First Time Setup Wizard

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About the First Time Setup Wizard

Use the First Time Setup wizard to set up your Cisco APIC for the first time.

- You can access the First Time Setup wizard when it automatically appears the first time you log into your Cisco APIC through the GUI.
- For Cisco APIC Releases 4.2(3) and later, you can also access the First Time Setup wizard when you click the System Tools icon ( ) in the upper right corner of the Cisco APIC GUI window, then select **What's New in *APIC_release_number***.

The **Welcome to APIC** window appears, providing information on the new features that are part of this particular release.

To access the First Time Setup wizard, click **Begin First Time Setup** or **Review First Time Setup** at the bottom right of the window. The **Let's Configure the Basics** window appears, with links to the individual pages that you can use to set up your Cisco APIC.

When you have completed the initial setup that includes at least one BGP route reflector, the **Proceed to Summary** button is enabled. Click this button to view summary tiles of the configuration. Additional tiles appear under the heading **You Might Want To...**. These additional topics are optional but recommended.

The following sections provide more information for each of the first-time setup pages available from this window.

Fabric Membership

Use the **Fabric Membership** window to register the leaf and spine switches detected by the ACI fabric. You can also manually add leaf and spine switches to the fabric using the serial number listed on the box.

Note We recommend registering at least two leaf switches and two spine switches. You must register at least one leaf switch and one spine switch in order to proceed through the First Time Setup wizard.

The **Fabric Membership** window contains two sections:

- **Discovered**: This section provides information on newly-discovered but unregistered switches. These nodes will have a node ID of 0 and will have no IP address.
- **Registered**: This section provides information on all of the registered switches in your ACI fabric.

You can register a switch using either of these methods:

- If the switch is shown in the **Discovered** section, click the **Register** button next to that switch to open the **Create Fabric Node Member** window. Note that the **Pod ID** and **Serial Number** fields will be automatically populated in the **Create Fabric Node Member** window in this case.
- If the switch is not shown in the **Discovered** section, click the Action icon ( ), then select **Create Fabric Node Member** from the drop-down list.

In the **Create Fabric Node Member** window, enter the following information:

Field	Setting
Pod ID	Identify the pod where the node is located.
Serial Number	Required: Enter the serial number of the switch.
Node ID	Required: Enter a number greater than 100. The first 100 IDs are reserved for APIC appliance nodes. **Note** We recommend that leaf nodes and spine nodes be numbered differently. For example, number leafs in the 100 range (such as 101, 102) and number spines in the 200 range (such as 201, 202). **Note** After the node ID is assigned, it cannot be updated. After the node has been added to the **Registered Nodes** tab table, you can update the node name by right-clicking the table row and choosing **Edit Node and Rack Name**.
Switch Name	The node name, such as leaf1 or spine3.

Field	Setting
Node Type	Choose the assigned node role. The options are: • **leaf** Check one of the following boxes if applicable: • **Is Remote** • **Is Virtual** • **Is Tier-2 Leaf** • **spine** Check the following box if applicable: • **Is Virtual** • **unknown**

Click **Submit** when you have completed the information in the **Create Fabric Node Member** window, then click **Continue** in the **Fabric Membership** to continue to the next window in the First Time Setup wizard.

Management

Use the **Out Of Band Management** window to configure the management interface IP address for leaf switches, spine switches, and APIC nodes to connect to the Out of Band (OOB) network. Select several nodes to begin assigning IP addresses to them.

Note The First Time Setup wizard helps with configuring nodes that have not already been configured for Out of Band management.

Type the address of the gateway in the following fields and an IP address is automatically suggested for each discovered node:

- **IPv4 Gateway**: The IPv4 default gateway address for communication to external networks using out-of-band management.
- **IPv6 Gateway**: The IPv6 default gateway address for communication to external networks using out-of-band management.

In the Filter by attributes area, you can filter the discovered nodes by their attributes. Click **Edit** if you want to change the nodes that you had selected to configure for Out of Band management.

Click **Save** to continue to the next window in the First Time Setup wizard.

vPC Pairs

Use the **Setup - vPC Pairs** window to explicitly configure member nodes of the group by using a Fabric policy node endpoint.

In the Filter by attributes area, you can filter the vPC pairs by their attributes. Click **Edit** if you want to change the vPC pairs that you had selected to configure the vPC pair.

In the vPC Pairs central pane, expand the **Actions** drop-down list, and choose **Create vPC Leaf Switch Pair**, **Delete vPC Leaf Switch Pair**, **Download All**, or **Open in Object Store Browser**.

Click **Save** to continue to the next window in the First Time Setup wizard.

BGP

Use the **BGP** window to configure ACI fabric route reflectors, which use multiprotocol BGP (MP-BGP) to distribute external routes within the fabric. Once you have enabled the route reflectors in the ACI fabric, you can configure connectivity to external networks.

Note Select spine switches to configure as route reflectors. You must configure at least one route reflector in order to proceed through the First Time Setup wizard. If you do not see any spine switches in the table in this window, verify that the switch is registered with the correct type or has been discovered by APIC.

In the **BGP** window, check the box next to the spine switches that you want to use as route reflectors and enter the ASN for this spine switch in the **Autonomous System Number** field. Click **Save and Continue** to continue to the next window in the First Time Setup wizard.

DNS

Use the **DNS** window to configure DNS servers and search domains to allow leaf switches, spine switches and APIC nodes to query DNS names. The OOB connection will be used for DNS communication.

Note The First Time Setup wizard configures DNS servers and DNS domains under the **default** DNS Policy.

To configure the DNS servers, click + in the DNS Servers area, then enter the following information:

- **Address**: Enter the provider address.
- **Preferred**: Check the check box if you want to have this address as the preferred provider.
- **Status**: Provides the status of the configuration request.

Click **Update**, then repeat this process to configure additional DNS servers, if necessary.

To configure the search domains, click + in the Search Domains area, then enter the following information:

- **Name**: Enter the domain name (cisco.com).
- **Default**: Check the check box to make this domain the default domain. You can have only one domain name as the default.
- **Status**: Provides the status of the configuration request.

Click **Update**, then repeat this process to configure additional search domains, if necessary.

To delete an entry either from the DNS Servers table or from the Search Domains table, select the entry that you would like to delete, then click the trash can icon in that table.

Click **Save and Continue** to continue to the next window in the First Time Setup wizard.

NTP

Use the **NTP** window to configure a timezone and assign NTP servers to synchronize leaf switches, spine switches, and APIC nodes to a valid time source. The OOB connection will be used for NTP communication.

Note The First Time Setup wizard configures servers under the **default** NTP Policy.

In the Display Format area, click **local** to display the date and time in a local time zone format, or click **utc** to display the date and time in the UTC time zone format. The default is **local**.

If you selected **local** above, in the Time Zone area, click the drop-down arrow to choose the time zone for your domain. You can also type in the drop down menu area to filter the drop down options. The default is **Coordinated Universal Time**.

To configure the NTP servers, click + in the NTP Servers area, then enter the following information:

- **Host Name/IPAddress**: Enter the host name and IP address of the NTP server.
- **Preferred**: If you are creating multiple providers, check the **Preferred** check box for the most reliable NTP source.
- **Status**: Provides the status of the configuration request.

Click **Update**, then repeat this process to configure additional NTP servers, if necessary.

To delete an entry from the NTP Servers table, select the entry that you would like to delete, then click the trash can icon in that table.

Click **Save and Continue** to continue to the next window in the First Time Setup wizard.

Proxy

Use the **Proxy** window to configure the HTTP or HTTPS proxy policy. When configured, some of the Cisco Cloud Application Policy Infrastructure Controller (APIC) features, mainly those that need internet access such as Cisco Intersight connectivity, send the traffic through the HTTP or HTTPS proxy. For more information, see the *Cisco APIC System Management Configuration Guide*.

Global Configurations

Use the **Global Configurations** window to configure certain areas, which we recommend as best practices during the first time set up of your ACI fabric. Click **Okay, Got it!** when you are ready to configure these areas:

- Subnet Check, on page 6
- Domain Validation, on page 6

• Intermediate System to Intermediate System for redistributed routes, on page 6
• IP Aging Administrative State, on page 6
• Rogue EP Control, on page 7
• COOP Group Policy, on page 7

Note Some settings in this window are configurable after the First Time Setup, such as the Subnet Check and Domain Validation settings, which can be configured in the **Fabric Wide Setting Policy** page (**System** > **System Settings** > **Fabric-Wide Settings**). However, configuring those settings after the First Time Setup might cause issues with other existing configurations. For example, enabling the **Enforce Subnet Check** and **Enforce Domain Validation** settings in the **Fabric Wide Setting Policy** page could break a configured L3Out connection without the proper policy chain in place for the interface or for a statically-assigned port to an EPG.

Subnet Check

This feature disables IP address learning outside of subnets configured in a VRF, for all other VRFs.

This feature enforces subnet checks at the VRF level, when the Cisco Application Centric Infrastructure (Cisco ACI) learns the IP address as an endpoint from the data plane. If you put a check in the box for this option, the fabric will not learn IP addresses from a subnet other than the one configured on the bridge domain. This feature prevents the fabric from learning endpoint information in this scenario.

Check the box next to **Enforce** to enable the subnet check feature, which is highly recommended.

Domain Validation

This feature enforces a validation check if a static path is added but no domain is associated to an EPG.

When enabled, a validation check is performed when a static path is added to an EPG, to determine if the path is part of a domain that is associated with the EPG. The scope of this policy is fabric-wide. After configuration, a policy is pushed to each leaf switch as it comes up.

Check the box next to **Enforce** to enable the domain validation feature, which is highly recommended.

Intermediate System to Intermediate System for redistributed routes

This is the IS-IS metric that is used for all imported routes into IS-IS. Configuring a metric lower than 64 (max) with this option, such as 63, allows ACI switches to prefer routes from stable spines until the routing convergence is achieved on a new spine.

Enter the appropriate value in the **IS-IS metric** field.

IP Aging Administrative State

Enabling this policy allows ACI to track each IP individually and age out unused IPs efficiently. Otherwise, unused IPs remain learned until the base MAC address ages out. This does not affect remote endpoints.

When enabled, the IP aging policy ages unused IPs on an endpoint. In this situation, the IP aging policy sends ARP requests (for IPv4) and neighbor solicitations (for IPv6) to track IPs on endpoints. If no response is given, the policy ages the unused IPs.

Following are the options for this field:

- **Disabled**: The default setting. APIC disregards the IP aging policy.
- **Enabled**: APIC observes the IP aging policy.

We highly recommend enabling this feature.

Rogue EP Control

A rogue endpoint can attack top of rack (ToR) switches through frequently, repeatedly injecting packets on different ToR ports and changing 802.1Q tags (emulating endpoint moves), resulting in IP and MAC addresses being learned rapidly in different EPGs and ports. Misconfigurations can also cause frequent IP and MAC address changes (moves).

The Rogue EP Control feature addresses this vulnerability. Enabling this policy allows ACI to detect and delete unauthorized endpoints.

Following are the options for this field:

- **Disabled**: The default setting. APIC disregards the Rogue EP Control policy.
- **Enabled**: APIC observes the Rogue EP Control policy.

We highly recommend enabling this feature.

Additional settings for Rogue EP Control, such as Rogue EP Detection Interval, Rogue EP Detection Multiplication Factor, and Hold Interval, are available through the Endpoint Controls panel. To access the Endpoint Controls panel, on the menu bar, click **System** > **System Settings** > **Endpoint Controls**, then click the **Rogue EP Control** tab.

Following are the valid and default settings for the fields in the **Rogue EP Control** tab in the **Endpoint Controls** window:

- **Rogue EP Detection Interval**: Valid values are from 0 to 65535 seconds. Default value is 60.
- **Rogue EP Detection Multiplication Factor**: Valid values are from 2 to 65535. Default value is 4.
- **Hold Interval**: Valid values are from 1800 to 3600 seconds. Default value is 1800.

COOP Group Policy

Council of Oracle Protocol (COOP) is used to communicate the mapping information (location and identity) to the spine proxy. A leaf switch forwards endpoint address information to the spine switch 'Oracle' using Zero Message Queue (ZMQ). COOP running on the spine nodes will ensure all spine nodes maintain a consistent copy of endpoints and location information in the mapping database.

COOP protocol supports two ZMQ authentication modes:

- **Compatible Type**: The default setting. COOP accepts both MD5 authenticated and non-authenticated ZMQ connections for message transportation.

Note The APIC manages the token used as MD5 password for COOP. This token is automatically rotated by APIC every hour. This token cannot be displayed.

- **Strict Type**: COOP allows MD5 authenticated ZMQ connections only.

We highly recommend the Strict Type setting for the COOP Group Policy.