Cisco IOS Kommandon

Generella show-kommandon mm.

show running-config	Generell info
show startup-config	Generell info
show version	Generell info om IOS mm.
show ip protocols	Routing related
show ip route	Routing related
show interfaces	Interface related
show ip interface brief	Interface related
show protocols	Interface related
show cdp neighbors	Connectivity related
show sessions	Connectivity related
show ssh	Connectivity related
ping	Connectivity related
traceroute	Connectivity related

Konfiguration av router

enable	Gå in I privileged Exec mode
configure terminal	Gå in I Global config mode
copy running-config startup-config	Spara konfigurationen
erase startup-config	Rensa konfigurationen
reload	
hostname	
banner motd	
enable password	
enable secret	
line con	
line aux	
line vty	
login and password	
interface type/number	
description	
ip address	
no shutdown	
clock rate	
encapsulation	
router	
network	
ip route	
write erase	

SWITCH-kommandon

show port-security	
show mac-address-table	
delete flash:vlan.dat	
write erase	
ip default-gateway	
spanning-tree vlan 1 priority 4096	
show spanning-tree	
show spanning-tree summary	
show spanning-tree root	
show spanning-tree detail	
show spanning-tree interface	
show spanning-tree blockedports	
vlan *vlan_number*	
name *vlan_name*	
switchport access *vlan vlan_number*	
interface range fa0/*start_of_range - end_of_range*	
show vlan	
show vlan brief	
show vlan id *id_number*	
show vlan name *vlan_name*	
switchport mode trunk	
switchport trunk encapsulation {dot1q | isl | negotiate}	
switchport mode dynamic {desirable | auto}	
dot1q native vlan *vlan-id*	
vtp domain *domain-name*	
vtp mode {server | client | transparent}	
vtp password *password*	
show vtp status	
show vtp password	
show vtp counters	

OBS En hel del kommandon som funkar med på både router och switch

Router: VLAN, NAT, IP

interface fa0/0.10	Aktiver först ett interface utan IP-nummer. Sedan skapas ett virtuellt interface med detta kommando.
encapsulation dot1q 10	
ip address 192.168.10.1 255.255.255.0	
access-list 1 permit 172.16.0.0 0.0.0.255	
ip nat inside source list 1 interface serial 0/0/0 overload	
ip nat inside/outside	Specificeras per interface
show ip nat translations	
show ip nat statistics	

ip route 172.16.0.0 255.255.0.0 *ip-address/interface*	
ip route 0.0.0.0 0.0.0.0 *ip-address/interface*	Skapa default route

Router RIPv2

router rip	
version 2	
network *ip-address*	Identify each directly connected network that should be advertised by RIP
redistribute static	Propagates the default route to the neighbor routers
no auto-summary	
passive-interface *int-type int-number*	
show ip rip database	
debug ip rip	

Router EIGRP

show ip eigrp topology	
router eigrp ? (?=AS number)	
network *network-address*	Networks to be announced
eigrp log-neighbor-changes	
bandwidth	
key chain *name-of-chain*	Specifies the name of the keychain and enters the configuration mode for the keychain.
key *key-id*	Identifies the key number and enters the configuration mode for that key-id.
key-string *text*	Identifies the key string or password. This must be configured to match on all EIGRP routers.
ip authentication mode eigrp md5	Specifies that MD5 authentication is required for the exchange of EIGRP packets
ip authentication key-chain eigrp *AS name-of-chain*	AS specifies the autonomous system of the EIGPR configuration.
show ip eigrp neighbors detail	
show ip eigrp interfaces detail	
show ip eigrp traffic	
debug eigrp packet	displays transmission and receipt of all EIGRP packets
debug eigrp fsm	displays feasible successor activity to determine whether routes are discovered, installed, or deleted by EIGRP

Router OSPF kommandon

router ospf <process-id>	Enable OSPF
network <network-address> <wildcard-mask*> area <area-id>	Identifierar gränssnitten
area 0 authentication message-digest	Aktivera MD5 för area 0
ip ospf message-digest-key 10 md5 mypassword	Aktiverar MD5 för ett gränssnitt**
ip ospf priority ##	Ändrar prioritet för gränssnitt
router-id 10.0.0.1	Sätter ID för routern

bandwidth ##	Sätter bandbredd i bps för gränssnitt
ip ospf cost ##	Sätter bandbredd för gränssnitt (omräknat)***
auto-cost reference-bandwidth ##**	Ändrar omräkninsfaktorn
show ip ospf neighbor	Verifiera att routern konvergerat, borde visa FULL eller 2-WAY
show ip protocols	Information/felsökning
show ip ospf	Information/felsökning
show ip ospf interface	Information/felsökning
show ip route	Information/felsökning
ip route 0.0.0.0 0.0.0.0 serial 0/0/0 **router ospf 1** **default-information originate**	Configure the ASBR to propagate the default route to other routers.
area area-id range ip-address ip-address-mask	Configure an OSPF ABR router to summarize networks to another OSPF area

* Wildcard mask är t.ex. 0.0.0.3 för /30 och 0.0.0.255 för /24

** Konfigureras per gränssnitt

*** 1 00 000 000 / bps , dvs 100Mbit = 1

**** Anges i Mbps, dvs 10 000 = 10 Gbps

WAN och seriell

encapsulation ppp	Enables PPP encapsulation on a serial interface
compress [predictor | stac]	Enables compression on an interface using either predictor or stacker. (PPP only)
ppp multilink	Configures load balancing across multiple links.
show interfaces serial	Displays the encapsulation and the states of the Link Control Protocol (LCP).
show controllers	Indicates the state of the interface channels and whether a cable is attached to the interface.
debug serial interface	Verifies the incrementation of keepalive packets. If packets are not incrementing, a possible timing problem exists on the interface card or in the network.
debug ppp *{authentication | packet | error | negotiation | chap }*	Provides information about the various stages of the PPP process, including negotiation and authentication.
username *name* password *password*	To configure authentication on a PPP link, use the global configuration commands. The username must match the hostname of the remote router exactly and is case sensitive.
ppp authentication {chap | chap pap | pap chap | pap}	Specifies the type of authentication on each interface, such as PAP or CHAP. If more than one type is specified, example chap pap, the router attempts the first type listed and will only attempt the second if the remote router suggests it.
ppp pap sent-username *name* password *password*	interface configuration command. Specifies the local username and password combination that should be

	sent to the remote router for pap (osäkert).
encapsulation frame-relay	utförs på interface
frame-relay switching **interface serial 0/1/0** **frame-relay route 100 interface serial 0/1/1 110** **interface serial 0/1/1** **frame-relay route 110 interface serial 0/1/0 100**	Frame relay switch

ACL

access-list 1 permit host 172.16.2.88	Permits a specific IP address
access-list 100 deny tcp 172.16.2.0 0.0.0.255 any eq telnet	Denies access from the 172.16.2.0/24 subnet to any other host if they are attempting to use telnet
ip access-list standard permit-ip **permit host 192.168.5.47**	Creates a standard access list named permit-ip. Allows access from IP address 192.168.5.47 The first command puts the router into NACL subcommand mode
access-list 9 deny 192.168.15.99 0.0.0.0 = **access-list 9 deny host 192.168.15.99**	
permit 0.0.0.0 255.255.255.255 = **access-list 9 permit any**	
access-list [list number] remark [text]	
ip access-group *number* [in | out]	Assign ACL to interface (if-mode)
show access-lists [access list number]	
access-class in 2	Används vid vty för att sätta ACL 2 till en vty
access-list 181 deny tcp any 192.168.77.0 0.0.0.255 range 20 21	
access-list 181 deny tcp any 192.168.77.0 0.0.0.255 range 20 21	Uses the range option
access-list 101 permit tcp any any established	all external tcp packets will be permitted under the condition that they are responses to internal requests
access-list 101 permit icmp any any echo-reply **access-list 101 permit icmp any any unreachable**	permit ping responses and unreachable messages but not outside ping

Exempel:

```
ip access-list standard File_Server_Restrictions
deny 192.168.20.0 0.0.0.255
deny host 192.168.10.3
permit any
```

Tänk på: Alla ACL har en deny any om inget annat anges I slutet.

	Command	Purpose
Step 1	`Router(config)# interface type number`	Configure an interface type and enter interface configuration mode
Step 2	`Router(config-if)# ip authentication mode eigrp autonomous-system md5`	Enables MD5 authentication in EIGRP packets.
Step 3	`Router(config-if)# ip authentication key-chain eigrp autonomous-system key-chain`	Enables authentication of EIGRP packets.
Step 4	`Router(config-if)# exit` `Router(config)#`	Exits to global configuration mode.
Step 5	`Router(config)# key chain name-of-chain`	Identifies a key chain. (Match the name configured in Step 1.)
Step 6	`Router(config-keychain)# key number`	In keychain configuration mode, identifies the key number.
Step 7	`Router(config-keychain-key)# key-string text`	In keychain key configuration mode, identifies the key string.