



# Set Up Your Wireless LAN Controller Module

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## Introduction

This document provides instructions to set up a new Lightweight Access Point (LAP) on your wireless network.

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## Requirements

To perform the steps described in this document, you need to have these items:

- A Cisco Integrated Services Router (ISR) with a Wireless LAN Controller Module (WLCM) and at least one available switch port
- An 1130 or 1240 series Lightweight Access Point (LAP)
- To power the LAP with an external power supply, you need these items:
  - 48 VDC power supply (ordered separately from the LAP)
  - Two straight-through Ethernet cables
- To power the LAP with Power over Ethernet (PoE), you need these items:
  - 802.3af-compatible PoE device such as a PoE-enabled switch module or power injector
  - Two straight-through Ethernet cables

**Note:** For more information about PoE, refer to the PoE description in the documentation included with your LAP.

- Completed worksheets from the Site Survey:

- Integrated Services Router Worksheet
- You must have completed the steps in [Set Up a RADIUS Server for the Wireless LAN Controller Module](#).
- You must have read the Regulatory Compliance and Safety Information included with your LAP.
- You must have reviewed your site to determine the mounting location of your LAP.

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## Set Up the Lightweight Access Point

Follow these steps to configure the Lightweight Access Point (LAP):

### Connect the LAP to the Router

Follow these steps to connect the LAP to the router:

1. Review the switch port assignments section of the Integrated Services Router worksheet to locate an available switch port. Assign a switch port to the LAP and update the switch port assignments.
2. Follow these steps to power the LAP:
  - If you want to use Power over Ethernet (PoE) to power the LAP, connect the LAP to the router via a PoE-enabled switch module or an 802.3af-compatible PoE device such as a power injector. Use two [straight-through Ethernet cables](#) to make the connection.
  - If you want to use a 48 VDC power supply to power the LAP, connect the LAP to the appropriate switch port with a [straight-through Ethernet cable](#). Then connect the 48 VDC External Power Supply into the back of the LAP, and connect the other end to a grounded 100 to 240 VAC 50/60 Hz electrical outlet.

**Note:** For more information about Power over Ethernet (PoE), refer to the documentation included with your PoE device.

3. The LAP boots when power is applied.

### The LAP Associates to the Wireless LAN Controller Module

When power is applied to the LAP, it attempts to associate to the Wireless LAN Controller Module (WLCM). Monitor the LAP to ensure that it completes these steps:

1. The LAP displays these status LED combinations during boot:

Ethernet LED	Radio LED	Status LED	Meaning
Green	Green	Green	DRAM Memory Test OK
Off	Blinking green	Blue-green	Initialize Flash filesystem
Off	Green	Pink	Flash memory test OK
Green	Off	Dark Blue	Ethernet test OK
Green	Green	Green	Start Cisco IOS

2. The LAP displays these status LED combinations when it attempts to associate to the WLCM:

Ethernet LED	Radio LED	Status LED	Meaning
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		Alternating green, red, and amber	Connecting to the controller.  <b>Note:</b> If the LAP does not associate to the controller after 5 minutes, see <a href="#">Troubleshoot the Procedure</a> .
		Blinking dark blue	Loading the access point image file.

**Note:** If the controller has a newer version of operating system code, the LAP downloads the new code from the controller, reboots, and attempts to associate with the controller again.

3. The LAP displays these status LED combinations when it has associated to the controller:

Ethernet LED	Radio LED	Status LED	Meaning
		Light green	Normal operating condition, but no wireless client devices are associated with the unit.
		Blue	Normal operating condition, at least one wireless client device is associated with the LAP.

**Note:** For a complete listing of all LED patterns for the LAP, refer to the hardware documentation included with your LAP.

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## Install the Lightweight Access Point

Once the LAP has successfully associated to the controller, you can mount the LAP in its final location and allow it to reassociate to the controller. Follow these steps to complete final installation of the LAP:

### Move the LAP to the Mount Location

Follow these steps to move the LAP to the site where you want to mount it:

1. Power off the LAP and disconnect it from the router.
2. Move the LAP to its final location as determined in the wireless site survey. For more information about how to perform a wireless site survey, refer to the [Site Survey](#).

### Mount the LAP

Follow these steps to install the LAP at its final operating location.

1. Mount the LAP using the instructions included with your device.
2. If you have optional external antennas for an 1240 series LAP, attach the antennas to the connectors on the side of the AP. Tighten the antennas by hand.

### Reconnect the LAP

Follow these steps to reconnect the LAP to the network:

1. Reconnect power to the LAP with an external power supply or PoE.
2. Connect the LAP to the switch port that you chose in the switch port assignments section of the Integrated Services Router Worksheet.
3. The LAP repeats the steps to associate to the controller.

**Note:** If the LAP does not associate to a controller after 5 minutes, see [Troubleshoot the Procedure](#).

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## Next Step

You have completed this procedure.

For instructions on how to configure wireless clients to communicate with the LAPs and WLCM, refer to [Install the Wireless Client Adapter](#).

If you set up security for a RADIUS server and want to add users, refer to the documentation for your RADIUS server. If you set up wireless security for a Pre-Shared Key, it is not necessary to add users to the controller as each device uses the same Pre-Shared Key to access the network.

To make further changes to your WLCM or LAPs, refer to the [Wireless Support](#) page.

To make further changes to your network, refer to the [Configuration Overview](#) page.

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## Troubleshoot the Procedure

This section provides information about common problems that you may encounter. If this information does not solve your problem, contact the [SMB Technical Assistance Center \(SMB TAC\)](#) for assistance.

Problem	Cause(s) and Suggested Solution(s)
<p>The LAP does not associate to the controller.</p>	<ul style="list-style-type: none"> <li>• Ensure that the router has the correct configuration described in <a href="#">Configure Your Router for the Wireless LAN Controller Module</a>.</li> <li>• Ensure that the WLCM has the correct configuration described in <a href="#">Configure the Wireless LAN Controller Module</a>.</li> <li>• Ensure that switch port attached to the LAP has been moved to the correct VLAN. For further instructions, refer to <a href="#">Configure Your Router for the Wireless LAN Controller Module</a>.</li> <li>• Review the <a href="#">LAP LEDs</a> to determine the fault. For a complete listing of LEDs, refer to the hardware documentation included with your LAP.</li> <li>• Contact the <a href="#">SMB Technical Assistance Center (SMB TAC)</a> for assistance.</li> </ul>

If you are using PoE to power the LAP, review these steps:

- If you are using PoE provided by the router, verify that that the router switch module supports PoE.
- If you are using a power injector, check the connection between the power injector and the LAP.
- If you are using a power injector, check the connection between the power injector and the router.
- Contact the [SMB Technical Assistance Center \(SMB TAC\)](#) for assistance.

If you are using an external power supply to power the LAP, review these steps:

- Check the connection between the power supply and the electrical outlet.
- Check the connection between the power supply and the LAP
- Contact the [SMB Technical Assistance Center \(SMB TAC\)](#) for assistance.

I am unable to power the LAP.

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## Related Information

- [Site Survey](#)
- [Configure the Wireless LAN Controller Module](#)
- [Configure Your Router for the Wireless LAN Controller Module](#)
- [Set Up a RADIUS Server for the Wireless LAN Controller Module](#)