



Initial setup of Ethernet switches

MES23xx and MES24xx



Ethernet switches models by lines



MES23XX/33XX/5324

MES2308C/P/CP
MES2324/B/P/F/FB
MES2348/B/P
MES3308F
MES3316F
MES3324/F
MES3348/F
MES2328I
MES3508/P
MES3510P
MES5324

MES14XX/24XX

MES2408/B/C/P/PL
MES2424/B/P/FB
MES2428/B/P/
MES2448/B/P
MES3710P
MES2410-08DP
MES2420-48P
MES3400I-24
MES3400-24/F
MES3400-48

Basic setup



MES23XX/33XX/5324

```
console#configure
```

```
console(config)# hostname MES2324
```

```
MES2324# clock set 12:00:00 jul 31 2024
```

MES14XX/24XX

```
console#configure
```

```
console(config)# hostname MES2424
```

```
MES2424# clock set 12:00:00 31 july 2024
```



Users and privileges



MES23XX/33XX/5324

```
MES2324(config)# username alice privilege 1 password password
```

```
MES2324(config)# enable password level 15 godemode
```

```
MES2324(config)# privilege exec 1 show running-config
```

```
MES2324(config)# privilege exec 1 configure
```

MES14XX/24XX

```
MES2424(config)# username alice password password privilege 1
```

```
MES2424(config)# enable password level 15 godemode
```



Creating and assigning VLAN to an interface



MES23XX/33XX/5324

```
MES2324(config)# vlan database
MES2324(config-vlan)# vlan 10 name test
MES2324(config)# interface GigabitEthernet 1/0/1
MES2324(config-if)# switchport access vlan 10
```

MES14XX/24XX

```
MES2424(config)# vlan 10
MES2424(config-vlan)# vlan active
MES2424(config-vlan)# name test
MES2424(config)# interface gigabitethernet 0/1
MES2424(config-if)# switchport mode access
MES2424(config-if)# switchport access vlan 10
```



Assigning a VLAN in trunk mode to an interface



MES23XX/33XX/5324

```
MES2324(config)# interface GigabitEthernet 1/0/1
```

```
MES2324(config-if)# switchport mode trunk
```

```
MES2324(config-if)# switchport trunk allowed vlan add 10
```

```
MES2324(config-if)# switchport trunk allowed vlan  
remove 10
```

```
MES2324(config-if)# switchport trunk allowed vlan all
```

MES14XX/24XX

```
MES2424(config)# interface GigabitEthernet 0/1
```

```
MES2424(config-if)# switchport mode trunk
```

```
MES2424(config-if)# switchport mode general
```

```
MES2424(config-if)# switchport general allowed vlan  
add 10
```

```
MES2424(config-if)# switchport general allowed vlan  
remove 10
```



Voice VLAN



MES23XX/33XX/5324

```
MES2324(config)# voice vlan oui-table add a8f94b
```

```
MES2324(config)# voice vlan id 10
```

```
MES2324(config)# voice vlan state oui-enabled
```

```
MES2324(config)# lldp med network-policy 1 voice vlan 10  
vlan-type tagged up 4
```

```
MES2324(config)# interface gigabitethernet 1/0/1
```

```
MES2324(config-if)# switchport mode general
```

```
MES2324(config-if)# voice vlan enable
```

```
MES2324(config-if)# lldp med enable network-policy
```

```
MES2324(config-if)# lldp med network-policy add 1
```

```
MES2324(config-if)# switchport general allowed vlan add  
20 untagged
```

```
MES2324(config-if)# switchport general pvid 20
```

MES14XX/24XX

```
MES2424(config)# voice vlan oui-table add e4:5a:d4
```

```
MES2424(config)# voice vlan id 10
```

```
MES2424(config)# set lldp enable
```

```
MES2424(config)# lldp transmit-interval 5
```

```
MES2424(config)# interface gigabitethernet 0/1
```

```
MES2424(config-if)# switchport mode general
```

```
MES2424(config-if)# switchport voice vlan
```

```
MES2424(config-if)# switchport general allowed vlan add  
20 untagged
```

```
MES2424(config-if)# switchport general pvid 20
```

```
MES2424(config-if)# set lldp-med enable
```

```
MES2424(config-if)# lldp med-tlv-select med-capability
```

```
MES2424(config-if)# lldp med-tlv-select network-policy
```

```
MES2424(config-if)# lldp med-app-type voice vlan vlan-id  
10 Priority 4 dscp 0
```



MES23XX/33XX/5324

```
MES2324(config)# no spanning-tree
MES2324(config)# spanning-tree mode rstp
MES2324(config)# spanning-tree priority {0 — 61440}
MES2324(config)# interface GigabitEthernet1/0/1
MES2324(config-if)# spanning-tree disable
MES2324(config-if)# spanning-tree bpdu filtering
MES2324(config)# interface GigabitEthernet1/0/2
MES2324(config-if)# spanning-tree portfast
MES2324(config-if)# spanning-tree bpduguard enable
```

MES14XX/24XX

```
MES2424(config)# no spanning-tree
MES2424(config)# spanning-tree mode rst
MES2424(config)# spanning-tree priority {0 — 61440}
MES2424(config)# interface GigabitEthernet 0/1
MES2424(config-if)#spanning-tree disable
MES2424(config-if)# spanning-tree bpdufilter enable
MES2424(config)# interface GigabitEthernet 0/2
MES2424(config-if)# spanning-tree portfast
MES2424(config-if)# spanning-tree bpduguard enable
```


IP-address configuration



MES23XX/33XX/5324

```
MES2324(config)# interface vlan 1
```

```
MES2324(config-if)# ip address 172.20.137.50  
255.255.255.0
```

```
MES2324(config-if)# ip address 172.20.137.50 /24
```

MES14XX/24XX

```
MES2424(config)# interface vlan 1
```

```
MES2424(config-if)# ip address 172.20.137.50  
255.255.255.0
```

```
MES2424(config-if)# ip address 172.20.137.50 /24
```





MES23XX/33XX/5324

```
MES2324(config)# interface vlan 10  
MES2324(config-if)# ip address 172.16.2.2 /24  
MES2324(config-if)# vrrp 10 ip 172.16.2.1  
  
MES2324(config-if)# vrrp 10 priority 1  
MES2324(config-if)# vrrp 10 preempt  
MES2324(config-if)# no vrrp 10 shutdown
```

MES14XX/24XX

```
MES2424(config)# vrrp enable  
MES2424(config)# interface vlan 10  
MES2424(config-if)# ip address 172.16.2.2 255.255.255.0  
MES2424(config-if)# vrrp 1 ipv4 172.16.2.1  
MES2424(config-if)# vrrp 1 accept-mode enable  
MES2424(config-if)# vrrp 1 priority 1  
MES2424(config-if)# vrrp 1 preempt
```



DHCP-server



MES23XX/33XX/5324

```
MES2324(config)# ip dhcp server
```

```
MES2324(config)# ip dhcp pool network Test
```

```
MES2324(config-dhcp)# address low 10.0.1.100 high  
10.0.1.150 255.255.255.0
```

```
MES2324(config-dhcp)# default-router 10.0.1.1
```

```
MES2324(config-dhcp)# dns-server 10.0.1.1
```

```
MES2324(config)# interface vlan 10
```

```
MES2324(config-if)# ip address 10.0.1.1 /24
```

```
MES2324(config)# interface GigabitEthernet 1/0/11
```

```
MES2324(config-if)# switchport access vlan 10
```

MES14XX/24XX

```
MES2424(config)# ip dhcp server
```

```
MES2424(config)# ip dhcp pool 1 Test
```

```
MES2424(config-dhcp)# network 10.10.10.10 10.10.10.15
```

```
MES2424(config-dhcp)# default-router 10.10.10.1
```

```
MES2424(config-dhcp)# dns-server 10.10.10.1
```

```
MES2424(config)# interface vlan 10
```

```
MES2424(config-if)# ip address 10.10.10.1 255.255.255.0
```

```
MES2424(config)# interface GigabitEthernet 0/11
```

```
MES2424(config-if)# switchport access vlan 10
```



MES23XX/33XX/5324

```
MES2324(config)# interface vlan 10
```

```
MES2324(config-if)# ip address 192.168.1.10 /24
```

```
MES2324(config)# router ospf 1
```

```
MES2324(router_ospf_process)# router-id 192.168.1.10
```

```
MES2324(router_ospf_process)# network 192.168.1.10 area 0.0.0.0
```

```
MES2324(router_ospf_process)# redistribute connected subnets
```

MES14XX/24XX

```
MES2424(config)# interface vlan 10
```

```
MES2424(config-if)# ip address 192.168.1.10 /24
```

```
MES2424(config)# router ospf
```

```
MES2424(router_ospf_process)# router-id 192.168.1.10
```

```
MES2424(router_ospf_process)# network 192.168.1.10 area 0.0.0.0
```

```
MES2424(router_ospf_process)# redistribute connected subnets
```

```
MES2424(router_ospf_process)# no shutdown
```

MES23XX/33XX/5324

```
MES2324(config)# dot1x system-auth-control  
MES2324(config)# aaa authentication dot1x default  
radius none  
MES2324(config)# radius-server host 10.0.1.2 key eltex  
  
MES2324(config)# interface gigabitethernet1/0/1  
MES2324(config-if)# switchport mode access  
MES2324(config-if)# switchport access vlan 500  
MES2324(config-if)# dot1x host-mode multi-sessions  
MES2324(config-if)# dot1x port-control auto  
MES2324(config-if)# dot1x reauthentication
```

MES14XX/24XX

```
MES2424(config)# dot1x system-auth-control  
MES2424(config)# aaa authentication dot1x default  
group radius  
MES2424(config)# radius-server host 10.0.1.2 key eltex  
  
MES2424(config)# interface gigabitethernet 0/1  
MES2424(config-if)# switchport mode access  
MES2424(config-if)# switchport access vlan 500  
MES2424(config-if)# dot1x host-mode multi-sessions  
MES2424(config-if)# dot1x port-control auto  
MES2424(config-if)# dot1x reauthentication
```

Storm control



MES23XX/33XX/5324

MES2324(config)# errdisable recovery cause **storm-control**

MES2324(config)# traffic-limiter mode **pps**

MES2324(config)# interface gigabitethernet1/0/3

MES2324(config-if)# storm-control **broadcast level 15 trap**

MES2324(config-if)# storm-control **multicast kbps 20480 trap shutdown**

MES2324(config-if)# storm-control **unicast pps 12500 shutdown**

MES14XX/24XX

MES2424(config)# errdisable recovery cause **storm-control**

MES2424(config)# storm-control mode **kbps**

MES2424(config)# interface gigabitethernet 0/1

MES2424(config-if)# storm-control **broadcast level kbps 240**

MES2424(config-if)# storm-control **dlf level kbps 240**

MES2424(config-if)# storm-control **multicast level kbps 240**

MES2424(config-if)# storm-control **broadcast action shutdown**

MES2424(config-if)# storm-control **dlf action trap**

MES2424(config-if)# storm-control **multicast action trap-and-shutdown**

Loopback Detection



MES23XX/33XX/5324

```
MES2324(config)# loopback-detection enable
```

```
MES2324(config)# loopback-detection mode {src-mac-addr | base-mac-addr | multicast-mac-addr | broadcast-mac-addr}
```

```
MES2324(config)# loopback-detection interval {1 — 60}
```

```
MES2324(config)# errdisable recovery cause loopback-detection
```

```
MES2324(config)#interface GigabitEthernet 1/0/1
```

```
MES2324(config-if)# loopback-detection enable
```

MES14XX/24XX

```
MES2424(config)# loopback-detection enable
```

```
MES2424(config)# loopback-detection destination-address {multicast MAC address}
```

```
MES2424(config)# loopback-detection interval {1 — 60}
```

```
MES2424(config)# errdisable recovery cause loopback-detection
```

```
MES2424(config)# interface GigabitEthernet 0/1
```

```
MES2424(config-if)# loopback-detection enable
```



Port security



MES23XX/33XX/5324

```
MES2324(config)# interface GigabitEthernet 1/0/1
```

```
MES2324(config-if)# port security mode secure permanent
```

```
MES2324(config-if)# port security max 3
```

```
MES2324(config-if)# port security discard trap 100
```

```
MES2324(config-if)# port security
```

MES14XX/24XX

```
MES2424(config)# interface GigabitEthernet 0/1
```

```
MES2424(config-if)# switchport port-security enable
```

```
MES2424(config-if)# switchport port-security mode secure-permanent
```

```
MES2424(config-if)# switchport port-security mac-limit 3
```

```
MES2424(config-if)# switchport port-security violation discard-shutdown
```



DHCP Snooping



MES23XX/33XX/5324

```
MES2324(config)# ip dhcp snooping  
MES2324(config)# ip dhcp snooping vlan 10  
MES2324(config)# interface gigabitethernet 1/0/1  
MES2324(config-if)# ip dhcp snooping trust
```

MES14XX/24XX

```
MES2424(config)# ip dhcp snooping  
MES2424(config)# ip dhcp snooping vlan 10  
MES2424(config)# interface gigabitethernet 0/1  
MES2424(config-if)# port-security-state trusted  
MES2424(config-if)# set port uplink
```



IP Source Guard



MES23XX/33XX/5324

```
MES2324(config)# ip dhcp snooping  
MES2324(config)# ip dhcp snooping vlan 1  
MES2324(config)# ip source guard  
MES2324(config)# interface gigabitEthernet 0/1  
MES2324(config-if)# switchport mode access  
MES2324(config-if)# switchport access vlan 10  
MES2324(config-if)# ip source guard
```

MES14XX/24XX

```
MES2424(config)# ip dhcp snooping  
MES2424(config)# ip dhcp snooping vlan 10  
  
MES2424(config)# interface gigabitEthernet 0/1  
MES2424(config-if)# switchport mode access  
MES2424(config-if)# switchport access vlan 10  
MES2424(config-if)# ip verify source port-security
```

Dynamic ARP inspection



MES23XX/33XX/5324

```
MES2324(config)# ip arp inspection
```

```
MES2324(config)# ip arp inspection vlan 10
```

```
MES2324(config)# interface gigabitethernet 1/0/1
```

```
MES2324(config-if)# ip arp inspection trust
```

MES14XX/24XX

```
MES2424(config)# ip arp inspection
```

```
MES2424(config)# ip arp inspection vlan 10
```

```
MES2424(config)# interface gigabitethernet 0/1
```

```
MES2424(config)# port-security-state trusted
```

```
MES2424(config)# set port uplink
```





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