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DEPARTMENT OF : ECE

NAME OF THE LABORATORY : Computer Networks

Name G.Sri Ganga Pranav   Roll No. 1602-21-735-117   Page No. _____

Configuring Secure Passwords and SSH

Aim:- To configure secure passwords in a network

Tools used:- PC loaded with cisco packet tracer.

Procedure:-

→ Configure Basic security on the Router

* click on PCA, open ip addressing on desktop
* Configure IP addressing on PCA according to the addressing table.
* Open terminal, which will give access to Router A's CLI
* Configure the hostname as "RTA"
* Configure IP addressing on RTA and enable the interface
* Encrypt all plain text password
* Set the minimum-password length to 10
* Set a strong secret password of your choosing that you will remember, or you will need to reset the activity if your are locked out of your device
* Disable DNS lookup.
* Set the domain name to CCNA.com
* Create a user of your choosing with a strong encrypted password.
* Generate 1024-bit RSA keys.
  The name for the keys will be: RTA.CCNA.com choose the size of the key modulus in the range of 360 to 2048 for your general purpose keys.

choosing a key modulus greater than 512 may take a

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NAME OF THE LABORATORY :

Name G.Sri Granga Pranav Roll No. 1602-21-735-117 Page No.

few minutes.

* Block anyone for three minutes who fails to log in after four attempts within a two-minute period.

* Configure all VTY lines for SSH access and use the local user profiles for authentication.

* Set the EXEC mode time out to 6 minutes on the VTY lines

* Save the configuration to NVRAM and close command prompt

* Access the command prompt on the desktop of PCA to establish an SSH connection to RTA

Configure Basic security on the switch :-

Configure switch SW1 with corresponding security measures. Refer to the configuration steps on the router if you need additional assistance.

* click on SW1 and select the CLI tab

* Configure the hostname as SW1

* Configure IP addressing on SW1 vlan1 and enable the interfaces

* Configure the default gateway address

* Disable all unused switch ports

* Repeat the same steps from here as you did for the router.

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DEPARTMENT OF : ECE

NAME OF THE LABORATORY : Computer Networks

Name G. Sri Ganga Pranav Roll No 602-21-935-117 Page No. _____

source codes-

Router configuration from PCA

```
Router > enable
Router # config t
Router (config)# hostname RTA
RTA (config)# interface g0/0
RTA (config-if)# ip address 172·16·1·1   255·255·255·0
RTA (config-if)# no shutdown
RTA (config-if)# exit
RTA (config)# service password-encryption
RTA (config)# security password min-length 10
RTA (config)# no ip domain lookup
RTA (config)# ip domain-name CCNA.com
RTA (config)# username secret
RTA (config)# crypto key generate rsa
How many bits in the modulus [512]: 1024
RTA (config)# login block-for 180 attempts 4 within 120
RTA (config)# line vty 0 4
RTA (config-line)# transport input ssh
RTA (config-line)# exec-timeout 6
RTA (config-line)# exit
RTA (config)# exit
RTA # copy running-config startup-config
Destination filename [startup-config]?
```

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DEPARTMENT OF : ECE

NAME OF THE LABORATORY : Computer networks

Name G. Sri Granga Pranav   Roll No. 602-21-735-117   Page No.

[OF]
RTA#config t
RTA(config)# enable secret Pranav2004
RTA(config)#exit

Switch configuration:-
Switch>enable
switch # config t
switch (config)# hostname SW1
SW1 (config)# interface vlan1
SW1 (config-if)#ip address 172.16.1.2. 255.255.255.0
SW1 (config-if)#no shutdown
SW1 (config-if)# ip default-gateway 172.16.1.1
SW1 (config)# interface range F012-24, G012
SW1 (config-if-range)# shutdown
SW1 (config-if-range)#exit
SW1 (config)# service password-encryption
SW1 (config)# enable secret
SW1 (config)# no ip domain-lookup
SW1 (config) # ip domain-name CCNA.com
SW1 (config) # username secret
SW1 (config) # crypto key generate rsa
How many bits in the modulus [512]:1024
SW1(config)#exit
SW1 # copy running-config startup-config

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NAME OF THE LABORATORY : Computer networks

Name G.Sri Ganga Pranav Roll No. 1602-21-735-117 Page No. _____

Destination filename [startup-config] ?
[OK]

SW1 (config)# line vty 0 to 15
SW1 (config-line)# transport input ssh
SW1 (config-line)# login local
SW1 (config-line) # exec-timeout 6
SW1 (config-line)# exit
SW1 (config)# exit
SW1 # copy running-config startup-config
Destination filename [startup-config]?
[OK]

Results- secure passwords were configured and ssh was enabled.