



## Zero Touch Provisioning (ZTP) Commands

This chapter describes the commands used to manually invoke Zero Touch Provisioning (ZTP).

Manual Zero Touch Provisioning (ZTP) invocation using CLI commands supports to run ZTP over and over. You can configure the interfaces or bring them up first, and then invoke ZTP manually. This manual way helps you to provision the router in stages. Ideal for testing out ZTP configuration without a reboot.



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**Note** ZTP functionality and commands are available on XR 64 Bit only for Cisco ASR9000.

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For more information about ZTP, see the ZTP chapter in the *System Management Configuration Guide for Cisco ASR 9000 Series Routers*.

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# ztp breakout

Manual Zero Touch Provisioning (ZTP) invocation using CLI commands allows ZTP to run over more interfaces.

To invoke platform interface discovery before invoking DHCP, use the **ztp breakout** command in EXEC mode.

**ztp breakout** [ **debug** ] [ **verbose** ] { [ **nosignal-stay-in-breakout-mode** ] | [ **nosignal-stay-in-state-noshut** ] } [ **hostname** ] [ **apply configuration** ]

Syntax Description		
<b>debug</b>		Run with additional logging to the console(cisco-support)
<b>verbose</b>		Run with logging to the console(cisco-support).
<b>apply configuration</b>		XR configuration commands to apply(cisco-support)
<b>hostname</b>		XR hostname to set(cisco-support)
<b>nosignal-stay-in-breakout-mode</b>		On no signal, prefer interfaces to remain in breakout mode(cisco-support)
<b>nosignal-stay-in-state-noshut</b>		On no signal, prefer interfaces to be noshut(cisco-support)

**Command Default** No default behavior or values

**Command Modes** EXEC mode

Command History	Release	Modification
	Release 6.3.1	This command was introduced.

**Usage Guidelines** Use the **ztp breakout** command to perform a 10x10 breakout detection on all 100 Gigabit ports. On the 100G ports which are not able to bring up, the **ztp breakout** command will no shut all the 100G interfaces which support breakout configuration. If the interface is able to bring up, the **ztp breakout** script will keep the interface no change. Otherwise, the **ztp breakout** script will apply breakout configuration on the down interfaces.

The **nosignal-stay-in-breakout-mode** argument will force the port in breakout mode when all breakout interfaces from the same physical port have no signal locked, and place the ten 10Gigabitinterfaces in shutdown mode. The **nosignal-stay-in-state-noshut** argument will leave the port in breakout mode and place the ten 10Gigabit interfaces in no shutdown mode.

No progress logs are shown by default, although there will be XR syslogs for important events. If you wish to see more logs, add **verbose** after the **ztp terminate** command. If these logs are not enough, add **debug** before **verbose**.

Logs can be found in **disk0:/ztp/ztp.log**.

# ztp clean

Manual Zeo Touch Provisioning (ZTP) invocation using CLI commands allows ZTP to run over more interfaces.

To remove all Zero Touch Provisioning (ZTP) logs and settings saved on disk, use the **ztp clean** command in EXEC mode.

**ztp clean** [ **debug** ] [ **verbose** ]

<b>Syntax Description</b>	<b>debug</b>	Run with additional logging to the console(cisco-support).
	<b>verbose</b>	Run with logging to the console(cisco-support)

**Command Default** No default behavior or values

**Command Modes** EXEC mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 6.3.1	This command was introduced.

**Usage Guidelines** If you wish to run ZTP as if from a clean boot, use the **ztp clean** command to remove all ZTP logs and settings. Use **commit replace** to reload, and then ZTP will run again as if from first boot.

No progress logs are shown by default, although there will be XR syslogs for important events. If you wish to see more logs, add **verbose** after the **ztp clean** command. If these logs are not enough, add **debug** before **verbose**.

Logs can be found in **disk0:/ztp/ztp.log**.

This example shows how to remove all ZTP files saved on disk:

```
RP/0/RP0/CPU0:router#ztp clean verbose
Mon Oct 10 17:03:43.581 UTC
Remove all ZTP temporary files and logs? [confirm] [y/n] :y
All ZTP files have been removed.
If you now wish ZTP to run again from boot, do 'conf t/commit replace' followed by reload.
```

# ztp disable

Manual Zero Touch Provisioning (ZTP) invocation using CLI commands allows ZTP to run over more interfaces.

To disable Zero Touch Provisioning (ZTP) at boot, use the **ztp disable** command in EXEC mode.

## ztp disable

<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	EXEC mode
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 7.0.1	This command was introduced.

<b>Usage Guidelines</b>	Use <b>ztp disable</b> command to disable ZTP. When you execute the <b>ztp disable</b> command, the start value in the <code>ztp.ini</code> file is set to <i>False</i> .
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The following example shows the sample of the `ztp.ini` file:

```
[Startup]
start: False
retry_forever: True

[Fetcher Priority]
Mgmt4: 0
Mgmt6: 1
DPort4: 2
DPort6: 3
```

This example shows how to disable ztp at boot:

```
Router#ztp disable
Fri Jul 12 16:07:18.491 UTC
Disable ZTP? [confirm] [y/n] :y
ZTP Disabled.
Run ZTP enable to run ZTP again.
```

# ztp enable

Manual Zero Touch Provisioning (ZTP) invocation using CLI commands allows ZTP to run over more interfaces.

To enable Zero Touch Provisioning (ZTP) at boot, use the **ztp enable** command in EXEC mode.

## ztp enable

<b>Command Default</b>	No default behavior or values
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<b>Command Modes</b>	EXEC mode
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 7.0.1	This command was introduced.

<b>Usage Guidelines</b>	By default, ZTP is enabled. When you execute the <b>ztp enable</b> command the start value in the <code>ztp.ini</code> file is set to <i>True</i> .
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The following example shows the sample of the `ztp.ini` file:

```
[Startup]
start: True
retry_forever: True

[Fetcher Priority]
Mgmt4: 0
Mgmt6: 1
DPort4: 2
DPort6: 3
```

This example shows how to enable ztp at boot:

```
Router#ztp enable
Fri Jul 12 16:09:02.154 UTC
Enable ZTP? [confirm] [y/n] :y
ZTP Enabled.
```

# ztp initiate

To invoke a new ZTP DHCP session, use the **ztp initiate** command in EXEC mode.

```
ztp initiate {[ apply configuration ] | [ dataport ] | [ dhcp4 ] | [ dhcp6 ] | [ dhcp4-client-identifier ] | [ dhcp6-client-identifier ] | [ dscp value ] | [ dscp6 value ] | [ hostname ] | [ interface ] | [ management ] | [ noprompt ]} [ debug ] [ verbose ]
```

<b>Syntax Description</b>	<b>debug</b>	Run with additional logging to the console(cisco-support)
	<b>verbose</b>	Run with logging to the console(cisco-support)
	<b>apply configuration</b>	XR configuration commands to apply(cisco-support)
	<b>dataport</b>	Send DHCP requests on all ADMIN UP physical LC interfaces.
	<b>dhcp4</b>	Send only DHCP IPv4 requests(cisco-support)
	<b>dhcp6</b>	Send only DHCP IPv6 requests(cisco-support)
	<b>dhcp4-client-identifier</b>	Override default dhcp-client-identifier(cisco-support)
	<b>dhcp6-client-identifier</b>	Override default dhcp6-client-id(cisco-support)
	<b>dscp value</b>	DSCP/Prec Value(cisco-support)
	<b>dscp6 value</b>	DSCP6/Prec Value(cisco-support)
	<b>hostname</b>	XR hostname to set(cisco-support)
	<b>interface</b>	Send DHCP requests only on the given interface(cisco-support)
	<b>management</b>	Send DHCP requests on the platforms management interface(cisco-support)
	<b>noprompt</b>	Run without prompting(cisco-support)

**Command Default** No default behavior or values

**Command Modes** EXEC mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 6.3.1	This command was introduced.

**Usage Guidelines** Use the **ztp initiate** command to forcefully initiate the ZTP, ignoring username configuration. **ztp initiate** allows the execution of a script even when the system has already been configured. This command is useful for testing ZTP without forcing a reload. This command is particularly useful to test scripts or if some manual operations are required before provisioning the box. **ztp initiate** can specify any data interfaces and management interface on the system to be used for the whole ZTP process. If you don't specify an interface, ztp will be invoked on management interface only.

No progress logs are shown by default, although there will be XR syslogs for important events. If you wish to see more logs, add **verbose** after the **ztp initiate** command. For more details, add **debug** before **verbose**.

Logs can be found in **disk0:/ztp/ztp.log**.

### Example

This example shows how to bring up the interface manually:

```
RP/0/RP0/CPU0:router#ztp initiate debug verbose interface TenGigE 0/0/0/0
Invoke ZTP? (this may change your configuration) [confirm] [y/n] :
```

This example shows how to get rid of the prompting:

```
RP/0/RP0/CPU0:router#ztp initiate noprompt
Mon Jun 27 20:40:10.353 UTC
ZTP will now run in the background.
Please use "show logging" or look at /disk0:/ztp/ztp.log to check progress.
```

This example shows how to invoke the breakout discovery and ZTP, ZTP is invoked on the interfaces which are up:

```
RP/0/RP0/CPU0:router#ztp breakout debug verbose
RP/0/RP0/CPU0:router#ztp initiate dataport debug verbose
Invoke ZTP? (this may change your configuration) [confirm] [y/n] :
```

# ztp terminate

To terminate all existing Zero Touch Provisioning (ZTP) processes, use the **ztp terminate** command in EXEC mode.

**ztp terminate** [ **debug** ] [ **verbose** ] [ **noprompt** ]

<b>Syntax Description</b>	<b>debug</b>	Run with additional logging to the console(cisco-support).
	<b>verbose</b>	Run with logging to the console(cisco-support)
	<b>noprompt</b>	Run without prompting(cisco-support)

**Command Default** No default behavior or values

**Command Modes** EXEC mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 6.3.1	This command was introduced.

**Usage Guidelines** If you want to terminate an already running ZTP process, use the **ztp terminate** command. Be careful to use the **ztp terminate** command because improper usage of this command may leave your system in a partially configured state.

No progress logs are shown by default, although there will be XR syslogs for important events. If you wish to see more logs, add **verbose** after the **ztp terminate** command. If these logs are not enough, add **debug** before **verbose**.

Logs can be found in **disk0:/ztp/ztp.log**.



**Note** Improper cleanup of the interface IP configuration in Linux in the XR namespace may cause the same IP present in the global Virtual Routing and Forwarding (VRF) and XR namespace at the same time.

## Example

This example shows how to terminate the ZTP sessions in progress:

```
RP/0/RP0/CPU0:router#ztp terminate verbose
Mon Oct 10 16:52:38.507 UTC
Terminate ZTP? (this may leave your system in a partially configured state) [confirm] [y/n]
:y
ZTP terminated
```