

Aruba Instant Upgrade Procedure

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Aruba Instant Upgrade Procedure

Upgrade Scenario One: IAP-Locally managed

Locally managed IAPs

- The IAPs will continue to serve clients, pass traffic and will be managed locally. However, connectivity to Activate will be lost. This implies that the IAPs will not synchronize with any new provisioning rules in Activate and will not get the new image information automatically from Activate for the upgrade, using local WebUI.
- Since the automatic image check feature is disabled, for the affected version, you can obtain a fixed version image file from your local file system or from a TFTP or HTTP URL. To upgrade locally managed IAPs from the affected version to a fixed version, please follow the steps given below:

Note: Please ensure that you have taken a backup of the configuration from the IAP cluster before the upgrade.

Upgrading an Image Using WEB UI:

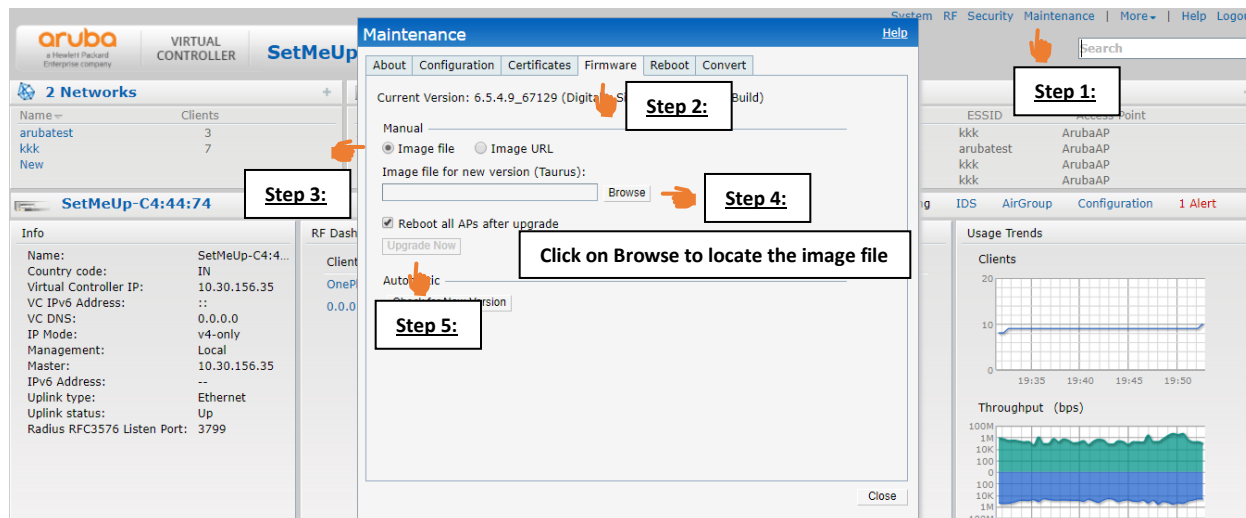
To manually check for a new firmware image version and obtain an image file, please follow the steps given below:

- Navigate to Maintenance > Firmware. The Firmware window will be displayed.

On the latest ARUBA Instant OS:

The screenshot shows the Aruba Instant OS WebUI interface. At the top, it displays 'aruba | VIRTUAL CONTROLLER | SetMeUp-C5:8B:B0'. The left sidebar contains navigation options: dashboard, Overview, Networks, Access Points, Clients, Configuration, Maintenance, about, Firmware, Configuration, Certificates, and Reboot. The main content area is titled 'Firmware' and has a sub-tab 'Manual'. It shows the 'Current Version' as '8.5.0.3_72498 (Digitally Signed - Production Build)'. There are two radio buttons: 'Image file' (selected) and 'Image URL'. Below this is a text input field for the 'Image file for new version (Centaurus)' with a 'Browse' button. A toggle switch for 'Reboot all APs after upgrade' is turned on. At the bottom, there is an 'Upgrade Now' button and an 'Automatic' sub-tab with a 'Check for New Version' button. Five callout boxes with arrows point to specific elements: Step 1 points to 'Maintenance' in the sidebar; Step 2 points to 'Firmware' in the sidebar; Step 3 points to the 'Image file' radio button; Step 4 points to the 'Browse' button; and Step 5 points to the 'Check for New Version' button.

On the old Aruba Instant OS Web UI for single IAP model cluster:



- Under the Manual section, please perform the following steps:
 - Select the Image file option, this method is available for the single-class IAPs only.

The following examples, describe the image file format, for different models of IAPs:

- For IAP-134/135 — ArubaInstant_Cassiopeia_6.3.1.1-4.0.0.0_xxxx
 - For RAP-108/109 and IAP-114/115— ArubaInstant_Pegasus_6.3.1.1-4.0.0.0_xxxx
 - For RAP-155/155P — ArubaInstant_Aries_6.3.1.1-4.0.0.0_xxxx
 - For IAP-220 Series— ArubaInstant_Centaurus_6.3.1.1-4.0.0.0_xxxx
 - For all other IAPs —ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx
- Select the “Image URL” option. Select this option to obtain an image file from a TFTP, FTP, or HTTP URL.
 - HTTP - http://<IP-address>/<image-file>. For example, http://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx
 - TFTP - tftp://<IP-address>/<image-file>. For example, tftp://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx
 - FTP - ftp://<IP-address>/<image-file>. For example, ftp://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx

On the latest ARUBA Instant OS, for a single IAP model cluster:

The screenshot shows the Aruba Instant OS interface for a single IAP model cluster. The interface includes a navigation menu on the left with items like Dashboard, Overview, Networks, Access Points, Clients, Configuration, Maintenance, About, Firmware, Configuration, Certificates, and Reboot. The main content area is titled 'Firmware' and shows the 'Manual' tab selected. The 'Current Version' is 8.5.0.3_72498 (Digitally Signed - Production Build). The 'Image URL' field is highlighted with a callout box labeled 'Step 4:'. The 'Check for New Version' button is highlighted with a callout box labeled 'Step 5:'. The 'Upgrade Now' button is highlighted with a callout box labeled 'Step 3:'. The 'Maintenance' menu item is highlighted with a callout box labeled 'Step 1:'. The 'Firmware' menu item is highlighted with a callout box labeled 'Step 2:'. A callout box labeled 'Enter Image URL with preferred protocol option' points to the 'Image URL' field.

In case of a mixed IAP cluster, you will find multiple tabs to enter the URL based on the IAP type as displayed in the image below:

The screenshot shows the Aruba Instant OS interface for a mixed IAP cluster. The interface includes a navigation menu on the left with items like Overview, Networks, Access Points, Clients, Configuration, Maintenance, About, Firmware, Configuration, Certificates, and Reboot. The main content area is titled 'Firmware' and shows the 'Manual' tab selected. The 'Current Version' is 8.5.0.5_73491 (Digitally Signed - Production Build). The 'Image URL' field for 'Centaurus' is highlighted with a callout box labeled 'Step 3:'. The 'Image URL' field for 'Hercules' is highlighted with a callout box labeled 'Step 4:'. The 'Check for New Version' button is highlighted with a callout box labeled 'Step 5:'. The 'Maintenance' menu item is highlighted with a callout box labeled 'Step 1:'. The 'Firmware' menu item is highlighted with a callout box labeled 'Step 2:'. A callout box labeled 'Enter Image URL with preferred protocol option' points to the 'Image URL' fields.

ARUBA INSTANT UPGRADE PROCEDURE

On the old Aruba Instant OS Web UI:

On the old Aruba Instant OS Web UI for a mixed IAP model cluster, multiple tabs will be displayed to enter the URL based on the IAP type as below:

- Clear the “Reboot all APs after upgrade” option, if required. The “Reboot all APs after upgrade” checkbox is selected by default, to allow the IAPs to reboot automatically after a successful upgrade. To reboot the IAPs at a later time, clear the Reboot all APs after upgrade checkbox.
- Click “Upgrade Now” to upgrade the IAP to the newer version.

Upgrading an Image Using CLI:

- **To upgrade an image using a HTTP, TFTP, or FTP URL:**
(Instant Access Point)# upgrade-image <ftp/tftp/http-URL>

```

10.30.156.35 - PuTTY
ArubaAP# upgrade-image ?
<url>      ftp/tftp/http URL syntax

ArubaAP# upgrade-image tftp://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xx ?
<cr>
no-reboot

ArubaAP# upgrade-image tftp://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx
  
```

- **To upgrade an image without rebooting the IAP:**
(Instant Access Point)# upgrade-image2-no-reboot <ftp/tftp/http-URL>

```

10.30.156.35 - PuTTY

ArubaAP# upgrade-image2-no-reboot http://<IP-address>/ArubaInstant_Orion_6.3.1.1-4.0.0.0_xxxx

Upgrade is triggered.
Please type "show upgrade" to get the result.
ArubaAP#
  
```

- **To view the upgrade information:**
(Instant Access Point)# Show upgrade info

Image Upgrade Progress

Mac	IP Address	AP Class	Status	Image Info	Error Detail
-----	------------	----------	--------	------------	--------------

d8:c7:c8:c4:42:98	10.17.101.1	Orion	image-ok	image file	none
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Auto reboot: enable

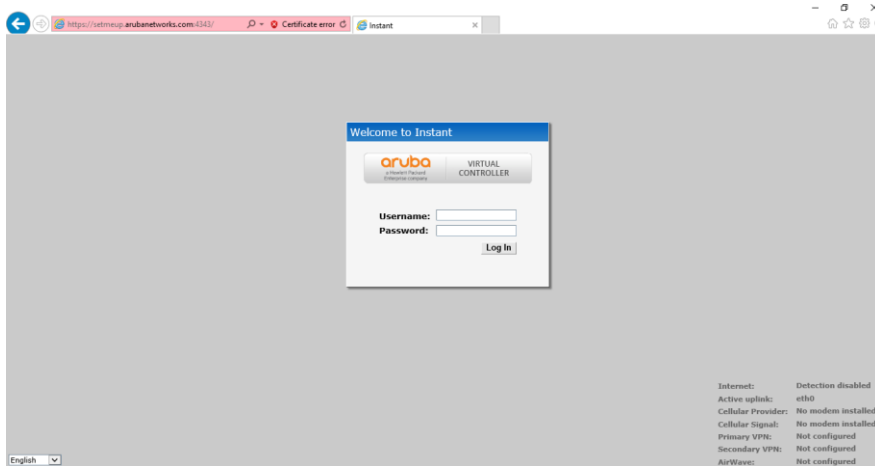
Use external URL: disable

To upgrade locally managed IAPs using activate:

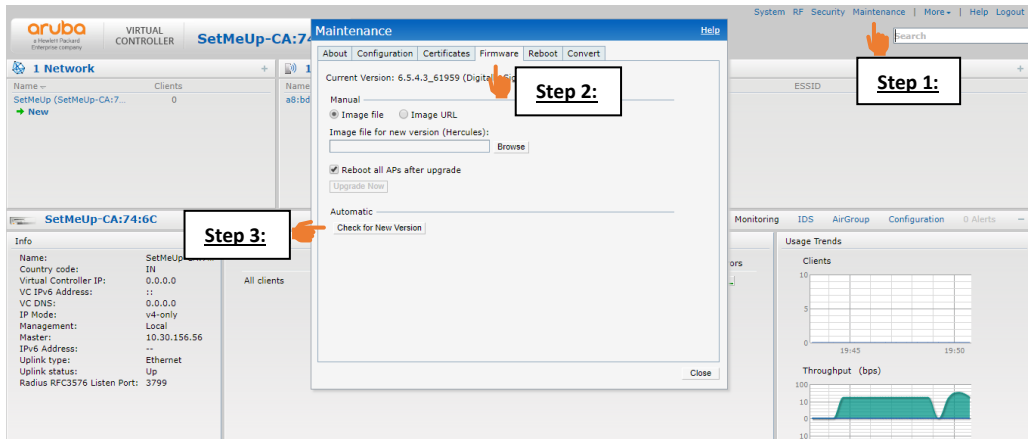
Please follow the steps given below to upgrade the IAP cluster from Aruba Activate, for both single IAP model cluster and mixed IAP model cluster:

Note: Please do ensure that the IAPs have a valid IP configuration, a DNS IP and an internet connection.

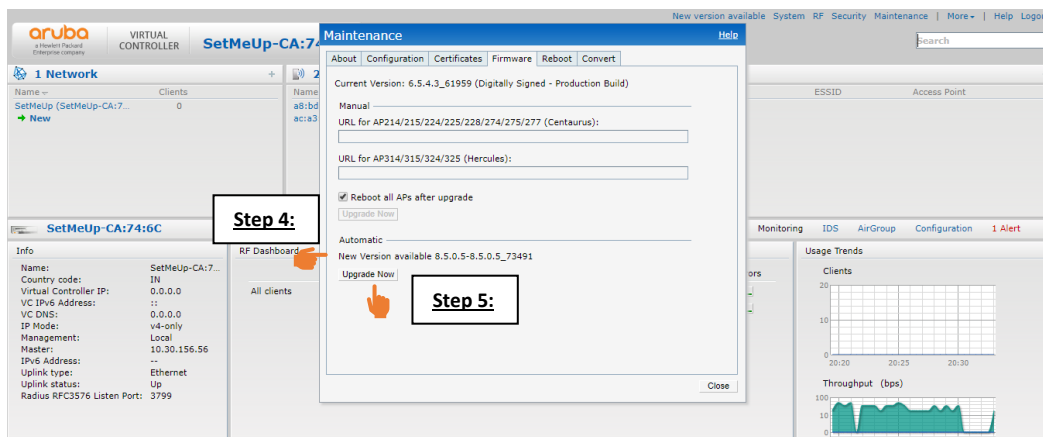
Login to IAP cluster WebUI



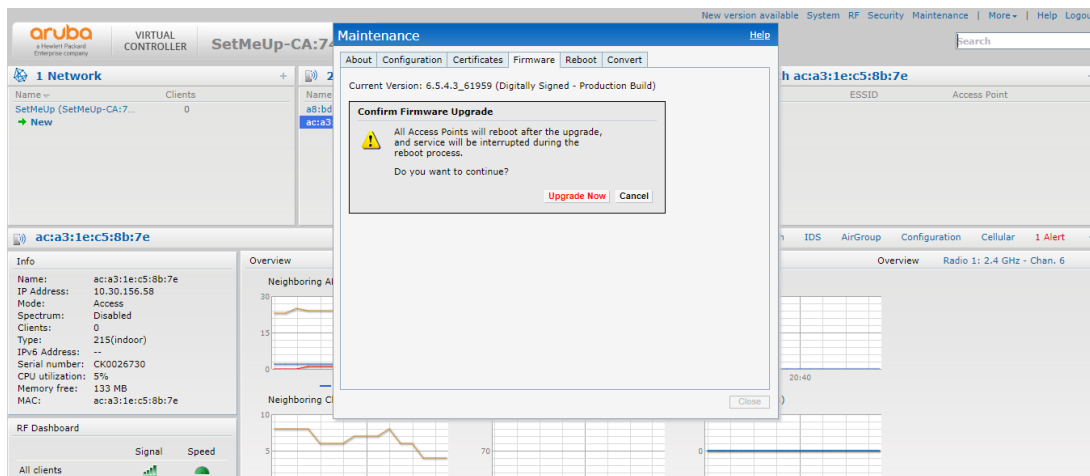
1. From the side menu, under "Maintenance", click on "Firmware".



- Click on the "Check for New Version" button.



- The IAP will contact the "Activate Server" to get the latest available version and you will see the latest available version displayed.
- Click on the "Upgrade Now" button to upgrade all the IAPs automatically to the latest available version through the Activate Server.



- All the IAPs will then automatically upgrade themselves and reboot and come up to the upgraded version.

Upgrade Scenario Two: IAP-Managed by Aruba Central

It is easy to upgrade to the current version using Aruba Central. The latest recommended version is already available under the Maintain > firmware tab on Aruba Central.

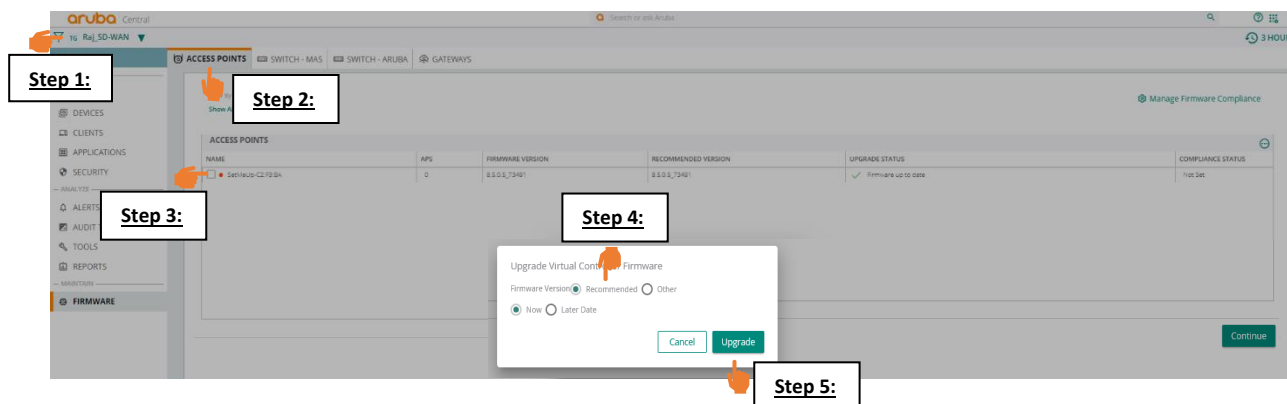
Instant Access Points managing via Aruba Central.

Network Topology: For IAPs in the same Layer 2 network formed as a cluster and being managed by Aruba Central.

Upgrading Steps:

Follow these steps to upgrade the IAP cluster to the beta code from Aruba Central:

- a) Login to the Aruba Central Account.
- b) Click on the menu symbol next to "All Groups".
- c) Select the Group that the IAP Cluster is a part of.
- d) From the side menu, under "Maintenance", click on Firmware.
- e) Select the VC Name that you would like to upgrade and click "Upgrade Firmware"
- f) An upgrade firmware window will pop up, as shown below:
 - Select "Recommended" and click "Upgrade", to automatically upgrade to the recommended version.



- Select "Other", to manually upgrade the IAPs and follow the steps given below:

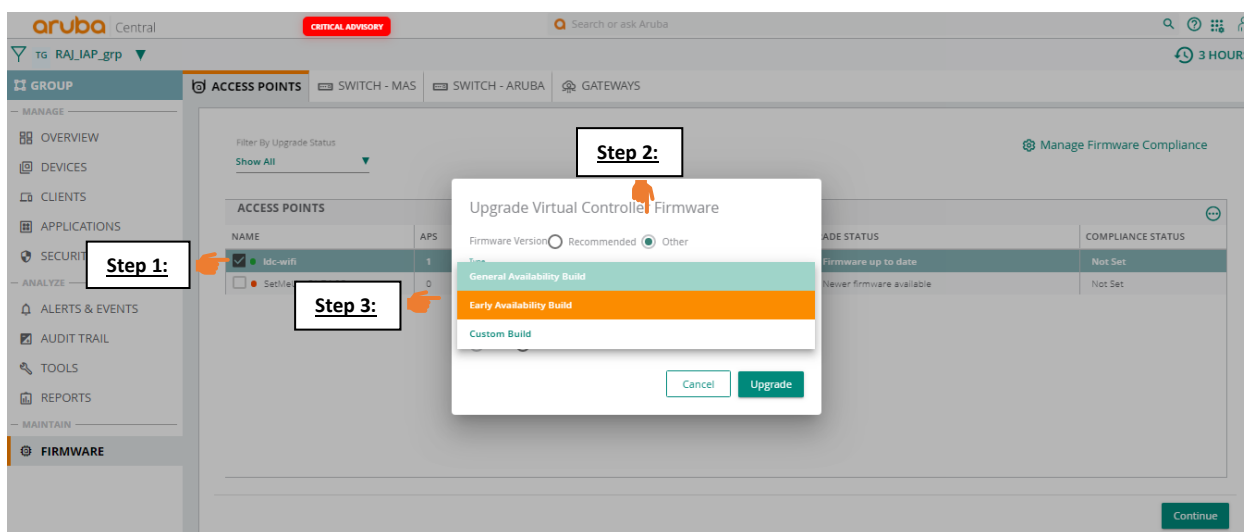
Upgrading IAP when compliance is “not set”:

Step 1: Click to select the IAP VC.

Step 2: Click on other to choose the type of firmware.

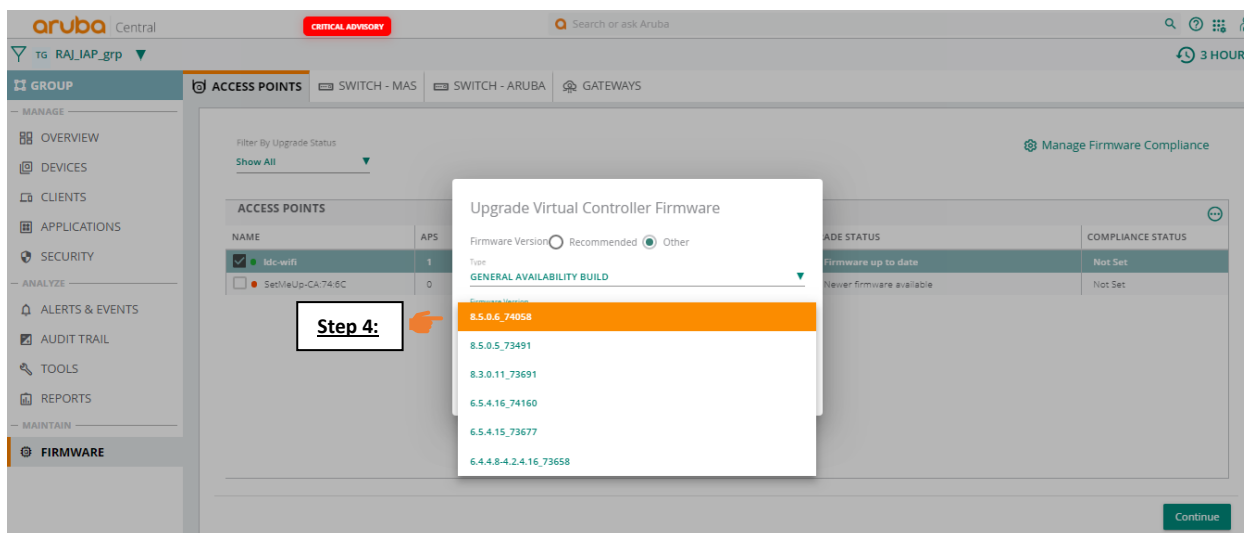
Step 3:

- You can choose the firmware from:
 - General Availability
 - Early Availability Build
 - Custom Build



Step 4:

- Once you decide the type of firmware you have to click on the drop down list to view available firmware versions:



Step 5: Select either the “Now” or “Later Date” radio button to schedule an upgrade.

Step 6: Click on “Save and Upgrade” to upgrade the IAPs.

The screenshot shows the 'Manage firmware compliance' dialog box. The 'Group' dropdown is set to 'RAJ_SD-WAN'. The 'Firmware Version' dropdown is also visible. Under 'Upgrade Schedule', the 'Now' radio button is selected, and an arrow points to it with the label 'Step 5:'. The 'Save and Upgrade' button is highlighted with an orange arrow and labeled 'Step 6:'. In the background, a table lists access points with columns for Name, AFS, Firmware Version, Recommended Version, Upgrade Status, and Compliance Status.

If Compliance is “Set”:

- If the compliance is “Set” that means the IAPs are already upgraded to the selected firmware version.
- If you now decide to upgrade to any other specific IAP firmware version, then it can be only done by changing the compliance settings.
- The VC check box will also be grayed out when the compliance is met.

The screenshot shows the Aruba Central interface. The 'Manage Firmware Compliance' section is active. A table lists access points with columns for Name, AFS, Firmware Version, Recommended Version, Upgrade Status, and Compliance Status. The 'COMPLIANCE STATUS' column for the 'ldc-wifi' entry is highlighted with an orange box and contains the value 'Set'. The left sidebar shows navigation options like Overview, Devices, Clients, Applications, Security, Alerts & Events, Audit Trail, Tools, Reports, and Firmware.

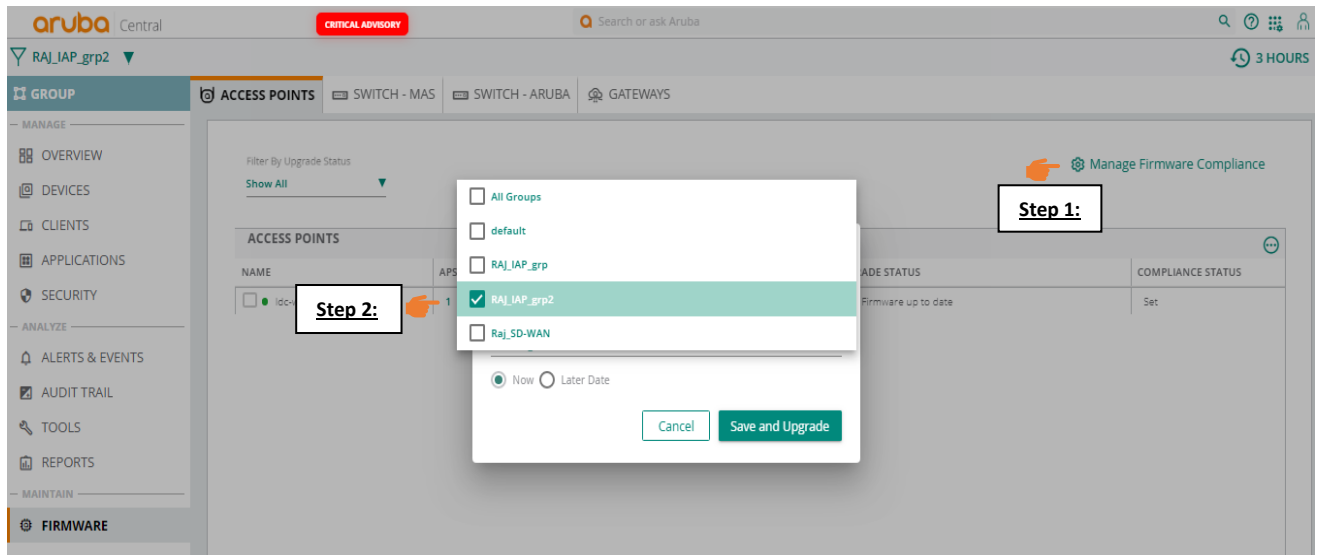
We have to change the compliance in order to upgrade the IAPs to a specific version by following below steps:

Step 1:

- Click on Manage Firmware Compliance.

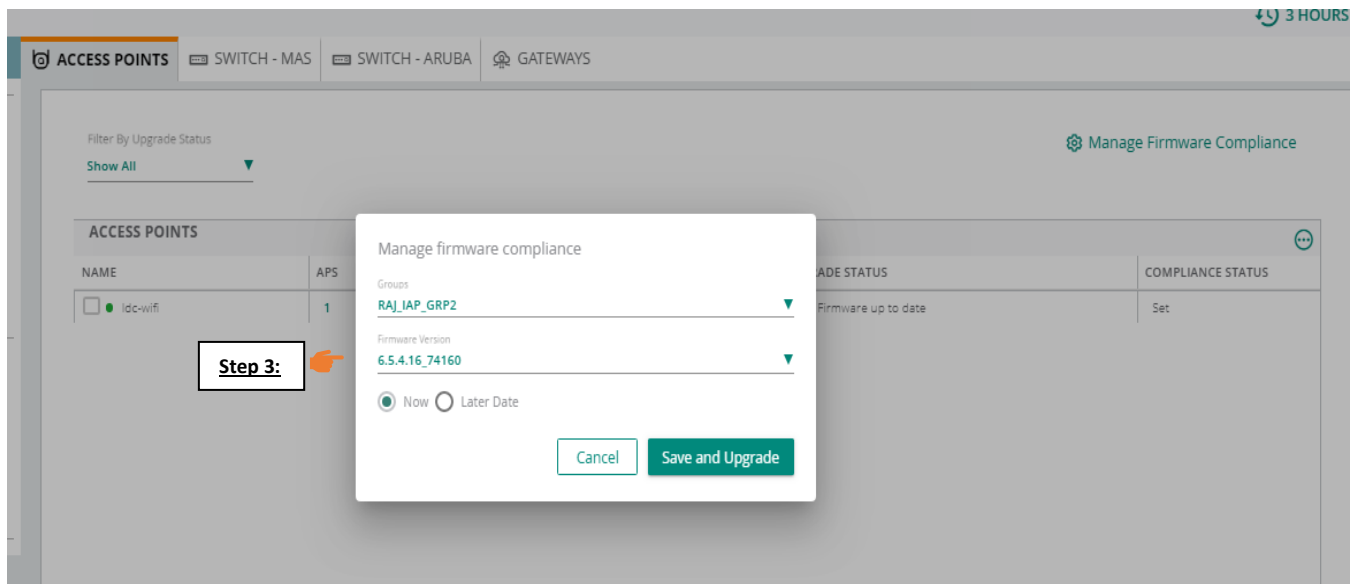
Step 2:

- Select the appropriate group.



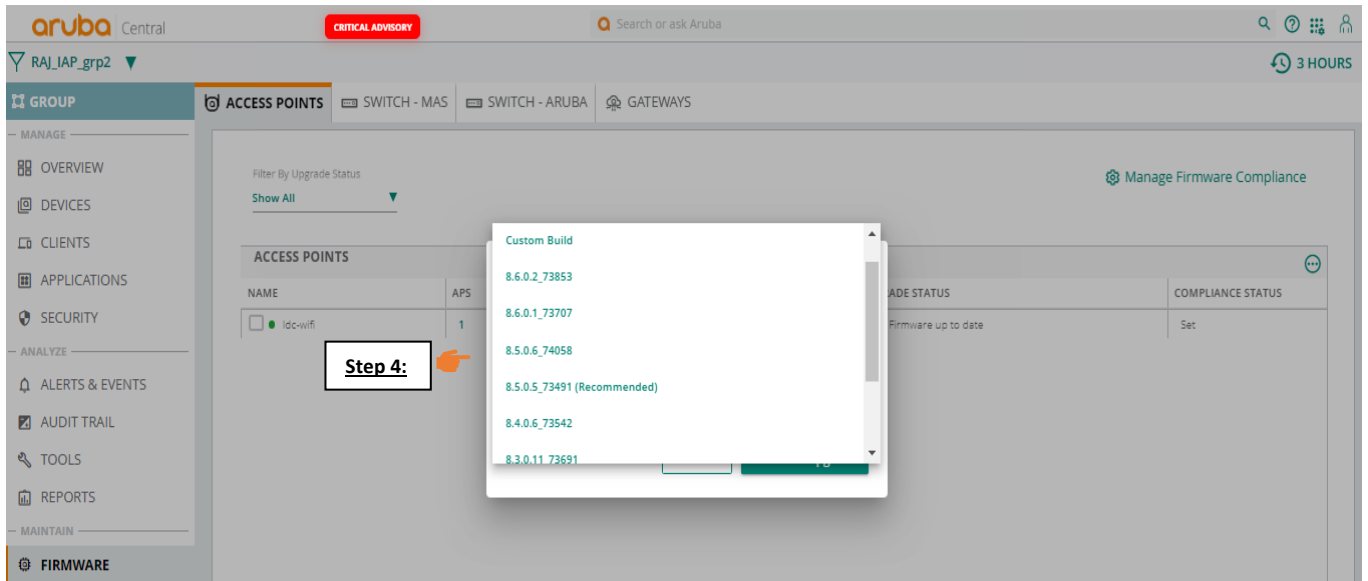
Step 3:

- Click on “Firmware version” drop down list to choose the firmware.



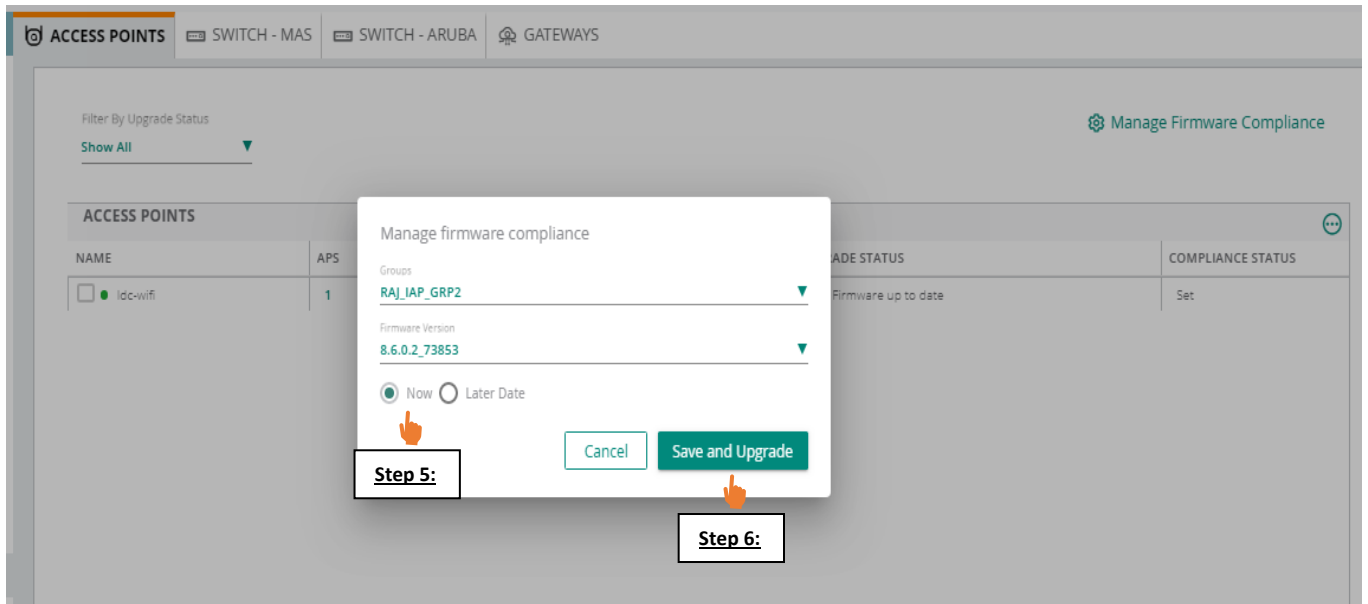
Step 4:

- Choose the firmware.



Step 5: Select either the “Now” or “Later Date” radio button to schedule an upgrade.

Step 6: Click on “Save and Upgrade” to upgrade the IAPs.



Upgrade Scenario Three: IAP-Managed by Airwave

Instant Access Points can be managed completely using Airwave. This provides a great interface to manage a huge number of IAPs in the network, making it very easy to upgrade many devices.

Instant Access Points can be upgraded from Airwave using HTTP or HTTPS. Access Points belonging to a particular group on Airwave can be forced to upgrade using the Group Settings. An upgrade of the Master IAP will force the slaves to upgrade as well.

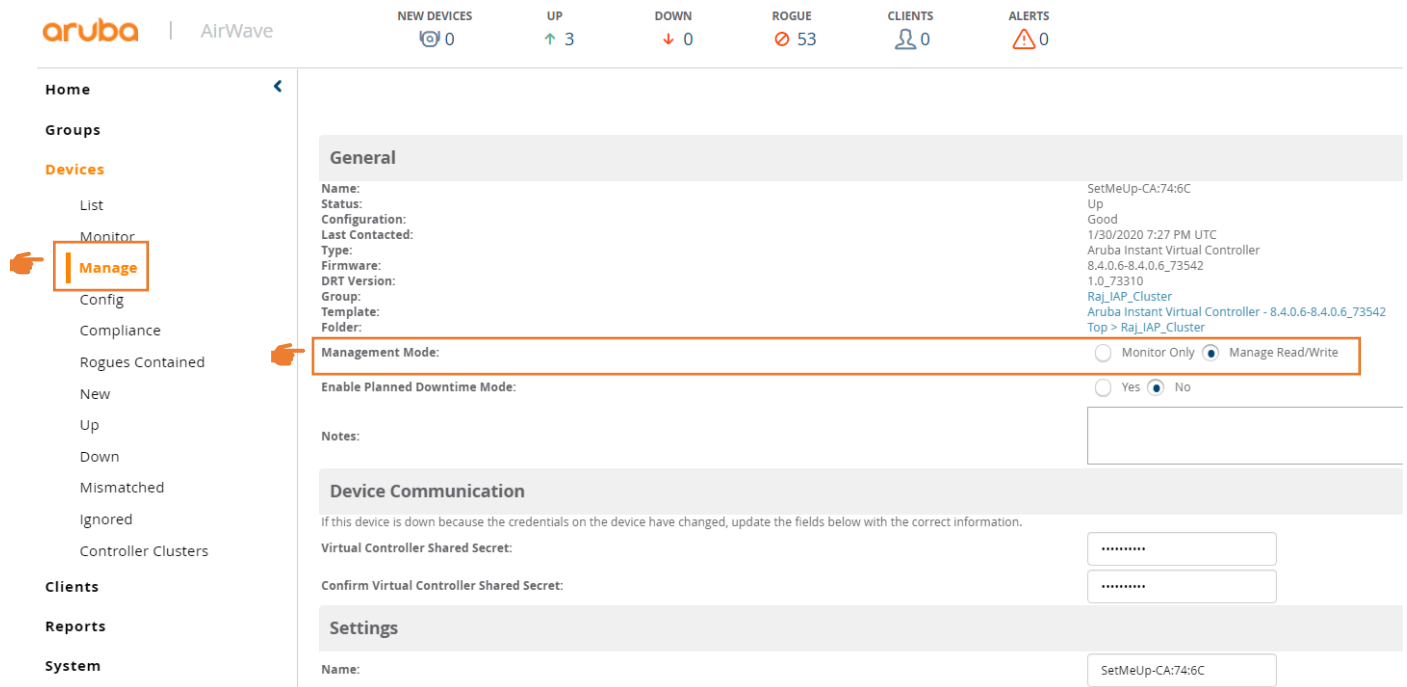
On Aruba Airwave Web UI:

Master IAP Upgrade:

The following procedure is useful for upgrading a cluster/standalone IAP. These steps include upgrading an individual Virtual Controller using Airwave.

This will also upgrade all the other members of the cluster.

1. Go to the monitor page of the Virtual Controller (VC) that you want to upgrade. You can try to search for the VC IP or go to the access point via the Group to which it belongs
2. Ensure that the device is either in Manage Mode/ Monitor mode with firmware updates. Devices only under monitor mode will not be upgraded. This can be verified from the “Manage” page as highlighted below:



Note: If you have enabled Instant GUI Config (IGC) then all the devices will be in Manage mode.

- In order to allow devices to upgrade under Monitor mode, we have to go to AMP Setup > General > Firmware Upgrade/Reboot Options and set the option as shown in the screenshot below:

AMP Setup
General

- Network
- Users
- Roles
- Authentication
- MDM Server
- Device Type Setup
- WLSE
- ACS
- NMS
- RADIUS Accounting
- PCI Compliance
- External Server

RAPIDS
VisualRF

Backup Interval: Weekly Daily

Number of Backups to Retain Locally:

Nightly Maintenance Time (00:00 - 23:59):

License APs Usage Threshold (5-100):

Check for software updates from Aruba:
Periodically check the Aruba website for notices of new software versions or critical security notifications. News will be displayed for admins on the Home Overview page. Software will never be updated automatically.

Automatic Authorization

Aruba Instant Options

Top Header

Search Method

Home Overview Preferences

Display

Device Configuration

AMP Features

External Logging

Historical Data Retention

Firmware Upgrade/Reboot Options

Allow firmware upgrades in monitor-only mode: Yes No

Allow Rebooting Monitor Only Devices: Yes No

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NEW DEVICES 0 UP 3 DOWN 0 ROGUE 53 CLIENTS 0 ALERTS 0

Home

Groups

- List
- Config & Audit Jobs
- Monitor
- Basic
- Templates
- Firmware**
- DRT File

Devices

Clients

Reports

System

Device Setup

AMP Setup

RAPIDS

VisualRF

Firmware Upgrade Options

Configure the File Server IP Address to use when upgrading devices in this group. The firmware file definition must be configured to use the per-group setting.

Firmware File Server: (a)

Enforce Group Firmware Version: Yes No

Allow Downgrade Of Devices: Yes No

Desired Version

Choose the desired firmware version to be applied to the devices in this group. Upload firmware files on the Device Setup [Upload Firmware & Files](#) page.

Update List of Aruba Image Versions: (c)

Aruba Instant Virtual Controller:

(b)

- NONE
- Local
- 8.5.0.6-8.5.0.6_74058 local
- 8.6.0.2-8.6.0.2_73853 local
- Image Server

- On the above page, you can contact Aruba's Public Image server (a) and get all the files listed in the drop-down (b) for the desired version by clicking on the Update button. If your server does not have access to the internet or you cannot see the desired firmware then you can upload firmware files manually using the Link for "Upload Firmware and Files" (c).

The screenshot shows the Aruba AirWave interface. On the left sidebar, the 'Upload Firmware & Files' option is highlighted with a red arrow and labeled (a). In the main content area, the 'Firmware Files' table is visible, with a red arrow pointing to the 'Add' button labeled (b). A callout box with a hand icon contains the text: "Make sure all the firmware are uploaded for all the model IAPs present in the cluster." The table has the following columns: TYPE, SOURCE, USER, DESCRIPTION, SERVER PROTOCOL, USE GROUP FILE SERVER, FIRMWARE FILE SERVER, and FIRMWARE FILENAME. It lists several Aruba Instant Virtual Controller entries with various IAP models and protocols.

Note: if you have different types of IAP in the cluster, ensure you upload all the required firmware for the upgrade of the slaves, as well. This is only applicable for images that are manually downloaded and not from our image server. To do that, navigate to "Upload Firmware and Files" (a)> Click on "add" (b)> Click on "Choose file" (c)> Click on "Add" (d).

The screenshot shows the 'Supported Firmware Versions and Features' page in the Aruba AirWave interface. The 'Firmware File' form is visible, with a red arrow pointing to the 'Choose File' button labeled (c). Below the 'Choose File' button, there are 'Add' and 'Cancel' buttons, with a red arrow pointing to the 'Add' button labeled (d). The form fields include: Type (Aruba Device (Any Model)), Description (IAP_515), Server Protocol (TFTP), and Firmware Filename (ArubaInstan...6.0.2_73853).

- Once done, go to Groups>List (a)>Move the cursor to the tool symbol (b)>Firmware(c) page of the VC that needs an upgrade. Click on the “Upgrade Firmware” button at the bottom of the page.

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NEW DEVICES 0 UP 3 DOWN 0 ROGUE 53 CLIENTS 0 ALERTS 0

Home <

Groups

(a) List

Config & Audit Jobs

Devices

Clients

Reports

System

Device Setup

AMP Setup

RAPIDS

VisualRF

Add New Group

Compare two groups

1-2 of 2 Groups Page 1 of 1 Choose columns Export CSV

NAME	SSID	TOTAL DEVICES	DOWN	MISMATCHED	IGNORED	CLIENTS	USAGE	VPN SESSIONS	UP/DOWN STATUS POLLING PERIOD
Access Points	-	0	0	0	0	0	- 0	- 0	5 minutes
Basic	-	3	0	0	0	0	- 0	- 0	5 minutes

1-2 of Templates Page 1 of 1

Select Firmware DR1 File All

Delete

6. Upon selecting the desired version click on the “Save and Upgrade Devices” button at the bottom of the screen. This will take you to the next page.

The screenshot shows the Aruba Instant Upgrade web interface. At the top, there is a navigation bar with the Aruba logo and 'AirWave' text. To the right of the logo, there are several status indicators: NEW DEVICES (0), UP (3), DOWN (0), ROGUE (53), CLIENTS (0), and ALERTS (0). Below the navigation bar is a sidebar menu with categories: Home, Groups (List, Config & Audit Jobs, Monitor, Basic, Templates, Firmware, DRT File), Devices, Clients, Reports, System, Device Setup, AMP Setup, RAPIDS, and VisualRF. The main content area is titled 'Firmware Upgrade Options' and contains the following sections:

- Firmware Upgrade Options**: A sub-header with a note: "Configure the File Server IP Address to use when upgrading devices in this group. The firmware file definition must be configured to use the per-group setting."
- Firmware File Server:** A text input field with the placeholder "Enter a Value".
- Enforce Group Firmware Version:** Two radio buttons, "Yes" and "No", with "No" selected.
- Allow Downgrade Of Devices:** Two radio buttons, "Yes" and "No", with "No" selected.
- Desired Version**: A sub-header with a note: "Choose the desired firmware version to be applied to the devices in this group. Upload firmware files on the Device Setup Upload Firmware & Files page." Below this is a text input field with the placeholder "Update List of Aruba Image Versions:" and an "Update" button.
- Aruba Instant Virtual Controller:** A dropdown menu showing "8.6.0.2-8.6.0.2_73853 local".
- At the bottom right, there are two buttons: "Save" and "Save and Upgrade Devices". The "Save and Upgrade Devices" button is highlighted with a red rectangular box, and a hand cursor is pointing at it.

- As shown below, in this page, you will find the option to enter the job name, reboot immediately, Failure notification options, etc.

The screenshot shows the 'Firmware Upgrade Job Options' configuration page in the Aruba AirWave interface. The page is divided into several sections:

- Job name:** Firmware upgrade job (Thu Jan 30 2020 7:05 pm UTC)
- Number of devices to interleave (1-1000):** 20
- Number of failures before stopping the job until a manual restart (0-20, zero disables):** 1
- Failure Timeout (mins) (5-60):** 60
- Number of retries when failed (0-4, zero disables):** 1
- Periodic run failed upgrades interval:** Disabled
- Use "/safe" flag for Cisco IOS firmware upgrade command:** No
- Reboot immediately after image download:** Yes
- Sequential Reboot: (Beta)** Supported only for Aruba Instant: No
- Fast Download: (Beta)** Supported only for standalone Aruba Instant 8.4.0+: No
- Allow Firmware Upgrade For Same Version:** This option can be used to upgrade to Private/Intermediate Builds. Select YES if the target FW version is same as Device FW version. Else select NO: No
- Failure Notification Options:** To be notified when upgrades fail and when a job is stopped, enter email addresses of the form user@domain. Separate multiple addresses by spaces, commas, or semicolons. Email Recipients: raj.vinodkumar@hpe.com
- Sender Address:** raj.vinodkumar@hpe.com

At the bottom of the page, there are two buttons: 'Upgrade' and 'Cancel'. An orange arrow points to the 'Upgrade' button.

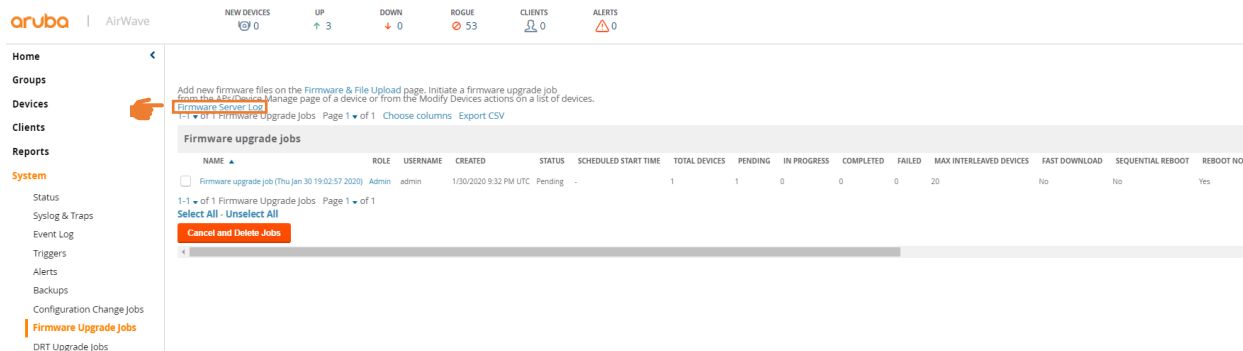
- Once you click on "Upgrade" it will take you to the next page, where you can either schedule your upgrade or Apply the changes now, as shown below:

The screenshot shows the 'Confirm changes' page in the Aruba AirWave interface. The page is divided into several sections:

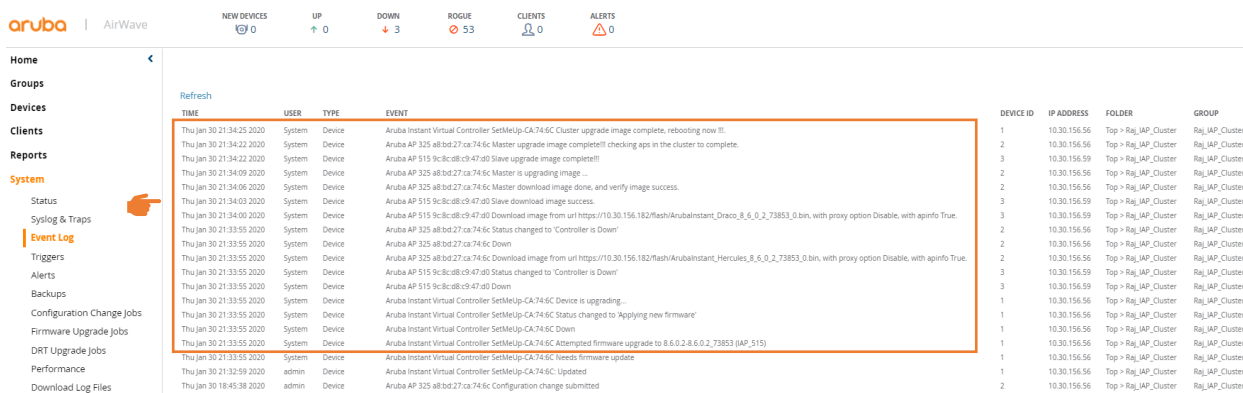
- Confirm changes:** Controller "SetMeUp-CA:74:6C". Version 8.4.0.6-8.4.0.6_73542. There are 'Apply Changes Now' and 'Cancel' buttons.
- Scheduling Options:** Specify numeric dates with optional 24-hour times (like 7/4/2003 or 2003-07-04 for July 4th, 2003, or 7/4/2003 13:00 for July 4th, 2003 at 1:00 PM.), or specify relative times (like tomorrow at noon or next tuesday at 4am). Any unsupported time format will schedule the job immediately. Current Local Time: January 30, 2020 7:05 pm UTC. Desired Start Date/Time: Enter a Value. There is a 'Schedule' button.

Verification:

1. You can verify if the upgrade task is in progress at System > Firmware Upgrade Job Detail Page. You also have an option to check the Firmware server log, on the same page for more information.



2. Recent AMP Device events will also give further information on the series of events for the upgrade, as shown below:



3. Upon a successful upgrade, the VC will show the new version, on the monitor page or under the maintenance page, of the IAP GUI.

Troubleshooting:

1. For advanced troubleshooting, you can enable qlog swarm_debug and use a script qlog_decoder to decode the information to see if the upgrade command was sent to the IAP. You can also check if the upgrade was performed using HTTP or HTTPS
2. Following commands prior to IAP reboot will also give some useful information on the IAP CLI
 - show log upgrade
 - show upgrade info
 - show log system