Basic interface configuration

```
router(config)#inteface TYPE  #
router(config-if)# ip address DIRECTION MASK
router(config-if)# no shutdown
```

Static Routing

For default route use

```
router(config-if)# ip route 0.0.0.0 0.0.0.0 NEXTJUMPINTERFACE
```

For a specific route use

```
router(config-if)# ip route NETWORK MASK NEXTJUMPINTERFACE
```

Routing Protocols

RIP

```
router(config)# router rip
router(config-router)# version 2
router (config-router)# network NATURALNETWORK
router (config-router)# no auto-summary
```

OSPF

```
router(config)# router ospf #
router (config-router)# network ADDRESS WILDMASK area #
router (config-router)# no auto-summary
```

EIGRP

```
router(config)# router eigrp #
router (config-router)# network ADDRESS WILDMASK
router (config-router)# no auto-summary
```

REDISTRIBUTE ROUTES

RIP

```
router(config)# router rip
router(config-router)# redistribute ospf # metric 4
router(config-router)# redistribute eigrp # metric 4
```

EIGRP

```
router (config)# router eigrp #
router(config-router)# redistribute eigrp # metric 1544 20000 255 1 1500
router(config-router)# redistribute osfp # metric 1544 20000 255 1 1500
router(config-router)# redistribute rip metric 1544 20000 255 1 1500
```

OSPF

```
router(config)# router ospf #
router (config-router)# redistribute rip metric 65 metric-type 1 subnets
router (config-router)# redistribute eigrp # metric 65 metric-type 1 subnets
```

ACCESS LIST

First, you need to assigned the access list to an interface

```
router(config)# interface TYPE #
router(config-if)# ip access-group # out
```

Then, you can deny or allow acces from another network to the networks connected in the interface

```
router(config)# access-list # deny network NETWORK MASK
router(Config)# access-list # permit network NETWORK MASK
```

Or, only deny or permit the access to specific host

```
router(config)# access-list # deny host IP
router(config)# access-list # permit host IP
```

FRAME RELAY

```
router(config)#interface serial #
router(config-if)no ip address
router(config-if)encapsulation frame-relay
router(config-if)no shut
```

In this point is necessary create a subinterface

```
router(config-if)#inteface serial #.dlci# point-to-point
router(config-if)#ip address ADDRESS MASK
router(config-if)#frame-relay inteface-dlci #
```

DHCP

```
router(config)#ip dhcp pool NAME
router(dhcp-config)#network ADRESS MASK
router(dhcp-config)#default-router IPADDRESS
router(dhcp-config)#dns SERVER-IPADDRESS
```

The ip address assigned to the serial interface must be excluded, because it not can be assigned in other device in the pool
router(config)#ip dchp excluded-address IPADDRESS

VLAN

CREATION AND ASSIGNMENT

```
switch(config) vlan #
switch(config-vlan) name NAME
```

Once all the vlan were created, you can assign them, for it you can do it with an interface range or interface by interface. Also, exist two modes of configuration

Access Mode

```
switch(config)# interface range fastEthernet 0/# - #
switch(config-if-range)#switchport mode access
switch(config-if-range)#switchport access vlan #
```

Trunk Mode

```
switch(config)# interface range fastEthernet 0/# - #
switch(config-if-range)#switchport mode trunk
switch(config-if-range)#switchport trunk allowed vlan #,#,...,#
```

On the router, you need to create subinterface if you want that networks to be seen between them

```
router(config)#interface fastEthernet #
router(config-if)# no shut
router(config-if)#interface fastEthernet #.#
router(config-if)#encapsulation dot1.q VLAN#
```