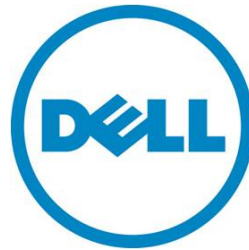

Dell Networking Mobility Starter Kit Quick Setup Guide




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Notes, Cautions, and Warnings

-  **NOTE:** A NOTE indicates important information that helps you make better use of your computer
-  **CAUTION:** A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.
-  **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Contents

Dell Networking Mobility Starter Kit.....	4
What’s included in your Mobility Starter Kit.....	4
Purpose of this guide.....	4
Resources	4
Getting Started Network Topology	5
Getting Started with the Dell PowerConnect 5500 Series PoE Switch.....	5
Configuring the PowerConnect 5500 Series PoE Switch.....	6
Next steps and recommendations	9
Getting Started with Dell PowerConnect W-Instant Access Points.....	9
Connecting your W-IAP105 Instant Access Points	9
Connect to the Provisioning Wi-Fi Network.....	10
Log in to the Dell PowerConnect W-Series Instant Access Point WebUI	10
Creating a Network.....	11
Next steps and recommendations	14
Dell OpenManage Network Manager	15
Downloading Dell OpenManage Network Manager	15
OMNM Download instructions:	16
OMNM Pre-Installation Checklist	16

Dell Networking Mobility Starter Kit

This guide will help you install and configure the Dell Networking Mobility Starter Kit. To ensure an easy installation, please read through the entire guide and determine the configuration options that will best suit your needs.

What's included in your Mobility Starter Kit

- PowerConnect 5500 Series PoE Switch (1)
- PowerConnect W-Series W-IAP105 Instant Access Points (4)
- Dell OpenManage Network Manager (available online)

Purpose of this guide

This guide is to enable a network administrator to configure a basic network with the components of the Mobility Starter Kit. The resulting network can be used as a starting point to enable access to any resource connected to the network through the PowerConnect 5500 Series PoE switch. Access rules and Security configuration is left to the network administrator after completing this Getting Started Guide.

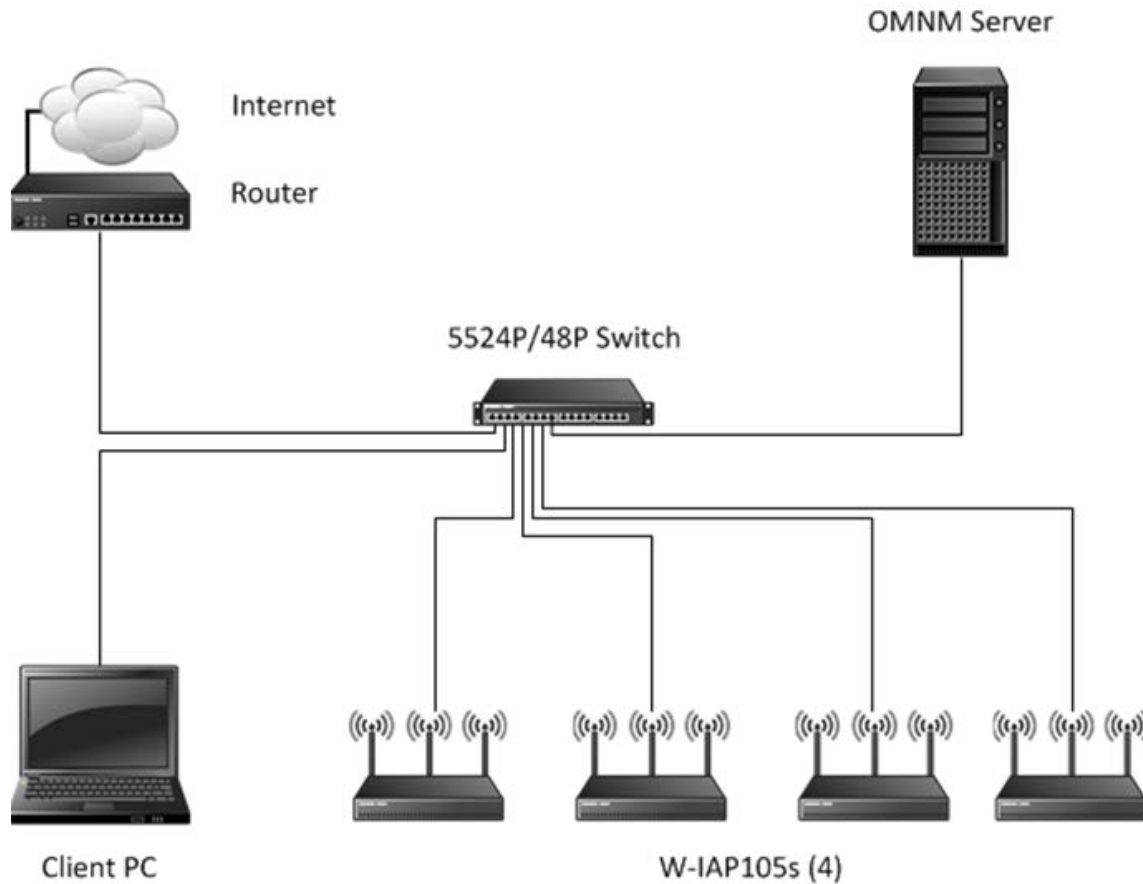
As an option, this guide also provides information to assist in the installation of Dell OpenManage Network Manager (OMNM). This software is designed to help simplify management of your Dell network environment through one unified console.

 **NOTE:** Throughout the document, information or steps referring to OMNM will be optional.

Resources

- Dell Support manual site - <http://support.dell.com/manuals>
- PowerConnect 5500 Series PoE manuals - <http://support.dell.com/support/edocs/network/pc5524p/>
<http://support.dell.com/support/edocs/network/pc5548p/>
- PowerConnect W-Series Instant SW manuals- http://support.dell.com/support/edocs/NETWORK/PC_WSer/Instant/
- Dell OpenManage Network Manager- <http://dell.com/NetworkManager>

Getting Started Network Topology



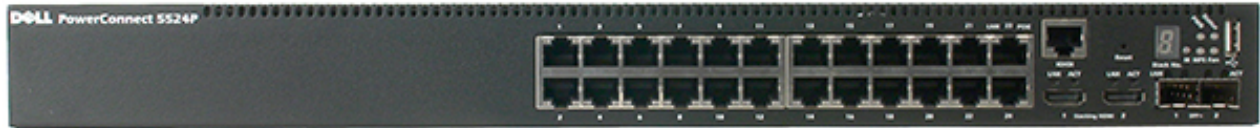
Getting Started with the Dell PowerConnect 5500 Series PoE Switch

This guide describes how to install and configure the PowerConnect 5500 Series PoE switch. The outlined steps will guide you through the initial switch configuration to get the system up and running as quickly as possible. We will use the switch's automatic Setup Wizard to configure the following:

- Username and password
- Management switch IP address
- IP subnet mask
- Default gateway IP address
- SNMP Community String (optional)

For more information, see the *Dell PowerConnect 5500 Series User Guide* and *Getting Started Guide* at support.dell.com/manuals.

Figure 1 PowerConnect 5524P Switch Chassis



Configuring the PowerConnect 5500 Series PoE Switch

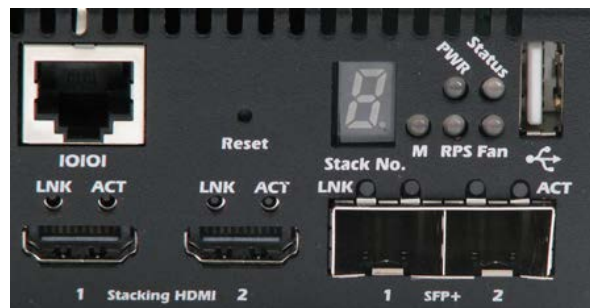
After the switch is installed on a flat surface or rack and connected to a power supply, we are ready to begin the configuration.

1. Connect the switch to the terminal and boot the unit. The boot process runs for approximately 40-45 seconds. When the boot process completes, the following LEDs are lit, as shown in the figure below.

- Power
- Status
- Fan (should be green)

NOTE: For more information on connecting the switch to a terminal, see “Connecting the Switch to the Terminal” section in the *Dell PowerConnect 5500 Series Getting Started Guide*.

Figure 2 PowerConnect 5524P LEDs



2. Obtain the following information from the network administrator:
 - Username and password for switch admin access
 - The IP address assigned to the VLAN 1 interface through which the switch is to be managed (by default, every external and internal port is a member of the VLAN 1)
 - The IP subnet mask for the network
 - The default gateway (next hop router) IP address for configuring the default route
 - SNMP Community String and SNMP Management System IP address (optional)

3. The Setup Wizard is run automatically. The Setup Wizard displays the following information:

Welcome to Dell Easy Setup Wizard

The Setup Wizard guides you through the initial switch configuration and gets you up and running easily and quickly. You can skip the Setup Wizard and enter CLI mode to manually configure the switch. The system will prompt you with a default answer; by pressing Enter, you accept the default value.

You must respond to the next question to run the Setup Wizard within 60 seconds, otherwise the system will continue with normal operation using the default system configuration.

Would you like to enter the Setup Wizard (you must answer this question within 60 seconds)? (Y/N)

4. Enter [Y] to run the wizard.

After entering [Y] the wizard provides interactive guidance through the initial switch configuration. The following information is displayed:

You can exit the Setup Wizard at any time by entering [ctrl+Z].

The system is not set up for SNMP management by default.


If you enter [N] or if you do not respond within 60 seconds, the Setup Wizard automatically exits and the CLI console prompt is displayed.

To manage the switch using SNMP (optional, required for OMNM) you can:

- Setup the initial SNMP version 2 account now.
- Return later and setup the SNMP version account.

For more information on setting up an SNMP version 2 account, see the *Dell PowerConnect 5500 Series User Guide* and *Getting Started Guide* at support.dell.com/manuals.

Would you like to set up the SNMP management interface now? [Y/N]

 **NOTE:** If you are not setting up OMNM at this time and cannot obtain the SNMP information in steps 6 and 7, enter [N] to skip to step 8. It is recommended to setup SNMP within this Setup Wizard if you intend on using OMNM.

5. Enter [N] to skip to Step 8 or enter [Y] to continue the Setup Wizard. If you enter [Y] the following information is displayed:

To set up the SNMP management account you must specify the management system IP address and the "community string" or password that the particular management system uses to access the switch. The wizard automatically assigns the highest access level [Privilege Level 15] to this account.

You can use Dell Network Manager or other management interfaces to change this setting later and to add additional management system later. For more information on adding management systems, see the user documentation.

To add a management station:

Please enter the SNMP community string to be used:

6. Enter the SNMP community string. You can use the default name "public"

Please enter the IP address of the Management System (A.B.C.D) or wildcard (0.0.0.0) to manage from any Management Station: [0.0.0.0].

7. Enter the SNMP Management System IP.
8. Set up user account privilege level, as follows:
The following information is displayed:

Now we need to set up your initial privilege (Level 15) user account. This account is used to login to the CLI and Web interface. You may set up other accounts and change privilege levels later. For more information on setting up user accounts and changing privilege levels, see the user documentation.

To set up a user account:

Enter the user name:

Please enter the user password:

Please reenter the user password:

9. Enter the following:
 - User name, for example "admin"
 - Password and password confirmation.

10. Press Enter.
The following information is displayed:

Next, an IP address is setup. The IP address is defined on the default VLAN (VLAN #1). This is the IP address you use to access the Telnet, Web interface, or SNMP interface for the switch.

To set up an IP address:

Please enter the IP address of the device (A.B.C.D):

Please enter the IP subnet mask (A.B.C.D or nn):

11. Enter the management IP address and IP subnet mask, for example 192.168.2.100 as the IP address, and 255.255.255.0 as the IP subnet mask.

12. Press Enter.
The following information is displayed:

Finally, set up the default gateway.

Please enter the IP address of the gateway from which this network is reachable (e.g. 192.168.2.1). Default gateway (A.B.C.D):[0.0.0.0]

13. Enter the default gateway and press enter. The following message is displayed (example):

```
This is the configuration information that has been collected:  
SNMP Interface = "Dell Network Manager"@192.168.2.10  
User Account setup = admin  
Password = *****  
Management IP address = 192.168.2.100  
255.255.255.0  
Default Gateway = 192.168.2.1  
If the information is correct, please select (Y) to save the  
configuration and copy to the start-up configuration file. If the  
information is incorrect, select (N) to discard configuration and  
restart the wizard: [Y/N]
```

14. Verify that the information is correct and select [Y] to save the configuration.
15. Continue managing the switch either through the console or Telnet, using the CLI or the web GUI.

Next steps and recommendations

Before connecting the Instant Access Points to the 5500 Series PoE switch, ensure that a DHCP Server is available and enabled on your network. Connect your DHCP Server to one of the ports on the PowerConnect 5500 Series PoE switch. In some cases, the DHCP Server will be a function of your internet provider. For the Dell Networking Mobility Starter Kit example, we are using the DHCP Server from our internet router. Ensure that the DHCP service is disabled on the PowerConnect 5500 Series PoE switch if you have another DHCP server on your network.

Getting Started with Dell PowerConnect W-Instant Access Points

The following information will assist you to quickly connect and configure Dell PowerConnect W-Series Instant Access Point (IAP). After following the simple steps in this section, you'll have a basic wireless network that will let users access any resource on the subnet used in this Getting Started Guide.


For physical installation information and an overview of the W-105IAP hardware, see the Installation Guide that's included with the IAP.

For detailed configuration information, see the *Dell PowerConnect W-Series Instant Access Point User Guide*.

Connecting your W-IAP105 Instant Access Points

After setting up your PowerConnect 5500 Series PoE switch, you are ready to connect the IAPs.

1. Using standard Cat5 Ethernet cable, connect the ENET port of the W-105IAP to the 5500 Series PoE switch. All IAPs may be connected at this time, or just a single IAP.
2. The IAPs will boot, obtaining an IP address from the DHCP server you setup in the previous section. All LEDs will be lit when the boot process completes.

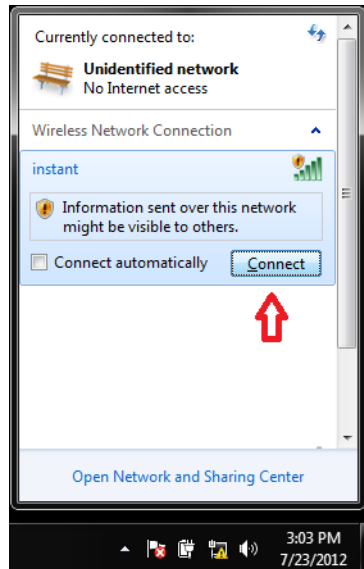
 **NOTE:** While in the provisioning state, access to the network is open to anyone that can connect to the provisioning SSID. Ensure you complete the steps below in a prompt manner to secure the network.

Connect to the Provisioning Wi-Fi Network

PowerConnect W-Series IAPs will be setup by accessing the WLAN through a SSID named "instant".

3. On a PC with WLAN enabled, connect to the **instant** SSID as shown in Figure 3. Click the Connect button

Figure 3 Connecting to provisioning network with Windows 7



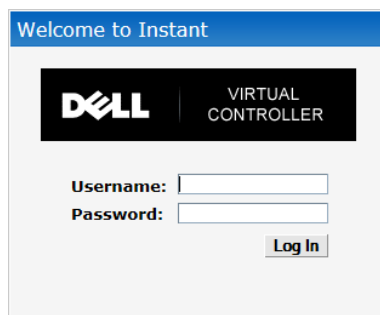
Log in to the Dell PowerConnect W-Series Instant Access Point WebUI

4. Open a web browser and navigate to **instant.dell-pcw.com** to access the Dell Virtual Controller login screen. If you enter any other URL, you are redirected to the same Dell Virtual Controller login screen.

NOTE: Users may see a warning stating that there is a problem with a security certificate. This is expected. Proceed to the login by clicking on the link to continue to the website.

5. In the login screen, as shown in Figure 4, enter the following credentials:
 - a. Username: admin
 - b. Password: admin

Figure 4 Virtual Controller Login



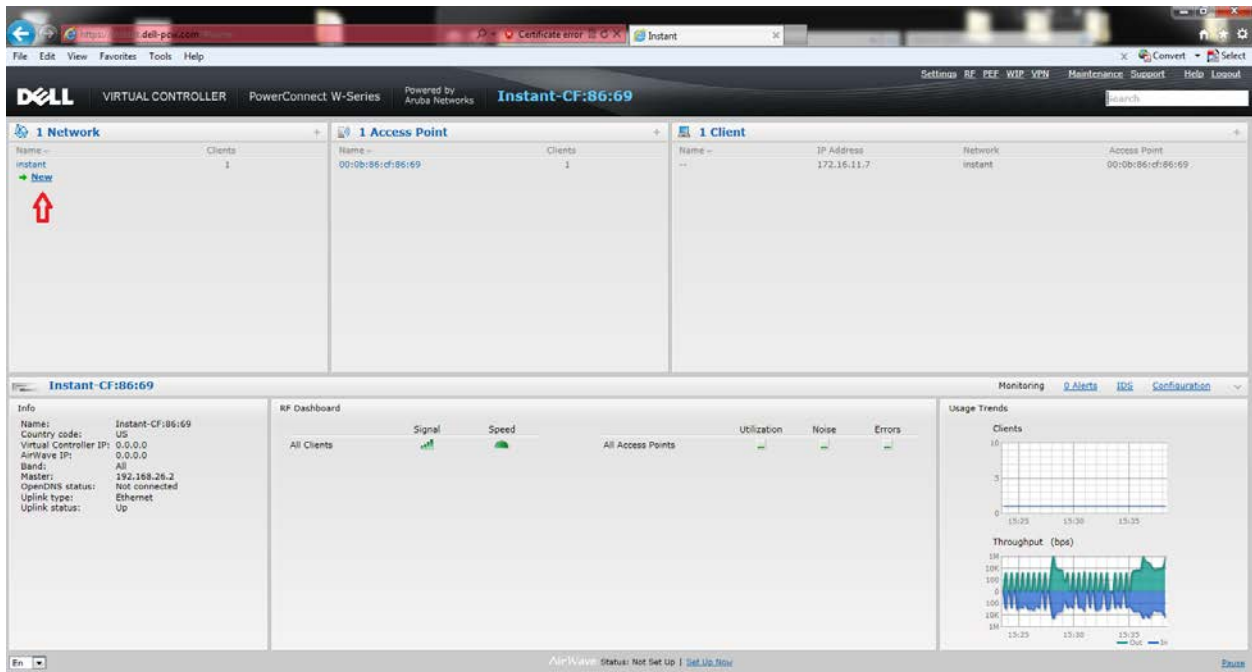
6. If you have ordered an IAP that is for use outside of the US or Japan, you will be prompted for a country code. Select your country code from the drop-down menu. Users in the US and Japan do not need to complete this step.

Creating a Network

Dell PowerConnect W-Series Instant Access Point user interface is a standard web-based interface that allows you to configure and monitor an IAP network.

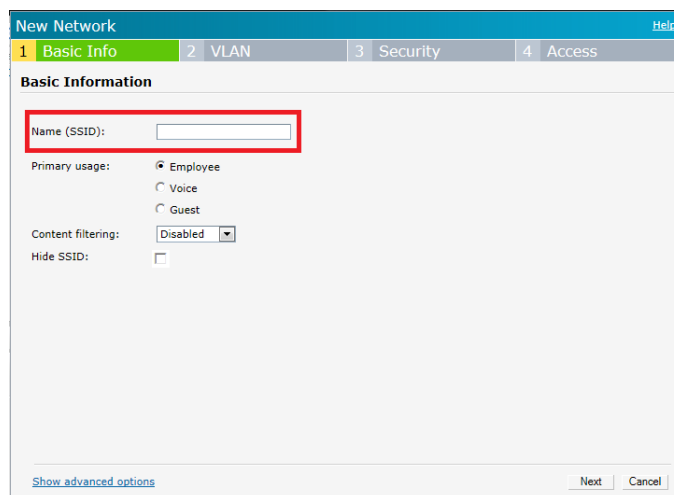
1. In the Network window, click the New link, as shown in Figure 5.

Figure 5 Instant User Interface



2. The New Network window appears as shown Figure 6.

Figure 6 New Network Windows - Basic Info Tab



3. In the **Basic Info** tab, shown in Figure 6, enter a name for the network in the **Name (SSID)** text box. Click **Next** to continue.
4. In the **VLAN** tab, shown in Figure 7, select the required Client IP assignment and Client VLAN assignment options. For this basic setup, keep the default settings. Click **Next** to continue.

Figure 7 VLAN Tab

The screenshot shows the 'New Network' setup wizard with the 'VLAN' tab selected. The 'Client IP & VLAN Assignment' section contains two radio button groups. The first group, 'Client IP assignment', has 'Virtual Controller assigned' and 'Network assigned' (selected). The second group, 'Client VLAN assignment', has 'Default' (selected), 'Static', and 'Dynamic'.

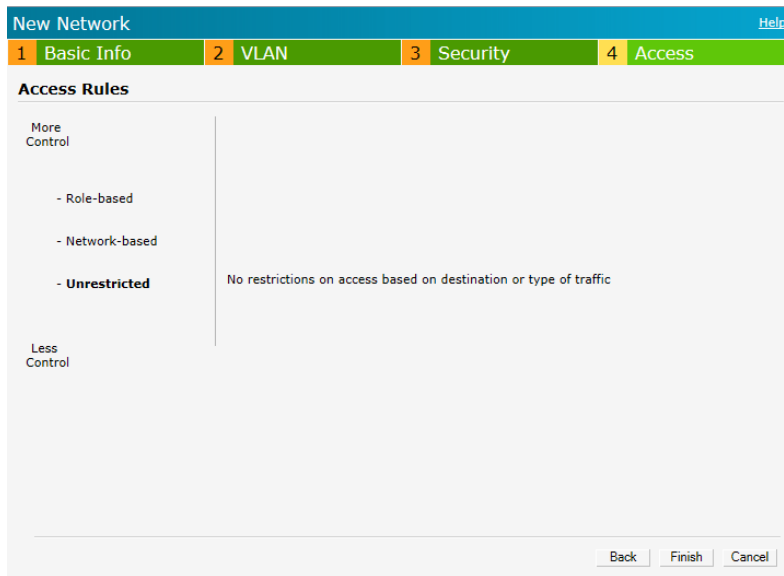
5. In the **Security** tab, shown in Figure 8, enter a passphrase in the **Passphrase** and **Retype** fields. Note this passphrase for future use. Click **Next** to continue.

Figure 8 Security Tab

The screenshot shows the 'New Network' setup wizard with the 'Security' tab selected. The 'Security Level' section features a vertical slider on the left with 'Enterprise', 'Personal' (selected), and 'Open' options. On the right, there are dropdown menus for 'Key management' (WPA-2 Personal), 'Passphrase format' (8-63 chars), and 'MAC authentication' (Disabled). The 'Passphrase' and 'Retype' text input fields are highlighted with a red box.

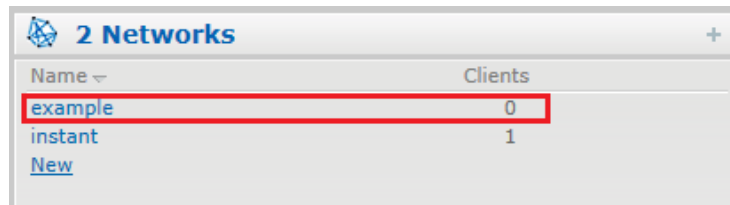
6. In the **Access** tab, shown in Figure 9, use the default option **Unrestricted**. Click **Finish** to continue.

Figure 9 Access Tab



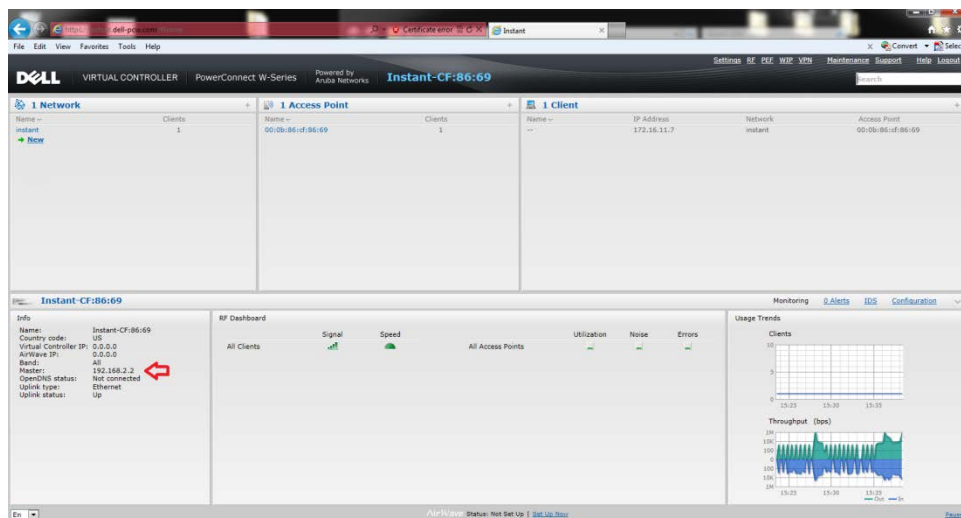
7. Verify that the new network you named in step 9 has been created. Figure 10 shows a network that was created named **example**.

Figure 10 Verifying new networks



8. For future reference, note the IP address of the Virtual Controller. The Virtual Controller address can be found in the "Info" section of the Instant window as indicated in Figure 11.

Figure 11 Virtual Controller IP address



9. Connect your client PC to the network you created, as described in step 3 in the section “Connect to the Provisioning WiFi Network”.
 10. Login to the Dell Instant Access Point Web UI, as in step 4 and 5 in the section “Connect to the Provisioning WiFi Network”.
- NOTE:** If you have not connected your switch to the internet you may need to manually enter the Virtual Controller IP address from step 8 into the browser to access the login screen. On the new SSID, the redirect feature from the address `instant.dell-pcw.com` will only work if you have a functional DNS on your network.
11. The `instant` provisioning network is automatically deleted and should no longer be present.
 12. If you have not connected the additional IAPs that came with your purchase, you may do so at any time. The Virtual Controller setup in the preceding steps will automatically locate and configure any IAP connected on the same subnet. No further configuration for the other IAPs is necessary.

Next steps and recommendations

The above steps result in a WLAN that is secured by a WPA2 pre-shared key (passphrase). Dell recommends administrators use WPA2 as the minimum level of security for your WLAN security. Enterprise grade security through authentication servers can be setup during or after the initial steps detailed above. For additional information on authentication server settings, see the *Dell PowerConnect W-Series Instant Users Guide*.

Any user with access to the passphrase used in the setup described in this quick start guide will be able to access any network resource at an unrestricted level. Dell recommends administrators use the proper amount of restrictions for each user as required by their own access and security policy. For information about Network-based and Role-based access rule settings, see the *Dell PowerConnect W-Series Instant Users Guide*.

Dell OpenManage Network Manager

OpenManage Network Manager is designed to help simplify management in your Dell network environment through:

- One-to-many management functionality
- Easy monitoring and diagnosing of networking health and performance
- The ability to deploy firmware, backup and restore configurations across many switches

Key features in OpenManage Network Manager 5.0 include:


- A web-based user interface that is easy to use and highly customizable
- Traffic Flow Analysis to help you maintain optimum performance configurations
- ProScan configuration audit to help you pinpoint and correct configuration issues
- Active performance monitors to help you customize performance monitoring
- Resource Discovery Wizard to simplify discovery of IP-based network elements
- Resource management enables easy configuration of Dell switches
- Resource group management to provide you with a one-to-many switch configuration
- Comprehensive reporting capabilities for inventory, firmware, interfaces, ports and more.
- Advanced scheduling to help automate key tasks, such as firmware deployment, backup and configuration changes
- Event management to help filter and forward events and traps
- Flexible dashboards for fault, availability and performance monitoring
- Adaptive scripting interface for creating custom queries and configurations

Downloading Dell OpenManage Network Manager

Open Manage Network Manager is available at no charge with support for up to ten (10) managed devices. For the Mobility Starter Kit, the 5500 Series PoE switch and W-IAP105s count as 2 devices. All 4 W-IAP105 Instant APs managed through a single virtual controller, count as a single device.

Standalone, single server installations server guidelines:

- **REQUIRED** Minimum hardware: 6GB RAM, dual core CPU, 200 GB 7200 RPM Disk.
- **RECOMMENDED** Minimum hardware: 8GB RAM, quad core CPU, 400 GB 10,000 RPM Disk

 **NOTE:** For detailed server sizing information see the *OpenManage Network Manager User Guide*.

OMNM Download instructions:

Navigate to the URL: <http://www.dell.com/NetworkManager>

Click on "Click here to download"

Fill in the required information on the registration form and you will be sent an email with a link to download the software. Included in the download package are the *OpenManage Network Manager User Guide* and *Quick Start Guide*. During the install, refer to both these documents to customize to your network settings.

OMNM Pre-Installation Checklist

To assist in installing OMNM, please use the following lists as reference:

Know the following before installation of OMNM 5.1:

- Select devices (IP addresses) and ports to monitor.
- Select IP address for OMNM server.
 - Configure IP address as a management station and receiver of SNMP traps on each device.
- IP Range of devices being discovered.
- Determine if OMNM is going to use SNMPv1/v2/v3 to talk to the device.
- Telnet credential for devices being discovered.
- HTTP/HTTPs credentials for devices being discovered.
- WMI credentials for server discovery.
- Verify any firewalls have open ports between the devices on OMNM servers.
- Setup SNMP and telnet/ssh username and password credentials on the 5500 Series PoE switch and Instant Virtual Controller. These credentials are used by OMNM to manage the device.
- Review device and OMNM release notes.

Install the following:

- Active Perl -> Reboot system
- Latest Java client
- Latest Adobe Flash player
- Latest Adobe Reader


Supported Web Browsers:

- Chrome (v6 and above)
- Safari (v 5 and above)
- Firefox (v 3.6 and above)

- Internet Explorer (v 9 and above)

Supported Operating System Versions:

- Windows 2003 (Standard, Enterprise and Web 64-bit only)
- Windows Server 2008 (including R2 and Enterprise Edition), 64-bit only.
- Red Hat (Enterprise version 5.5 or 6.0) Linux, 64-bit only.

 **NOTE:** You must disable User Account Control if you are installing on Windows Server 2008. Temporarily disable the system Firewall or any Anti-Virus software prior to install. Install OMNM 5.1 and the GUI wizard will walk you through initial setup. OpenManage Network Manager will install as a service and will start automatically. Please refer to User Guide and release notes for additional setup information.