Laboratorio 0 - Encendido y reinicio de routers y switches

Equipamiento utilizado

- Routers cisco ISR2 1941 con IOS v15
- Switches Cisco Catalyst 1960s y 3560 con IOS v15
- Un ordenador con puerto de serie y software de terminal como Putty o MobaXterm
- Cables de consola para configurar los routers y switches.

Conectar los dispositivos tal y como se muestra en la topología

Para ver los puertos de consola de nuestro equipo vamos al CMD e introducimos el comando "mode". Cuando no tengamos un adaptador a serial conectado veremos algo como esto:

```
Microsoft Windows [Versión 10.0.19045.4894]
(c) Microsoft Corporation. Todos los derechos reservados.
C:\Users\thejuanvisu>mode
Estado para dispositivo CON:
Líneas: 9001
Columnas: 120
Ritmo del teclado: 31
Retardo del teclado: 1
Página de códigos: 850
C:\Users\thejuanvisu>
```

Por otro lado, cuando conectemos un adaptador a serial veremos esto:

🖦 Símbolo del sistema			×
C:\Users\thejuanvisu≻mod			Í
Estado para dispositivo	OM3 :		
Baudios:	1200		
Paridad:	None		
Bits de datos:	7		
Bits de paro:	1		
Tiempo de espera:	OFF		
XON / XOFF:	OFF		
Protocolo CTS:	OFF		
Protocolo DSR:	OFF		
Sensibilidad de DSR:	OFF		
Circuito DTR:	ON		
Circuito RTS:	ON		
Estado para dispositivo (ON:		
líneas:	9991		
Columnas:	120		
Ritmo del teclado:	31		
Retardo del teclado:	1		
Página de códigos:	850		
0			
C:\Users\thejuanvisu>			

Configuración Putty

Primero vamos a session y seleccionamos el tipo de conexión serial:

Session	Basic options for your PuTTY session					
⊡ Logging ⊡ Terminal Keyboard	Specify the destination you want to con Serial line	nect to Speed				
Bell	COM1 9600					
Features Window Appearance Behaviour Translation Selection Colours Connection Data Proxy	Connection type: OSSH Serial Other: Tel	net V				
	Load, save or delete a stored session Saved Sessions					
	serial	Save				
Proxy						
Proxy ⊕SSH Serial		Delete				
	Close window on exit: Always Never Only on	Delete				

Tras eso vamos al apartado de Connection y seleccionamos serial, ahí modificamos el ajuste Flow Control para que ponga none. Los ajustes deberían quedar como en la siguiente imagen:

Category:	·		
Session	Options controlling	local serial lines	
Logging	Select a serial line		
Keyboard	Serial line to connect to	COM1	
Bell Features	Configure the serial line		
- Window	Speed (baud)	9600	
Appearance	Data bits	8	
Translation	Stop bits	1]
Selection Colours	Parity	None \vee	
	Flow control	None ~	
Proxy ⊕ SSH Serial Telnet Rlogin SUPDUP			

En este caso nos conectaremos con el COM3 (Como se puede observar en la captura del comando mode) OJO: cuando nos conectemos al router y nos pregunte si queremos la configuración inicial le diremos que no, en caso de decirle que si por error se debe pulsar Control + C.

Conexión con el router por línea de comandos

Se accede al modo privilegiado del router con el siguiente comando:

USER Router> **enable** Router#

Veremos el Router# como indicador de que estamos logueados en modo privilegiado

```
PuTTY
```

<pre>*Sep 20 14:32:23.823: %IP-5-WEBINST_KILL: Terminating DNS process *Sep 20 14:32:25.107: %LINK-5-CHANGED: Interface GigabitEthernet0/0, changed sta te to administratively down *Sep 20 14:32:25.107: %LINK-5-CHANGED: Interface GigabitEthernet0/1, changed sta te to administratively down *Sep 20 14:32:25.451: %LINK-5-CHANGED: Interface Serial0/0/0, changed state to a dministratively down *Sep 20 14:32:25.451: %LINK-5-CHANGED: Interface Serial0/0/1, changed state to a dministratively down *Sep 20 14:32:28.787: %SYS-5-RESTART: System restarted Cisco IOS Software, C1900 Software (C1900-UNIVERSALK9-M), Version 15.0(1)M4, REL EASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2010 by Cisco Systems, Inc. Compiled Thu 28-Oct-10 16:26 by prod_rel_team *Sep 20 14:32:28.787: %SNMP-5-COLDSTART: SNMP agent on host Router is undergoing a cold start *Sep 20 14:32:29.407: %CRYPTO-6-ISAKMP_ON OFF: ISAKMP is OFF</pre>
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*Sep 20 14:32:29.407: %CRYPTO-6-ISAKMP_ON_OFF: ISAKMP is OFF
*Sep 20 14:32:29.407: %CRYPTO-6-GDOI_ON_OFF: GDOI is OFF
Router>enable
Router#

Eliminación del archivo de configuración de inicio

Para eliminar la configuración de la vram se utiliza el comando "startup-config"

USER

Router# erase startup-config Erasing the nvram filesystem will remove all configuration files! Continue? [confirm] [ok] Erase of nvram: complete Router#

X

Putty

Sep 20 14:32:25.451: %LINK-5-CHANGED: Interface Serial0/0/1, changed state to a ٨ dministratively down *Sep 20 14:32:28.787: %SYS-5-RESTART: System restarted --Cisco IOS Software, C1900 Software (C1900-UNIVERSALK9-M), Version 15.0(1)M4, REL EASE SOFTWARE (fcl) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2010 by Cisco Systems, Inc. Compiled Thu 28-Oct-10 16:26 by prod rel team Sep 20 14:32:28.787: %SNMP-5-COLDSTART: SNMP agent on host Router is undergoing a cold start Sep 20 14:32:29.407: %CRYPTO-6-ISAKMP ON OFF: ISAKMP is OFF Sep 20 14:32:29.407: %CRYPTO-6-GDOI ON OFF: GDOI is OFF Sep 20 14:32:29.407: %CRYPTO-6-ISAKMP ON OFF: ISAKMP is OFF Sep 20 14:32:29.407: %CRYPTO-6-GDOI ON OFF: GDOI is OFF Router>enable Router#erase startup-config Erasing the nvram filesystem will remove all configuration files! Continue? [con firm]c Router#erase startup-config Erasing the nvram filesystem will remove all configuration files! Continue? [con firm] [OK] Trase of nvram: complete outer#

Reinicio de Router

Para reiniciar el router se usa el comando "reload". Como consecuencia del reinicio toda configuración que se encuentre en RAM será eliminada.

USER Router# reload Proceed with reload? [confirm]



Comando básico "?"

El comando "?" nos permite ver los comandos disponibles en el modo usuario del router.

Putty COM3 - Putty	— —	×
Router>?		~
Exec commands:		
access-enable	Create a temporary Access-List entry	
access-profile	Apply user-profile to interface	
clear	Reset functions	
connect	Open a terminal connection	
crypto	Encryption related commands.	
disable	Turn off privileged commands	
disconnect	Disconnect an existing network connection	
emm	Run a configured Menu System	
enable	Turn on privileged commands	
ethernet	Ethernet parameters	
exit	Exit from the EXEC	
help	Description of the interactive help system	
hw-module	Hardware module level specific operations	
lat	Open a lat connection	
lock	Lock the terminal	
login	Log in as a particular user	
logout	Exit from the EXEC	
modemui	Start a modem-like user interface	
mrinfo	Request neighbor and version information from a multicast	
	router	
mstat	Show statistics after multiple multicast traceroutes	
More		~

Inicializar y volver a cargar el switch

Para acceder al modo privilegiado del Switch, al igual que en el router usamos el comando "enable". Una vez dentro revisamos si hay alguna vlan creada con el comando "show flash":

P COI	VI3 - PuTTY					- 0	\times
% Acce	ss denie	d					^
AL-SW1	>enable						
Passwo	rd:						
<pre>% Acce</pre>	ss denie	d					
AL-SW1	>enable						
Passwo	rd:						
AL-SW1	#show fl	ash					
Direct	ory of f	lash:/					
3	-rwx	1048	Mar 1 19	93 00:22:42	2 +00:00	multiple-fs	
4	-rwx	8471143	Mar 1 19	93 00:40:10	0 +00:00	c2960-lanbasek9-mz.122	-52.
SE.bin							
5	-rwx	3821	Mar 15 19	93 00:41:10	0 +00:00	private-config.text.rem	name
d							
7	drwx	64	Mar 27 19	93 23:41:58	8 +00:00	crashinfo ext	
10	drwx	64	Mar 1 19	93 00:00:03	3 +00:00	crashinfo	
14	-rwx	976	Mar 8 19	93 00:35:30	0 +00:00	vlan.dat.renamed	
20	-rwx	1876	Mar 1 19	93 00:11:10	0 +00:00	AL-SW1.base.G3.txt	
325140	48 bytes	total (23	988736 byt	es free)			
AL-SW1	#						✓ Si

vemos un archivo llamado vlan.dat de la siguiente forma:

USER

6 -rwx 616 Mar 1 1993 00:07:13 +00:00 vlan.dat significa que hay vlans creadas en este switch.

Si queremos ver más información sobre las vlan podemos usar el comando "show vlan":

P 0	OM3 - PuTTY						×
32514 AL-SW	1048 bytes total (23988736 bytes Ml#show vlan	free)					^
VLAN	Name	Status	Ports				
1	default	active	Gi0/2, (Gi0/6, (Gi0/10, Gi0/14, Gi0/18, Gi0/23,	Gi0/3, Gi Gi0/7, Gi Gi0/11, Gi0/15, Gi0/19, Gi0/24	.0/4, Gi(.0/8, Gi(Gi0/12, Gi0/16, Gi0/21,	0/5 0/9 Gi0/13 Gi0/17 Gi0/22	
10	VLAN0010	active					
16	alumnos	active					
17	PDI	active					
18	PAS	active					
33	vlannew	active					
743	ADM	active	Gi0/1				
745	VLAN0745	active					
999	VLAN0999	active					
1002	fddi-default	act/unsup					
1003	token-ring-default	act/unsup					
1004	fddinet-default	act/unsup					
1005	trnet-default	act/unsup					
VLAN Mo	Type SAID MTU Parent Ri pre []	ngNo Bridge	eNo Stp	BrdgMode	Transl	Trans2	~

Eliminación del archivo VLAN

Para eliminar las VLANS utilizamos el comando "delete vlan.dat" para eliminar el archivo "vlan.dat" que contiene la información de las vlans:

USER

Switch# delete vlan.dat Delete filename [vlan.dat]? Delete flash:/vlan.dat? [confirm] Sitch#

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