

## New BDCOM EPON OLT (P3608B/P3616/P3310D) basic configuration through CLI

Provide electrical power to the OLT and connect the serial cable provided with the OLT from OLT **CLI** port to a PC/Laptop (Use a Serial to USB converter) as like the below picture.



After connection as like the above picture; download and install the **Putty** software in your Laptop. As like the below picture check your Serial Communication port from **Device Manager** => **Ports**. Using that port, select Serial and click Open in putty. For example: Here the USB to Serial Comm. Port is **COM3**; so I used COM3 in putty for login to OLT.

3 6	🕎 System	Bevice Manager	😵 PuTTY Configuration		? ×
	A A A A A A Control	Par tite Antine View Hale	Category:		
Sheliadi		File Action View Help	Session	Basic options for your Pu	TTY session
the Open Pin to Quick ac Pin to Start Map network o Disconnet net Create shortcu Delete	Control Panel Home		□ Logging □ Terminal □ Ferminal □ Keyboard □ Bell □ Features □ Appearance □ Behaviour □ Translation □ Selection □ Connection □ Connection □ Data □ Proxy □ Transt □ Fenet □ Proxy □ Transt □ Regin □ Connection □ Data □ Proxy □ Transt □ Regin □ SH	Specify the destination you want to Serial line COM3 Connection type: O Raw O Teinet O Riogin Load, save or delete a stored sess Saved Sessions Default Settings	connect to Speed S500 S5H © Senal on Load Save Delete
Properties		Computer name: DESK IOP-JUMIM6MB	Serial	Close window on exit: O Always O Never O Or	n <mark>l</mark> y on clean exit

A black window will appear automatically. Press *enter* then provide the Username: **admin** & Password: **admin**. Type **enable** to enter into the privilege mode. Then type **config** to enter into the global configuration mode. Now use the below commands to enable all of your Up-link and PON ports; then save all the configuration using **wr a** command.

int range gig 0/1-8	int range gig 0/1-8	int range gig 0/1-6
no shut	no shut	no shut
int range tgig 0/1-2	int range tgig 0/1-2	int range epon 0/1-4
no shut	no shut	no shut
int range epon 0/1-8	int range epon 0/1-16	exit
no shut	no shut	wr a
exit wr a <mark>P3608B</mark>	exit wr a <mark>P3616</mark>	<mark>P3310D</mark>



Now your OLT is configured as a plug and play mode. You can input your Bandwidth with services from any of the Up-link ports (TE1/TE2/G1/G2/G3/G4/G5/G6/G7/G8) and can be distributed through downlink PON ports.

## Login Through GUI mode

Connect an UTP/Cat5 cable from OLT G5 port to a PC/Laptop as like the below picture.

OLT Default IP address: **192.168.0.1** Username: **admin** & Password: **admin** 



After connected cable with OLT; PC/Laptop's ethernet will show Up. Need to provide an IP address at your PC/Laptop LAN interface as like below:

Open Network & Internet Setting=>Change adapter options=Ethernet=TCP/IPv4=>IP address & Subnet mask=>Ok=>Ok

	and a strain the second of the	R
Ethernet Properties	X nection Rename this connection view status of this connection Change settings of this connection	
etworking	d Connection Ethernet Wi-Fi	
Connect using:	iport (PPPOE) Realtek PCIe GbE Family Controller Intel(R) Dual Band Wireless-AC 31	
🕎 Realtek PCIe GbE Family Controller	Internet Protocol Version 4 (TCP/IPv4) Properties X	
Configure	General	
his connection uses the following items:		
🗹 🏪 Client for Microsoft Networks	You can get IP settings assigned automatically if your network supports     this capability. Otherwise, you need to ask your network administrator	
File and Printer Sharing for Microsoft Networks	for the appropriate IP settings.	
Yes Npcap Packet Driver (NPCAP)     Second Packet Driver (NPCAP) (Mi-Fi)	Obtain an TR address automatically	
✓ Popular international (international) ✓ Popular international (international)	Obtain an ar address addoniadcary	
Internet Protocol Version 4 (TCP/IPv4)	The second secon	
Microsoft Network Adapter Multiplexor Protocol	V IP address: 192.168.0.2	
< >>	Subnet mask: 255 . 255 . 0	
Install Uninstall Properties	Default gateway:	
Description		
Transmission Control Protocol/Internet Protocol. The default	Obtain DNS server address automatically	
across diverse interconnected networks.	Ouse the following DNS server addresses:	
	Preferred DNS server:	
OK Can	Alternate DNS server:	
	Validate settings upon exit Advanced	
	OK Cancel	

(IP address: 192.168.0.2 & Subnet mask: 255.255.255.0)

4 items 1 item selected

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Now check the ping reachability of your OLT IP: 192.168.0.1 from cmd of PC then open a browser and provide the OLT IP address: **192.168.0.1** (Loging by Username: **admin** / Password: **admin**) and then press **Sign in**.

Command Prom	pt - ping -t 192.168.0.1	_		×	
C:\Users>ping -	t 192.168.0.1			^	
Pinging 192.168 Reply from 192. Reply from 192. Reply from 192. Reply from 192. Reply from 192. Reply from 192. Reply from 192.	.0.1 with 32 bytes of data: 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms 168.0.1: bytes=32 time<1ms	TTL=128 TTL=128 TTL=128 TTL=128 TTL=128 TTL=128 TTL=128 TTL=128	3 3 3 3 3 3 3 3 3 3 3 3 3		
192.168.0.1 × +					-
← → C ☆ ③ 192.168.0.1					\$
	Sign in http://192.168.0.1 Your connection to this site is not private Username admin Password Sign in Ca	ncel			

# Basic Configurations (CLI) on BDCOM EPON products (P3616/ P3608B/ P3310D)

1. EPON OLT basic configuration - default (Plug & Play) [Default IP: 192.168.0.1]

Username: admin	Username: admin
Password: admin	Password: admin
Switch> enable	Switch> enable
config	config
int VLAN1	int VLAN1
ip address 172.16.0.1 255.255.255.0	ip address 172.16.0.1 255.255.255.0
!	!
int range g 0/1-8	int range g 0/1-6
no shut	no shut
int range e 0/1-8 or int range e 0/1-16	int range e 0/1-4
no shut	no shut
int range tg 0/1-2	!
no shut	exit
!	!
exit	ip default-gateway 172.16.0.254
!	1
ip route default 172.16.0.254	write all
!	
write all	Madel: 02210D
Model: <b>P3608B/P3616</b>	IVIOAEI: <b>P3310D</b>

## 2. Service Vlan configuration including PON wise

Switch_config# vlan 100-800	=> Service Vlans: 1,100-800 from Router		
int Tg0/1	comes through OLT Tg0/1 port [trunk port]		
switchport mode trunk	-> Freed(1 is seened next for when 100 is		
switchport trunk vlan-allowed 1,100-800	=> Epon0/1 is access port for vian 100, in		
int epon 0/1	that case all the connected ONUs will		
switchport mode access	provide service through vian 100		
switchport pvid 100	=> Epon0/2 is trunk port with multiple tag		
int epon 0/2	vlans 201-264, in that case all ONU needs		
switchport mode trunk	specific vlan configuration for providing		
switchport trunk vlan-allowed 201-264	service to clients.		

#### Commands [e.g. int gig 0/1]

switchport mode trunk[To pass all tag vlans from a configured port]switchport trunk vlan-allowed add <>[Add specific vlans from any port]switchport trunk vlan-allowed remove <>[Remove specific vlans from any port]switchport trunk vlan-untagged <>[Untagged specific vlans for a port]switchport trunk vlan-untagged none[Only can be passed tag vlans in a port]switchport pvid <>[Declared a native Vlan in a trunk port]

#### 3. ONU Lan port Vlan configuration command tag/trunk (Specific ONU)

 Switch\_config# int epon 0/2:1
 =>Single access vlan 201 for ONU Lan port

 epon onu port 1 ctc vlan mode tag 201
 =>Single access vlan 201 for ONU Lan port

 Switch\_config# int epon 0/2:2
 =>Multiple tag vlans 261-263 from ONU

 epon onu port 1 ctc vlan mode trunk 1 261-263
 Ian port [trunk port]

#### 4. ONU description add command (Specific ONU)

Switch\_config# int epon 0/1:1 epon onu description bdcom-office-test

=>ONU description

=>ONU Interface description

Switch\_config# int epon 0/1:1

description bdcom-office-test

epon\_config#int epon 0/1:1 epon\_config\_epon0/1:1#epon onu description bdcom-office-test epon\_config\_epon0/1:1#description bdcom-office-test epon\_config\_epon0/1:1#exi epon\_config#show run int epon 0/1:1 Building configuration...

Current configuration:

interface EPON0/1:1 description bdcom-office-test epon onu description bdcom-office-test

5. ONU Loop detection and notification configuration (Specific ONU/ONUs)

epon\_config#int epon 0/1:1
epon\_config\_epon0/1:1#epon onu all-port ctc loopback detect
epon\_config\_epon0/1:1#epon onu all-port ctc notify loopback
epon\_config\_epon0/1:1#exit
epon\_config#show run int epon 0/1:1
Building configuration...
Current configuration:
!
interface EPON0/1:1
 epon onu port 1 ctc loopback detect
 epon onu port 1 ctc notify loopback

Switch\_config# int epon 0/1:1 epon onu port 1 ctc loopback detect epon onu port 1 ctc notify loopback

Switch\_config# int epon 0/1:2 epon onu all-port ctc loopback detect epon onu all-port ctc notify loopback

Switch\_config# int range epon 0/1:1-64 epon onu port 1 ctc loopback detect epon onu port 1 ctc notify loopback =>For single Lan port ONU

=> For Multiple Lan port ONU

=> For all single port ONUs in a specific PON ports

#### 6. ONU PON port 1G/1000Mb configuration (By default 100Mb)

#### Switch\_config# int epon 0/1:1

epon sla upstream pir 1000000 cir 1000 epon sla downstream pir 1000000 cir 1000

epon_config#int epON 0/1:1
epon_config_epon0/1:1#epon sla downstream pir 1000000 cir 1000
epon_config_epon0/1:1#epon sla upstream pir 1000000 cir 1000
epon_config_epon0/1:1#ex
epon config#show run int epoN 0/1:1
Building configuration
Current configuration:
!
interface EPON0/1:1
epon sla upstream pir 1000000 cir 1000
epon sla downstream pir 1000000 cir 1000

7. ONU Rx & Tx optical power checking command (Specific PON port)

show epon onu-ctc-optical-transceiver-diagnosis interface epon 0/1

Switch#show	epon onu-ctc-	optical-	transceiv	er-diagnosi	s interface	epon 0/1
IntfName	Temp(degree)	Volt(V)	Bias(mA)	TxPow(dBm)	RxPow(dBm)	
epon0/1:1	35.0	3.3	16.0	2.2	-16.3	
epon0/1:2	43.0	3.3	10.0	2.2	-12.6	
epon0/1:3	46.4	3.2	16.3	1.7	-17.9	Result
epon0/1:4	42.2	3.2	13.4	1.6	-15.4	

8. PON SFP Rx & Tx optical power checking command (Specific PON port)

show epon optical-transceiver-diagnosis interface epon 0/1

Switch#show interface	epon optical-transcei Temperature(degree)	iver-diagnosi Voltage(V)	is interface epo Current(mA)	on 0/1 TxPo	wer(dBm)
epon0/1 interface	69.0 RxPower(dBm)	3.2	17.8	7.1	
epon0/1:1	-24.6				
epon0/1:2	-24.6				Recult
epon0/1:3 epon0/1:4	-24.8 -24.6				nesure

9. ONU reboot command from OLT (Specific ONU)

Switch# epon reboot onu int epon 0/1:1

Are you sure to reboot the ONU(y/n)?y

10. ONU deregister command from OLT (Specific ONU in a PON port)

Switch\_config# int epon 0/1 no epon bind-onu sequence 1

=>Epon0/1:1 ONU deregister from PON#1

**11.** ONU blacklist command (Specific ONU in a PON port)

Switch config# int epon 0/1

epon onu-blacklist mac 8479.73fb.3ae3

12. IP address configuration in a specific PON of a ONU on a Vlan (Specific ONU)

Switch\_config# int epon 0/1:1

epon onu ctc ip address static 172.16.0.20 255.255.255.0 gateway 172.16.0.1 cvlan 100 svlan 0 priority 4

=>ONU IP service is coming through vlan 100

13. ONU LAN port Rate-limit configuration (Specific ONU) [e.g. 10Mbps download & upload]

Switch\_config# int epon 0/1:1

epon onu port 1 ctc rate-limit 10240 egress epon onu port 1 ctc rate-limit 10240 ingress

epon_config#int epon 0/1:1
epon_config_epon0/1:1#epon onu port 1 ctc rate-limit 10240 egress
epon_config_epon0/1:1#epon onu port 1 ctc rate-limit 10240 ingress
epon_config_epon0/1:1#ex
epon_config#show run int epon 0/1:1
Building configuration
Current configuration:
!
interface EPON0/1:1
description bdcom-office-test
epon onu description bdcom-office-test
epon onu port 1 ctc rate-limit 10240 ingress CBS 10000 EBS 0
epon onu port 1 ctc rate-limit 10240 egress PIR 10240

#### 14. Storm Control configuration in ONU LAN port (Specific ONU)

#### Switch\_config# int epon 0/1:1

epon onu port 1 storm-control mode 1 threshold 102400 epon onu port 1 storm-control mode 1 threshold 102400 epon onu port 1 storm-control mode 1 threshold 102400 Mode:1 (Broadcast) Mode:2 (Multicast) Mode:3 (Unicast)

## 15. Deregister/Inactive/Lost/Unknwn ONU delete from a PON Port of OLT (Specific ONU)

Switch\_config# int epon 0/1

no epon bind-onu sequence 1

16. ONU LAN port shutdown and Up command (Specific ONU)

Switch\_config# int epon 0/1:1 epon onu port 1 ctc shutdown no epon onu port 1 ctc shutdown

17. ONU LAN port dynamic Maximum Mac bindings command (Specific ONU)

Switch\_config# int epon 0/1:1 epon onu port 1 mac address-table dynamic maximum 10

18. One PON to another PON port locally reachability command

Switch\_config# int range epon 0/1-4 no switchport protected

19. One single port ONU to another ONU in a same PON locally reachability command

Switch\_config# int range epon 0/1-4 epon inner-onu-switch

#### 20. One 4-port/multi-port ONU; locally ports reachability command

- Switch\_config# int epon 0/1:10 no epon onu port-protect
- **21.** Want to pass dynamic routes (OSPF), IPv6 through ONU need to disable **private-mcst**, command (Specific ONU)
- Switch\_config# int epon 0/1:1 epon onu private-mcst disable
- 22. ONU basic information checking command (Specific ONU)

#### show epon interface epon 0/1:1 onu ctc basic-info

23. ONU software version checking command (Specific PON port)

#### show epon onu-software-version int epon 0/1

**24.** ONU all configuration checking command (Specific ONU)

#### show running-config interface epon 0/1:1

**25.** ONU LAN port status checking command (Specific ONU)

show epon interface epon 0/1:1 onu port 1 state

**26.** Show all active ONU (specific PON)

show epon active-onu int epon 0/1

27. Show all inactive ONU (specific PON/all inactive in OLT)

show epon inactive-onu show epon inactive-onu int epon 0/1

28. Show all ONU in an OLT

show epon onu-information

29. Show all BDCOM ONU in your OLT (Filter command)

show epon onu-information | include BDCM

30. Show all connected MACs/Clients from ONU/PON (Specific ONU/PON)

show mac address-table dynamic interface epon 0/1:1

show mac address-table dynamic interface epon 0/1

**31.** Pre-configuration template for ONUs; automatically Loop-detection & PON as Gig (For example)

Switch\_config# epon onu-config-template onu-auto

cmd-sequence 001 epon onu all-port ctc loopback detect cmd-sequence 002 epon onu all-port ctc notify loopback cmd-sequence 003 epon sla upstream pir 1000000 cir 1000 cmd-sequence 004 epon sla downstream pir 1000000 cir 1000

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```
int range epon 0/1-8
```

epon pre-config-template onu-auto binded-onu-llid 1-64

**32.** ONU software/firmware upgrade from OLT (All same type ONU in a specific PON)

Switch# epon update onu image img.tar interface epon 0/1 1,2,5-7

33. ONU software commit command (All ONU/Specific ONU in a PON)

#### Switch# epon commit-onu-image-update interface epon 0/1:1

#### **34.** ONU authentication MAC/Manual configuration

Switch\_config# int epon 0/1 epon onu-authen-method manual ! int epon 0/1 epon conform-onu interface epon 0/1:1 Switch\_config# int epon 0/1 epon onu-authen-method mac !

int epon 0/1

epon bind-onu mac 8479.73b2.13bf 10

35. Rejected ONU check command from OLT

#### show epon rejected-onu

#### 36. Serving multicast traffic through OLT and ONU on a specific VLAN/IP configuration

```
Switch config# vlan 100
!
ip mcst enable
ip mcst timer router-age 150
ip mcst querier enable
ip mcst mrouter interface GigaEthernet0/1
ip mcst mc-vlan 1000 range 239.10.10.1
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interface GigaEthernet0/1
switchport pvid 100
!
interface EPON0/1
   switchport mode trunk
!
interface EPON0/1:1
   epon onu port 1 ctc mcst tag-stripe enable
   epon onu port 1 ctc mcst mc-vlan add 100
```

For example: Multicast Vlan: 100 Multicast IP: 239.10.10.1

Up-link is connected from gig0/1 Client is connected from ONU 0/1:1

## **37.** Protect Illegal DHCP from ONU (default vlan: 1)

```
Switch_config# ip dhcp-relay snooping
ip dhcp-relay snooping vlan 1
!
int gigaEthernet 0/1
dhcp snooping trust
!
int range epon 0/1-8
dhcp snooping deny
```

**Note:** Here G1 port is up-link port and you have to apply command "dhcp snooping trust" to your uplink port connected from Router.

**38.** Delete the configuration from ONU (Specific configuration from specific ONU)

Switch\_config# int epon 0/1:1

Go to ONU interface and use "no" before the basic configuration commands

**39.** Set ONU lost time command at OLT (by default it is 30 days/ 2592000 seconds)

#### Switch\_config# epon onu-lost-time 2592000

40. Clear all the lost ONU from OLT

Switch# clear epon lost-onu

41. Automatically clear all the lost ONU from OLT

Switch\_config# epon auto-clear-lost-onu enable

42. All ONUs configuration change/move from one PON to another PON (e.g. PON#1 to PON#2)

Switch# epon configuration move from epon 0/1 to epon 0/2

**43.** EPON PSG configuration topology with commands

BPSG- Basic Passive-Protection Switching Group



#### 44. All down/up reasons as per ONU status

ONU Status	Reasons
Auto-configured	ONU is successfully activated in OLT with all serving mode
Authenticated	Optical power of that ONU is not stable / Onu is not
	compatible with PON module or OLT
Registered	If PON port is in authentication mode; ONU is connected
	with OLT; need the permission of OLT admin for activation
Wire down	Optical power is cut-off/Fiber down/High dB loss
Power-off	ONU power is off due to electricity failure
LLID-admin-down	ONU is administratively down from OLT due to some bad
	behavior of ONU like (false optical power, always laser on
	issue, incompatible ONU etc)
Linkfault/SFI	Due to problematic splitter or fiber dB loss issue
Lost	ONU is deregistered for long time (more than 30 days)
Unknwn	ONU was down before the OLT gets rebooted

#### 45. IP Management & Vlan interface configuration command

Switch\_config# int VLAN 100

```
ip address 172.16.0.1 255.255.255.0
```

```
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```

ip route default 172.16.0.254

**46.** Configuration command for saving all the running configuration

Switch\_config# write all

## 47. Enable SSH

Switch\_config# ip sshd enable ip sshd version 2 no ip sshd disable-aes

#### 48. Enable & configuration of SNMP community service

Switch\_config# snmp-server community 0 bdcom-test rw snmp-server host 172.16.0.100 version v2c bdcom-test authentication configure snmp

49. VLAN

```
Switch_config# vlan 100-200

!

int GigaEthernet 0/1

switchport mode access

switchport pvid 100

!

int GigaEthernet 0/2

switchport mode trunk

switchport trunk vlan-allowed 100-200

!

int epon 0/1

switchport mode trunk

switchport trunk vlan-allowed 100-200
```

=>Access Vlan in a port

=>Trunk port for passing multiple tag Vlans

#### 50. Loop detection and protection for Up-link Ports

```
Switch_config# loopback-detection

!

no error-disable-recovery

!

int range gig 0/1-8

loopback-detection enable

loopback-detection control shutdown
```

#### 51. Port security command

```
Switch_config# interface g 0/1
switchport port-security static mac-address H.H.H
switchport port-security dynamic maximum 2048
```

#### 52. Storm control command

```
Switch_config# interface tg 0/1
storm-control broadcast threshold 500
storm-control unicast threshold 500
storm-control multicast threshold 500
```

#### **53.** Port isolation command

```
Switch_config# interface g 0/1
switchport protected 1
```

#### 54. DOS attack prevention command

Switch\_config# dos enable ip dos enable icmp

#### 55. Rate-limit configuration

Switch\_config# interface gigaEthernet 0/1 switchport rate-limit 16383 ingress switchport rate-limit 16383 egress

#### 56. QOS for BW manage/bind on a specific Vlan

Switch\_config# policy-map BW-10MB classify vlan 100 action bandwidth 160 ! Interface gigaEthernet 0/1 qos policy BW-10MB ingress

#### 57. LACP (Port-Aggregation & Port-Channel)



#### LACP- Link Aggregation Control Protocol

#### Switch Configuration

#### **EPON OLT Configuration**

interface Port-aggregator 8 interface Port-aggregator 8 switchport mode trunk switchport mode trunk switchport trunk vlan-allowed 1-4094 switchport trunk vlan-allowed 1-4094 1 ł interface range tg 0/1,4 interface range tg 0/1-2 aggregator-group 8 mode lacp aggregator-group 8 mode lacp switchport mode trunk switchport mode trunk switchport trunk vlan-allowed 1-4094 switchport trunk vlan-allowed 1-4094

#### 58. Jumbo Frame (MTU)

Switch\_config# system mtu 9216

#### **59.** NTP server configuration for clock management

Switch\_config# time-zone tz 6 0 ntp server 183.177.72.201

#### 60. Logging buffer size configuration

Switch\_config# logging on logging buffered 409400

#### **61.** SFP optical power check command (DDM)

Switch\_config# **ddm enable** 

#### **62.** LLDP configuration commands

Switch\_config# Ildp run

#### 63. Create and change the Username and Password

Switch\_config# username bdcom password bdcom username admin password admin321

#### 64. Create a Limited or Read user

Switch\_config# localauthor limited exec privilege default 8

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username bdcom password 0 bdcom author-group limited

#### **65.** Change HTTP and Telnet port

Switch\_config# ip http port 9090

#### ip telnet listen-port 3030

66. Change Telnet default (Port: 23) port and assign a new one

Switch\_config# ip access-list extended telnet

```
deny tcp any any eq telnet
permit ip any any
permit tcp any any
```

!

#### interface VLAN 1

ip access-group telnet in

```
!
```

ip telnet listen-port 3030

## **67.** DHCP server over vlan-100

```
Switch_config# interface VLAN 100
ip address 172.31.100.1 255.255.255.0
!
ip dhcpd pool test
network 172.31.100.0 255.255.255.0
range 172.31.100.2 172.31.100.20
!
ip dhcpd enable
```

## 68. Firmware Upgradation of an OLT (EPON) through GUI (Web) mode

MA BI	DCOM	Save All   Logout
	10S Software	
Device Status Basic Config EPON Interface ONU Interface ONU Interface Config Advanced Config Remote Monitor System Mgr 1	Backup IOS Current software version: Switch.bin, 10.1.0F Build 69083 Build 69083, 2019-11-27 18:57:48 by SYS File name on the server Switch.bin Backup IOS	
User Mgr	Update IOS	
Log Mgr Diagnostic		
Startup-config	Reboot is required after the update of IOS software!	
IOS Software 2	Reboot the device automatically after update	
Factory Settings	File name on the server Switch.bin	
Reboot About	3 Update IOS Choose File BD_3310D_10F_69083.bin Upgrade 4	

Wait until the below POP-Up has come "IOS Software Upgraded Successfully". After, just reboot the OLT and the OLT will be updated with the provided firmware.

## **69.** Configuration Backup (Export & Import) from GUI [Note: Only the startup-config excluding the ONU configurations]

	Export the current startup-config	^
Device Status		
Basic Config	Export the current startup-config	
Port Config		
L2 Config	Export	
L3 Config		
Advanced Config		
Network Mgr.	Import startup-config file	
Diagnostic Tool		
System Mgr.	Import startup-config file Choose File No file chosen	
User Mgr.	Reboot is required after importing startup-config!	
Log Mgr.		
System Software	Import	
Factory Settings		
Reboot		
	Help	
	#Exporting the current configuration information: backup the configuration files of the switch, that is, download the configuration files to the PC for use.	
	#Importing the configuration files: Upload the configuration files to the switch and then reboot the switch to make the configuration files validate in this switch. The names of the configuration files must contain the character string 'startup-config', or the switch cannot be upgraded. The configuration files must be legal.	
	#The operations above may cost a little long time. Please continue other configurations after the previous operations are prompted to be complete.	

**70.** How to take full configurations backup from OLT including ONU configurations [Export configurations from OLT via TFTP]

Command Prompt PC IP: 192.168.99.232		- 🗆 ×		*		
		^		startup-co config.d	b ifindex-co	
Connection-specific DNS Suffix .			Talpat 192 168 0 1	OLT to PC should be a	ing reachable as like here	
Link-local IPv6 Address	: fe80::2d7c:bf95:c	l2ba:3c1d%17	Switch 1tping 102 169 00		ing reachable as like here	
IPv4 Address			PING 192.168.99.232 (192	2.168.99.232): 56 data by	/tes	
Default Gateway	· 192 168 99 1					
beruure outerray	. 192.100.99.1		192.168.99.232 ping 5 packets transmitted. 5	statistics 5 packets received. 0% pa	acket loss	
C:\Users\Shahadat>ipconfig			round-trip min/avg/max =	= 0/12/30 ms		
		~	Switch-1#dir			
Tftpd64 by Ph. Jounin TFTP Server		- 0 X	0 Switch.bin	<file> 9263317</file>	THU JAN 01 00:09:41 1970	
			1 tiger.blob	<file> 2114748</file>	TUE APR 02 16:16:37 2019	
Current Directory C:\Users\Shahadat\Desktop	•	Browse	4 startup-config 5 config.db	<pre><file> 1819  479232</file></pre>	THU JAN 01 00:48:50 1970 THU JAN 01 00:48:54 1970	
Server interfaces 192.168.99.232 Intel(R) Dual Band V	/ireless-AC 3168 🔹	Show Dir	6 ifindex-config	<file> 136</file>	THU JAN 01 00:48:57 1970	
Tftp Server Log viewer			7 726.tar	<file> 3450880</file>	THU JAN 01 01:44:25 1970	
peer file start time progre	ess bytes tota	timeo	Switch-1#copy flash tftp	)		
			Source file name[]?start	tup-config		
			Remote-server 1p address Destination file name[st	5[]?192.168.99.232 tartup-config]?		
			#			
			TFTP:successfully send 4	1 blocks, 1819 bytes		
			Source file name[]?confi	ig.db		
			Remote-server ip address	5[]?192.168.99.232		
			Destination file name[co	ontig.db]?		
			***********************			
				######################################		
			Switch-1#copy flash tftp	) DIOCKS, 4/9252 Dytes		
			Source file name[]?ifind	dex-config		
			Remote-server ip address Destination file name[if	5[]/192.168.99.232 findex-configl?		
			#	Linden contragj.		
			TFTP:successfully send 1	l blocks, 136 bytes		
1			SWICCH-1#			
About Settin	ngs	Help				

**71.** How to import previously backup configuration to OLT [Import configurations to OLT via TFTP; should be same model OLT]

Command Prompt − □     Connection-specific DNS Suffix .:	1 × startup-co contigúd tímdex-co	
Link-local IPv6 Address : fe80::2d7c:b	:bf95 🔤 Telnet 192.168.0.1	– 🗆 ×
12263:3510417         IPv4 Address.         Subnet Mask         Subnet Mask         Default Gateway         C:\Users\Shahadat>ipconfig	2322 Switch-1#ping 192.168.99.232 PING 192.168.99.232 (192.168.99.232): 56 data bytes 1!!! 1 192.168.99.232 ping statistics 5 packets transmitted, 5 packets received, 0% packet loss round-trip_min/avg/max = 0/6/20 ms Switch-1#drin	
	Directory of /:	
🏘 Tftpd64 by Ph. Jounin 🦳 🗌	V Switch.bln <file> 9263317 THU JAN 01 00:09:41 1970</file>	
Current Directory	free space 15024128	
Server interfaces 192 169 99 222 Intel(P) Dual Panet Wireless	Switch-1#copy t+tp +lash	
The Server 1	Remote-server ip address[]?192.168.99.232	
Deer Eig viewer	Destination file name[startup-config]?	
	TFTP:successfully receive 4 blocks, 1851 bytes         Suirce file name[]?config.db         Remote-server ip address[]?192.168.99.232         Destination file name[config.db]?         ####################################	
	5 startup-config <file> 1851 THU JAN 01 00:58:21 1970</file>	
About Settings Help	lep 6 ifindex-config <file> 216 THU JAN 01 00:59:08 1970</file>	
	free space 14467072	

## **72.** How to Reset a Switch or OLT [Delete the below mentioned files without Switch.bin & tiger.blob for EPON]

After completed the deletion just reboot the Switch or OLT and your device will be successfully reset.

**Note:** If any one forgot the login password, one can reset the device from **monitor** mode using the same way. Press **[control + P]** continuously while device is booting to go to monitor mode.

Switch#dir					
Directory of /:					
0 Switch.bin	<file></file>	8654006	SAT DEC	21 13:36:42 20	919
1 startup-config	<file></file>	2048	MON JAN	05 17:51:47 19	970
2 config.db	<file></file>	507904	MON JAN	05 17:51:51 19	970
13 ifindex-config	<file></file>	272	MON JAN	05 17:51:55 19	970
free space 17235968					
Switch#					
Switch#delete startup	o-config				
this file will be erased, are you sure?(y/n)y					
Switch#					
Switch#delete config.db					
this file will be erased, are you sure?(y/n)y					
Switch#					
Switch#delete ifindex-config					
this file will be erased, are you sure?(y/n)y					
Switch#					
Switch#					
Switch#re					
reboot rename resum	1e				
Switch#reboot					
Do you want to reboot	: the Switch(y/n	);			

#### **73.** Basic switching monitoring commands

- show interface brief
- show running-config

- show configuration
- show interface g0/1
- show mac address-table dynamic interface g0/1
- show mac address-table dynamic vlan 1
- show vlan
- show vlan id 1
- show run int g0/1
- show cpu
- show task
- show spanning-tree
- show version
- show version all
- show system mtu
- show lldp
- show telnet
- show run int vlan 1
- show ip int brief
- show arp
- show ip route
- show ip route all

## 74. ping and trace from OLT

Switch# ping \*.\*.\*

Switch# traceroute \*.\*.\*

#### \*.\*.\* valid and reachable IP address

## More basic information regarding Splitting ratio and Power budget

Some splitting combinations for single PON port of EPON are (Reverse/Reshuffle of combinations can be applicable also):

Combinations of Splitting	Approximate dB losses	→ ONU Rx optical power sensitivity is
1:8 <=> 1:8	Of different splitters	from -6dBm to -27dBm (range), RX
1:4 <=> 1:16	1:2 => 4.5dB loss	Wavelength = 1490nm
1:2 <=> 1:32 $1:2 <=> 1:4 <=> 1:8$ $1:2 <=> 1:8 <=> 1:4$ $1:2 <=> 1:2 <=> 1:16$ $1:4 <=> 1:4 <=> 1:4$ $1:8 <=> 1:2 <=> 1:4$ $1:2 <=> 1:2 <=> 1:4$ $1:2 => 1:2 => 1:2 => 1:8$ $1:4 => 1:2 => 1:2 => 1:4$	1:4 => <b>7.5dB</b> loss 1:8 => <b>10.5dB</b> loss 1:16 => <b>13.5dB</b> loss 1:32 => <b>16.5dB</b> loss 1:64 => <b>19.5dB</b> loss	<ul> <li>→ PON Module Rx optical power sensitivity is -32dBm</li> <li>→ PON Module Tx optical power For PX20++ is 6~7dBm</li> <li>For PX20+++ is 7~8dBm</li> <li>→ ONU Tx optical power is 0~3dBm</li> </ul>

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