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# ACI CLI Types

# ACI CLI Overview

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- Cisco ACI offers the ability to configure and manage the ACI fabric using the APIC's command line interface (CLI).
- Most ACI administrators utilize the CLI not for fabric configuration but for fabric monitoring and troubleshooting.
- The APIC and fabric switches serve different purposes in the ACI solution so that each provides unique CLI functionality that can be leveraged.
  - The APIC has two CLI types:
    - ✓ NX-OS Style CLI
    - ✓ Bash CLI
  - Fabric switches have three CLI types:
    - ✓ iBash CLI
    - ✓ VSH CLI
    - ✓ VSH\_LC CLI

# ACI APIC NX-OS–Style CLI

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- The APIC offers an NX-OS–style CLI built on top of a Bash shell that allows you to navigate and configure the ACI fabric as if you were on a traditional NX-OS device.
- Almost every configuration option that is available via the REST API or GUI is also configurable via the NX-OS–style CLI.
- After initiating an SSH session to an APIC, the first shell we are dropped into is the NX-OS CLI.
- The “?” is used to show the list of available commands, and the “**Tab**” is used to complete the command syntax.
- To push fabric configuration, we need to use the config mode (**configure terminal**).
- We can use the “**fabric**” keyword to remotely execute show commands against multiple switches at one time. (**fabric 101-103, 106 show interface mgmt 0**)

# ACI APIC Bash CLI

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- Cisco ACI APIC offers a Linux Bash shell CLI. It has a native Linux command set and can navigate the file system and directory.
  - The Bash shell is a portal into the Linux operating system on which the APIC is built.
- In order to access the Bash shell, type the command **bash** at the NX-OS CLI prompt.
  - Once in the Bash shell, you have access to the native Linux environment, which exposes commands that would otherwise be unavailable in the NX-OS CLI shell.
  - The “?” is no longer used to show the list of available commands; instead, press double “**Esc**” keystrokes, and the “**Tab**” is still used to complete the command syntax.
- Bash shell commands can also be executed directly from the NX-OS–style CLI.
  - In order to do this, type **bash -c "command"** into the NX-OS CLI from any prompt.
  - e.g: **bash -c "route"**
- When operating in a Bash shell, you can write scripts to automate certain tasks or monitor your ACI fabric.

# ACI Switch iBash CLI

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- After initiating an SSH session to a switch, the first shell you are dropped into is the iBash CLI.
- The idea behind the iBash shell was to allow access to native Linux commands but also offer a full NX-OS–style CLI in one shell.
- There is no way to limit the output of a command run via iBash based on the security domain.
- The first word in the command must be fully completed. This is because the first word dictates whether to interpret the command as a Bash or an NX-OS command.
- The “?” can be used in a normal Bash command like `icurl`; instead, press double “**Esc**” keystrokes. The “**Tab**” is still used to complete the command syntax.
- Use special Linux powerful commands like:
  - **Watch command:** `watch -n 1 "show interface eth1/1"` > watch the output changes every second.
  - **Aliases:** `leaf101# v1="Tenant1:VRF1"`  
`leaf101# show ip route vrf $v1`  
After closing the session, the alias will be deleted.
- Use **Ctrl+D** to exit a session and **Ctrl+C** to stop a command.

# ACI Switch VSH CLI

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- The iBash CLI relies on querying the API to return data to the user.
- Use the VSH shell when you would like to query the NX-OS software directly to get access to command output that isn't stored in the MIT.
- The VSH shell exposes no Linux Bash functionality but rather provides direct access to the traditional NX-OS shell.
- We can enter the VSH shell by typing **vsh** into the iBash CLI.
- We can also run any **vsh** command directly from iBash. This is helpful when we want to redirect the output to a file and store it in the Linux file system.
  - `leaf101# vsh -c "show clock" > /tmp/clock.txt`
- If you are unsure of what commands are available, you can leverage the **show cli list** command and **grep** for certain keywords.
  - `show cli list | grep "show ip"`
- To get back into the iBash CLI from VSH, you simply type **exit**.

# ACI Switch VSH\_LC CLI

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- Both the *iBash* and *VSH* shells can be used to check the software state of an ACI switch. However, to run **hardware-level** commands, you should use the *VSH\_LC* shell.
- For nonmodular switches, you can enter the **VSH\_LC** shell by typing `vsh_lc` into the **iBash** shell.
- For modular switches like spines, each line card and fabric module has its own shell. In order to access it, you need to run the `attach module <X>` command from the **VSH** shell.
- Just like VSH commands, VSH\_LC commands can be run directly from iBash:
  - `leaf101# vsh_lc -c "show clock"`
- Just like in the VSH shell, you can use the `show cli list` in the VSH\_LC shell.
- To get back into the iBash CLI from VSH\_LC, you simply type `exit`.

Thanks for watching!



