernet0/1.20 -> 802.1Q -> IP Address & Subnet Mask  R1(config-subif)#ip address 172.17.20.1 255.255.255.0  R1(config-subif)#exit  R1 -> Ports -> GigabitEthernet0/1.30 -> 802.1Q -> VLAN ID  R1(config-if)#interface G0/1.30  R1(config-subif)#encapsulation dot1Q 30  R1 -> Ports -> GigabitEthernet0/1.30 -> 802.1Q -> IP Address & Subnet Mask  R1(config-subif)#ip address 172.17.30.1 255.255.255.0  R1(config-subif)#exit  R1 -> Ports -> GigabitEthernet0/1.88 -> 802.1Q -> VLAN ID  R1(config-if)#interface G0/1.88  R1(config-subif)#encapsulation dot1Q 88  R1 -> Ports -> GigabitEthernet0/1.88 -> 802.1Q -> IP Address & Subnet Mask  R1(config-subif)#ip address 172.17.88.1 255.255.255.0  R1(config-subif)#exit  R1 -> Ports -> GigabitEthernet0/1.99 -> 802.1Q -> VLAN ID  R1(config-if)#interface G0/1.99  R1(config-subif)#encapsulation dot1Q 99  R1 -> Ports -> GigabitEthernet0/1.99 -> 802.1Q -> IP Address & Subnet Mask  R1(config-subif)#ip address 172.17.99.1 255.255.255.0  R1(config-subif)#exit  R1 -> Ports -> GigabitEthernet0/1 -> Port Status  R1(config-subif)#interface G0/1  R1(config-if)#no shutdown  Switch S1  S1 -> Default Gateway  S1>enable  S1#configure terminal  S1(config)#ip default-gateway 172.17.99.1  S1 -> Ports -> FastEthernet0/10 -> Access VLAN  S1(config)#interface range F0/6-10  S1(config-if-range)#switchport mode access  S1(config-if-range)#switchport access vlan 30  S1(config-if-range)#exit  S1 -> Ports -> FastEthernet0/11 -> Access VLAN  S1(config)#interface range F0/11-17  S1(config-if-range)#switchport mode access  S1(config-if-range)#switchport access vlan 10  S1(config-if-range)#exit  S1 -> Ports -> FastEthernet0/18 -> Access VLAN  S1(config)#interface range F0/18-24  S1(config-if-range)#switchport mode access  S1(config-if-range)#switchport access vlan 20  S1(config-if-range)#exit  S1 -> Vlan99 -> Post Status  S1(config)#interface vlan 99  S1 -> Vlan99 -> IP Address & Subnet Mask  S1(config-if)#ip address 172.17.99.10 255.255.255.0  S1(config-if)#exit  S1 -> VLANS -> VLAN 10 -> VLAN Name  S1(config)#vlan 10  S1(config-vlan)#name Faculty/Staff  S1 -> VLANS -> VLAN 20 -> VLAN Name  S1(config)#vlan 20  S1(config-vlan)#name Students  S1 -> VLANS -> VLAN 30 -> VLAN Name  S1(config)#vlan 30  S1(config-vlan)#name Guest(Default)  S1(config-vlan)#exit  S1 -> VLANS -> VLAN 88 -> VLAN Name  S1(config)#vlan 88  S1(config-vlan)#name Native  S1(config-vlan)#exit  S1 -> VLANS -> VLAN 99 -> VLAN Name  S1(config)#vlan 99  S1(config-vlan)#name Management  S1(config-vlan)#exit  S1 -> Ports -> GigabitEthernet0/1  S1(config)#interface G0/1  S1(config-if)#switchport trunk native vlan 88  S1(config-if)#exit  Additional Requirements to shutdown all not assigned ports  S1(config)#ip default-gateway 172.17.99.1  S1(config)#interface range F0/1-5, G0/2  S1(config-if-range)#shutdown  S1(config-if-range)#exit |
| 6.6.1.2 Packet Tracer - Skills Integration Challenge.pka  A close up of text on a white background  Description automatically generated |  |