

Cisco Cheat Sheet

Basic Configuration

Initial Commands

Name the device:

```
Router# configure terminal
```

```
Router(config)# hostname [hostname]
```

Configure a banner:

```
R1(config)# banner motd $Authorized Access Only$
```

Save the Changes:

```
R1# copy running-config startup-config
```

Configure Interface IPv4:

```
R1(config)# interface gigabitethernet 0/0
```

```
R1(config-if)# description Link to LAN 1
```

```
R1(config-if)# ip address 192.168.10.1 255.255.255.0
```

```
R1(config-if)# no shutdown
```

-or-

```
R1(config)# interface serial 0/0/0
```

```
R1(config-if)# description Link to R2
```

```
R1(config-if)# ip address 209.165.200.225 255.255.255.252
```

```
R1(config-if)# clock rate 128000
```

```
R1(config-if)# no shutdown
```

Secure Management Access

```
R1(config)# enable secret class
```

```
R1(config)# line console 0
```

```
R1(config-line)# password cisco
```

```
R1(config-line)# login
```

```
R1(config-line)# exit
```

```
R1(config)# line vty 0 4 ← depending on the number of VTYs!
```

```
R1(config-line)# password cisco
```

```
R1(config-line)# login
```

```
R1(config-exit)# exit
```

```
R1(config)# service password-encryption
```

VLAN

Access Control Lists

This chapter describes how to configure Access Control Lists (ACLs).

Note! Each ACL contains an implicit DENY at the end!

Spanning Tree

This chapter describes how to configure Spanning Tree.

Link Aggregation

This chapter describes how to configure port channels and to apply and configure the Link Aggregation Control Protocol (LACP).

Configure Interfaces

```
s1(config)# interface range fe0/1-2
```

```
s1(config-if-range)# shutdown
```

```
s1(config-if-range)# channel-group 1 mode active
```

```
s1(config-if-range)# exit
```

```
s1(config)# interface port-channel 1
```

```
s1(config-if)# switchport mode trunk
```

```
s1(config-if)# switchport trunk allowed vlan 1,2,20
```

Verify Link Aggregation

```
s1# show interface port-channel1
```

```
s1# show etherchannel summary
```

```
s1# show etherchannel port-channel
```

```
s1# show interfaces f0/1 etherchannel
```

More information about Link Aggregation Control Protocol (LACP) (802.3ad) for Gigabit Interfaces.

OSPF

This chapter describes how to configure OSPF.

Single-Area OSPF

Note! The same commands are used for Multi-Area OSPF, except there are more area's. Carefully look which device belong to which area.

```
R1(config)# interface GigabitEthernet0/0
```

```
R1(config-if)# bandwidth 1000000
```

```
R1(config-if)# exit
```

```
R1(config)# router ospf 10
```

```
R1(config-router)# router-id 1.1.1.1
```

```
R1(config-router)# auto-cost reference-bandwidth 1000
```

```
R1(config-router)# network 172.16.1.0 0.0.0.255 area 0
```

```
R1(config-router)# passive-interface g0/0
```

Single-Area OSPFv3

```
R1(config)# ipv6 router ospf 10
```

```
R1(config-router)# router-id 1.1.1.1
```

```
R1(config-router)# auto-cost reference-bandwidth 1000
```

```
R1(config-if)# interface GigabitEthernet 0/0
```

```
R1(config-if)# bandwidth 1000000
```

```
R1(config-if)# ipv6 ospf 10 area 0
```

Verifying Single-Area OSPF

Note! To verify Single-Area OSPFv3 please use the ipv6 command.

```
R1# show ip ospf neighbor
```

```
R1# show ip protocols
```

```
R1# show ip ospf
```

```
R1# show ip ospf interface
```

```
R1# show ip ospf interface brief
```

Configure PPP

This chapter describes how to configure a PPP connection.

Basic PPP Configuration

```
R1(config)# interface Serial 0/0/0
```

```
R1(config-if)# encapsulation ppp
```

Basic PPP Compression

```
R1(config)# interface Serial 0/0/0
```

```
R1(config-if)# encapsulation ppp
```

```
R1(config-if)# compress predictor
```

Basic PPP Link Quality Control

```
R1(config)# interface Serial 0/0/0
```

```
R1(config-if)# encapsulation ppp
```

```
R1(config-if)# ppp quality 80
```

Basic PPP Link Quality Control

```
R1(config)# interface multilink 1
```

```
R1(config-if)# interface Serial 0/0/0
```

```
R1(config-if)# interface Serial 0/0/1
```

Basic PPP PAP Authentication

Note! The first command is the expected username and password which R3 will send!

```
R1(config)# username R3 secret class
```

```
R1(config)# interface s0/0/0
```

```
R1(config-if)# ppp authentication pap
```

```
R1(config-if)# ppp pap sent-username R1 password cisco
```

Basic PPP CHAP Authentication

Note: As opposed of PAP. CHAP passwords need to be identical

```
R1(config)# hostname Router1
```

```
Router1(config)# username Router 3 secret cisco
```

```
Router1(config)# interface s0/0/0
```

```
Router1(config-if)# ppp authentication chap
```

```
R1(config)# username R3 secret class
```

```
R1(config)# interface s0/0/0
```

```
R1(config-if)# ppp authentication pap
```

```
R1(config-if)# ppp pap sent-username R1 password cisco
```

Troubleshoot PPP

```
R1# debug ppp packet R1# debug ppp negotiation
```

```
R1# debug ppp authentication R1# debug ppp error
```

Verifying PPP Connection

```
R1# show interface serial 0/0/0
```

```
R1# show ppp multilink
```

<https://github.com/roaldnefs/cisco-cheatsheet>