Extreme®
Connect Beyond the Network

ExtremeLocation Quick Start Guide

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Table of Contents

Preface

This section discusses the conventions used in this guide, ways to provide feedback, additional help, and other Extreme Networks publications.

Conventions

This section discusses the conventions used in this guide.

Text Conventions

The following tables list text conventions that are used throughout this guide.

Table 1: Notice Icons

Icon	Notice Type	Alerts you to...
	General Notice	Helpful tips and notices for using the product.
	Note	Important features or instructions.
	Caution	Risk of personal injury, system damage, or loss of data.
	Warning	Risk of severe personal injury.
New!	New Content	Displayed next to new content. This is searchable text within the PDF.

Table 2: Text Conventions

Convention	Description
`Screen displays`	This typeface indicates command syntax, or represents information as it appears on the screen.
The words **enter** and **type**	When you see the word “enter” in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says “type.”
[Key] names	Key names are written with brackets, such as **[Return]** or **[Esc]**. If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press **[Ctrl]**+**[Alt]**+**[Del]**
Words in italicized type	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.

Terminology

When features, functionality, or operation is specific to a switch family, such as ExtremeSwitching™ or Summit®, the family name is used. Explanations about features and operations that are the same across all product families simply refer to the product as the switch.

Providing Feedback to Us

We are always striving to improve our documentation and help you work better, so we want to hear from you! We welcome all feedback but especially want to know about:

- Content errors or confusing or conflicting information.
- Ideas for improvements to our documentation so you can find the information you need faster.
- Broken links or usability issues.

If you would like to provide feedback to the Extreme Networks Information Development team about this document, please contact us using our short online feedback form. You can also email us directly at internalinfodev@extremenetworks.com.

Getting Help

If you require assistance, contact Extreme Networks using one of the following methods:

- GTAC (Global Technical Assistance Center) for Immediate Support
  - Phone: 1-800-998-2408 (toll-free in U.S. and Canada) or +1 408-579-2826. For the support phone number in your country, visit: www.extremenetworks.com/support/contact
  - Email: support@extremenetworks.com. To expedite your message, enter the product name or model number in the subject line.
- Extreme Portal — Search the GTAC knowledge base, manage support cases and service contracts, download software, and obtain product licensing, training, and certifications.
- The Hub — A forum for Extreme customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

Before contacting Extreme Networks for technical support, have the following information ready:

- Your Extreme Networks service contract number and/or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any action(s) already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

Extreme Networks Documentation

To find Extreme Networks product guides, visit our documentation pages at:

Current Product Documentation	www.extremenetworks.com/documentation/
Archived Documentation (for earlier versions and legacy products)	www.extremenetworks.com/support/documentation-archives/
Release Notes	www.extremenetworks.com/support/release-notes

Open Source Declarations

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1 Product Overview

ExtremeLocation is a massively scalable, enterprise grade, resilient, cloud-based location and analytics solutions from Extreme Networks. With real-time location and analytics, you can engage with your customers providing personalized experience for guests and visitors. ExtremeLocation can also be used to monitor your work flows and assets to improve your overall operation and efficiency.

ExtremeLocation provides enterprises powerful location services which can scale to thousands of branch sites and 100,000 access points.

ExtremeLocation offers granular location services to address your deployment scenarios and includes:

- real-time and historical location analysis
- new and repeat visitor tracking
- engagement time monitoring
- site or zone specific intelligence
- assets and associate tracking

This product:

- Is enterprise grade, resilient and cloud based.
- Is massively scalable supporting thousands of sites and a large number of access points.
- Is quick to deploy and easy to manage.
- Provides enterprise quality location and analytics.
- Provides unlimited number of customizable dashboards for data analysis and site monitoring.
- Lets you drill down to floor level at a site to monitor assets, visitors and associates.
- Provides reports to help you proactively plan or troubleshoot issues.

Some of its main features are:

- Presence
- Zone Tracking
- Position Tracking
- Device and Associate Classification and Tracking
- Crowding Event Notification and Analytics
- Import Location Data from AirDefense Service Platform
- Import WiNG Site Hierarchy
- Scheduling Reports
- Admin and Guest Account Management
- Category Configuration

2 ExtremeLocation Quick Setup

Introduction

ExtremeLocation can be deployed as a stand alone installation or in a mixed environment alongside AirDefense Service Platform.

ExtremeLocation can use both ExtremeWireless WiNG access points as well as ExtremeWireless access points to provide locationing services. The configuration of these access points are different and are described in detail in the sections Configuring ExtremeWireless WiNG Access Points on page 48 and Configuring ExtremeWireless Access Points on page 83.

Please note that when deployed as a stand alone installation, the access point's channel scan configuration (when deployed as a dedicated sensor) is provided by the wireless controller it is adopted to.

However, when deployed in a mixed environment with AirDefense Service Platform, the access point's channel scan configuration (when deployed as a dedicated sensor) is applied from ADSP. The channel scan configuration received from the wireless controller is overridden by the configuration received from ADSP.

This section helps you to set up the ExtremeLocation account, add licenses to it and start using the locationing services.

If you are a new customer, activate your ExtremeLocation account by following these steps:

1 Create an account with ExtremeLocation on its portal.
2 Create a license key from *Extreme Networks License Portal - New Accounts*.
3 Apply the license to your account.

If you are an existing customer with a active or inactive account, do the following:

1 Create a license key from *Extreme Networks License Portal - New Accounts*.
2 Apply the license to your account.

Once you have applied the license to your ExtremeLocation account, do the following:

1 Configure the Access Points.

2 Configure the Extreme Location Service and its Dashboard.

Before You Start

If you are a new customer, you should have the following information with you before you can create a license and start using ExtremeLocation:

- The welcome letter with the Voucher ID that you received from Extreme Networks when you purchased an ExtremeLocation subscription.
- Access to the email ID that will be used to register your ExtremeLocation account. Ensure that you do not lose access to this email ID as it will be required to retrieve or reset passwords and for any communication from Extreme Networks.

If you have an active or inactive ExtremeLocation account, you should have the following information with you:

- The welcome letter with the Voucher ID that you received from Extreme Networks when you renewed/purchased a subscription to ExtremeLocation.
- The account number of your active or inactive ExtremeLocation account.
- Access to your ExtremeLocation account's registered email ID.

Step 1: Create the ExtremeLocation Account

To create your ExtremeLocation account, navigate to its website at:

- *https://manage.extremelocation.com*

Sign Up for ExtremeLocation

ExtremeLocation is a subscription service. You require a valid user account with ExtremeLocation to use it.

To sign up for ExtremeLocation service:

1 Click on the **Sign up** link below the **Login** button.

The Sign Up window appears.

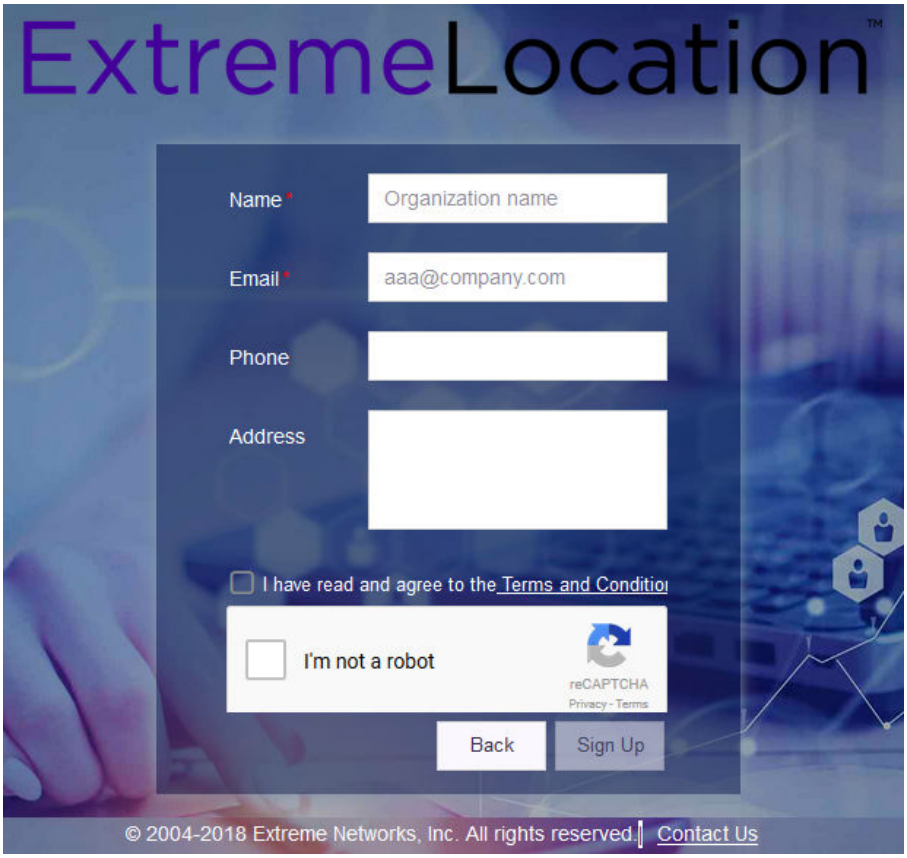


Figure 1: Sign Up Window

2 Enter a valid name for this account in the **Name** field. This is a mandatory field.

3 Enter a valid email id in the **Email ID** field. This email ID will serve as the log in user name for this account with ExtremeLocation. This is a mandatory field.

Note

Ensure that you have access to this email ID at all times as this email ID will be used by us to communicate with you regarding your ExtremeLocation account.

4 Optional: Enter a valid phone number in the **Phone** field.

5 Optional: Enter a valid address for communication in the **Address** field.

6 Select **Terms and Conditions** link to open the terms of service for ExtremeLocation. This is a PDF file that opens in a separate tab or window of your browser.

Important

Please read and understand the Terms and Conditions for the ExtremeLocation service.

7 Select **I have read and agree to the Terms and Conditions** option to indicate your consent to the Terms and Conditions.

Important
You cannot use the ExtremeLocation service or create your ExtremeLocation account without accepting the Terms and Conditions.

8 Select the **I'm not a robot** option and follow the instructions displayed. User registration cannot proceed without passing this check.
The **Sign Up** button is enabled once you have completed this step successfully.

9 Select the **Sign Up** button to complete the process.
Your account is set up with ExtremeLocation and the system sends emails to the ID specified in the **Email ID** field. These e-emails contain the following information:
- Your ExtremeLocation Account Number
- A link to activate the newly created account.
- An auto-generated password for use when logging in to ExtremeLocation for the first time. You will be forced to change this password during your first log in.

10 Should you need to exit without registering for an account, select **Back** button anytime during the registration process.
You are taken back to the ExtremeLocation Login screen.

On successful registration with ExtremeLocation, use the account activation link (sent to your registered email ID) to activate your account. Try to log in into your account from the ExtremeLocation log in screen using the registered email ID and the password sent to you by email. For further information, see Log In for the First Time on page 11.

Step 2: Activate the ExtremeLocation Account

ExtremeLocation accounts are user activated. When you sign up with ExtremeLocation, multiple emails are sent to the registered email ID for the account. One of these mails contains an activation link for this account. From that email, select the activation link. You are directed to ExtremeLocation's log in page. You cannot use your account without activating it through the link sent to your registered email ID.

Use the registered email ID and the system generated password for your new account (sent to you by email to your registered email ID) to log in to ExtremeLocation.

The ExtremeLocation Server URL is:

- *https://manage.extremelocation.com*

Log In for the First Time

You should have the user account and password to successfully log in to your ExtremeLocation account.

When logging to ExtremeLocation for the first time, ensure that you have the following information for reference:

- Your Username and Password
- Your ExtremeLocation Account Number
- A valid License Key for this account

This information is required for logging in, changing the default password, and adding the licenses.

If you do not have any of the above information, please check the email account used to register for the account with ExtremeLocation. At the time of registration, you would have received emails from ExtremeLocation containing your account number, activation link and a temporary password for logging on for the first time. Please retain these mails for reference.

For help with account log in or other issues, please contact Extreme Support. For more information, see Getting Help on page 5.

Use the ExtremeLocation log in screen to log in to your account. This screen is also used to sign up for a new account as well as to retrieve or reset missing/forgotten credentials such as user name and password.

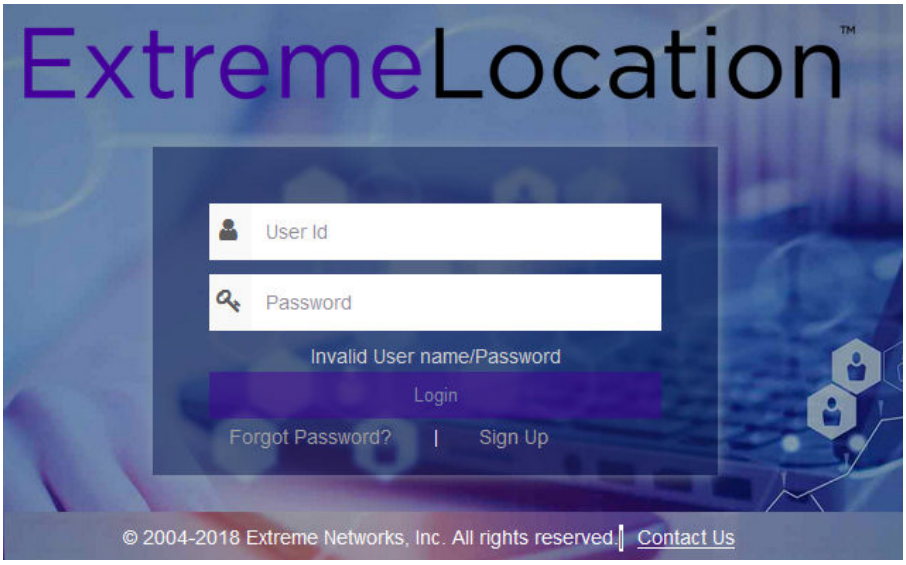


Figure 2: ExtremeLocation Log In Screen

To successfully log in, you should have valid credentials that were sent to you at the time you signed up with ExtremeLocation. Your **User Id** will be the email ID that you registered with.

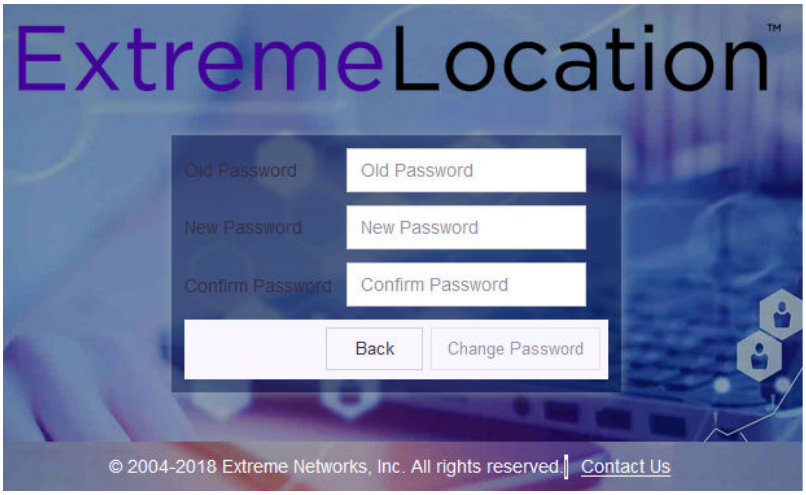
To log in to ExtremeLocation:

1 Provide the user name in the **User Id** field (typically the email ID that you registered with).
2 Provide the password for the user name in the **Password** field.

3 Select the **Login** button to login to the ExtremeLocation user interface.

Since this is the first log in, you will be forced to change your log in password.

The Change Password dialog appears.



4 Enter the old password into the **Old Password** field.

5 Enter the new password into the **New Password** field.

6 Enter the new password into the **Confirm Password** field to confirm it.

An error message is displayed if the passwords entered into the **New Password** and **Confirm Password** fields are not the same.

7 Select **Change Password** to save your changed password. Select **Back** at any time to exit without changing your password.

The ExtremeLocation Dashboard appears. You have successfully logged in to your account.

Since this is the first log in, no licenses are available for this account. The following message appears indicating the same.

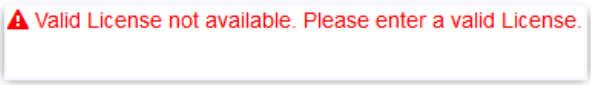


Figure 3: No License Message

For more information on adding licenses, see Add or Apply License to the Account on page 19.

Step 3: Generate and Apply the License

ExtremeLocation is a subscription-based service and requires a valid and in-force license to use the services. The license sets the following parameters of your ExtremeLocation account:

- The maximum number of access points that can be deployed by this account.
- The validity duration of the subscription.

You can also use the license to extend the validity of your existing subscription.

ExtremeLocation License is generated from *Extreme Networks License Portal*. You must log in to this portal and manually generate the license.

Before You Begin

Before you can generate the license, you must have the following information ready:

- The account number of your ExtremeLocation account.
- The Voucher ID received from Extreme Networks sent at the time of purchase of the subscription.

You must also have the following credentials:

- The user name and password for the ExtremeLocation website.
- The user name and password for the Extreme Networks License Portal account.

If you do not have your ExtremeLocation account, you must create it first. For more information on how to sign up for the ExtremeLocation service, see Sign Up for ExtremeLocation on page 9.

If you do not have your Extreme Networks License Portal account, you must create it. You can create your Extreme Networks License Portal account at *Extreme Networks License Portal - New Accounts*. Navigate to the portal and follow the instructions to create your License Portal account.

Generate License

You should have the credentials to log in to the Extreme Networks License Portal. If you do not have the credentials, please use the *Extreme Networks License Portal - New Accounts* link to create your credentials for the License Portal.

You should also have the following information at hand to create the license:

- The account number of your ExtremeLocation account.
- The Voucher ID received from Extreme Networks sent at the time of purchase of the subscription.

To create your license:

1 Navigate to Extreme Networks License Portal using the link provided in the welcome mail. The following screen appears.

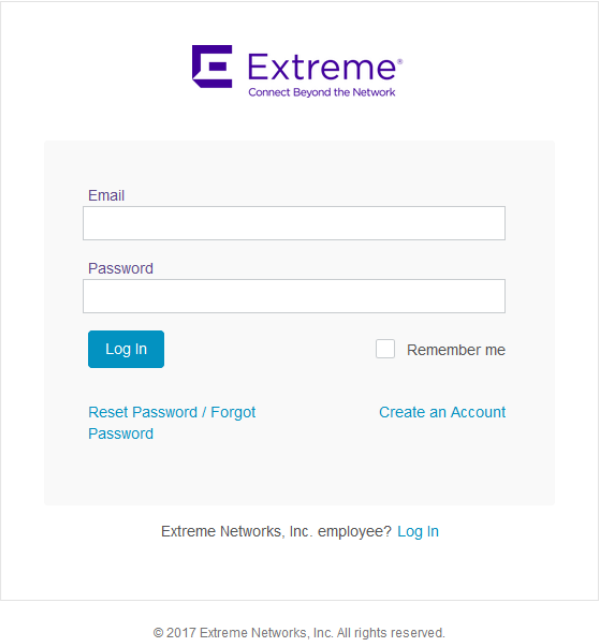


Figure 4: License Portal Login Screen

2 Provide the credentials for logging in to the License Portal.

Email Provide the email ID registered for use with this License Portal account.

Password Provide the password for this License Portal account.

3 Select **Log In** to enter the License Portal.

If the correct credentials are provided, the following screen appears.

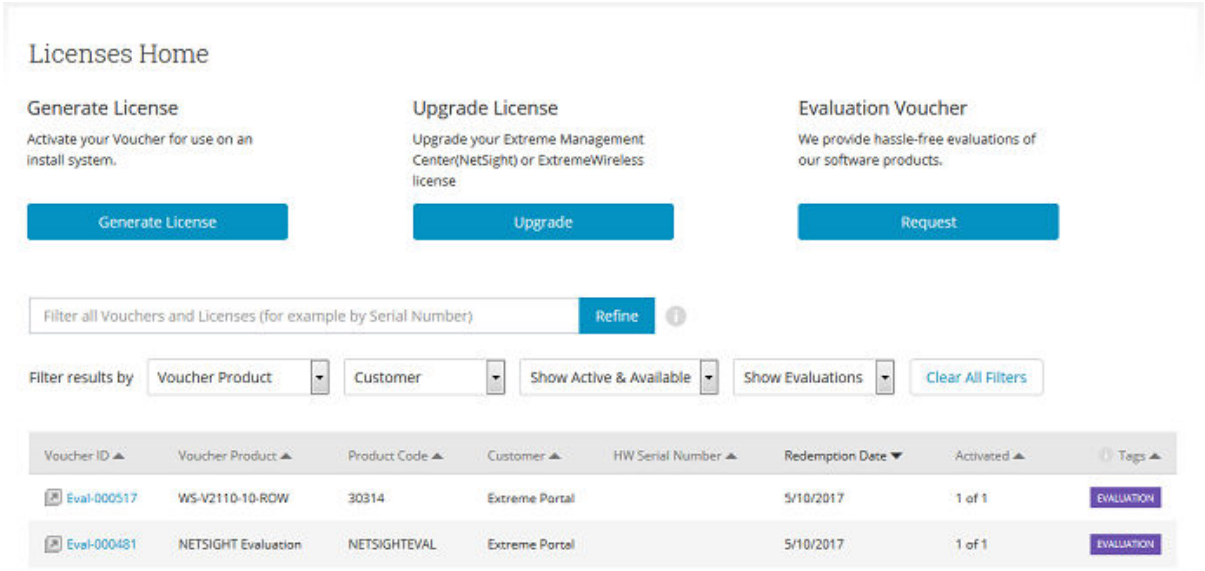


Figure 5: License Portal Welcome Screen

An error message is displayed if wrong credentials are provided. To retrieve a forgotten password or to reset it, select the **Reset Password/Forgot Password** link at the bottom of the log in screen.

4 Select **Generate License**.

The following dialog appears.

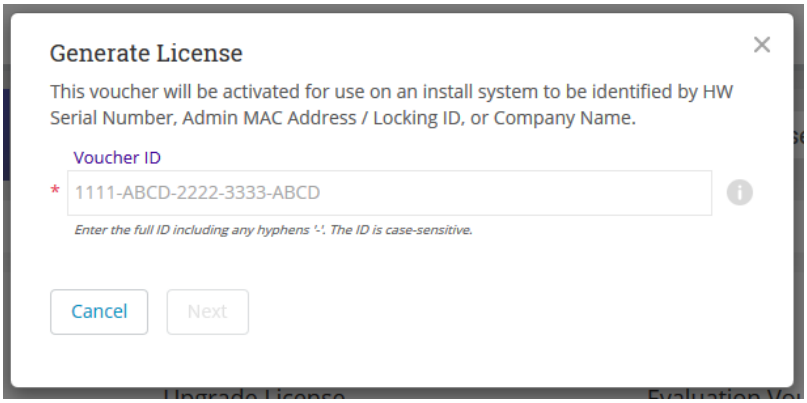


Figure 6: Generate License Dialog

5 Enter the Voucher ID from your welcome mail into the **Voucher ID** field.

Note

When entering the Voucher ID, include the hyphen (-) symbol that is a part of the Voucher ID.

6 Select **Next**.

The following screen appears.

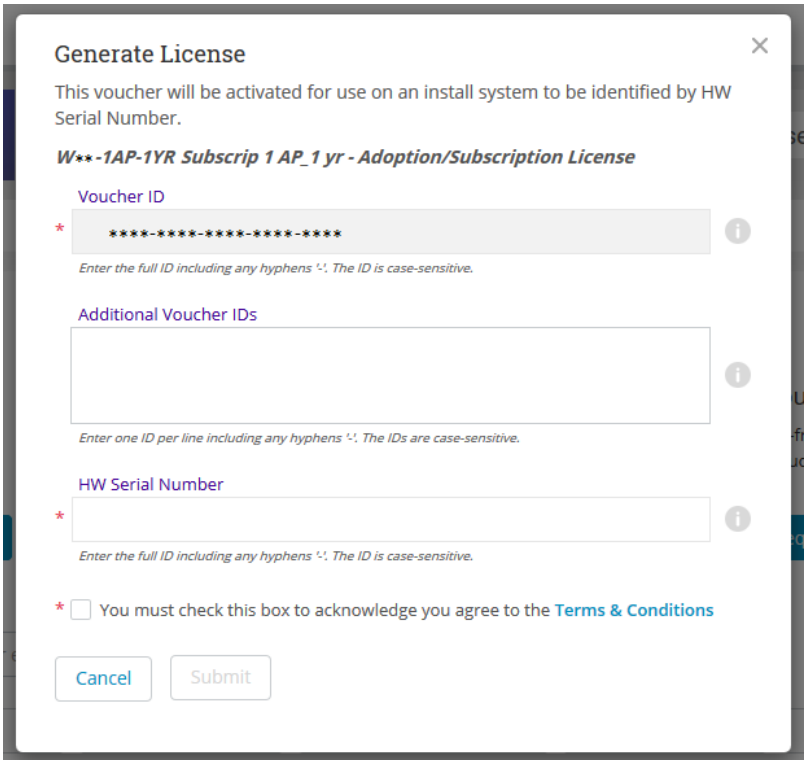


Figure 7: Activate Voucher Screen

7 Enter the ExtremeLocation account number in the **HW Serial Number** text box.

8 Select the **You must check this box...** check box to agree to the terms and conditions of the service.

We recommend that you select the **Terms & Conditions** link to read the service's Terms and Conditions before creating your license.

9 Select **Submit** to create the license.

Once a license is created, it is added to the list of available licenses and is displayed in the main screen.

10 To view the license string, select the appropriate **Voucher ID** in the table at the bottom of the main screen.

You can use the filter controls to limit the number of rows displayed in this table.

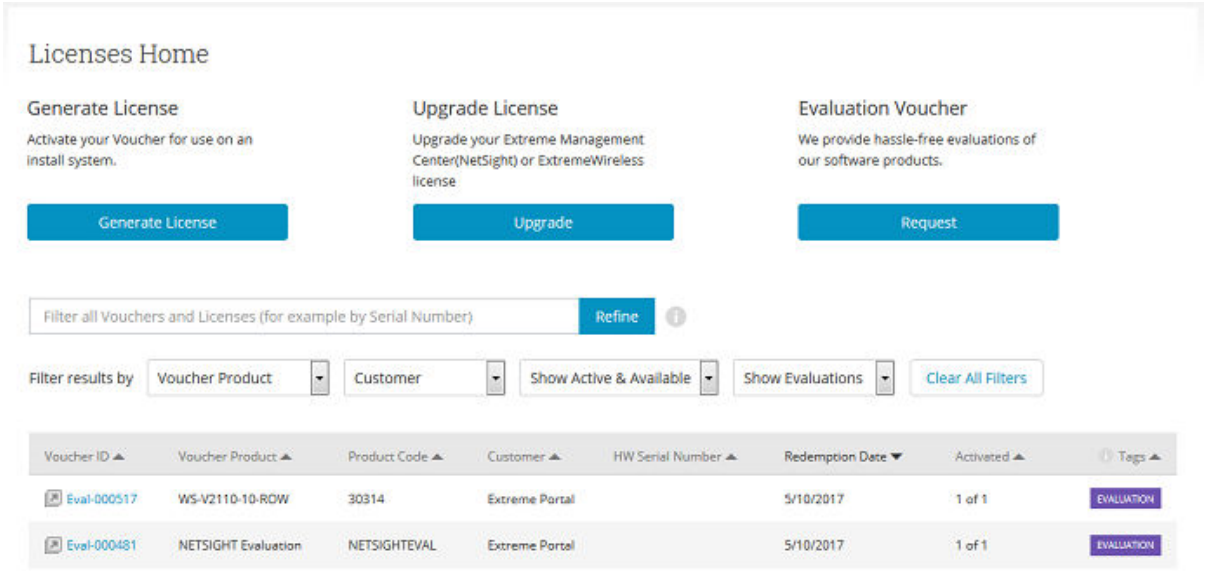


Figure 8: License Portal Welcome Screen

The screen refreshes to display detailed information about the selected Voucher ID.

11 Use the **Copy** link to copy the License Key to the PCs clipboard.

We recommend that you to save this license key temporarily in a text editor for use when activating your ExtremeLocation account.

12 Once you have created all your license keys, select the **Log Out** link to the top right of the screen to log out of Extreme Networks License Portal.

Log In to ExtremeLocation

Use the ExtremeLocation Log In screen to log in to your account. If you do not have an account, use this screen to sign up for a new account. You can also use this screen to retrieve or reset missing/forgotten credentials such as user name and password.

Access to ExtremeLocation is only available on subscription to the service. On subscribing to the service, you must also create the user credentials for logging into ExtremeLocation dashboard using an account. To sign up, select the **Sign Up** link on the Log In screen. For more information see Sign Up for ExtremeLocation on page 9.

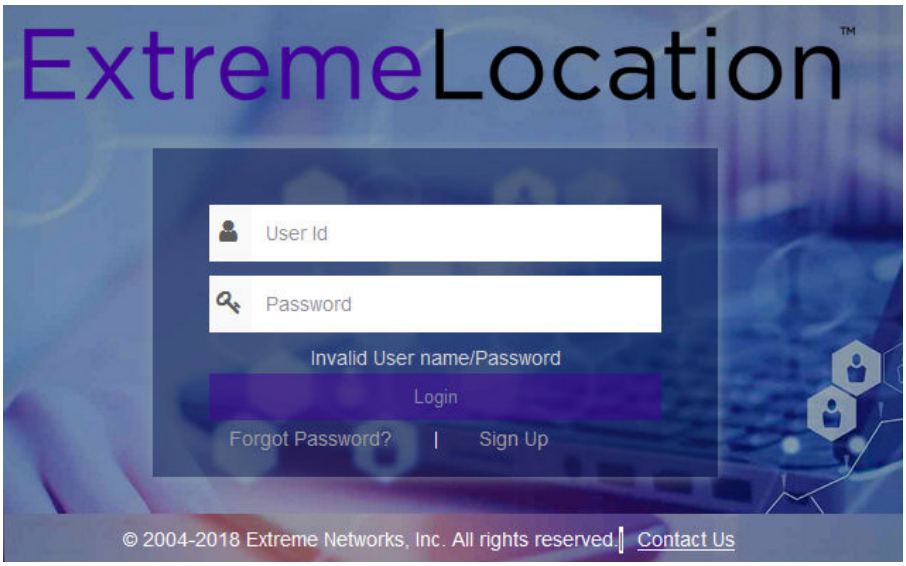


Figure 9: ExtremeLocation Login Screen

To log in into ExtremeLocation:

1 Provide the user name in the **User Id** field (typically the email ID that you registered with).
2 Provide the password for the user name in the **Password** field.
3 Select the **Login** button to login to the ExtremeLocation user interface.

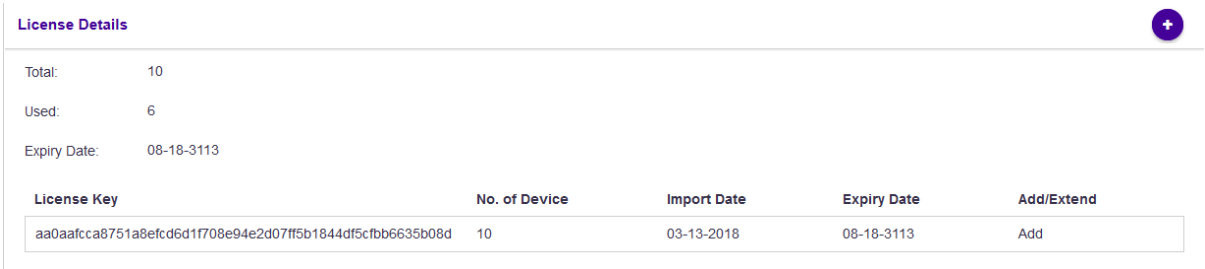
Should you need to contact Extreme Networks customer support, select the **Contact Us** link located at the bottom of the login screen. For more information on how to contact the Extreme Networks customer support, see Getting Help on page 5.

Add or Apply License to the Account

To add or apply license:

1 Select **Settings** from the main menu.
2 Select **License** from the sub menu.

The License Details pane opens.



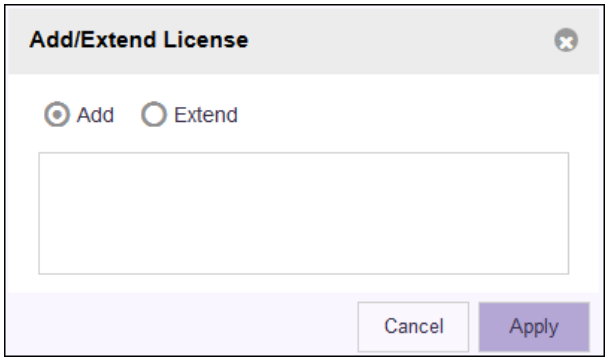
This dialog displays the following information:

Total	Displays the total number of available licenses for this account. For a new account - without any licenses - this value is zero.

Used	Displays the number of licenses in use out of those available as shown in the **Total** field. For a new account, this value is zero.
Expiry Date	Displays the date on which the license expires. For accounts with multiple licenses, this date is the date on which the last license expires. For a new account this field displays N/A.

3 Select  .

The Add/Extend License dialog appears. Use this dialog to add or to extend licenses for this ExtremeLocation account.



Complete the following information:

Add	Select this option to add a new license to this account.
Extend	Select this option to extend the validity of the combination of the current licenses and the new licenses that are being added in. The validity of the license is extended by the number of days requested when the license was generated.
Enter License Key	Paste the license key in this space. Ensure that you do not inadvertently paste any non-printable characters in this space.

4 Select **Apply** to apply the license key.

If the license is valid for this account, the license is added to the list of licenses available for this account. If the license is an Extend license, then the validity date of the license extended by the number of days that is calculated by the ExtremeLocation system.

The table displays a list of all licenses (valid and expired) for this account.

License Key	Displays the complete license key as provided by ExtremeLocation support.
No. of Devices	Displays the number of device that can be used using this license.
Import Date	Displays the date on which the license was added to this account.
Expiry Date	Displays the date that the license will expire.
Add/Extend	Displays the type of license.

If the license is valid, it is added to this table.

5 Optional: At any point, select the **Cancel** button to exit without adding licenses.

Step 4: Configure the Access Points

ExtremeWireless WiNG Access Points

The following ExtremeWireless WiNG access points are supported by ExtremeLocation.

- AP7522
- AP7532
- AP7562
- AP8432
- AP8533

For more information on using ExtremeWireless WiNG access points at your ExtremeLocation site, see Configuring ExtremeWireless WiNG Access Points on page 48.

ExtremeWireless Access Points

The following ExtremeWireless access points are supported by ExtremeLocation.

- ExtremeWireless AP3912
- ExtremeWireless AP3915
- ExtremeWireless AP3916
- ExtremeWireless AP3917
- ExtremeWireless AP3935
- ExtremeWireless AP3965

For more information on using ExtremeWireless access points at your ExtremeLocation site, see Configuring ExtremeWireless Access Points on page 83

Step 5: Configure the ExtremeLocation Service

The ExtremeLocation Service configuration activities such as creating and managing sites, creating and managing categories and others are performed through the **Maps** screen. The following activities can be performed:

- Create a Site.
  - Allocate licenses to the site.
  - Allocate access points to the site.
- Place an access point on a floor map in the site.
- Create Regions/Category/Zones for the site.

Add a Site

Sites are locations that are monitored using the ExtremeLocation system. A site is a physical area such as a store, hotel or a hospital or a venue such as a shopping mall or airport for which you capture locationing data. A typical site is made up of one or more floors which are further devided into logical areas or zones. Zones or categories are used to logically separate the floor for ease of locationing and visitor tracking.

For each floor in a site, you must upload a floor map if you want to use the zone or position tracking feature. You need not upload a floor map if you want to use the presence feature only. Use the floor map to accurately mark the locations of the access points installed on the floor. The access points gather the location data for all visitors to the floor and this information is used along with the mapped zones or categories to accurately track visits and visitors to the floor and to each zone on the floor.

To create a new Site:

1 Select **Maps** from the main menu.

The Maps screen appears.

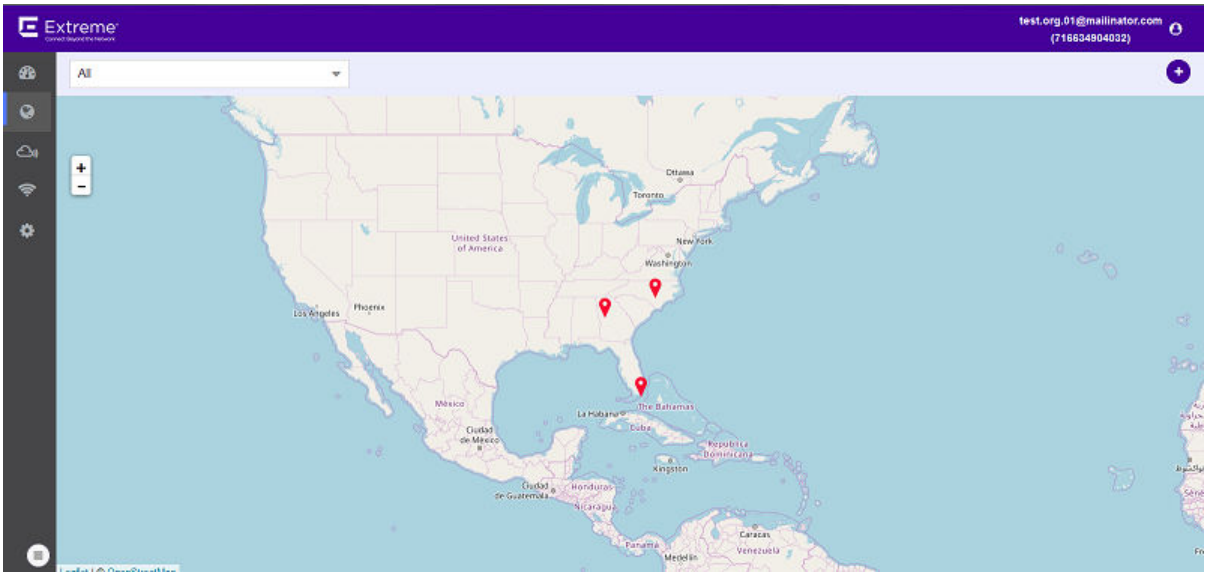


Figure 10: Maps Screen

2 Use  located to the right side of the screen to add a new site to this ExtremeLocation account.

The following dialog displays.

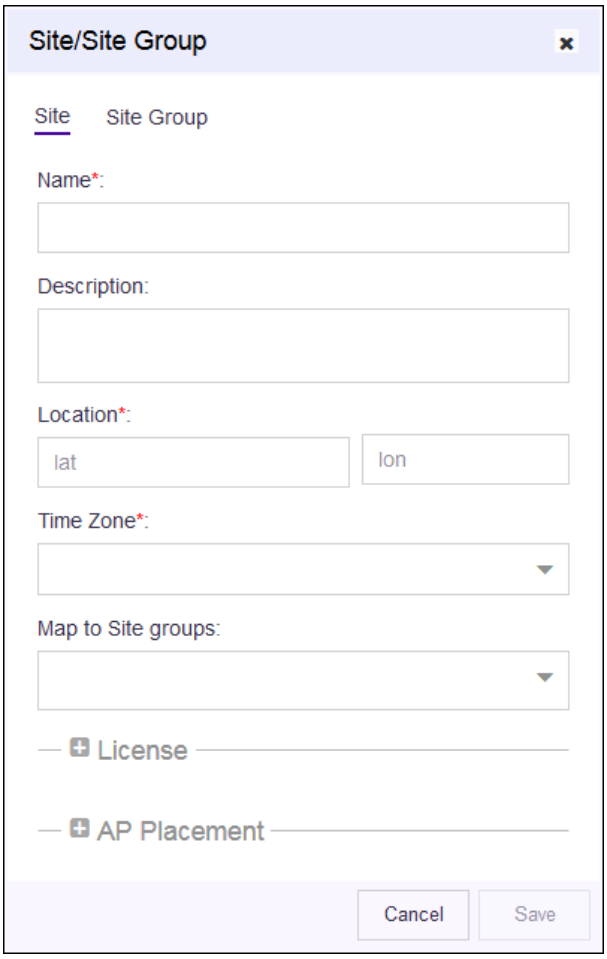


Figure 11: New Site Dialog

3 Use the blinking site placement icon located at the center of the Maps screen to accurately place the site on the displayed map.

Drag the site placement icon to a location nearest to the actual location on the map. Use the map's zoom control and drag feature to place the icon at the site's exact geo-location on the map.

The exact location coordinates (latitude and longitude) and the time zone for the location are populated in the dialog.

4 Provide the following information for creating the new site.

Name	Provide a name for this site. The site's name should be descriptive such that identifying the site among similar sites becomes easier. This is a mandatory field.
Description	Provide a brief description about the site. The information in this field should describe the site in more detail than the name.
Location - lat	Displays the exact latitude of the location of the blue site placement icon. You can also enter a latitude value in this field to move the site placement icon to the specified location.
Location - lon	Displays the exact longitude of the location of the blue site placement icon. You can also enter a longitude value in this field to move the site placement icon to the specified location.

Time Zone	Use this field to set the time zone for the location. When a site is located using the site placement icon, this field is automatically populated with the correct time zone for the location. You can also use the drop-down list to select the correct time zone for this location. This is a mandatory field.
Map to Site Group	Use the drop-down list and select the Site Group to assign this to this site. Site groups are a logical grouping of sites that share some similar characteristics. Assigning a Site Group is not mandatory. For more information on Site Group, see Add a Site Group.

5 Select the **License** label to expand it. Use the **Allocated on Site** spinner control to set the number of licenses allocated for use at this site.

The **Allocated on Site** control sets the number of licenses allocated and available for use at this site.

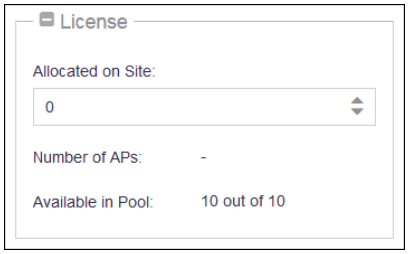


Figure 12: Assign License

The area displays the following information:

Allocated on Site	Use the spinner control to set the number of access point licenses to be assigned to this site.

Note
You cannot assign more licenses than those available for use. The number of available licenses is displayed in the **Available in Pool** field.

Number of APs	Displays the number of access points assigned to this site.
Available in Pool	Displays the number of licenses available for assignment. It also displays the total number of licenses available for this ExtremeLocation account.

The total number of **Used** and **Available** licenses are also displayed alongside the **Allocated** field.

When a license is assigned to the site, it reduces the total number of licenses available for use for this ExtremeLocation account. The number of licenses that can be allocated to this site cannot exceed the total number of licenses available with this ExtremeLocation account.

Each access point added to the site consumes one license and is reflected in the **Used** field.

6 Select the **AP Placement** label to expand it.

The AP Placement control assigns access points to the site using their MAC addresses.

Note

When adding MAC addresses of ExtremeWireless access points with two LAN ports, add the MAC address of the LAN port marked as 'Lan 1'. The following ExtremeWireless access points have two LAN ports.

- AP3917
- AP3935
- AP3965

Use the **Upload CSV File type** control to upload a list of Access Points to be assigned to this site. The list of assigned access points must be placed in a Comma Separated Value (CSV) file before uploading to the site.

Selecting the **Click here for Sample CSV** downloads a `.csv` file that can be used as a template for the file containing the list of access point MAC Addresses to be assigned to this site. Use the **Browse** button to navigate to the `.csv` file on the local PC.

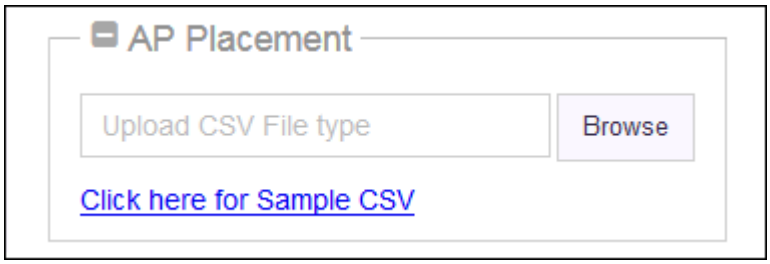


Figure 13: AP Placement

To assign a single access point to a site, use the `.csv` file as a template to enter the MAC address of the access point and upload the `.csv` file.

7 Select the **Save** button to save and create the new site.

At any point of time, select the **Cancel** button to exit without creating the site.

The new site is created with the information provided in this dialog. The site becomes available for use immediately.

8 Use the Maps view to locate your new site and select it.

The site's information is displayed as a pop-up dialog.

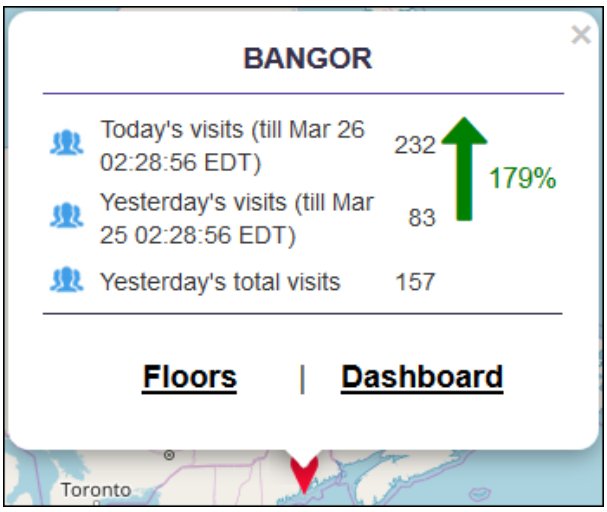


Figure 14: Site Information Pop-up

The next step is to add a floor to the site. To add a new floor, see Add a Floor on page 26.

Add a Floor

A Floor is a physical division on the site. A site must have one floor and can have multiple floors. Optionally, you can assign each floor on the site a floor map. Floor map is not required if you only require presence information. Floor map is required for zone and position tracking. This information is then used by ExtremeLocation to provide locationing and other services.

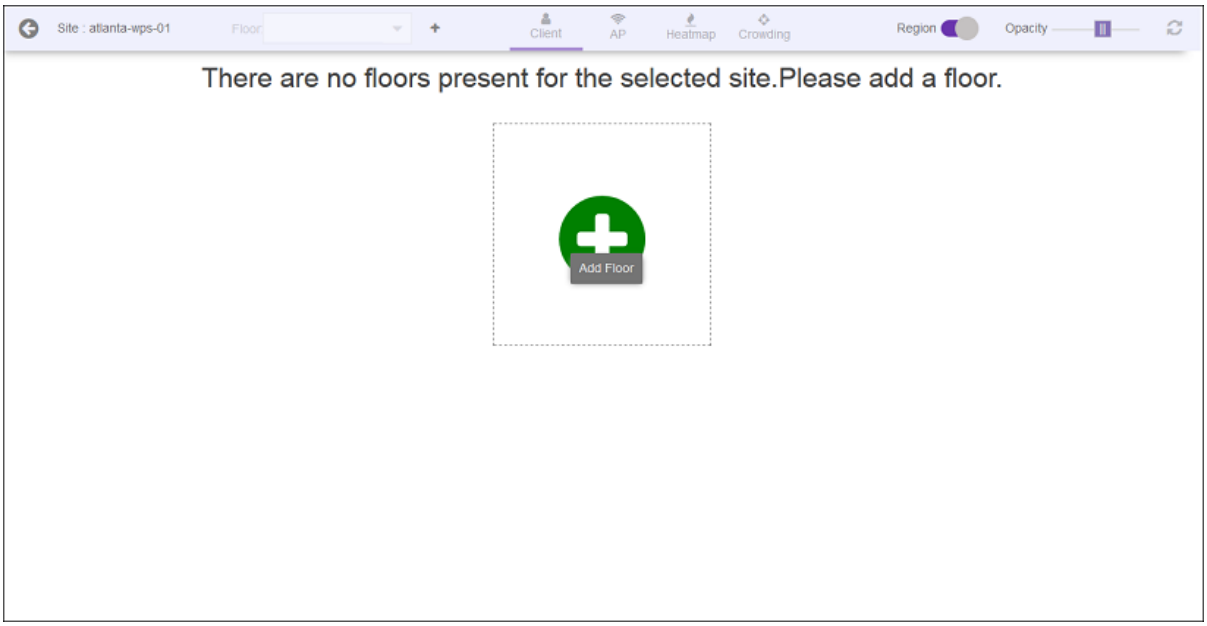
1 Select the **Floors** link on the pop-up.

The Maps screen displays any floor that is already configured for this site.

Figure 15: Floor Map

If no floors are configured, the Maps screen displays the following.

Figure 16: No Floors Configured



2 When the site has floors, use the + icon located to the left of the **Floors** drop-down list to add a new floor.

Figure 17: Add Floors Button

If the site has no floors, use the + icon to add a floor or you can use the big green circle on the screen to add the new floor.

The Add Floor dialog appears.

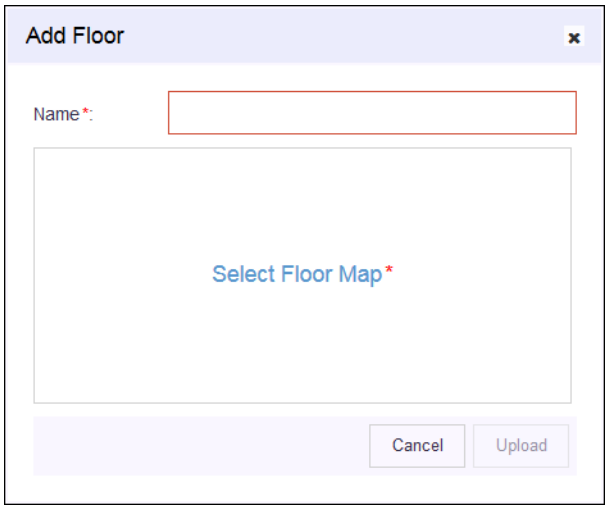


Figure 18: Add Floor Dialog

3 Use the **Name** field to provide a name for this floor. The floor's name should be descriptive such that identifying the floor among other floors in the site becomes easier. This is a mandatory field.

4 Select the **Select Floor Map** label to add a floor map to be associated with this floor. You cannot add a floor without adding its floor map. This is a mandatory action.

The Operating System's File Open dialog appears. Use this dialog to navigate to the image file containing the floor's map and add it. A thumbnail of the floor map is added to the dialog.

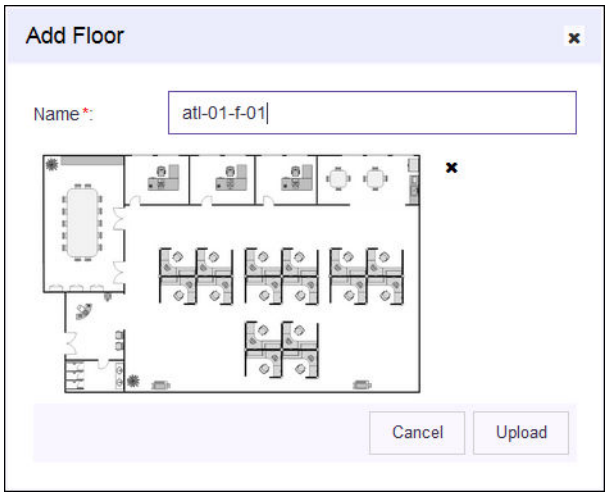


Figure 19: Floor Map Loaded

You can use the small 'x' located next to the thumbnail image to remove the floor map image from this dialog.

5 Select the **Upload** button to upload the floor map and create the new floor.

At any point of time, select the **Cancel** button to exit without creating the floor.

The new floor is created with the information provided in this dialog. The floor reloads and the following screen appears.

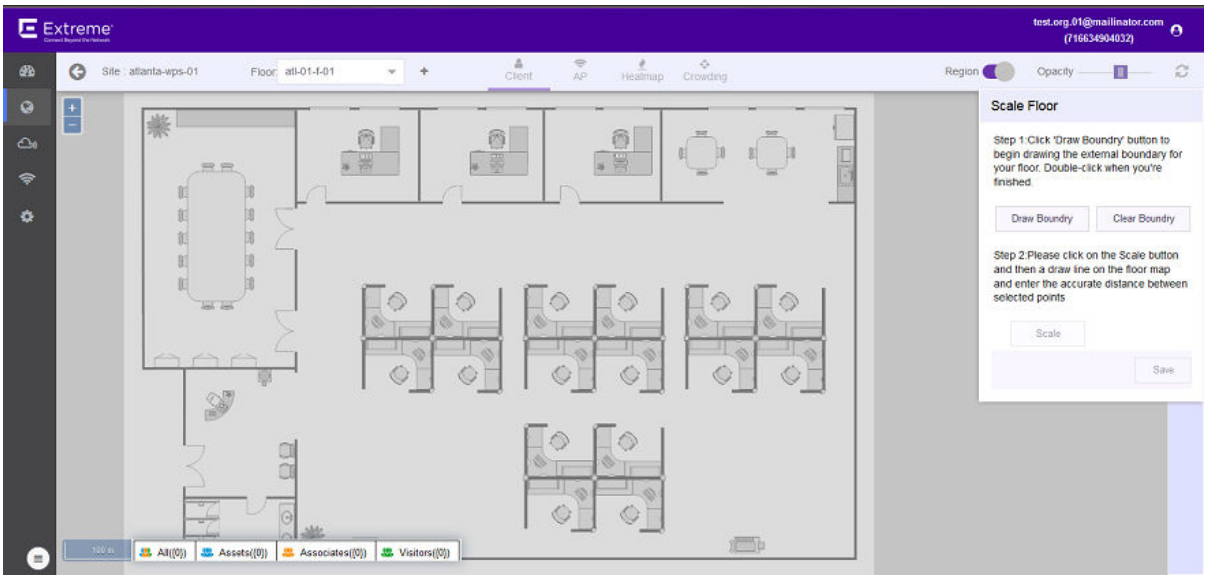


Figure 20: Scale Image Screen

6 In the Scale Floor dialog, select **Draw Boundary**. (The area within the boundary is used to determine device location.) To anchor the beginning of the boundary line, click a corner of the outside boundary. Click each corner to anchor the line. The drawing line zigzags across the image as you anchor each corner. When you reach the last corner (which is also your starting point), double-click the last corner to disable the pen tool.

The entire outside boundary is drawn and the **Scale** button is enabled.

Note

If you make a mistake, select **Clear Boundary** to remove the entire boundary and start over.

7 Select **Scale**. Choose two points on the floor map for which you know the actual physical distance. Click on the first point and drag your pointer to the other point.

Note

Proper scaling is fundamental to the accuracy of the location data for this site. Verify that the scaling information is as accurate as possible.

A line is drawn on the map between the two points.

8 Enter the physical distance value in the Scale Floor dialog.

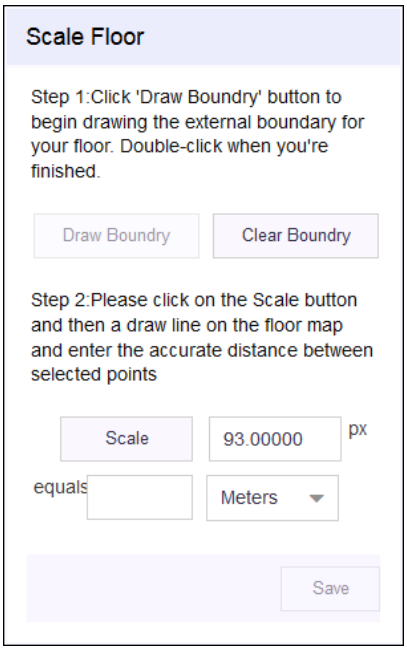


Figure 21: Add Scaling

9 Select the **Save** button.
The dialog briefly displays the scaling factor. The scaling factor is also displayed at the bottom left of the Floors screen.

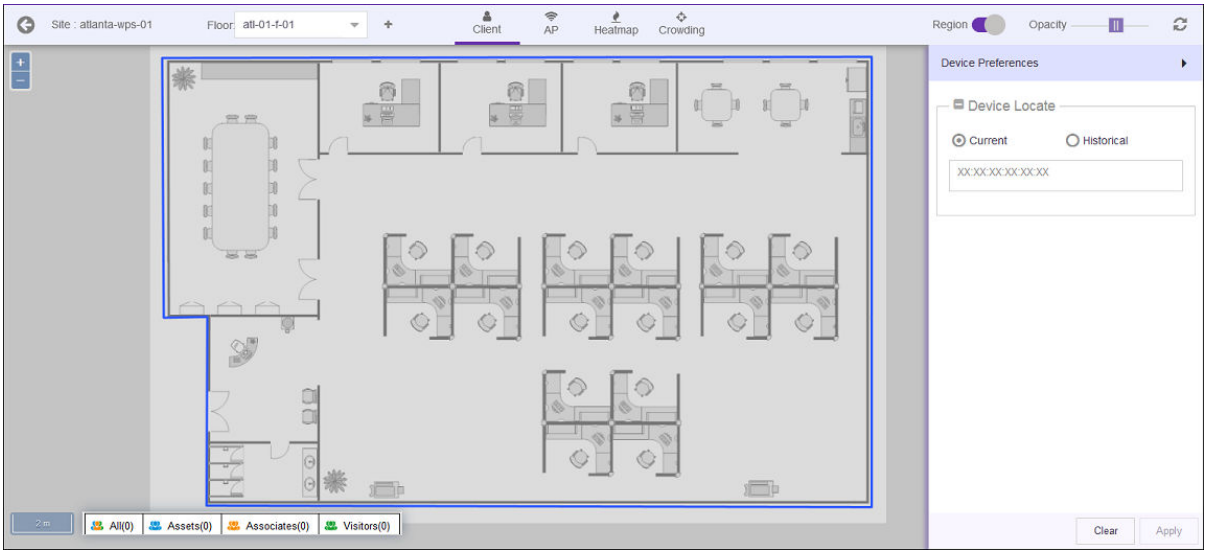


Figure 22: New Floor

Add an Access Point

Access points provide the infrastructure for ExtremeLocation service. ExtremeLocation uses the access point's radio's sensor capability to provide the locationing and tracking services within its service area. Access points must be added to a site's floor for viewing the visits and heat map for the floor.

To add an access point to the floor:

1 Select AP from the Client AP Heatmap Crowding toolbar.

The following screen appears.

Figure 23: Maps Screen - Add Access Point

By default, the **Floor Preferences** area displays the **Access Points** assigned to this site.

2 From the list of access points, select an unplaced access point and drag it to its location on the floor map.

An unplaced access point can be identified by the icon and will also have a Trash icon alongside it. Use the Trash icon to remove this access point from the list. Trashed access points will be available for re-deployment across all the sites for this ExtremeLocation account.

An access point placed on the floor map is identified by the icon and will have a small 'x' icon alongside it. Use the 'x' icon to remove the access point. This access point can then be re-deployed to an another floor of this site.

Caution

When re-deploying an access point, please note that all previous analytics data will be lost and cannot be recovered.

You can also select and drag an access point to a re-locate it to a different location on the floor.

Note

When an access point is placed on a floor map and is unable to contact the ExtremeLocation server, its icon changes to . For more information on the various states that an access point can be in, see Access Point Status Icons in Map View

3 Set the **Category** to which this access point belongs. Use the drop-down list to select the appropriate category. Multiple categories cannot be selected.

Any data sent by this access point is tagged with this category.

You can create a new category by selecting the + button next to the **Category** list.

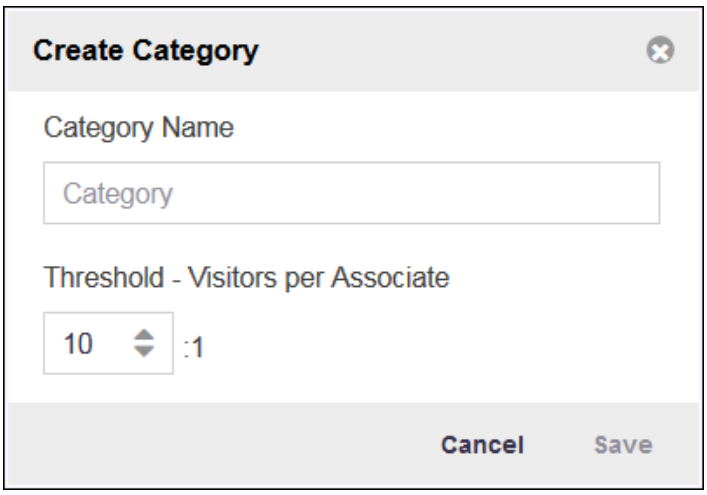


Figure 24: Create Category Dialog

Provide a name for the new category in the text box.

4 Set the **Threshold - Visitors per Associate** value for triggering the crowding feature.

This value is the threshold of number of visitors to the number of associates above which a Crowding event is triggered. In this example, if the ratio of 10 visitors per associate is exceeded, a Crowding event is triggered.

For more information, see Crowding View

5 Select **Save** to apply the changes made to the **Category** and **Zone Threshold** fields and apply these values to the access point.

At any point, use **Reset** to reset the values in the **Category** and **Zone Threshold** fields to their previous values.

Add a Region

Regions are locations on map that identify an area on a floor. For example, in a shop, the cosmetics aisle can be marked with the region 'Cosmetics'. Similarly, in an office, the area where the Accounts team is located can be marked with the region 'Accounts'. This segregation of the floor into logical regions enable you to get an idea of the visits in that particular region of the floor.

To create a region:

1 Select the AP button from the Client AP Heatmap Crowding toolbar.

The following screen appears.

Figure 25: Maps Screen - Access Point Screen

By default the Floor Preferences dialog displays the access points assigned to this site.

2 Select the **Regions** label to expand it.

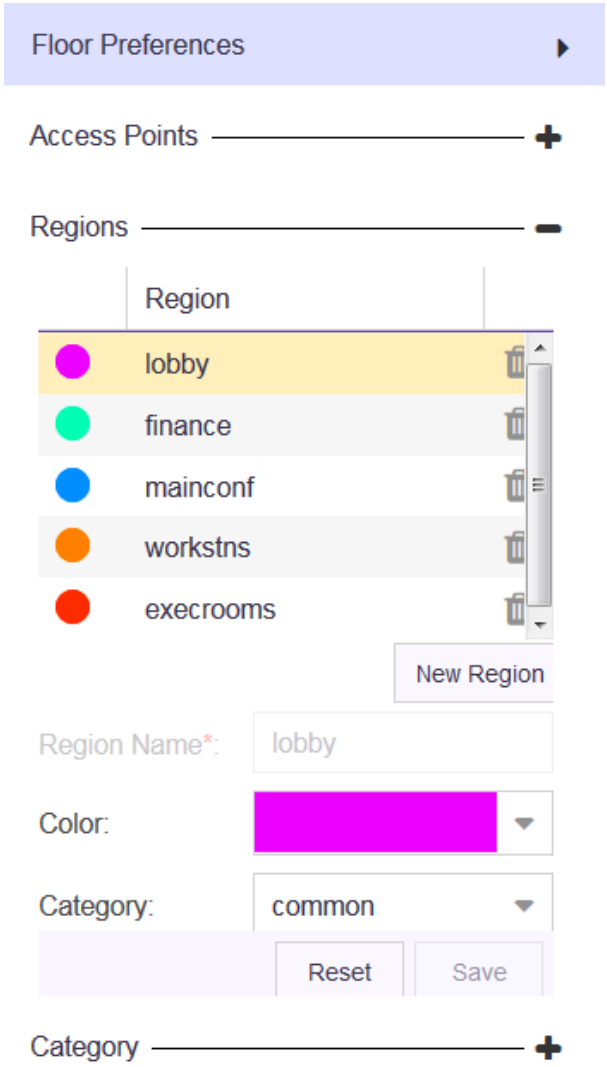


Figure 26: Regions Pane

The **Regions** pane displays a list of configured regions for this floor map. Select a region in the list to identify it on the floor map. The selected region is highlighted on the floor map with a thick border around it.

3 Select the **New Region** button to add a new region.

The **Region Name** text box is enabled.

4 Enter a valid Region name.

5 Use the **Color** control to select a unique color for this region.
Selecting an unique color enables you to quickly identify a region in a floor with multiple regions. The following dialog appears.

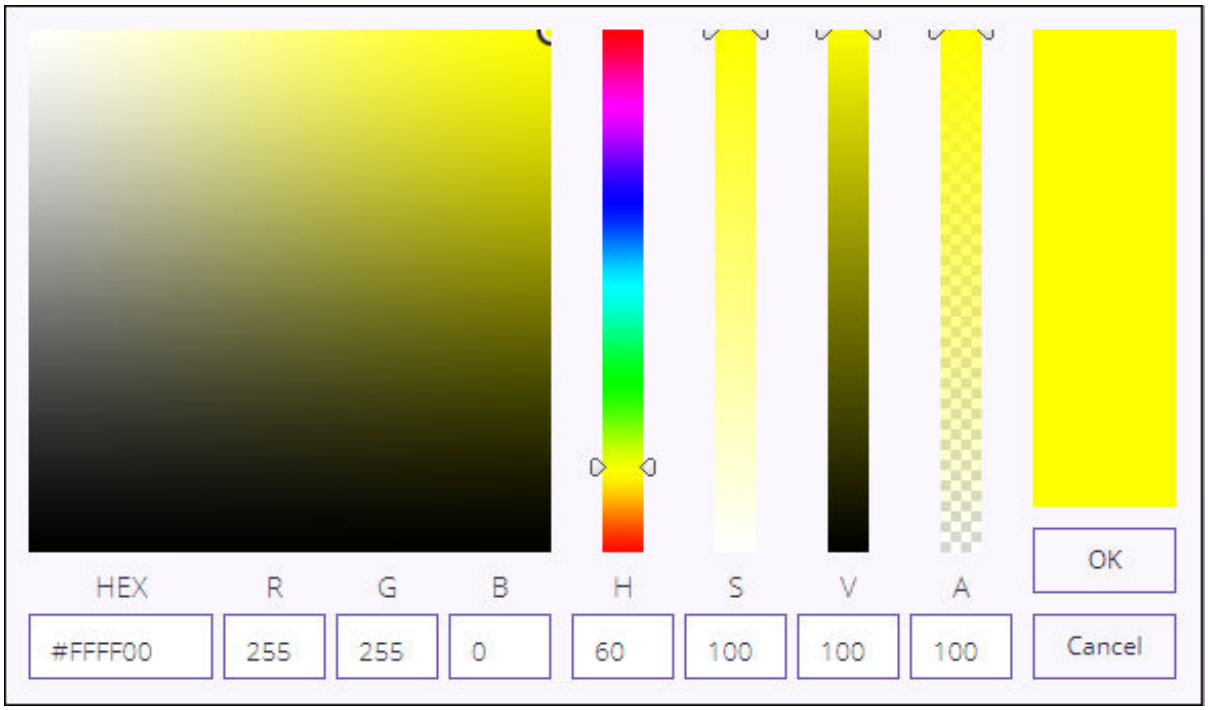


Figure 27: Region Color Picker

Set the HEX, RGB, or the HSVA parameters to define your color. In this dialog, setting any value changes the values in the other fields to reflect the same color in their respective notations.

Attention
The "ALPHA" channel is not used when defining a region's color.

Select **OK** to set the selected color as the region's color. At any time, select **Cancel** to exit without setting the color.

The selected color is set as the region's color.

6 Select the region's **Category** using the drop-down list. When set, this category value has precedence over the category set on the access points that are placed in this region.

Use the + button to add a new category if it does not exist.

7 Draw a rectangular area on the floor map to mark the region.
A region is created and placed on the floor map.

8 Select **Save** to save the new region.
At any time select **Reset** to exit without creating a new region.

Step 6: Configure the ExtremeLocation Dashboard

Use the fully customizable ExtremeLocation Dashboard to display data for the sites managed by your ExtremeLocation account. ExtremeLocation provides a large number of widgets for you to use in the

dashboard to filter to the data that is of interest for your site and your requirement. You can create any number of custom Dashboards to meet your requirements.

You can filter the data displayed on the dashboard by location or site group and further on the time duration of interest. These options, location and time, can be applied independent of each other. You can filter the data displayed on the dashboard based on the location or time or both.

Create a Dashboard

To create a new ExtremeLocation dashboard:

1 Select **Dashboard** from the main menu.
The dashboard marked as favorite automatically loads.

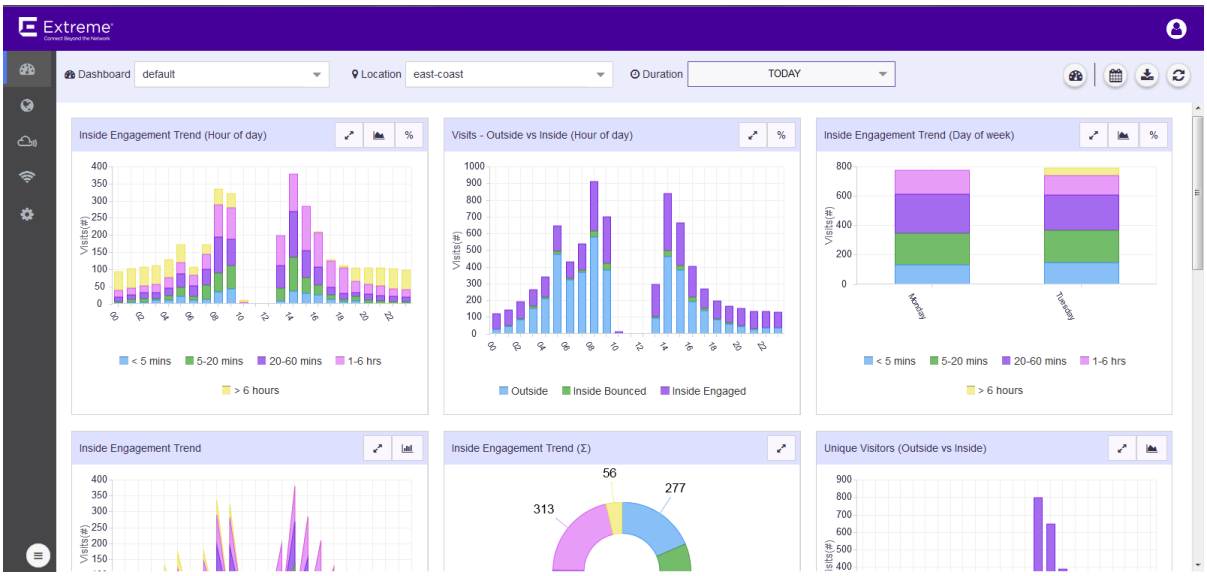


Figure 28: The Dashboard Screen

If no dashboard exists, the following is displayed on the dashboard screen.

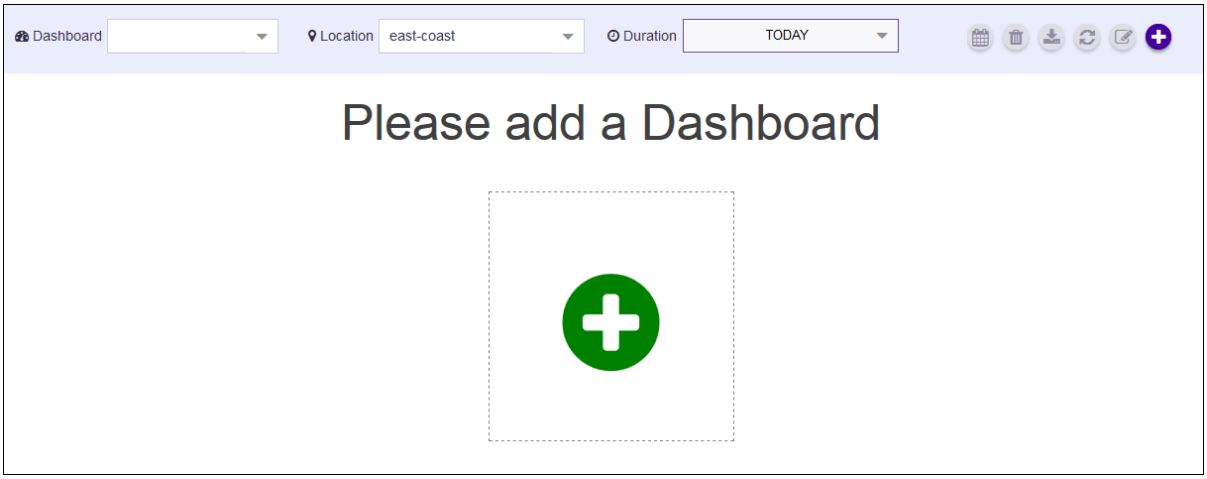


Figure 29: The Dashboard Screen When No Dashboard is Available

2 When no dashboard exist, click the big green circle in the middle of the screen to create a new dashboard.

3 If dashboards are available for this account,  button from  tool bar.

The button expands to display a drop-down list.

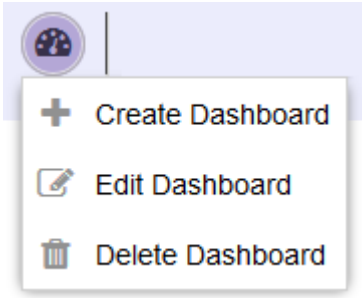


Figure 30: Manage Dashboard Options

4 Select **Create Dashboard** from the drop-down list.

The following New Dashboard screen appears.

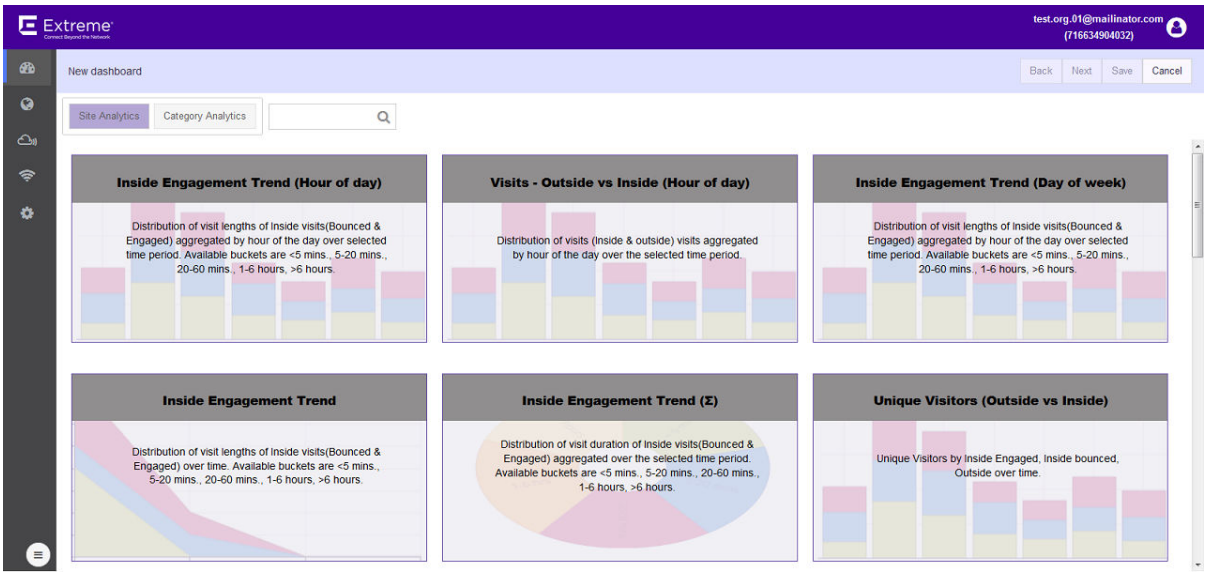


Figure 31: New Dashboard Screen

5 Select one of the two available widget categories.

Widgets on the **New Dashboard** screen are classified into:

- **Site Analytics** - Use the widgets in this category to display site analytics data.
- **Category Analytics** - Use the widgets in this category to display category/zonal analytics data.

Figure 32: Widget Categories

Use the **Search** text box to drill down to the widgets of interest.

6 Click the widget to select it. You can select multiple widgets to add to the dashboard at a time.

A green check mark appears on the top right of the selected widget.

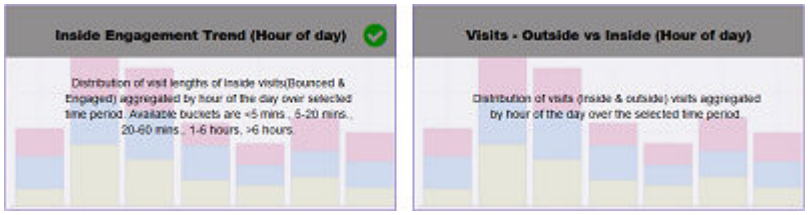


Figure 33: A Selected and an Unselected Widget

7 Select **Next** located to the top right, above the **New Dashboard** screen.

The following screen appears:

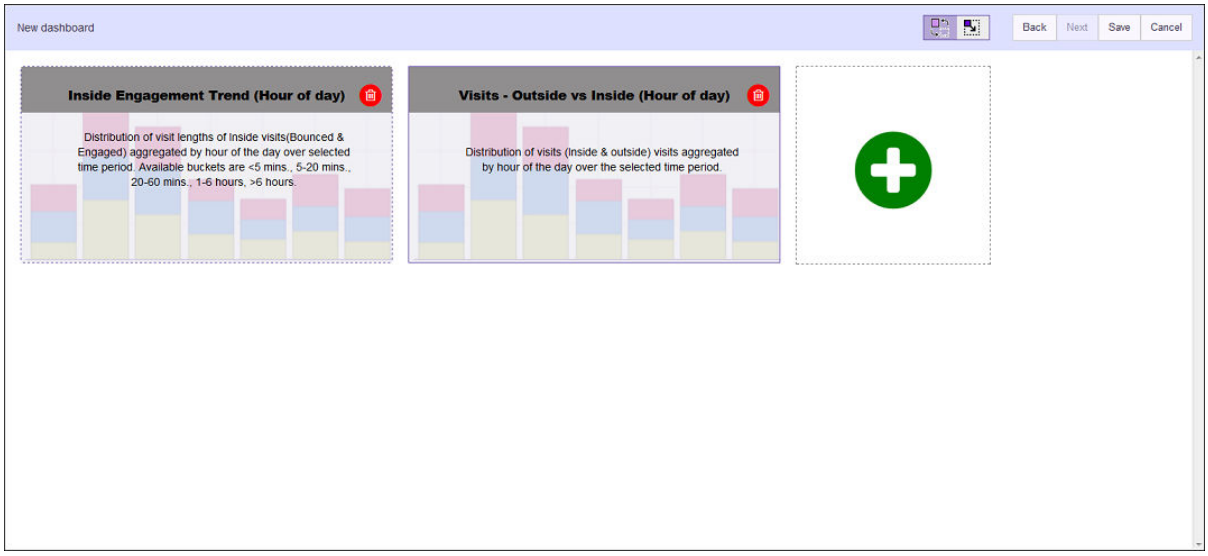


Figure 34: New Dashboard screen - Widget Placement and Sizing

To remove a widget already placed on the dashboard, use the red **X** located to the top of that widget. This immediately removes the widget from the dashboard.

8 Use the  buttons to rearrange or re-size the selected widgets on the new dashboard.

Select a widget and drag it to the desired location on the dashboard. The other widgets on the dashboard are automatically rearranged to accommodate the moved or re-sized widget. To re-size a widget, select **Resize**. A small triangle appears in the bottom right of each widget. Click and drag this triangle to re-size the widget.

9 Select **Save** to save the final dashboard layout.

At any time use **Back** to navigate to the previous screen. Similarly, use **Cancel** to exit without creating the dashboard.

A small window appears.

Figure 35: Name the New Dashboard

10 Provide a name for this dashboard and select **Save**.

The dashboard is saved and displays the configured data.

Load the Dashboard

To display the ExtremeLocation dashboard:

1 Select **Dashboard** from the main menu.

The dashboard marked as default automatically loads.

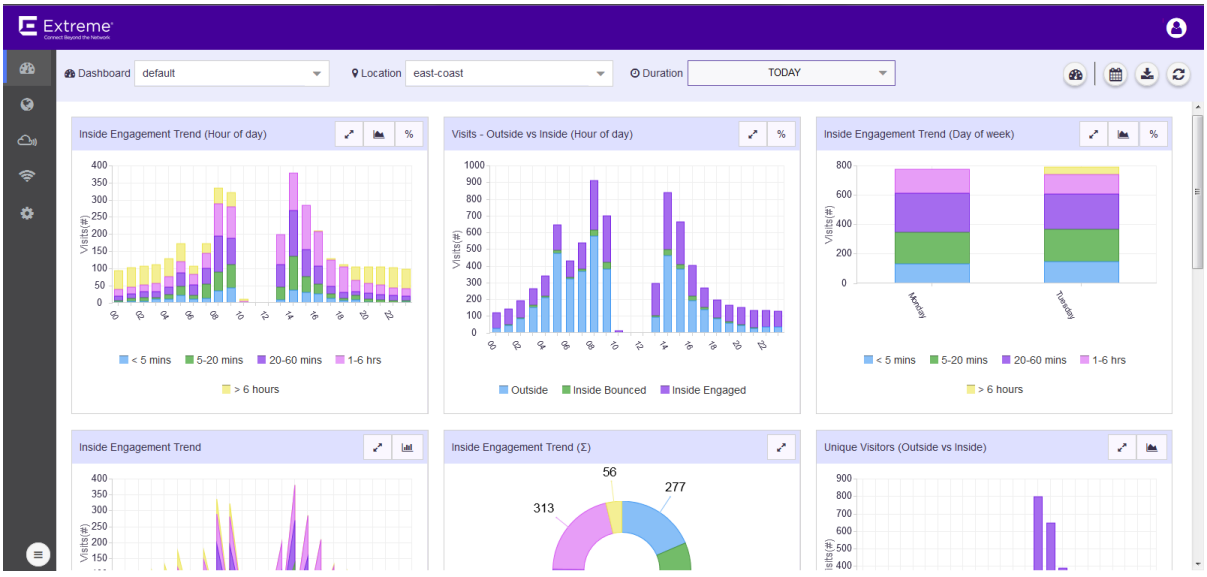


Figure 36: The Dashboard Screen

2 To select a different dashboard, use the **Dashboard** drop-down list.

The selected dashboard opens and displays the configured data.

3 To manually refresh the data on the screen, select the  button from  tool bar.

4 Select the  button from  tool bar.

The button expands to display a drop-down list.

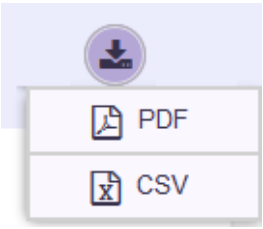


Figure 37: Dashboard Download Options

5 Select the **PDF** button to save the current state of the dashboard as a Portable Document Format (PDF) file. Select the **CSV** button to save the current state of the dashboard as a Comma Separated Value (CSV) file.

6 Use the **Location** drop-down list to select a site and to display the data for the selected site when multiple sites are available under this ExtremeLocation account.

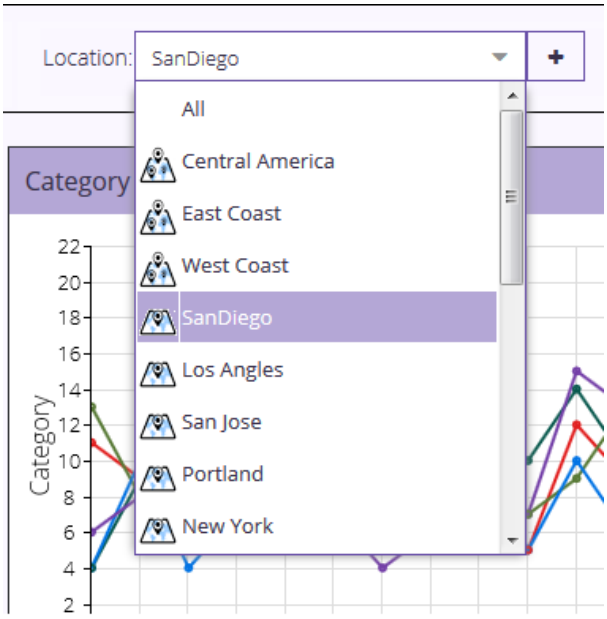


Figure 38: Location Drop-Down List

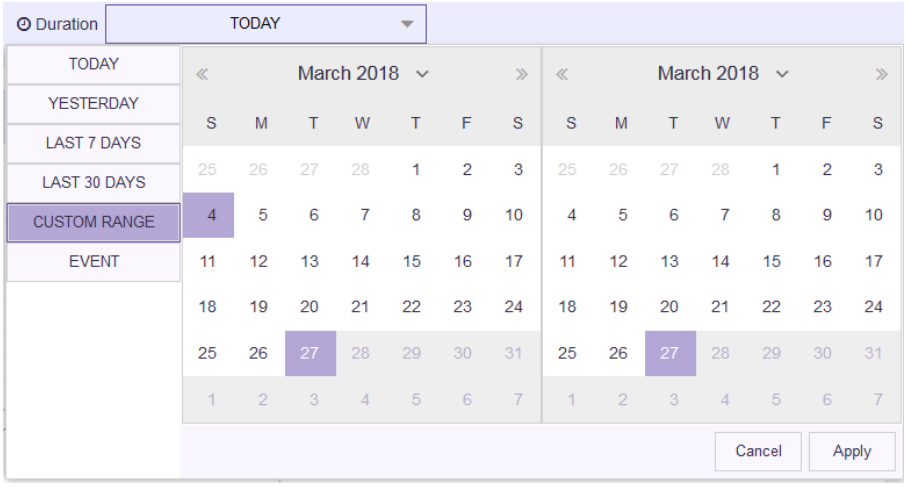
The dashboard refreshes to display data for the selected site or a group of sites.

7 Use the **Duration** drop-down list to select a time duration to display data for.

The drop-down provides a set of pre-configured durations for filtering data. The available pre-configured durations are:

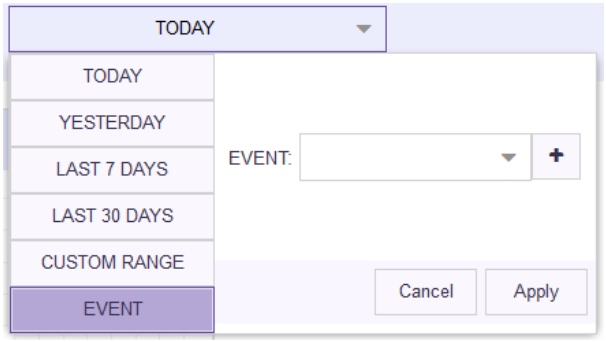
- Today - Displays the data for the current date. Excludes data for all other dates.
- Yesterday - Displays the data for the day before the current date. Excludes data for all other dates including data for the current date.

- Last 7 Days - Displays the data for the last 7 days prior to the current date. Includes data for the current date. Excludes data for all other dates.
- Last 30 Days - Displays the data for the last 30 days prior to the current date. Includes data for the current date. Excludes data for all other dates.
- Custom Range - Displays the data for a user selected date range.



Select the start date and end date for the range from the displayed calendar and select **Apply**.

- Event - Displays the data for user created "Event" such as a sale or a conference. An Event is a user created date range that is identified with an unique name.



Use the drop-down to select the event of interest and select **Apply**. See Create an Event to know about creating an event.

8 Periodically select the  button from  tool bar to refresh the data displayed on the current dashboard.

Dashboard Widgets

Widgets are used to display the data of interest from a site's locationing data on the dashboard . Widgets on the New Dashboard screen are classified into:

- Site Analytics - These set of widgets display site analytics data.
- Category Analytics - These set of widgets display category analytics data.

Figure 39: The Widget Categories

Use the **Search** text box to drill down to the widgets of interest.

Site Analytics Widgets

Use the Site Analytics widgets to display various site analytics data on to the dashboard. The following widgets are available

Widget	Description
Visit Type	This widget displays the device visit types distribution classified as **Outside**, **Inside Bounced** or **Inside Engaged** on a bar chart.
Inside Engagement Trend	This widget displays the distribution of devices classified as *Inside* a site further classified as **Bounced** or **Engaged** visitors. Data is displayed for each of these visit types for these time ranges: • <5 minutes (devices in site less than 5 minutes) • 5-20 minutes • 20-60 minutes • 1-6 hours • >6 hours
Inside Engagement Duration	This widget displays the average engagement duration for *Inside Engaged* visitors. Engagement duration is the time the user is engaged (stays) inside the site.
Loyalty - First vs Repeat	This widget displays the distribution of total visits classified into first time visits and repeat visits.
Visit Opportunity	This widget displays the total number of *Outside* and *Inside* visits identified by ExtremeLocation based on the devices identified by it. Each observation of the same device is counted as a separate visit.
Visit - Outside vs Inside	This widget displays the distribution of visits based on visit types. Visit types can be one of *Outside*, *Inside Bounced* or *Inside Engaged*.
Inside Engagement Trend (aggregated)	This widget displays the aggregated distribution of *Inside* visitors on visit duration. Inside visitors are further classified as **Inside Bounced** and **Inside Engaged** depending on the time duration the visitor spends in the site. Data is displayed for each of these visit types for these time ranges: • <5 minutes (devices in site less than 5 minutes) • 5-20 minutes • 20-60 minutes • 1-6 hours • >6 hours
Top 5 Sites (Visit)	This widget displays the top five sites sorted by the total number of inside visits observed across all of the sites. This is a good metric for venue owners to identify top-performing venues that get more footfalls compared to all other sites.

Widget	Description
Bottom 5 Sites (Visit)	This widget displays the bottom five sites sorted by the total number of inside visits observed across all of the sites. This is a good metric for venue owners to identify poorly performing venues which have low footfalls compared to all other sites.
Top 5 Sites (Visit Duration)	This widget displays the top five sites sorted by the time the visitor is engaged (spends) in the site. This is a good metric for venue owners to identify top-performing venues that get visitors to spend more time there when compared with all other sites.
Bottom 5 Sites (Visit Duration)	This widget displays the bottom five sites sorted by the time the visitor is engaged (spends) in the site. This is a good metric for venue owners to identify poorly performing venues that visitors do not spend time in when compared with all other sites.
Visits - Outside vs Inside (Day of Week)	This widget displays a chart of the total of all visits to all the sites managed by this ExtremeLocation account classified into *Outside*, *Inside Bounced*, and *Inside Engaged* visits. This data is then displayed for each day of the week.
Visits - Outside vs Inside (Hour of Day)	This widget displays a chart of the total of all visits to all the sites managed by this ExtremeLocation account classified into *Outside*, *Inside Bounced*, and *Inside Engaged* visits. This data is then displayed for each hour of the day.
Inside Engagement Trend (Hour of Day)	This widget displays a chart of the total of all visits lengths of all visitors classified as *Inside* consisting of *Inside Bounced* and *Inside Engaged* visitors for all the sites. This data is then displayed for each hour of the day classified by visit duration. Data is displayed for these time ranges: • <5 minutes (devices in site less than 5 minutes) • 5-20 minutes • 20-60 minutes • 1-6 hours • >6 hours
Inside Engagement Trend (Day of Week)	This widget displays a chart of the total of all visits lengths of all visitors classified as *Inside* consisting of *Inside Bounced* and *Inside Engaged* visitors for all the sites managed by this ExtremeLocation account. This data is then displayed for day of the week classified by visit duration.
Unique Visitors (Outside vs Inside)	This widget displays a chart of the total unique visits to the site further classified into *Inside Bounced*, *Inside Engaged*, and *Outside* visit types by time duration. Select the labels at the bottom of this widget to hide/view the data of interest.
Unique - Inside Engaged vs Associates vs Assets	This widget displays a chart of the unique visits to the site by *Inside Engaged* visitors, *Associates*, and *Assets* by time duration. Select the labels at the bottom of this widget to hide/view the data of interest.
Visits - Inside Engaged vs Associates vs Assets	This widget displays a chart of the total visits to the site classified by *Inside Engaged* visitors, *Associates*, and *Assets* by time duration. Select the labels at the bottom of this widget to hide/view the data of interest.
Visits - Inside Engaged vs Associates vs Assets - Totals	This widget displays a chart of the all visits to a site classified by *Inside Engaged* visitors, *Associates*, and `Assets`.

Category Analysis Widgets

Use the Category Analytics Widgets to display various category analysis data on to the dashboard. Category analytics are generated based on the category values assigned to regions or access points on the floor plan for a given site. For example, when ExtremeLocation is deployed in a retail environment, you could set your categories as *Electronics*, *Cosmetics*, *Baby Care*, etc.

The following widgets are available

Widget	Description
Category Visits - Inside Visitors vs Associates vs Assets D	This widget displays summary of visitors to a user selected category. The visits are classified as Inside Visitors, Associates and Assets and displayed for the duration specified in the **Duration** drop-down.
Category Visits (Visitors)	This widget displays the distribution of category visits by visitors over time. Select a category (legend) below the graph to show or hide the graph for the selected category.
Top 5 Categories (by Visits)	This widget displays the top five categories by number of visits to the category area.
Category Visits (Associates)	This widget displays the distribution of category visits by associates over time. Select a category (legend) below the graph to show or hide the graph for the selected category.
Bottom 5 Categories (by Visits)	This widget displays the bottom five categories by number of visits to the category area.
Category Visits (Assets)	This widget displays the distribution of category visits by tracked assets over time. Select a category (legend) below the graph to show or hide the graph for the selected category.
Top 5 Categories (by Visit Duration)	This widget displays the top five categories by visit duration to the category area.
Category (Visit Duration - Visitors)	This widget displays the distribution of category visits by visitors and the time duration (in minutes) spent by these visitors in that category. Select a category (legend) below the graph to show or hide the graph for the selected category.
Bottom 5 Categories (by Visit Duration)	This widget displays the bottom five categories by length of visits (in minutes) to the category area.
Category - Unique Visitors	This widget displays the distribution of unique visitors to a category/zone over time. Select a category (legend) below the graph to show or hide the graph for the selected category. Does not track repeat visitors to the category.
Category (Visit Duration - Asset)	This widget displays a graph of visit durations by assets over time.
Category (Visit Duration - Associates)	This widget displays a graph of visit durations by associates over time.
Category - Unique Assets	This widget displays a graph of the number of unique assets in each category arranged in descending order over time.
Category - Unique Associates	This widget displays a graph of the number of unique associates in each category arranged in descending order over time.
Category Visit Duration - Inside Visitors vs Associates vs Assets	This widget displays a graph of the distribution of visit durations for *Inside Visitors*, *Associates*, and *Assets*. Use the category drop-down to select a category to display data for.

Widget	Description
Category Crowding	This widget displays a graph of the distribution of crowding events over time. It shows where crowding has occurred and which categories have had more events in comparison to other categories.Use the historical data to determine where more associates should be deployed.
Category Path Analysis	This widget displays a multi-dimentional view representing the movement of visitors from one category to another. The following data is displayed: • comparison of visitor flow across categories • absolute number of visitor movements across categories • direction of visitor flow across categories

Step 7 (Optional): Device Classification

Devices are classified into one of the following types:

- Assets
- Associates
- Visitors
- Associate Personal Devices

Devices are classified as `Visitor` when they are identified for the first time at the ExtremeLocation site. This is the default behavior.

Once a device has been classified as `Visitor`, the device is monitored for further classification. Some of the parameters used for device re-classification are the SSID to which the device associates and the time duration the device is seen at a site. Both these parameters are user configurable and are used to fine tune device classification.

ExtremeLocation also classifies personal devices of Associates as a separate category. Use this classification to ignore any data for these personal devices from any analysis and from being displayed in Client View on the floor map.

Device Classification Types

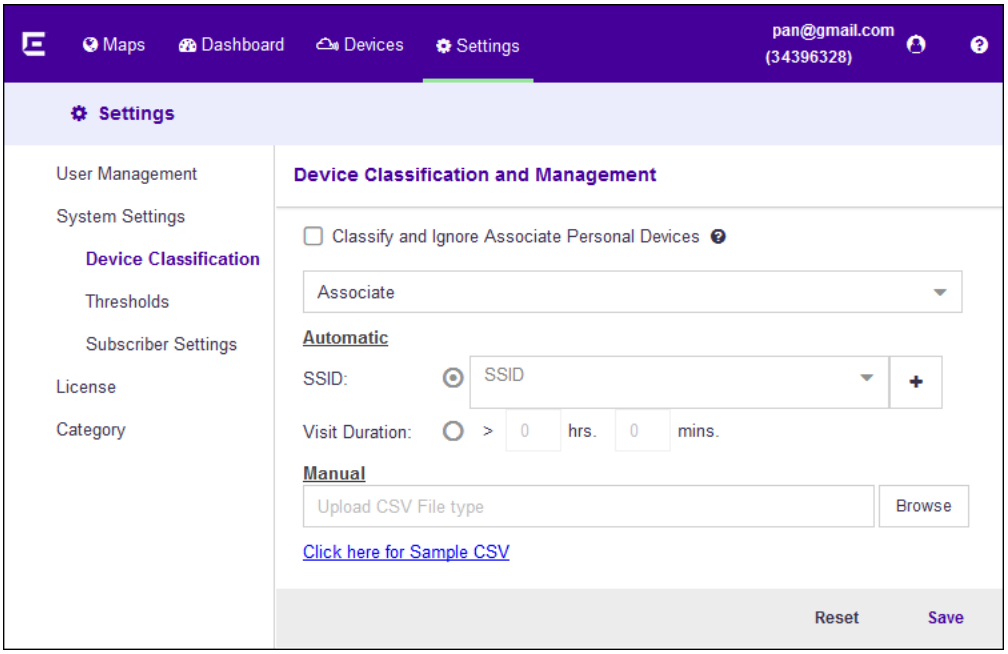
- Assets: Devices such as access points, POS, that are considered as an organization's Assets are classified under this device classification.
- Associates: Devices such bar-code scanners, RFID readers, Mobile Phones that an associate carries on person and uses to perform specific task or tasks related to the Associate's job function are classified as Associates.
- Visitor: This is the default classification applied to any device that is seen at the site for the first time. Generally, this classification applies to any device that is carried by any customer or vendor visiting the site. Depending on other conditions, a device is re-classified to one of the other types from this classification.
- Associate Personal Device: This is a special classification reserved for those device that an Associate carries for personal use and which are different from those devices that is used for carrying out official tasks. You can choose to ignore devices that are classified in this type from being included in any analytics.

Configuring Device Classification

Device Classification can be performed automatically or manually. To configure device classification:

1 Select the **Settings** > **System Settings** > **Device Classifications** menu item

The Device Classification and Management screen displays.



2 Select the **Classify and Ignore Associate Personal Devices** option to ignore any device not classified as either "Associate" or "Asset" and that have spent more than four (4) hours in the site. Use this option to ignore any personal devices such as mobile phones that an "Associate" might carry on person for personal use. When this option is disabled, a message displays warning that currently classified and ignored devices will be treated as "Visitor" devices.

3 Set the **Automatic** classification configuration options to classify the identified devices automatically based on set rules. Use the drop-down to select one of the pre-existing classifications.

Devices can be classified either as Asset or Associate. This classification is based on one of the following rules:

- SSID - Devices are classified based on the SSID that the device associates itself to at the site.
- Visit Duration - Devices are classified based on the duration the device remains at the site.

Note
Device Classification can be done automatically or manually.

When classifying devices automatically using SSIDs, you must manually provide the SSID that is used for the classification. Use the  button to add SSIDs manually. The following field appears when you select the button.

Figure 40: Add SSID Dialog

Enter a valid SSID into the **SSID** field and select **Add** to add the entered SSID to the list. Then, select the appropriate SSID from the **SSID** drop-down list to create your classification rule.

4 Select **Save** to save the changes made to the **Device Classification** parameters.

At any time, select the **Reset** button to revert the changes made to the device classification parameters.

Device Classification Rules

ExtremeLocation allows classification of the devices seen by it into the following categories:

- Assets
- Associates
- Visitors
- Associate Personal Devices

The classification happens according to the following rules:

1 Any device classified manually using imported `csv` file is classified as such immediately.

2 Any devices with Extreme, Symbol, or Motorola OUIs are marked as Assets first. These devices are subject to reclassification when other rules are run later.

3 Associate Personal Devices are disabled by default. When Associate Personal Device support is enabled, any device classified as Associate Personal Devices has a priority lower than devices classified as Assets or Associates. Moreover, any device already classified as either Asset or Associate is not classified again as Associate Personal Devices.

4 Classification rules are run when a device enters a site or exits it. When a device visits a site for the first time, it is always classified as a `Visitor` device. When the device exits the site, it is reclassified based on the following rules which set the priority of the device as:

- When Associate Personal Devices is enabled, the priority is as follows, Associate > Asset > Associate Personal Devices > Visitor.
- When Associate Personal Devices is disabled, the priority is as follows, Associate > Asset > Visitor.

5 The rules for classification as Associate Personal Devices are:

- The device is seen in the environment (site) for more than 4 hours
- On site exit, the device is not classified as an Asset or Associate either through manual classification or through configured rules.

3 Configuring ExtremeWireless WiNG Access Points

An ExtremeWireless WiNG access point can be used with ExtremeLocation in two (2) modes. In the "Radio Share" mode, the access point acts as a sensor when off channel scan is done.

In the "Dedicated Sensor" mode, the access point radios are configured to be dedicated sensors. The radios do not support providing services to wireless clients and are dedicated to the purpose of gathering information about wireless clients and their activities.

To Deploy ExtremeWireless WiNG access points in Radio Share Mode

The following configurations must be performed to deploy ExtremeWireless Access Points in the Radio Share mode.

1 Enable the access point radios to work in the radio share mode. See Radio Share Configuration on page 49.
2 Configure the RF Domain Policy to point to the ExtremeLocation server. See RF Domain Configuration on page 56

To Deploy ExtremeWireless WiNG access points in Dedicated Sensor Mode

The following configurations must be performed to deploy ExtremeWireless Access Points in the Dedicated Sensor mode.

1 Enable the access point radios to become dedicated sensors. See Standalone Sensor Configuration on page 52.
2 Configure the RF Domain Policy to point to the ExtremeLocation server. See RF Domain Configuration on page 56
3 Configure the Sensor Policy to select the channels for scanning and other parameters. See Sensor Policy Configuration on page 61.
4 Link the Sensor Policy to the RF Domain for the configuration to be assigned to all access points in that domain. See RF Domain - Sensor Policy Configuration on page 63

Basic Access Point Configuration

If you have existing ExtremeWireless WiNG access points, you can either configure them to share their radios or configure them as dedicated sensors.

To deploy ExtremeWireless WiNG access points with shared radio usage, see Radio Share Configuration on page 49.

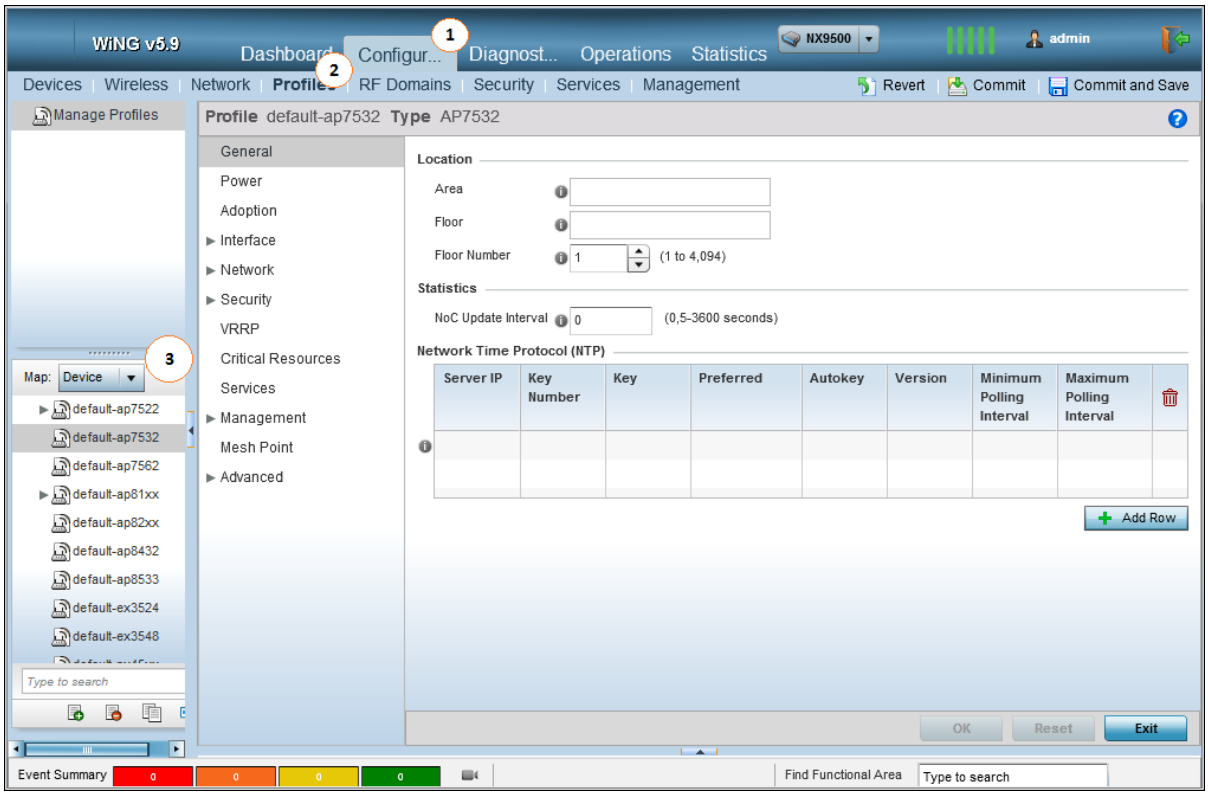
To deploy ExtremeWireless WiNG access points as standalone sensors, see Standalone Sensor Configuration on page 52.

ExtremeWireless WiNG access points can also be deployed in an environment where ExtremeLocation co-exists with AirDefense Service Platform. In such deployments, (where the WiNG access point acts as a dedicated sensor or in the radio share mode) the access point's configuration information is pushed to it from AirDefense Service Platform and not from any WiNG controller the access point is adopted to. To deploy ExtremeWireless WiNG access points in a mixed ExtremeLocation and ADSP deployment, see Mixed ExtremeLocation and ADSP Installation on page 55.

Radio Share Configuration

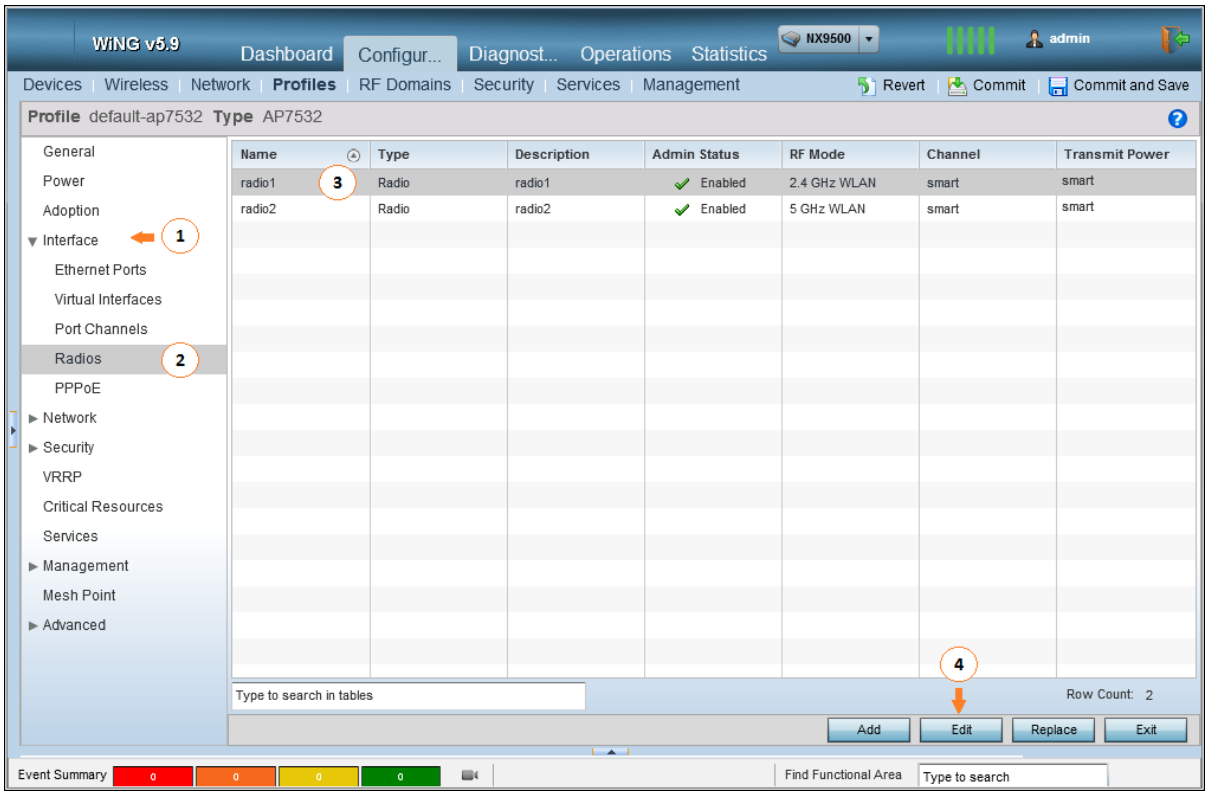
When set to the "Radio Share" mode, the access point radio acts as a sensor when off channel scan is done. To configure the access point radio in the "Radio Share" mode:

1 Select **Configuration** > **Profiles** > **<your AP's profile>**

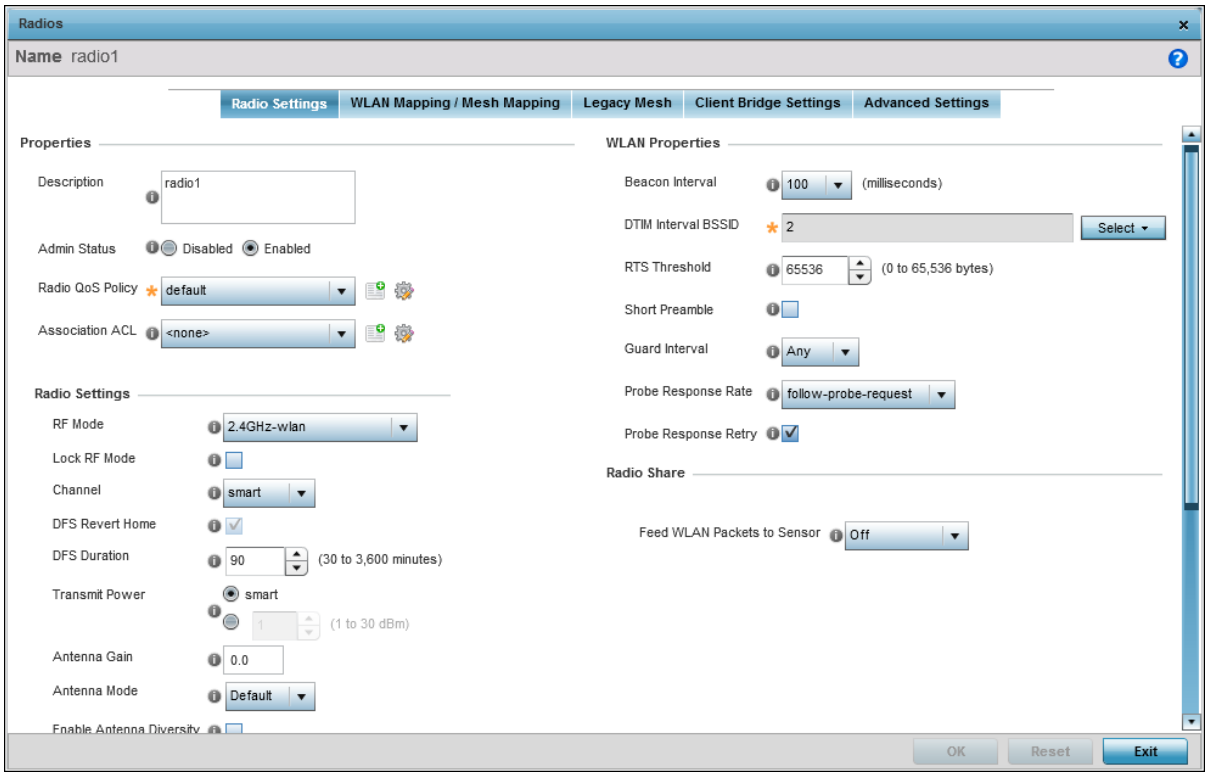


Your access point type's profile loads.

2 Select **Interface** > **Radios** > **<the radio to configure>** and then select the **Edit** button.

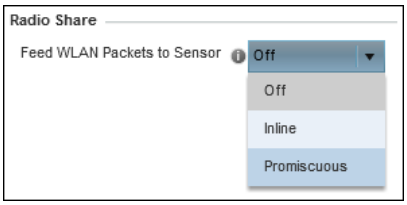


The selected radio's configuration window loads.



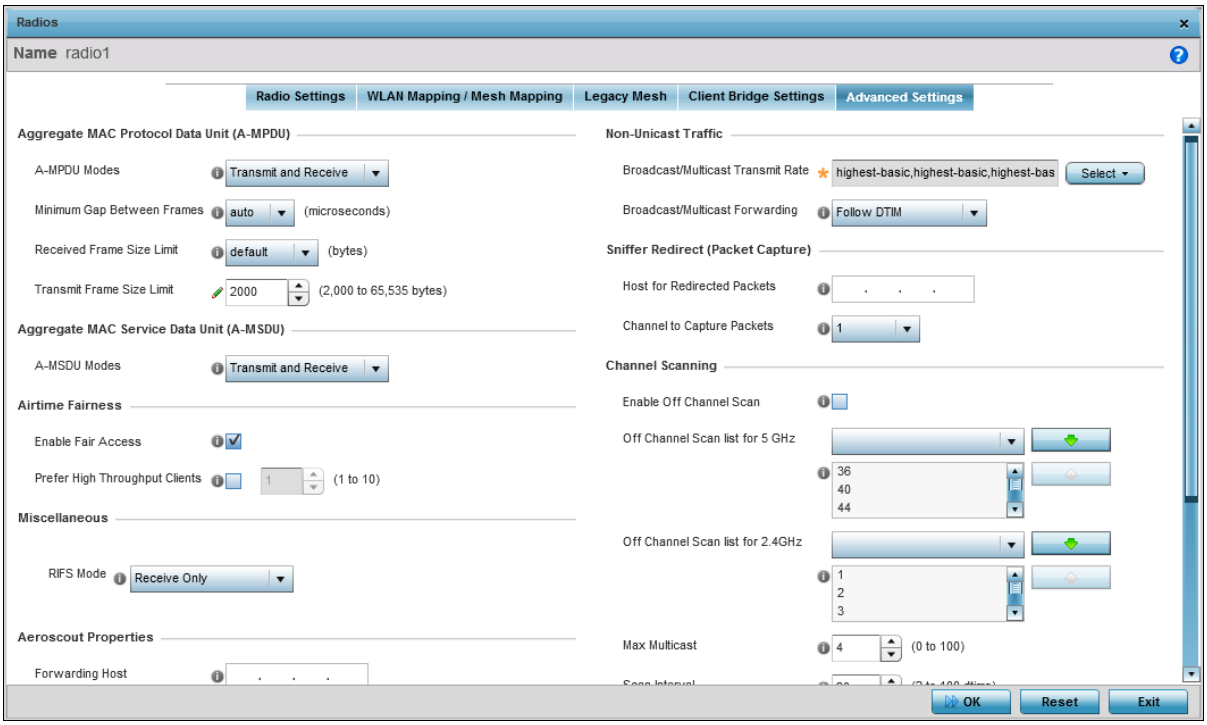
3 Select **Radio Settings** if not selected.

4 From the **Radio Share** > **Feed WLAN Packets to Sensor** control, select the `Promiscuous` option.

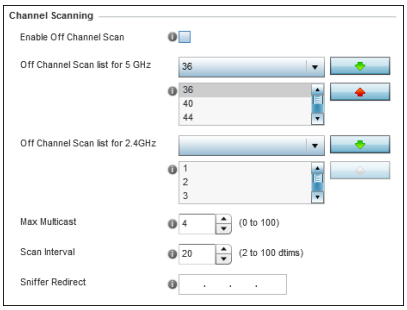


Note
Radio Share mode has to be enabled individually for each radio band (2.4 GHz and 5.0 GHz.)

5 By default, a radio in the Radio Share mode acts as sensor during off channel scans. To enable off-channel scan, select the **Advanced Settings** tab.



6 Optional: From the **Channel Scanning** control, select the **Enable Off Channel Scan** option.



7 Review the other parameters for this configuration and modify them if required.

8 Select the **OK** button and then select the **Exit** button to save changes made to the radio configuration.

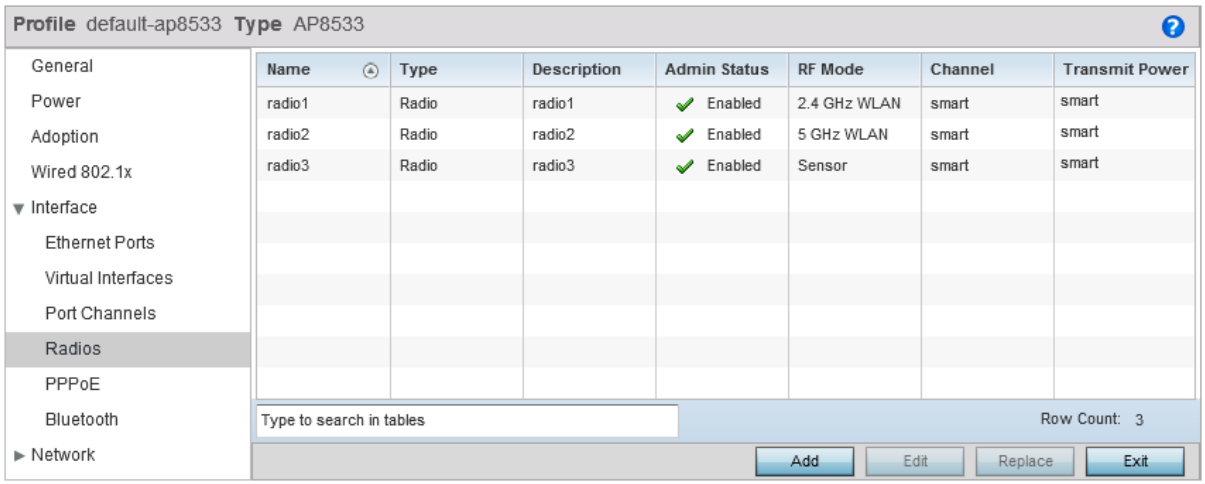
9 From the top right corner of the screen select the **Commit and Save** button to commit and save changes to the profile.

Standalone Sensor Configuration

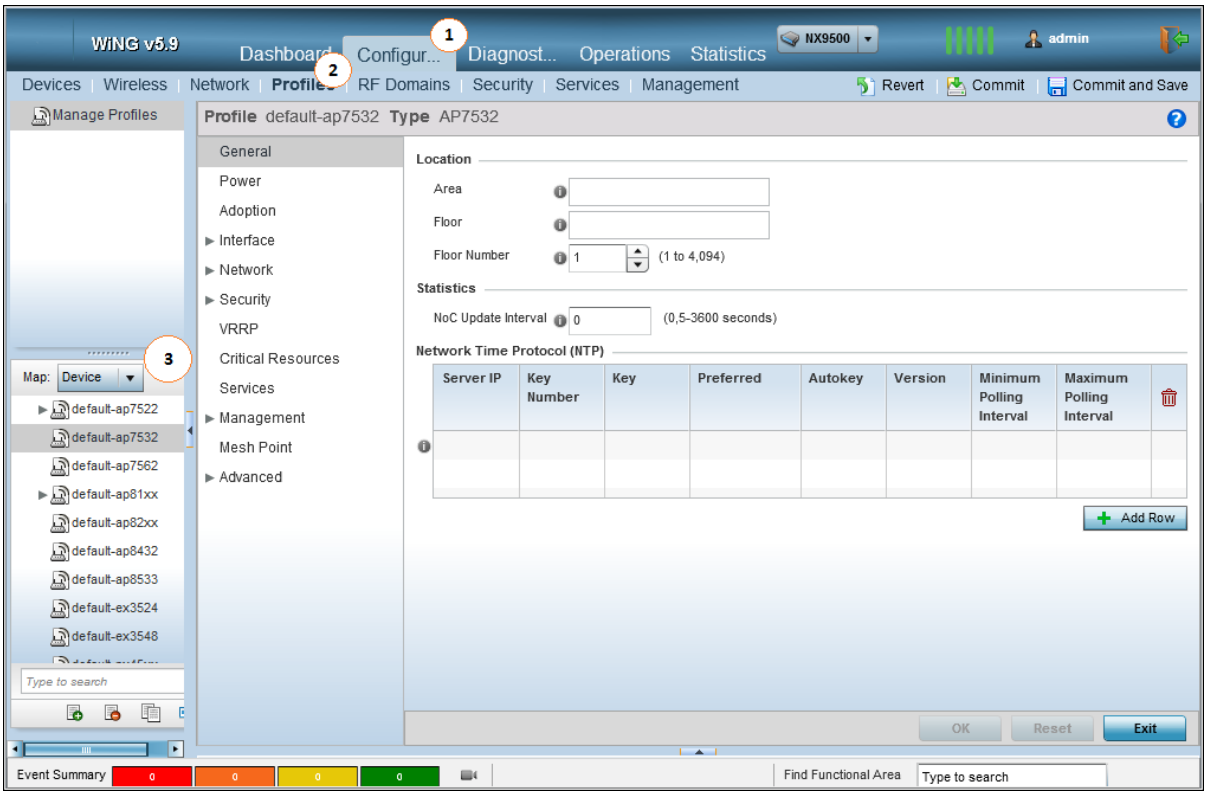
When set to the "Sensor" mode, the access point radio is dedicated to the task of gathering locationing information for the area in which it is deployed. While in the Sensor mode, the access point does not transmit or receive data traffic.

Note

A tri-radio access point such as the AP8533 does not need further configuration changes as one of the three radios is configured as a full-time dedicated sensor radio.

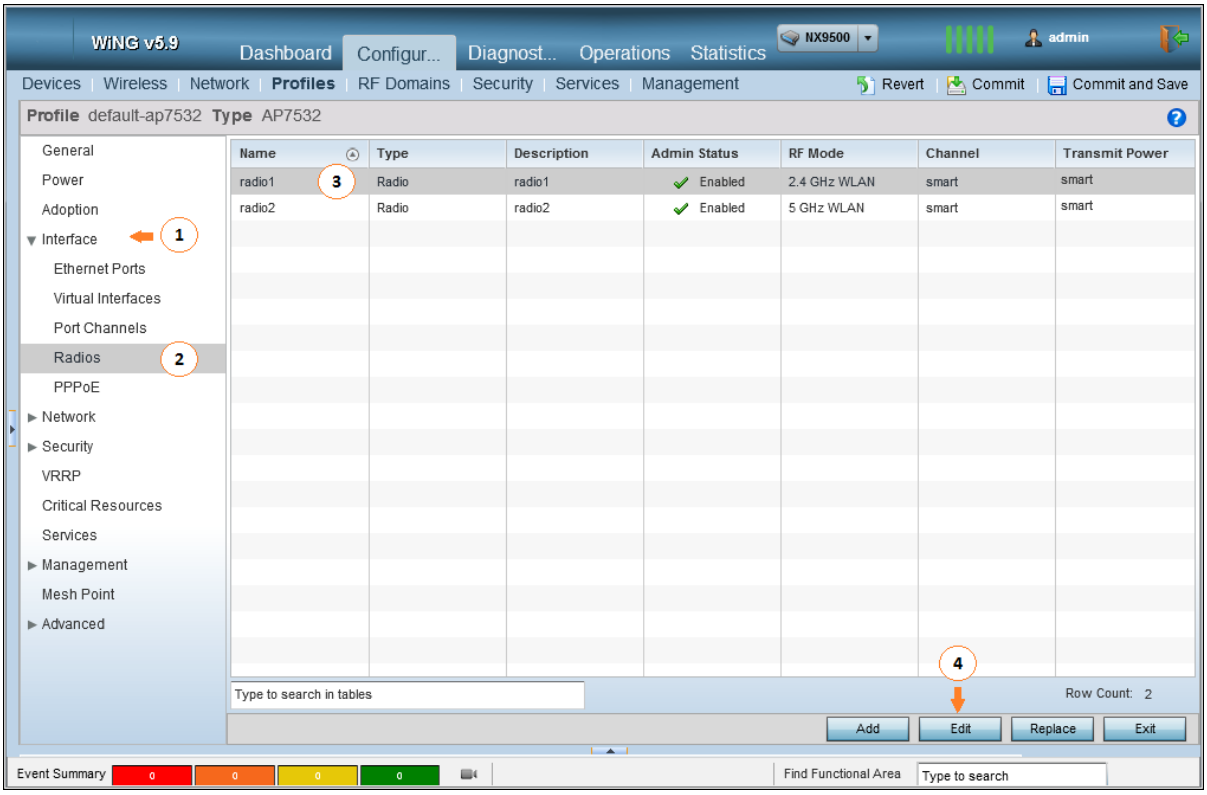


1 Select **Configuration** > **Profiles** > **<your AP's profile>**

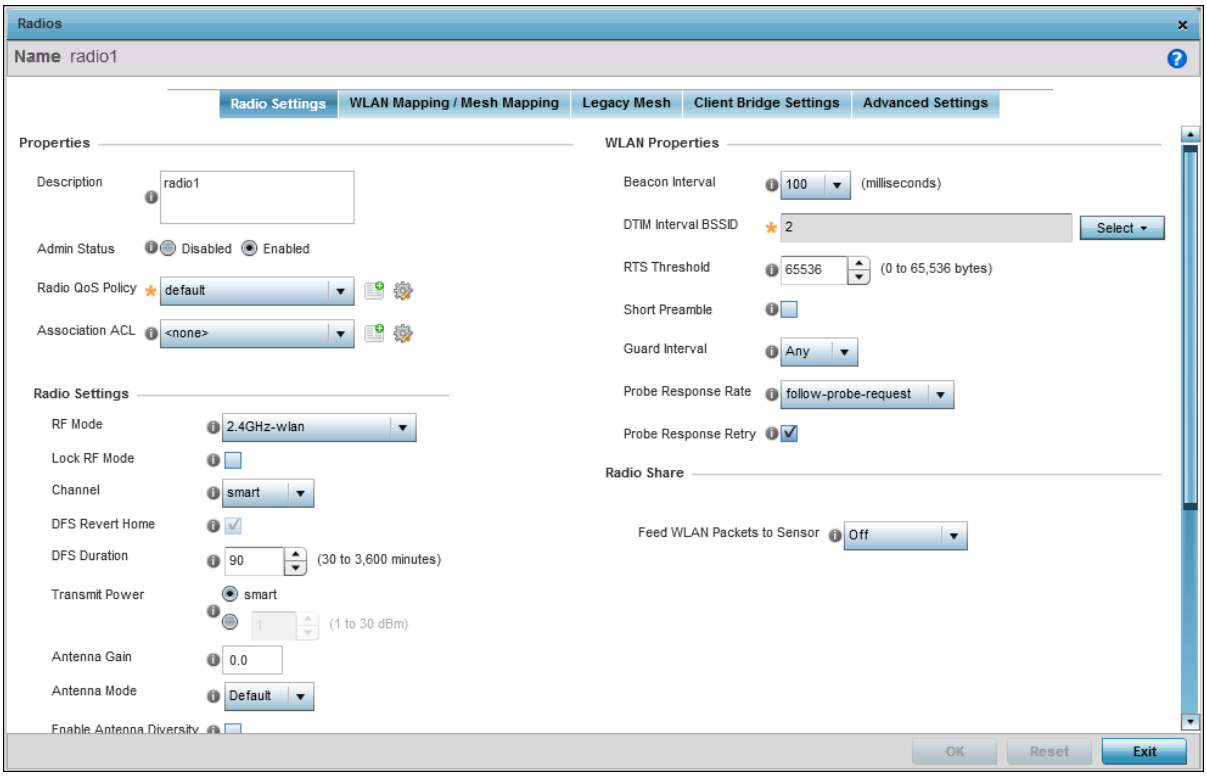


Your access point type's profile loads.

2 Select **Interface** > **Radios** > **<the radio to configure>** and then select the **Edit** button.

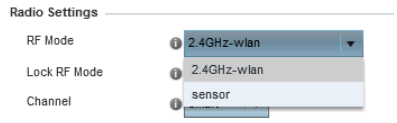


The selected radio's configuration window loads.



3 Select **Radio Settings** if not selected.

4 From the **Radio Settings** > **RF Mode** control, select the `sensor` option.



Note

On certain APs such as AP7522, AP7532, and AP7562 RF Mode has to be set to `sensor` on both the radio band (2.4 GHz and 5.0 GHz.) for the access point to work as a dedicated sensor.

Note

On AP8432, only the first radio can be set as a sensor.

5 Select the **OK** button and then select the **Exit** button to save changes made to the radio configuration.

6 From the top right corner of the screen select the **Commit and Save** button to commit and save changes to the profile.

Mixed ExtremeLocation and ADSP Installation

For deployments where ExtremeLocation is to be installed alongside an existing AirDefense Service Platform (ADSP) installation, additional configurations must be performed for those access points that are intended to act as ADSP Sensors.

The configuration for the access points that act as ADSP sensors is pushed directly from ADSP. Configuration changes received from the controller to which the access point is adopted to is overridden by the configuration changes pushed by ADSP.

ADSP Server Configuration on WiNG Controllers

The configuration settings required to enable access points to send sensor data to a remote ADSP server is set in the WiNG controller's RF Domain Policy. Use the **Sensor** page in the RF Domain configuration on the Wireless Controller.

To know more about configuring the RF Domain, see the following documents:

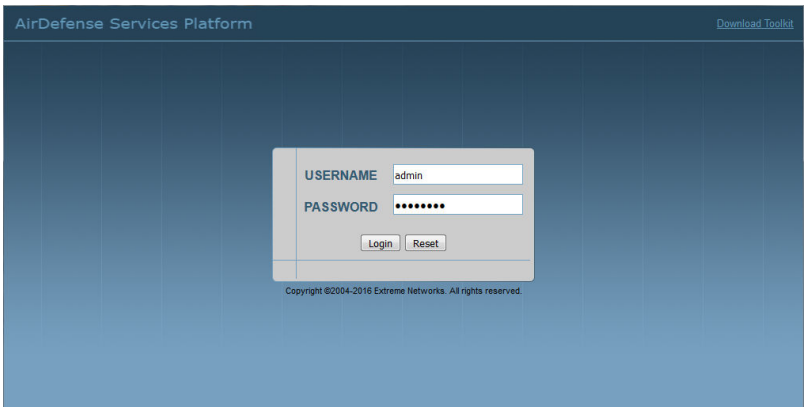
- The latest ExtremeWireless WiNG Wireless Controller and Service Platform System Reference Guide located at http://documentation.extremenetworks.com.
- The latest AirDefense Service Platform User Guide located at http://documentation.extremenetworks.com.

Configuring ADSP Sensor Operation

These configuration steps are performed on your ADSP server.

Use the Sensor Operation screen to configure the settings that ADSP sends to the sensors registered with it. Some of the parameters that can be configured are Scan Settings, Scan Modes, Scan Weight, and other parameters.

1 Login in to the AirDefense Server from its login screen.



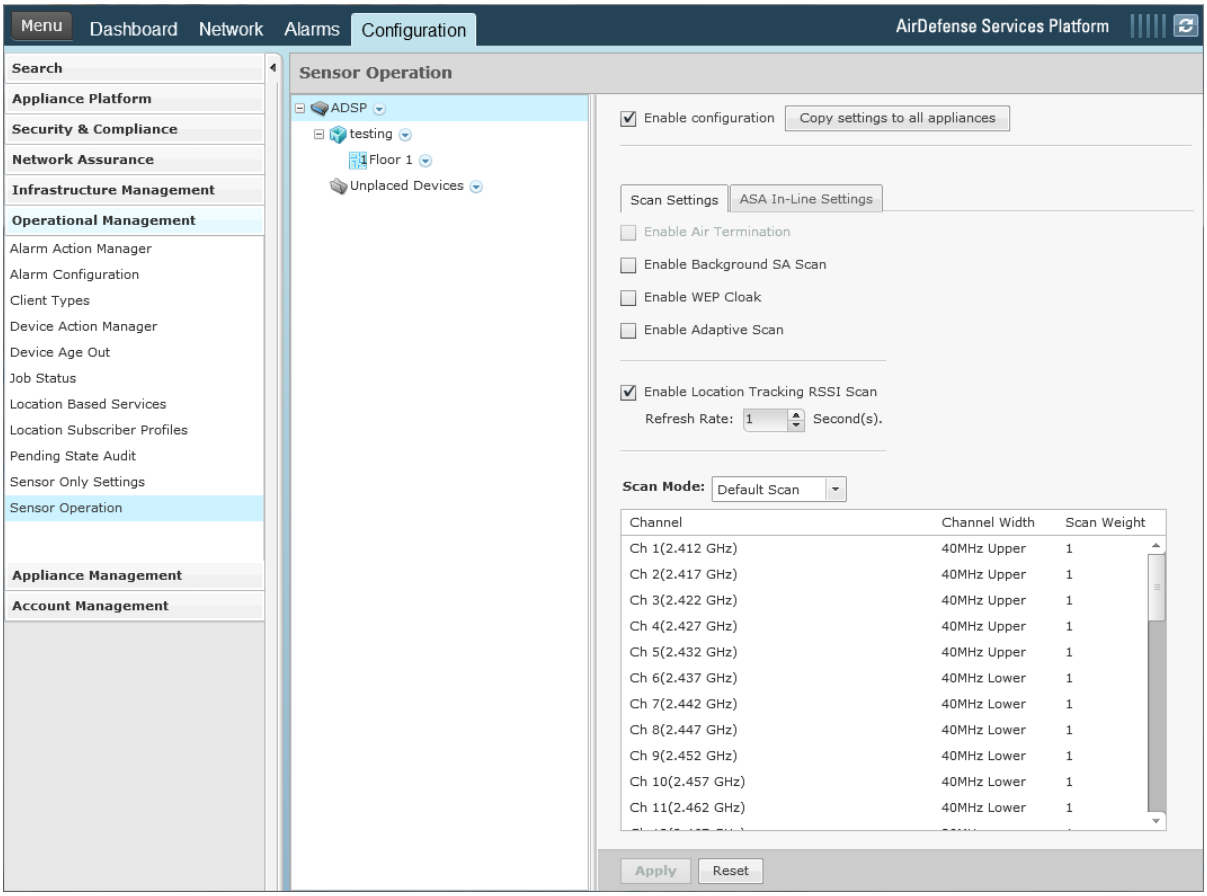
Provide a valid login user name its password to access the ADSP user interface.

2 Select the **Configuration** menu from the toolbar on the top of the screen.

3 Select the **Operational Management** item from the menu on the left of the screen to expand it.

4 Select the **Sensor Operation** item from the **Operational Management** sub menu.

The Sensor Operation screen displays.



5 From the Sensor Operation screen, select the **ADSP** item if it is not selected by default.

The Sensor Operation screen changes to display the configuration parameters for the ADSP system.

6 Select one of the following **Scan Mode** options.

Default Scan	Select this option to use the default values. When selected, all the 2.4 GHz and 5.0 GHz channels are scanned.
Custom Scan	Select this option to get fine grained control on the channels to be scanned in the 2.4 GHz and 5.0 GHz spectrum.
Channel Lock	Select this option to lock the channel scan to a single channel in either the 2.4 GHz or 5.0 GHz spectrum.

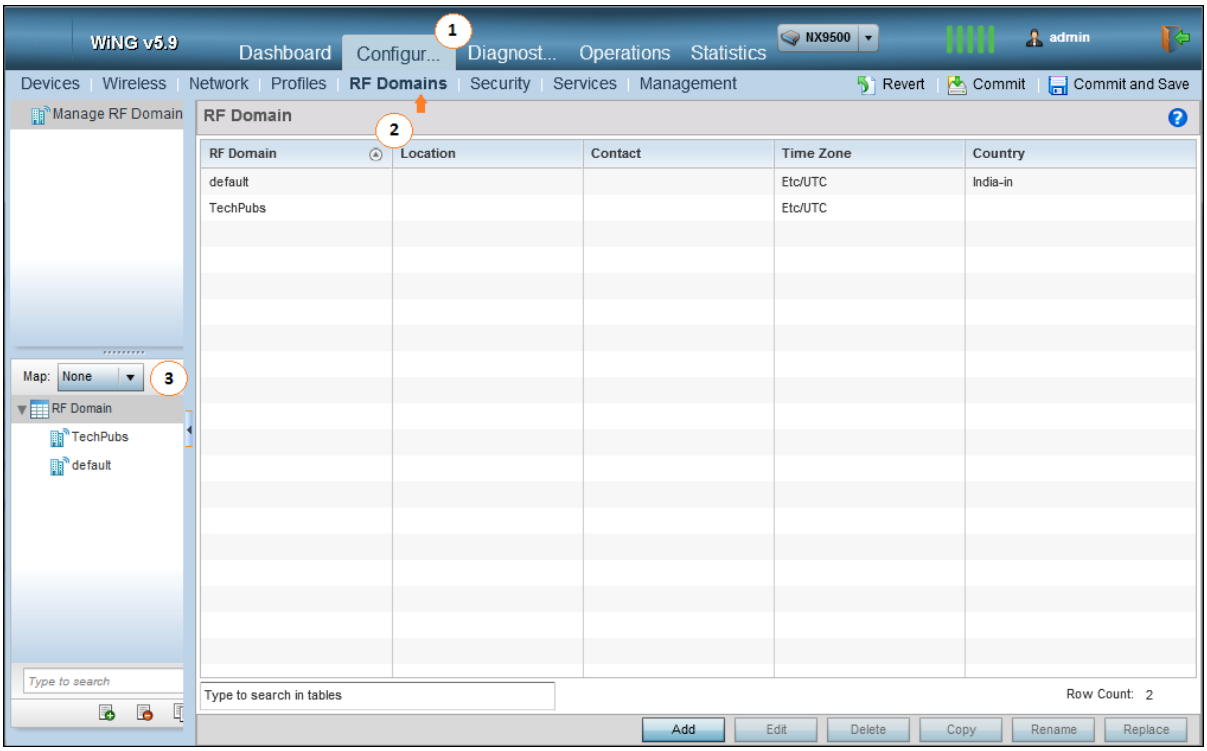
7 Select **Save** to save changes made to the ADSP Sensor Operations parameters.

RF Domain Configuration

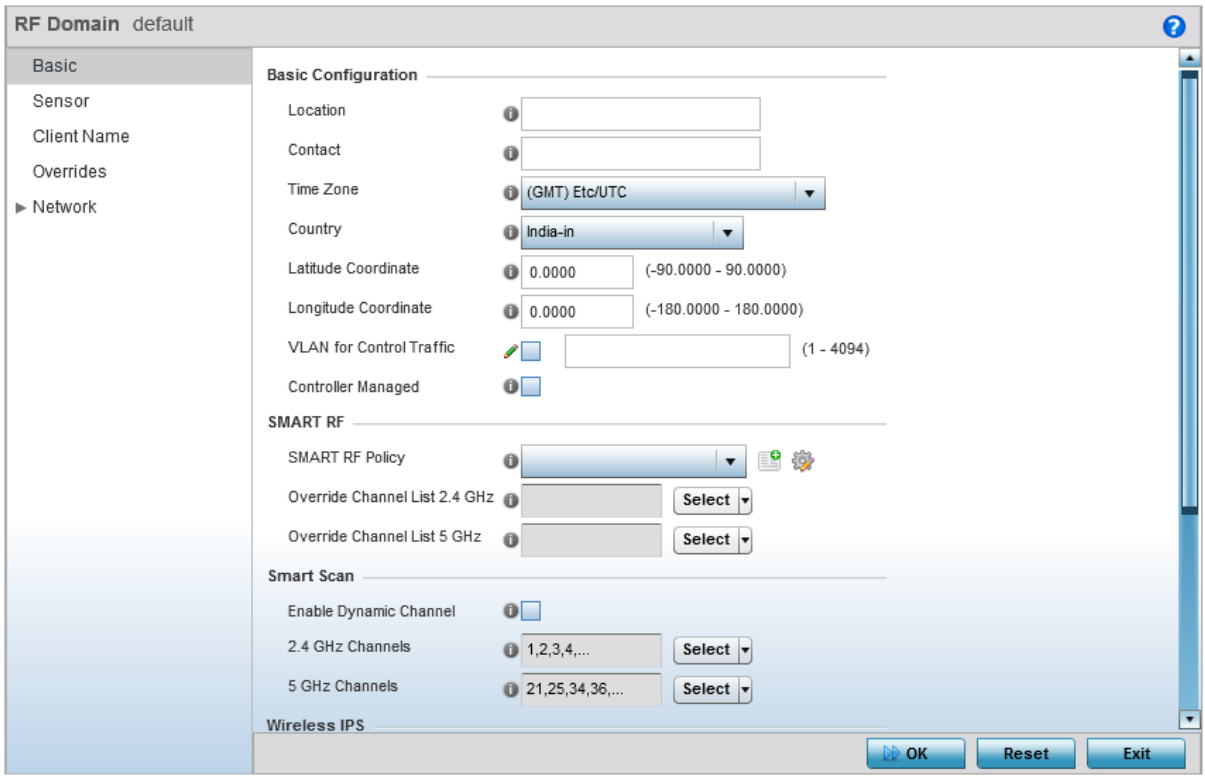
For ExtremeLocation to work, the RF Domain policy's sensor configuration must point to an existing Sensor policy or to a newly created Sensor Policy.

To set the RF Domain's Sensor configuration:

1 Select **Configuration** > **RF Domains** > **<The correct RF Domain>**.

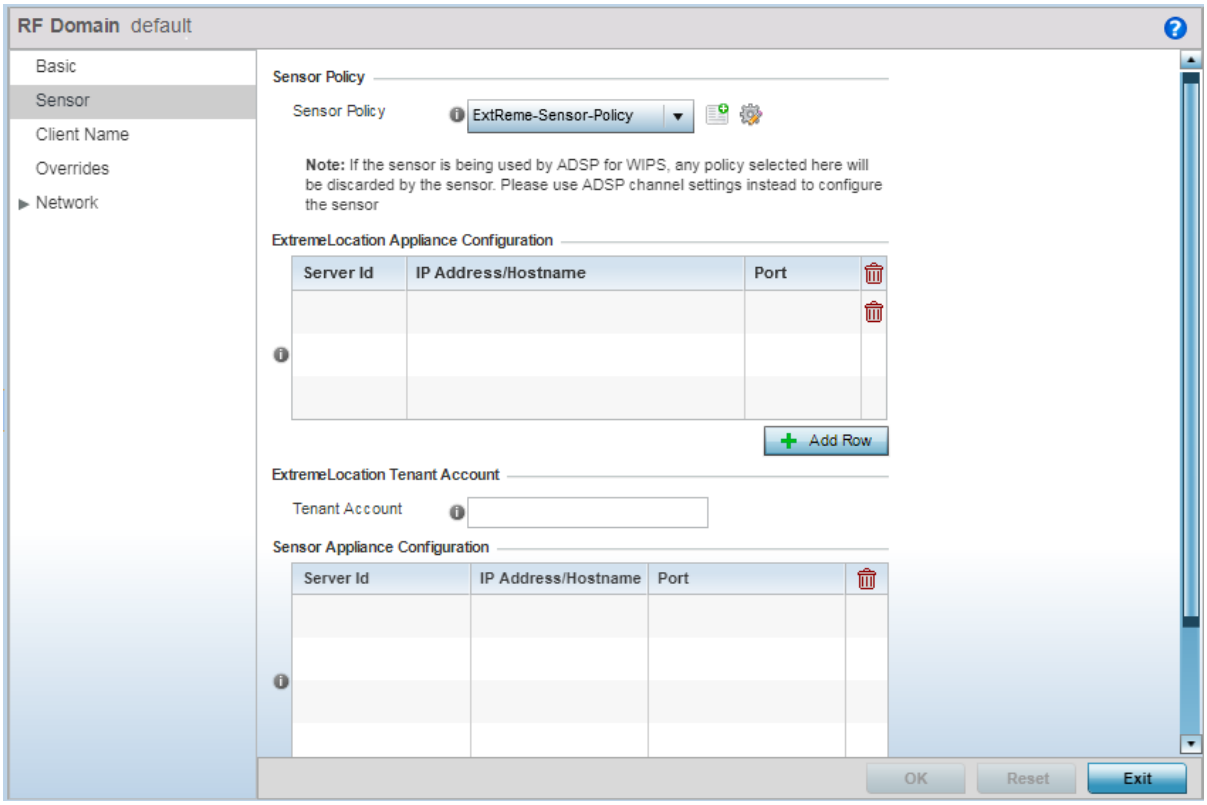


The RF Domain screen displays.



2 Select **Sensor** from the menu on the left.

The Sensor screen displays.

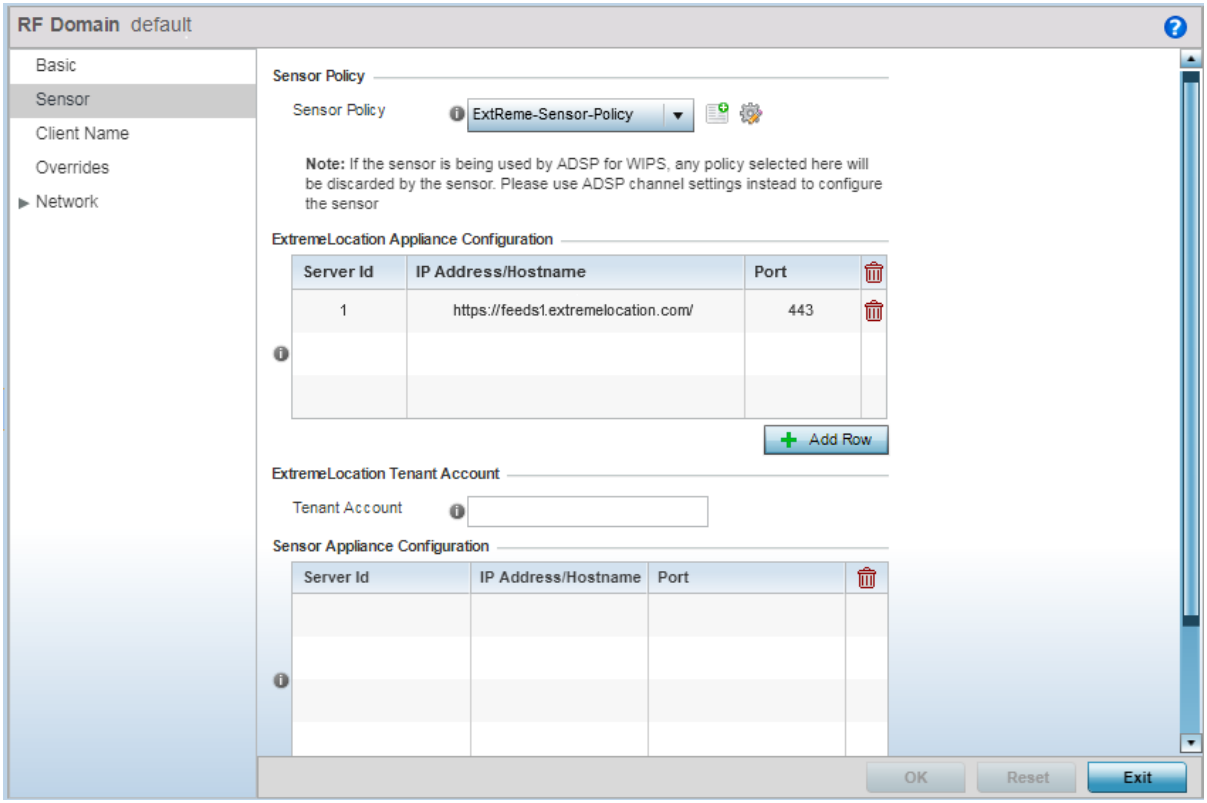


3 Select **+ Add Row** from within the **Location Tracking System** list.

This adds a new row in the **Location Tracking System** table. Only one row can be configured for this table.

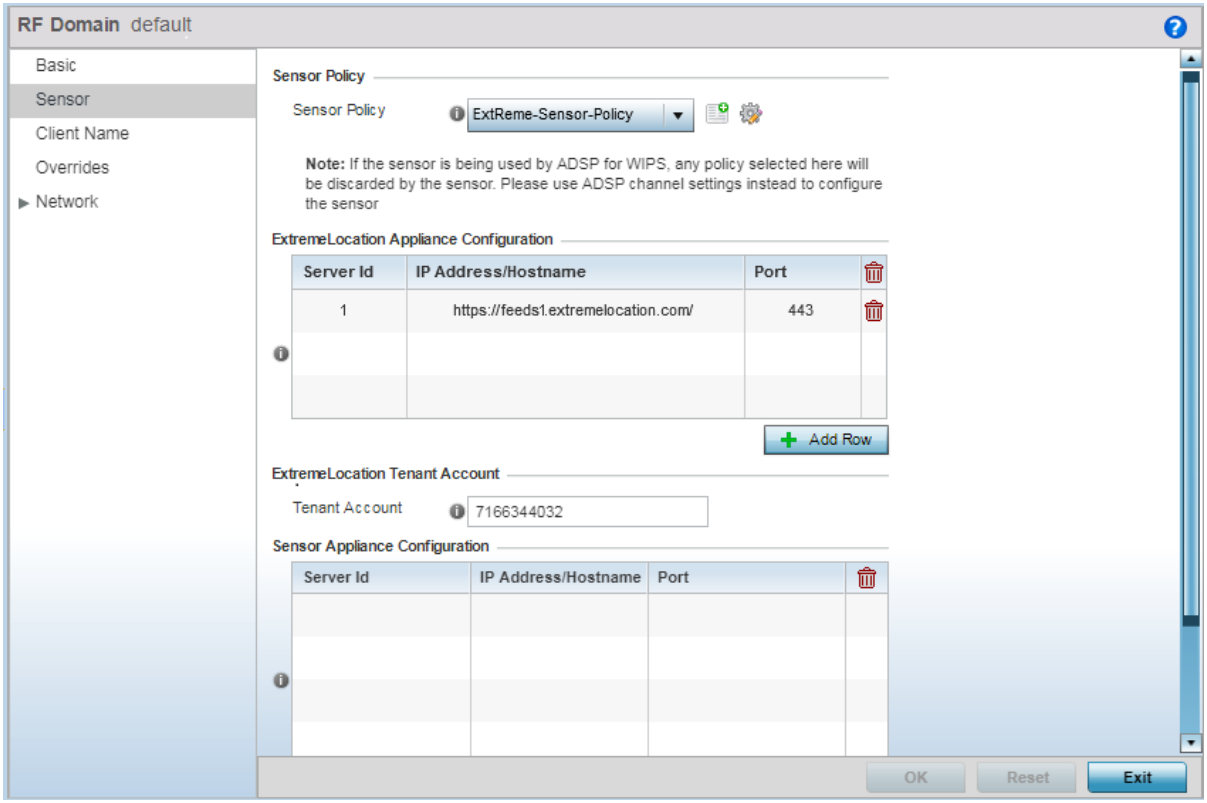
Provide the following information:

Server Id	Use the spinner control to assign a numeric ID for the ExtremeLocation server. The default ID value is 1.
IP Address/ Hostname	Provide the host name of the ExtremeLocation server. Host name cannot exceed 64 characters or contain an underscore. The URL to be configured is: • *http://feeds1.extremelocation.com* **Note** This field must not contain the IP address of the above server. Due to load balancing, the IP address might change periodically.
Port	Use the spinner control to specify the port of the ExtremeLocation server. The default port is 443.



4 In ExtremeLocation locate your tenant account number. This number is located next to the at the top right of your screen.

5 Specify your ExtremeLocation Tenant Account Number in the **Tenant Account** field .



6 Select **OK** to save the changes to the RF Domain Sensor configuration, or select **Reset** to revert to the last saved configuration.

7 Select **Basic** from the RF Domain menu on the left.

The RF Domain basic configuration screen appears.

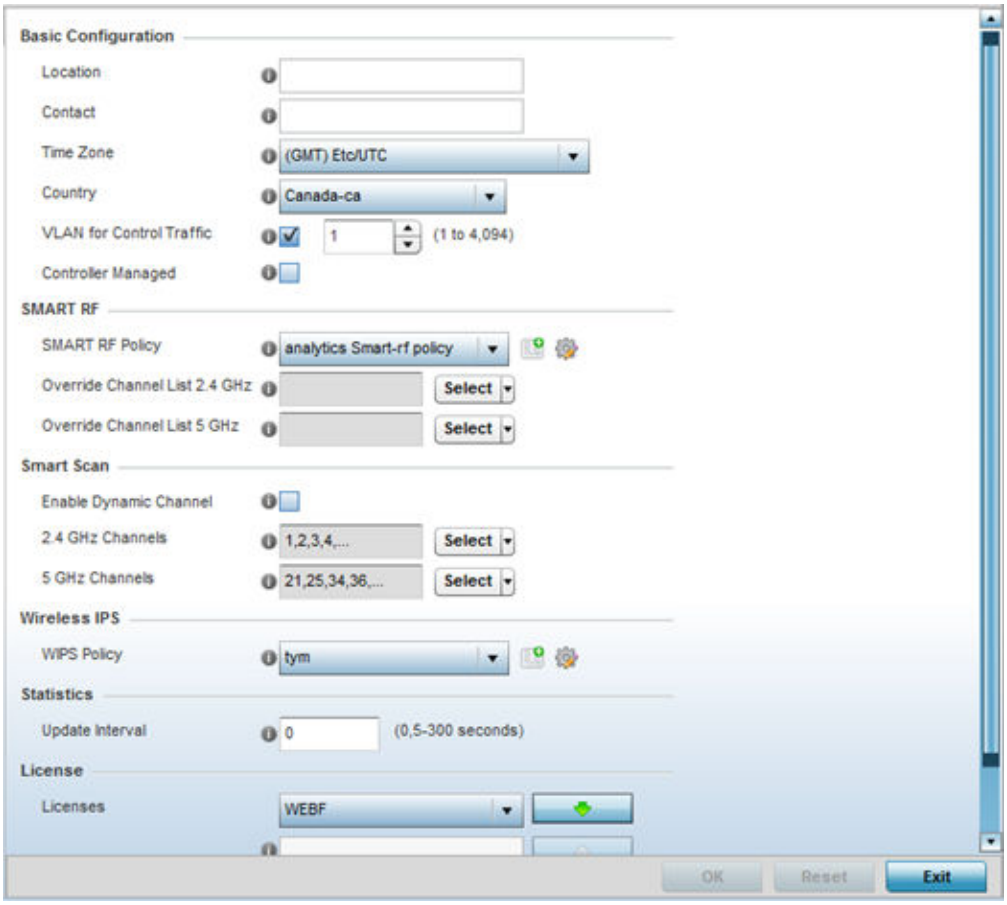


Figure 41: RF Domain Basic Configuration Screen

8 Select the **Country** drop-down to expand it and select the country of operation for this access point.

9 Select **OK** to save the changes to the RF Domain Basic configuration, or select **Reset** to revert to the last saved configuration.

10 Select **Exit** to exit the RF Domain configuration screen.

11 From the top right corner of the screen select the **Commit and Save** button to commit and save changes to the RF Domain.

Sensor Policy Configuration

The access point radio can function as a sensor and upload information to a dedicated ExtremeLocation server (external to the access point). When an access point radio functions as a sensor, it is, in the sensor mode, able to scan across all legal channels within the 2.4 and 5.0 GHz bands. The access point works in conjunction with the ExtremeLocation server to provide locationing service.

1 Select **Configuration** > **Wireless** > **Sensor Policy** from the access point user interface.

The sensor policy screen appears.

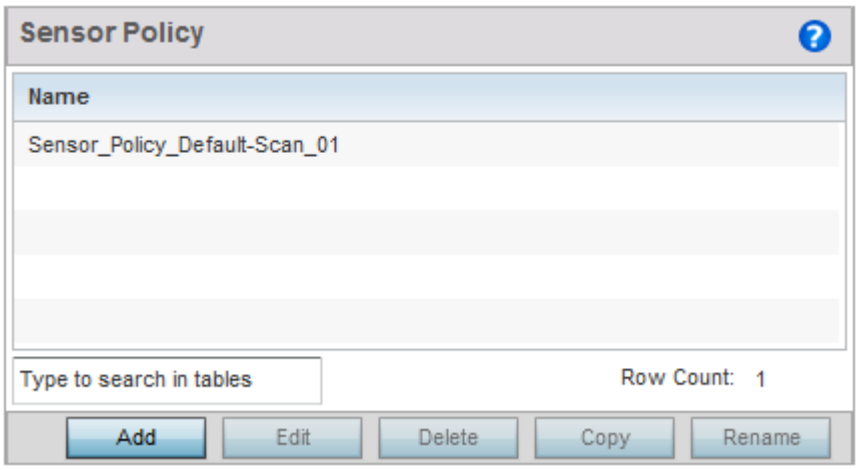


Figure 42: Wireless Sensor Policy Screen

2 Select **Add** to define a new sensor policy.

The following screen appears.

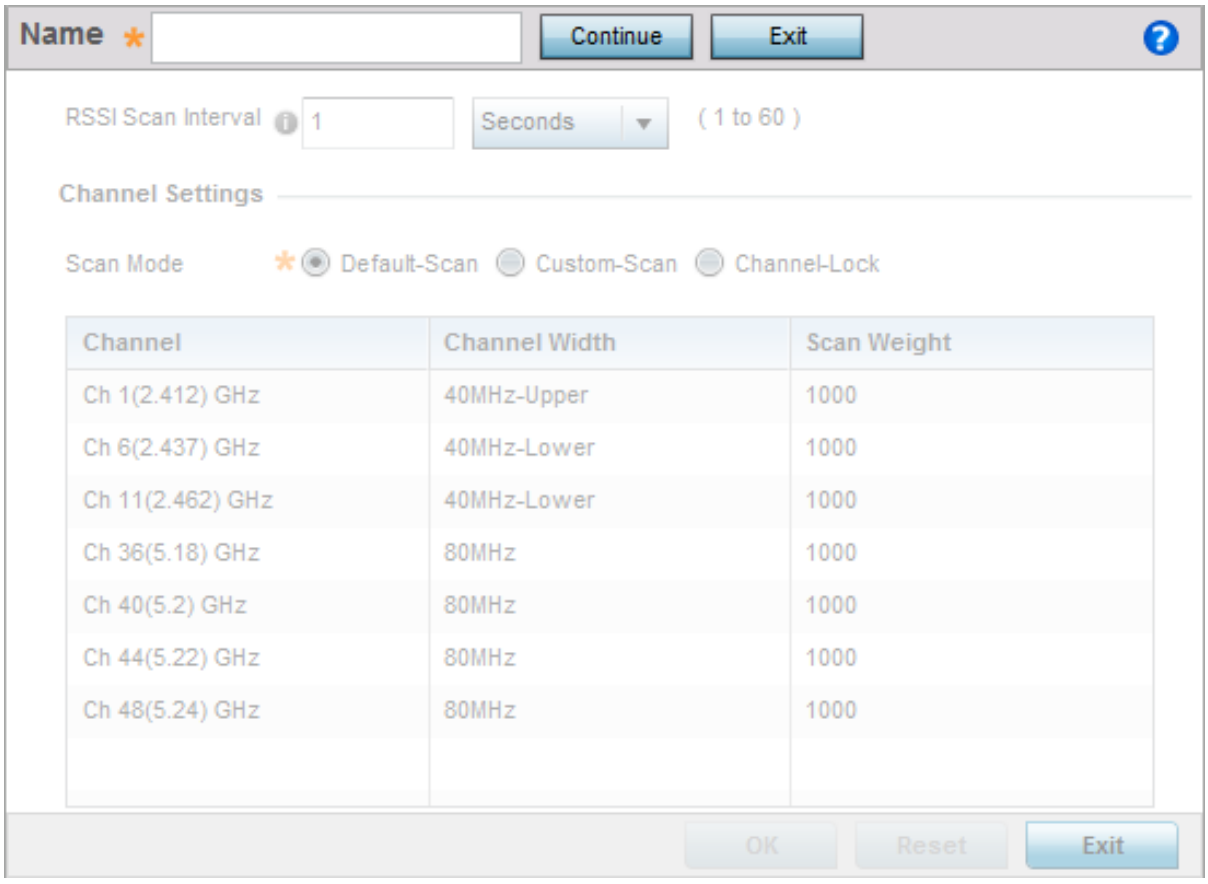


Figure 43: Add new Sensor Policy Screen

3 Provide a name in the **Name** field.

Sensor policy name cannot exceed 32 characters and cannot contain space.

4 Select **Continue** to create the Sensor policy.

5 Select **Exit** to exit this screen without creating a new sensor policy.

The Sensor Policy addition screen displays with the **Scan Mode** set to `Default-Scan`. The user configurable parameters on this screen differ with the selected **Scan Mode**.

6 Set the **RSSI Scan Interval** value in the range of 1 to 60 seconds. The default value is set to 10 seconds.

It is recommended that the **RSSI Scan Interval** be set to these following values depending on your deployment requirements.

- For Presence Detection - Set this value to 60 seconds or 1 minute
- For Zone Tracking - Set this value to 10 seconds
- For Positioning & Sensor Calibration - Set this value to 1 second

For dedicated sensors, set the **Channel Dwell Times** to the following (recommended) values:

- For Presence Detection - Set this value to 60 seconds or 1 minute
- For Zone Tracking - Set this value to 250 milliseconds

7 Select the **Scan Mode** setting appropriate to your requirement.

Note

Scan Mode should be set to determine the channel list for dedicated sensors. It is recommended that the Channel List should be limited to the operating channels of the deployment. For the 5.0GHz band, it is recommended that the DFS channels not be included in Channel Scan list. Client devices are prohibited from actively probing on these DFS channels.

8 Select **OK** to save the changes to the Sensor Policy configuration, or select **Reset** to revert to the last saved configuration.

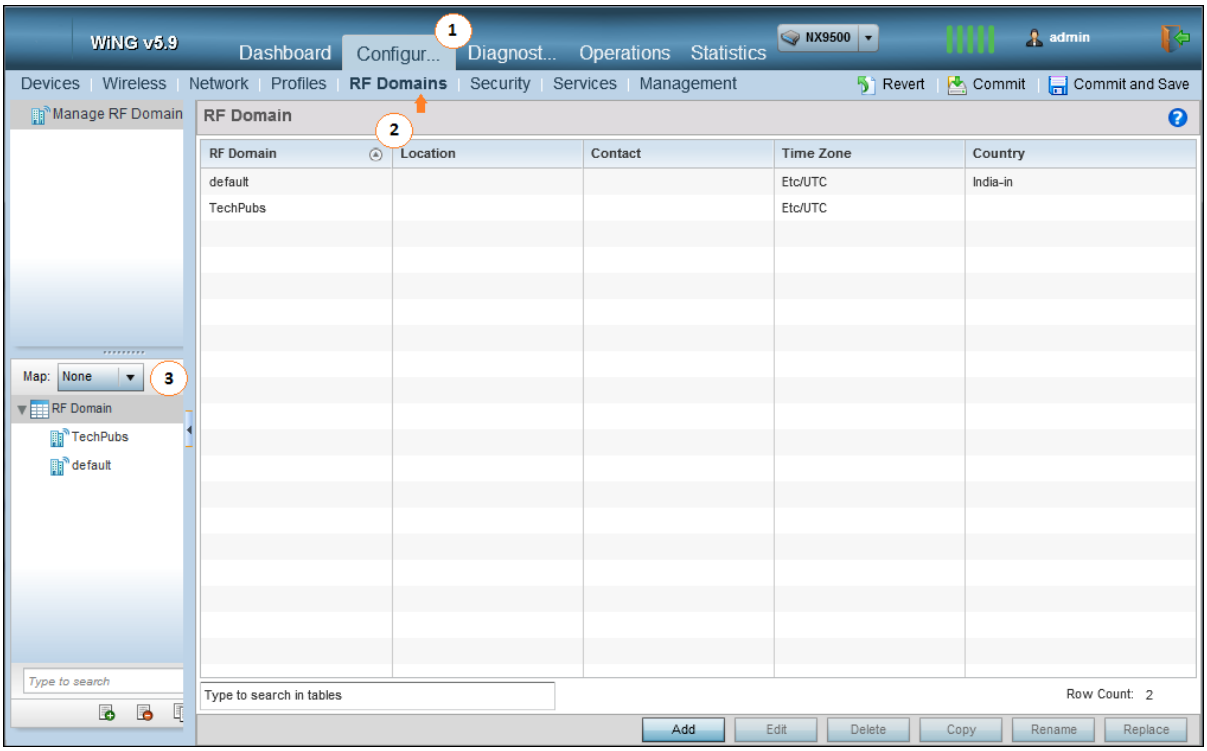
9 From the top right corner of the screen select the **Commit and Save** button to commit and save changes to the Sensor Policy.

RF Domain - Sensor Policy Configuration

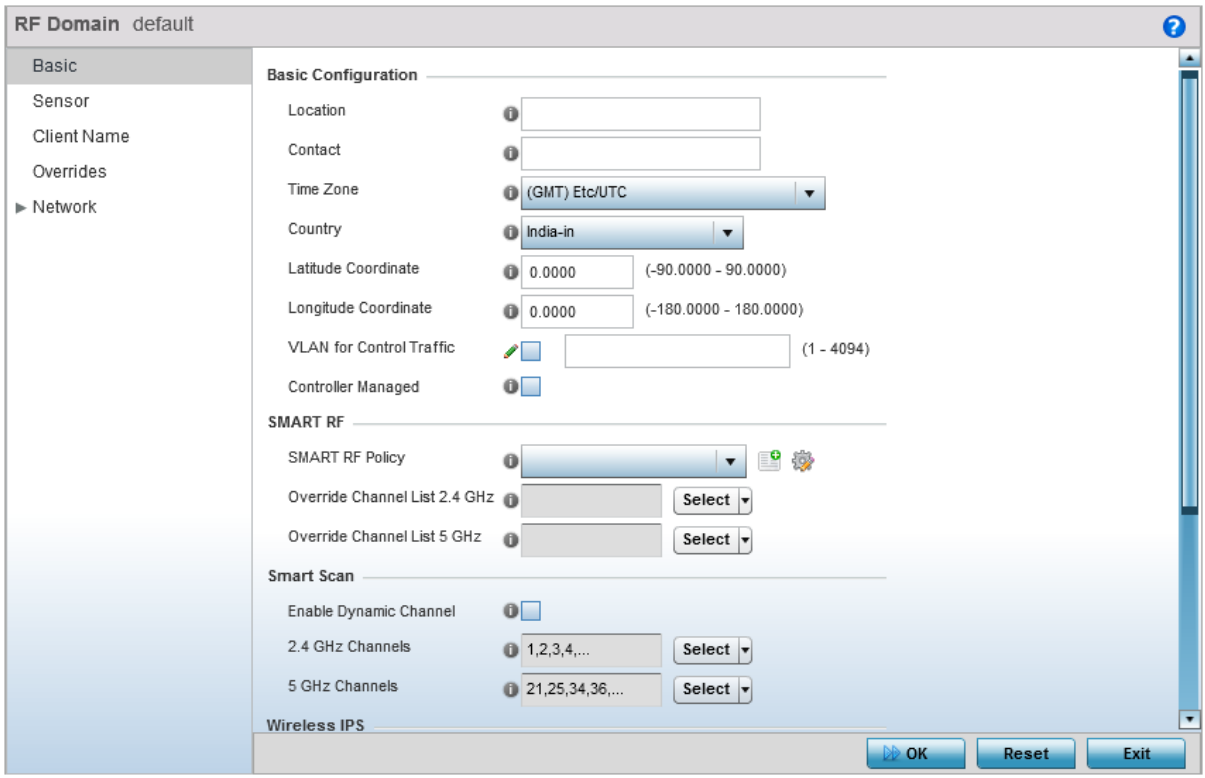
For ExtremeLocation to work, the RF Domain policy must have a Sensor Policy applied to it. See Sensor Policy Configuration on page 61 for more information on creating a Sensor policy.

To set the RF Domain's Sensor Policy configuration:

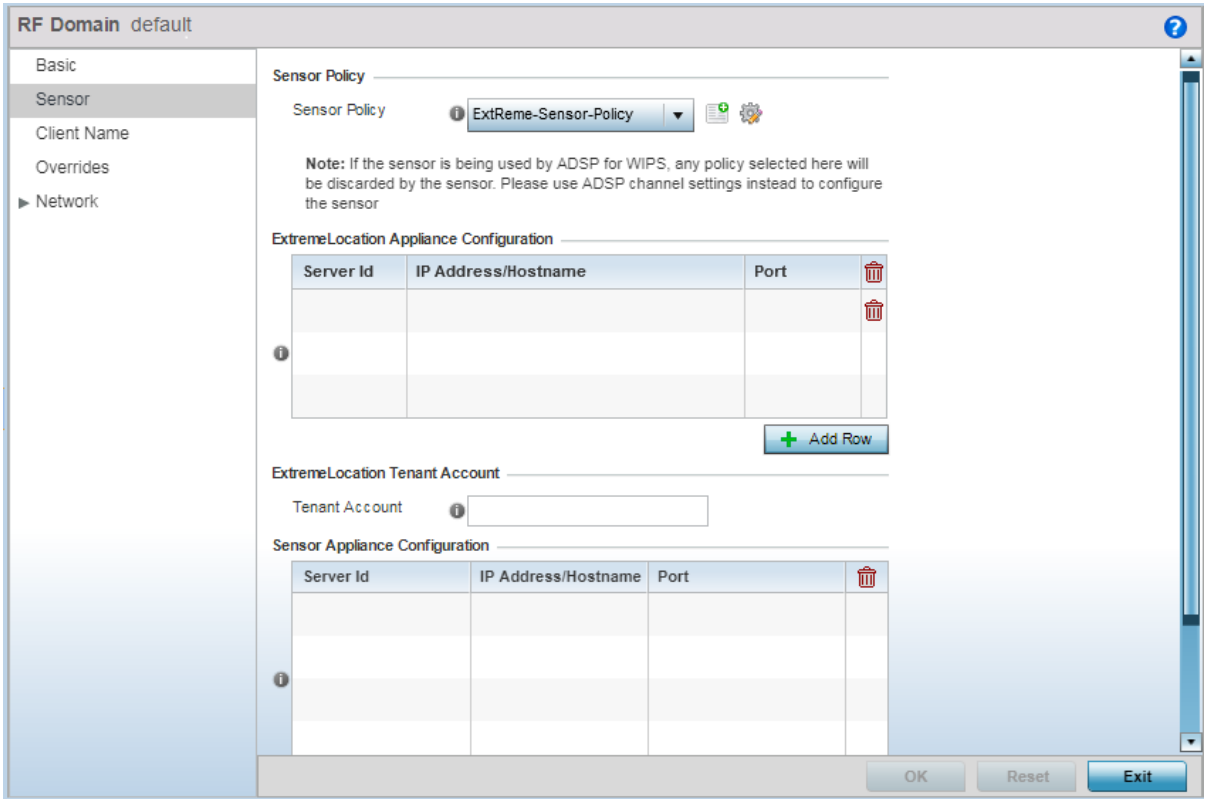
1 Select **Configuration** > **RF Domains** > **<The correct RF Domain>**.



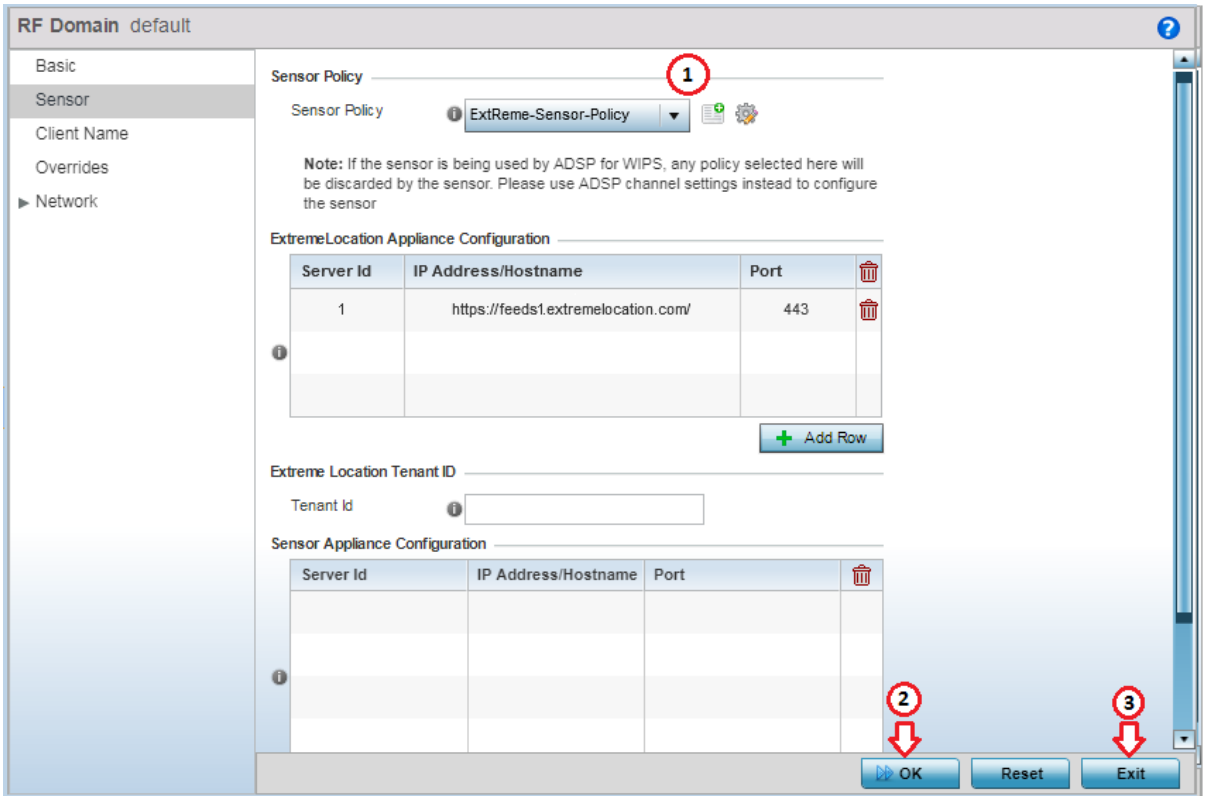
The RF Domain screen displays.



2 Select **Sensor** from the menu on the left.
The Sensor screen displays.



3 From the **Sensor Policy** field, select the appropriate sensor policy.



4 Select **OK** to save the changes to the RF Domain Sensor configuration, or select **Reset** to revert to the last saved configuration.

5 Select **Exit** to exit the RF Domain configuration screen.

6 From the top right corner of the screen select the **Commit and Save** button to commit and save changes to the RF Domain.

Extreme Location and WiNG Integration

WiNG ExtremeLocation Integration

With this release of ExtremeLocation, you can seamlessly integrate WiNG with ExtremeLocation. Once integrated, you can view all WiNG sites and WiNG adopted devices in real time from within the ExtremeLocation user interface. Changes made to a site or site settings, geo-location information for a site is immediately propagated to ExtremeLocation. For adopted access points, changes to the radio mode and hostname will be reflected in ExtremeLocation.

This enables WiNG customers, who want to use ExtremeLocation to provide enhanced locationing services, an easy pathway to synchronize their WiNG site hierarchy directly into ExtremeLocation without any manual intervention. Here ExtremeLocation acts as a down-stream location service to WiNG. Any changes made to WiNG is automatically propagated to ExtremeLocation, however, changes made to ExtremeLocation is not updated back to WiNG.

Once the WiNG site hierarchy is synchronized with ExtremeLocation, you can configure ExtremeLocation as the location service provider for all the sites (RF Domains) managed by WiNG.

The latest WiNG software version provides specific CLI only commands that enable you to quickly integrate WiNG and ExtremeLocation. On executing these commands on your WiNG controller RF Domain context, WiNG site hierarchy is synchronized with ExtremeLocation.

ExtremeLocation Tenant Account Number Linking in WiNG

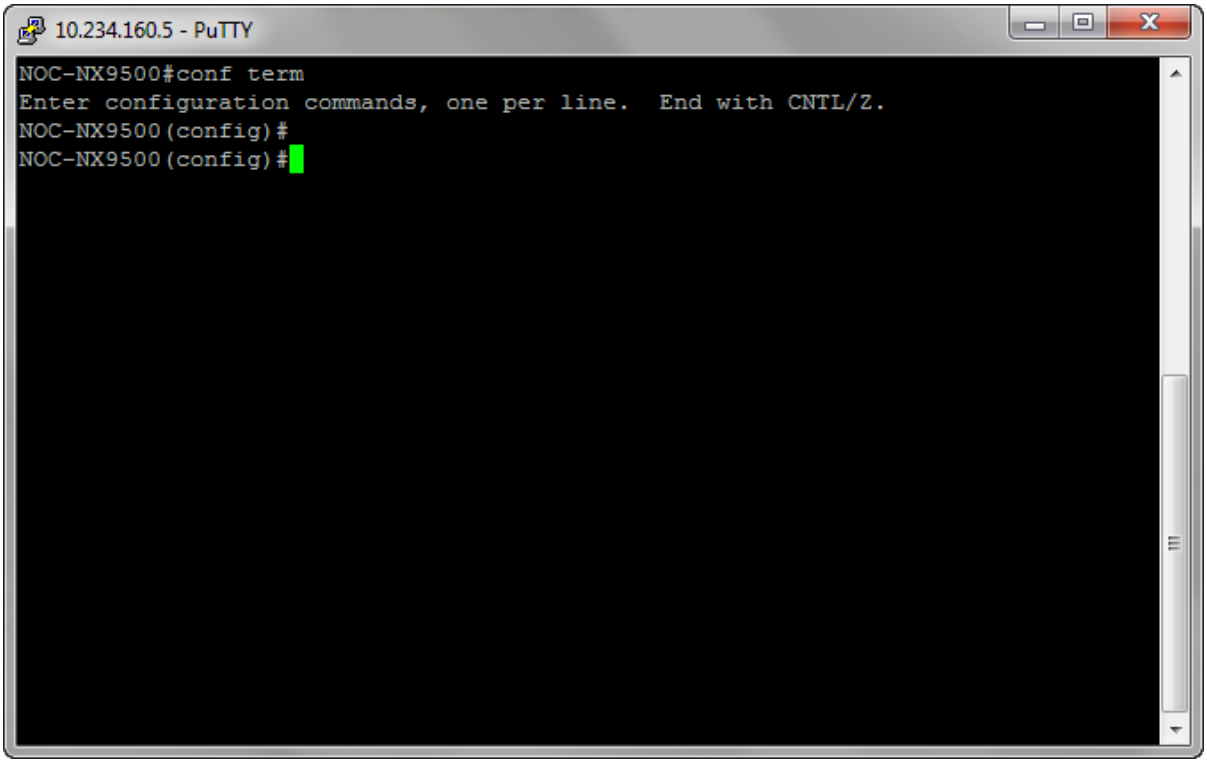
It is now possible to configure the ExtremeLocation Tenant Account Number in your WiNG RF Domain policy and your WiNG controller. When an access point comes online, it is placed in the common pool of access points by default. This access point is now available for any Tenant to claim and use by uploading the access point's MAC address using the `.csv` import method. When the Tenant Account Number is provided, access points are assigned to the tenant with the Tenant Account Number and can only be used across any of the sites managed by this tenant. This ensures that your assets cannot inadvertently be deployed on sites that belong to other ExtremeLocation accounts.

When the Tenant Account Number is provided in the WiNG controller configuration, it links the controller with the tenant. Any modification made to WiNG sites managed by this wireless controller, such as adding new access points or sites, is tagged by the Tenant Account Number automatically.

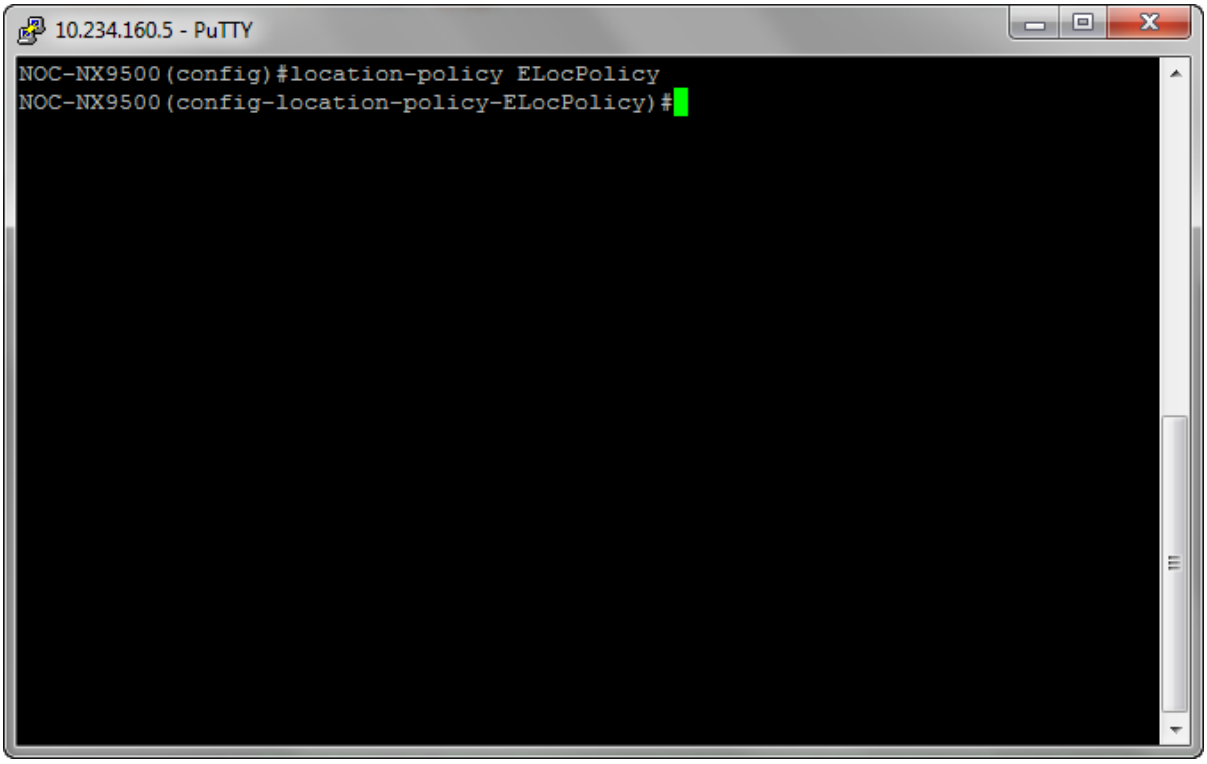
WiNG Integration with ExtremeLocation

To view all WiNG's sites and WiNG adopted devices from within ExtremeLocation:

1 Login to the CLI interface on your WiNG Controller using the `admin` credentials. Then navigate to its configuration context using `en` command followed by the `conf term` command.



2 Create a new *`Location Policy`* and provide it a valid name using the `location-policy <policy-name>` command.
A new `location-policy` is created and you are taken into its context.



3 From within the `location-policy` context, configure the ExtremeLocation server using the following command:

```
server-host 1 ip feeds1.extremelocation.com port 443
```

4 Configure the `Location Key` using the following command. Here, *Location Key* is the *API Key* available from within the ExtremeLocation user interface.

```
location-key <API Key>
```

API Key for your ExtremeLocation account can be retrieved from within your ExtremeLocation account.

Navigate to the **Settings** > **System Settings** > **API Keys** to display the API Key Generation screen.

Copy the API Key in the gray text box and paste it into this command.

5 Enable this `location-policy` using the following command:

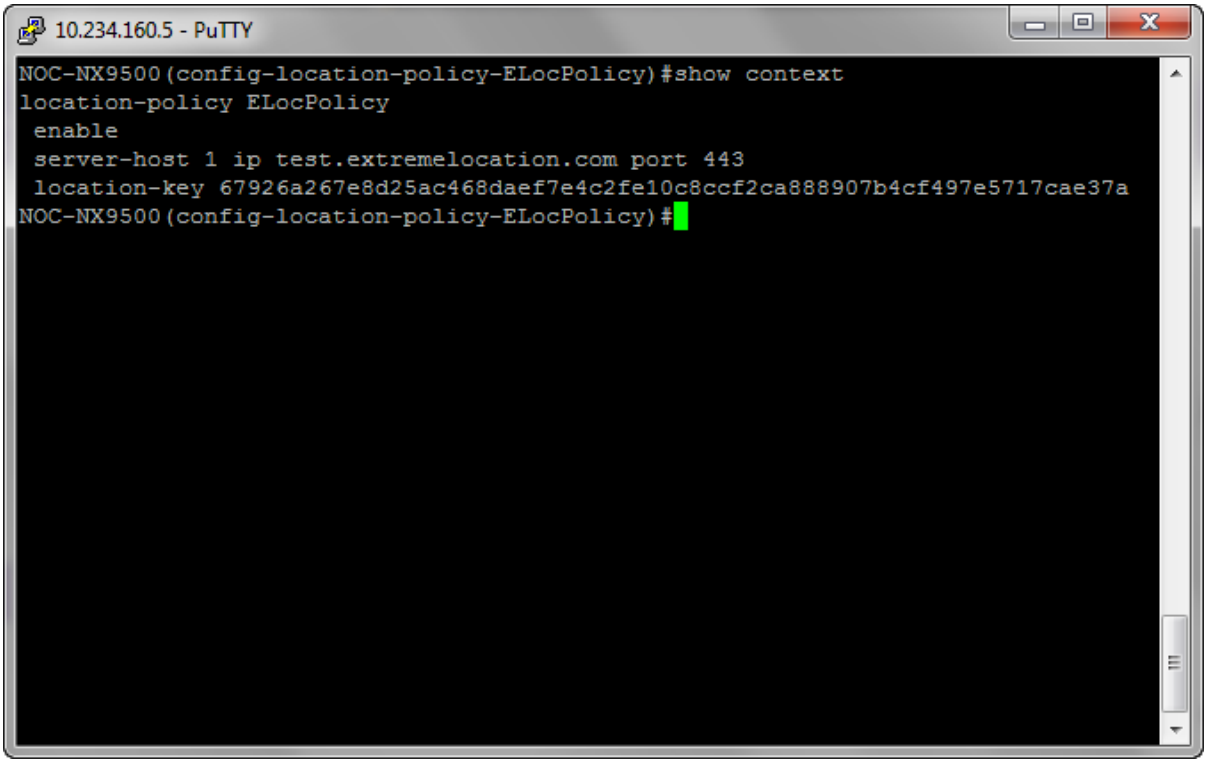
```
enable
```

The location-policy is now ready for use. You cannot use the `location-policy` without enabling it.

6 Verify the location-policy configuration with the following command:

`show context`

The current configuration for the `location-policy` is displayed.



If required, make appropriate changes to this configuration.

7 Commit the changes made to this `location-policy` by using the following command:

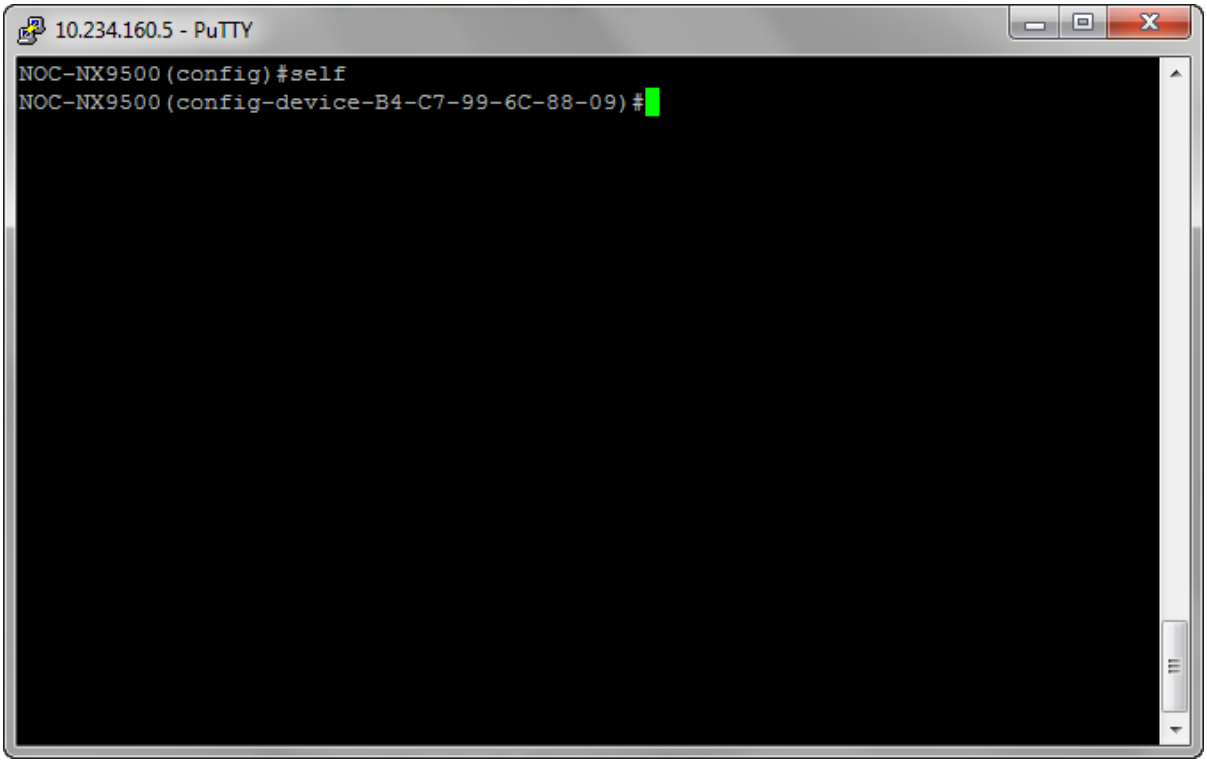
`commit write memory`

The `location-policy` is saved.

8 Exit out of the `location-policy` context by using `exit` command.

9 Navigate to the WiNG controller's configuration context using the `self` command.

The context changes to the WiNG Controller's configuration context.



10 To use the `location-policy`, it has to be applied to this WiNG Controller. To do so, use the command:

```
use location-policy <your location-policy name>
```

11 Commit the changes made to this WiNG Controller context by using the following command:

```
commit write memory
```

The `location-policy` is applied to the WiNG Controller and is now available for use.

The WiNG Controller will now be able to communicate with the ExtremeLocation server and update its site and site hierarchy to the ExtremeLocation server. It uses the provided API Key to identify the correct ExtremeLocation account and updates the site and site hierarchy to the linked account.

Linking ExtremeLocation Tenant Account Number with WiNG

ExtremeLocation Tenant Account Number Linking in WiNG

It is now possible to configure the ExtremeLocation Tenant Account Number in your WiNG RF Domain policy and your WiNG controller. When an access point comes online, it is placed in the common pool of access points by default. This access point is now available for any Tenant to claim and use by uploading the access point's MAC address using the `.csv` import method. When the Tenant Account Number is provided, access points are assigned to the tenant with the Tenant Account Number and can only be used across any of the sites managed by this tenant. This ensures that your assets cannot inadvertently be deployed on sites that belong to other ExtremeLocation accounts.

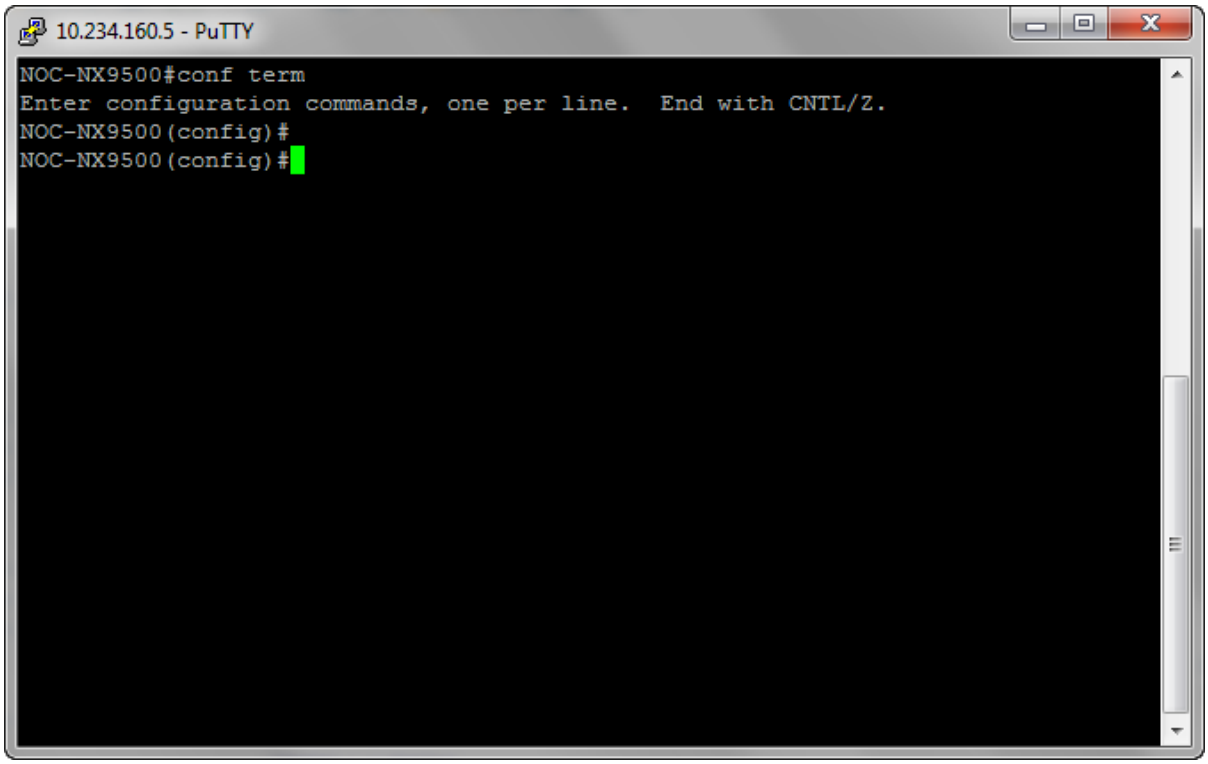
When the Tenant Account Number is provided in the WiNG controller configuration, it links the controller with the tenant. Any modification made to WiNG sites managed by this wireless controller, such as adding new access points or sites, is tagged by the Tenant Account Number automatically.

Linking your ExtremeLocation Tenant Account Number with WiNG can be done from both the WiNG CLI and the WiNG User Interface. Extreme Networks recommends that you link your ExtremeLocation Tenant Account Number with WiNG for ease of use and increased security of your deployments.

ExtremeLocation Tenant Account Number Integration

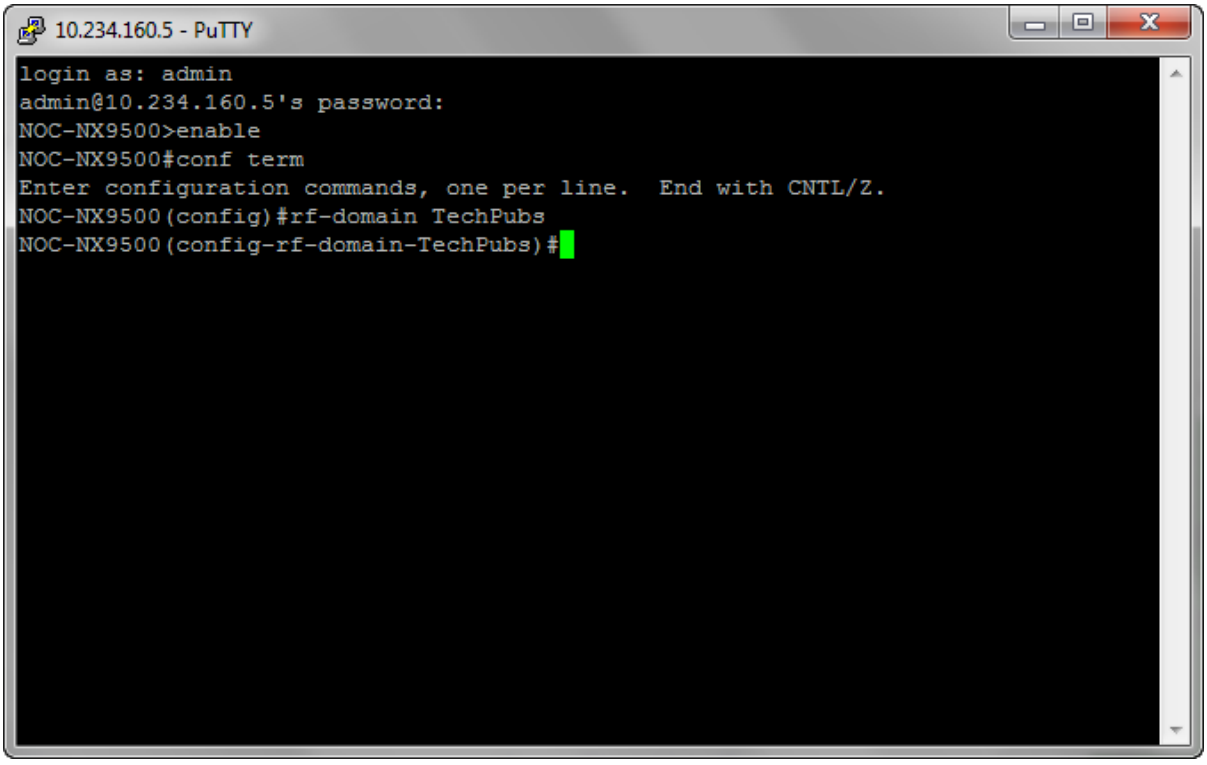
To link your tenant account number to WiNG using the WiNG CLI:

1 Login to the CLI interface on your WiNG Controller using the `admin` credentials. Then navigate to its configuration context using `en` command followed by the `conf term` command.



2 Enter the RF Domain context using the command `rf-domain <your RF Domain>`.

You are taken to the RF Domain's context.



3 In ExtremeLocation locate your tenant account number. This number is located next to the  at the top right of your screen.

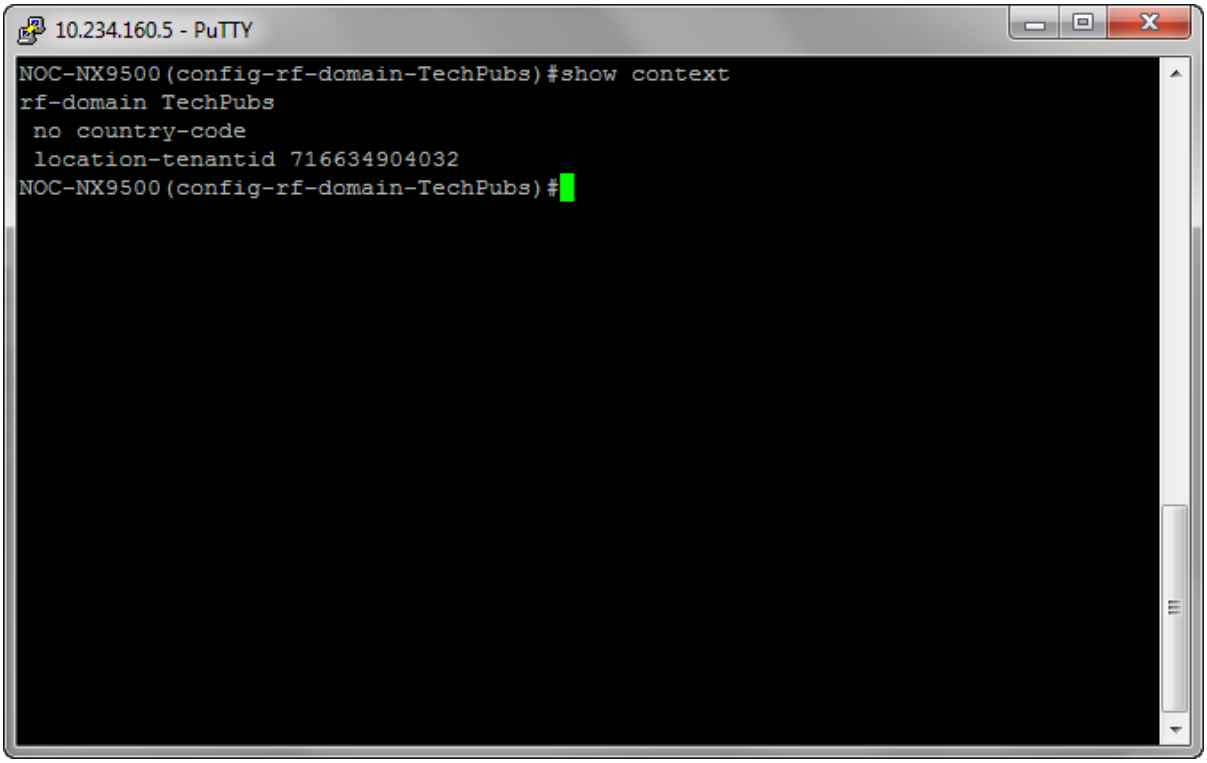
4 From within the `rf-domain` context, execute the following command and pass the tenant account number as a parameter to this command.

```
location-tenantid <your tenant account number>
```

5 Verify the location-tenantid configuration with the following command:

```
show context
```

The current configuration for the `rf-domain` is displayed.



If required, make appropriate changes to this configuration.

6 Commit the changes made to this `rf-domain` by using the following command:

```
commit write memory
```

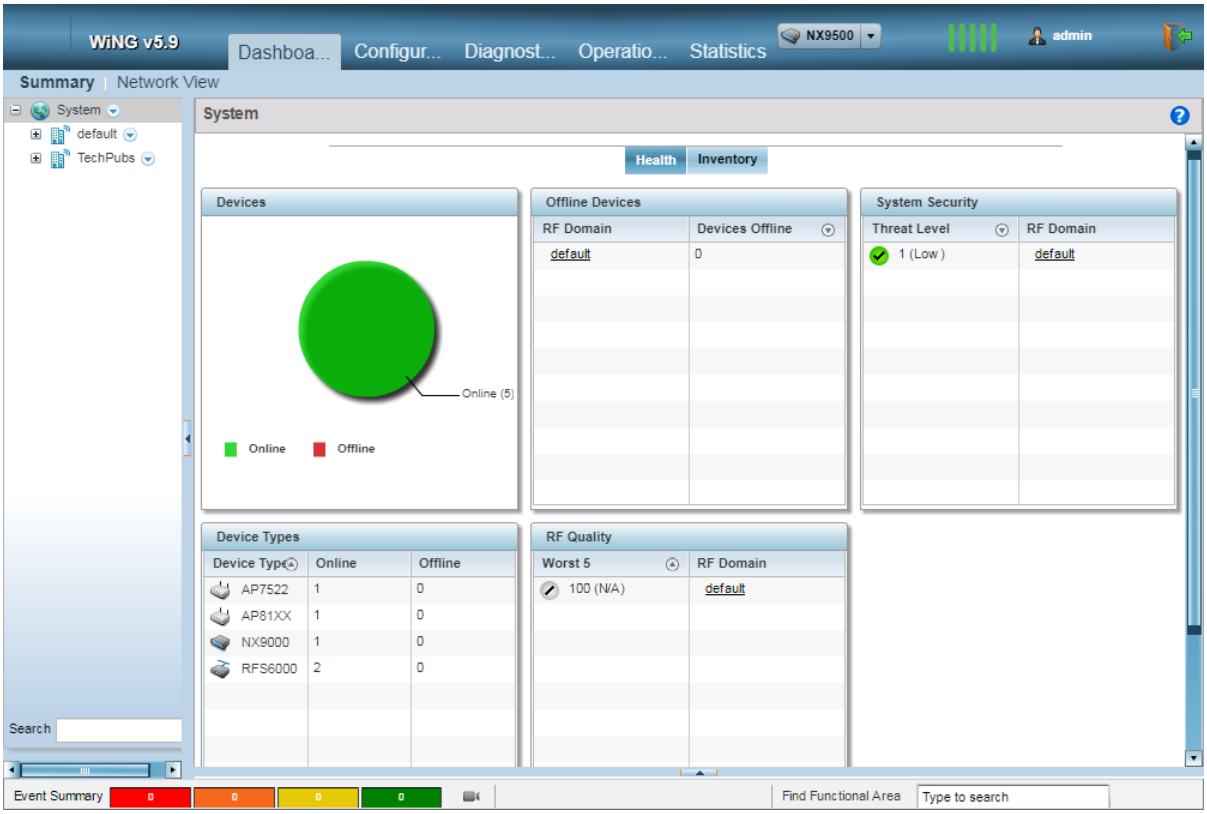
The `rf-domain` is saved.

ExtremeLocation Tenant Account Number Integration Using WiNG GUI

To link your tenant account number to WiNG using the WiNG GUI:

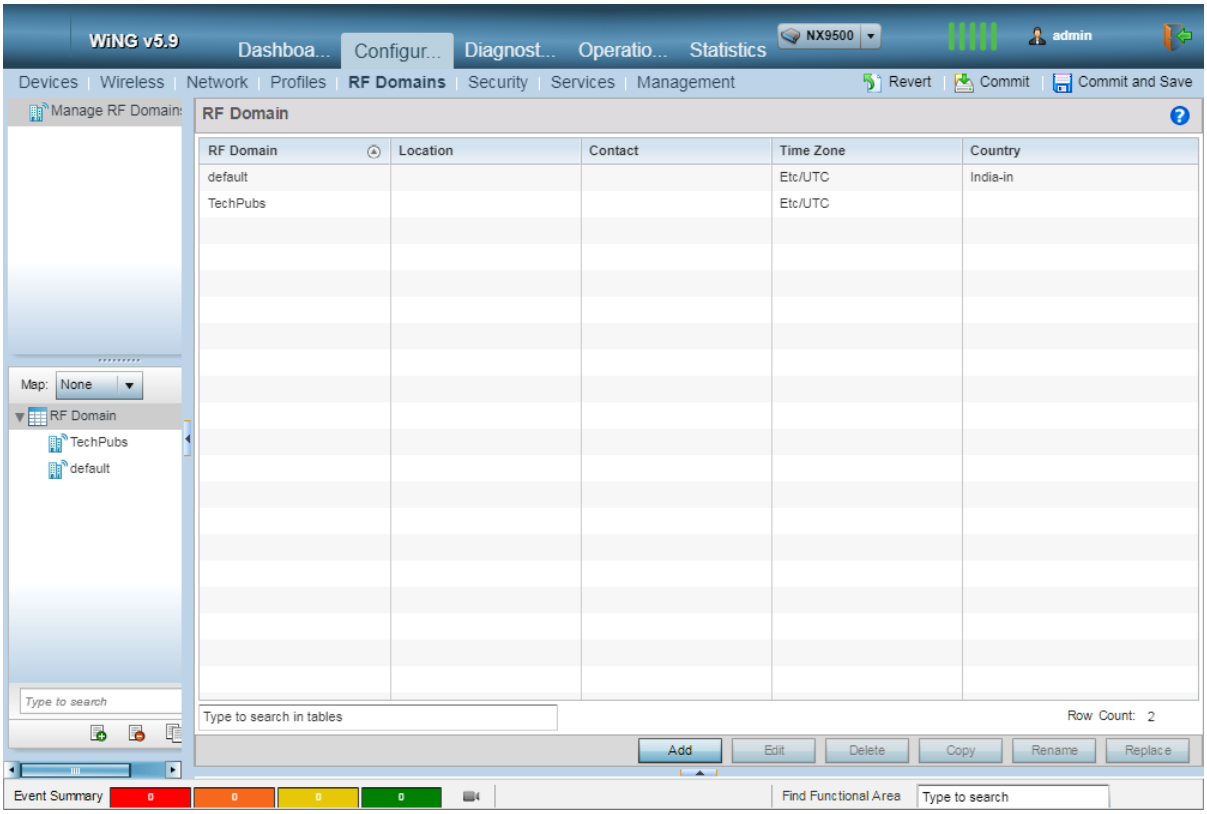
1 Login to your WiNG Controller.

On successful login, the Dashboard screen appears.



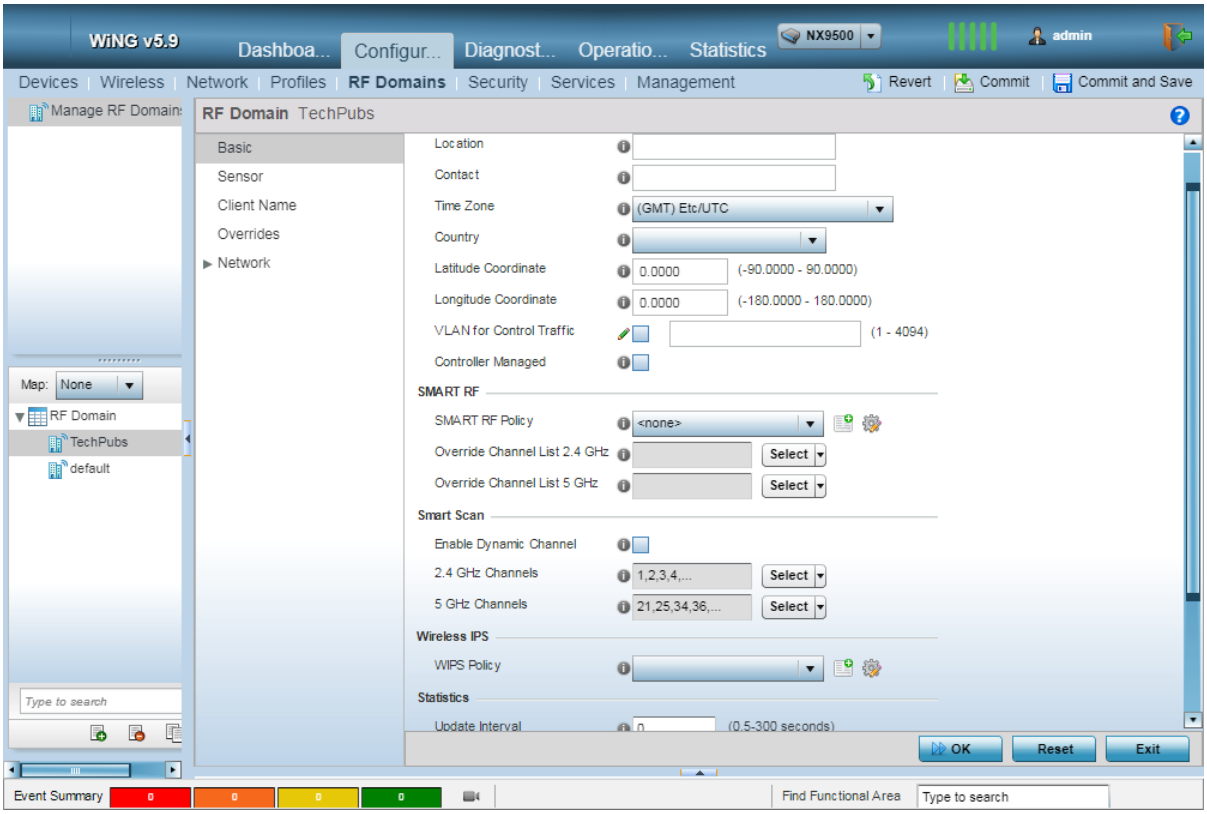
2 Select **Configuration** > **RF Domains**.

The RF Domains screen appears.

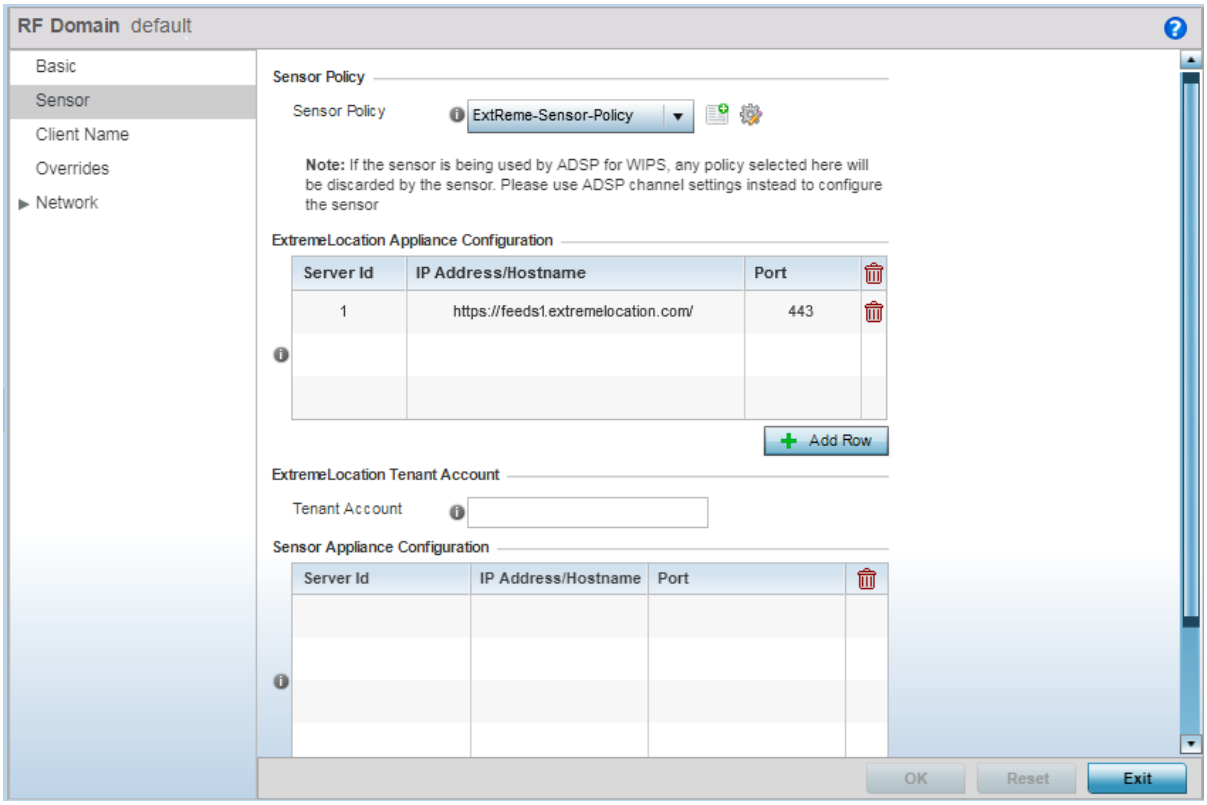


3 From the **RF Domain** list, select the RF Domain to edit and then select the **Edit** button.

The selected RF Domain policy is loaded and the following screen appears.



4 From the navigation menu on the left, select **Sensor** menu item.
The Sensor screen appears.



5 In ExtremeLocation locate your tenant account number. This number is located next to the  at the top right of your screen.

6 In the WiNG GUI paste the *`Tenant Account Number`* value into the **ExtremeLocation Tenant Account** field's **Tenant Account** field.

7 From the top right, select the **Commit and Save** button to save changes made to this RF Domain Policy.

Linking ExtremeLocation Tenant Account Number with WiNG Controller

ExtremeLocation Tenant Account Number Linking in WiNG

It is now possible to configure the ExtremeLocation Tenant Account Number in your WiNG RF Domain policy and your WiNG controller. When an access point comes online, it is placed in the common pool of access points by default. This access point is now available for any Tenant to claim and use by uploading the access point's MAC address using the `.csv` import method. When the Tenant Account Number is provided, access points are assigned to the tenant with the Tenant Account Number and can only be used across any of the sites managed by this tenant. This ensures that your assets cannot inadvertently be deployed on sites that belong to other ExtremeLocation accounts.

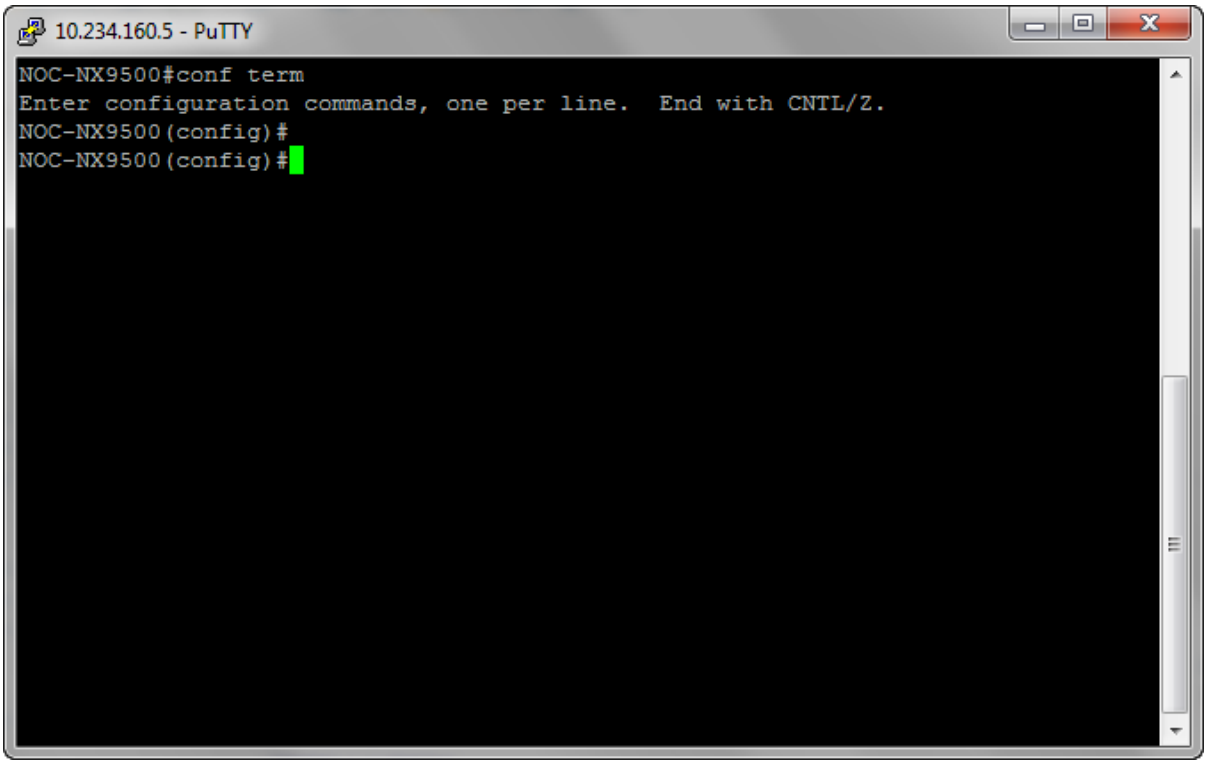
When the Tenant Account Number is provided in the WiNG controller configuration, it links the controller with the tenant. Any modification made to WiNG sites managed by this wireless controller, such as adding new access points or sites, is tagged by the Tenant Account Number automatically.

Linking your ExtremeLocation Tenant Account Number with WiNG controller can be done from the WiNG CLI only. Extreme Networks recommends that you link your ExtremeLocation Tenant Account Number with WiNG Controller for ease of use and increased security of your deployments.

ExtremeLocation Tenant Account Number Integration With WiNG Controllers

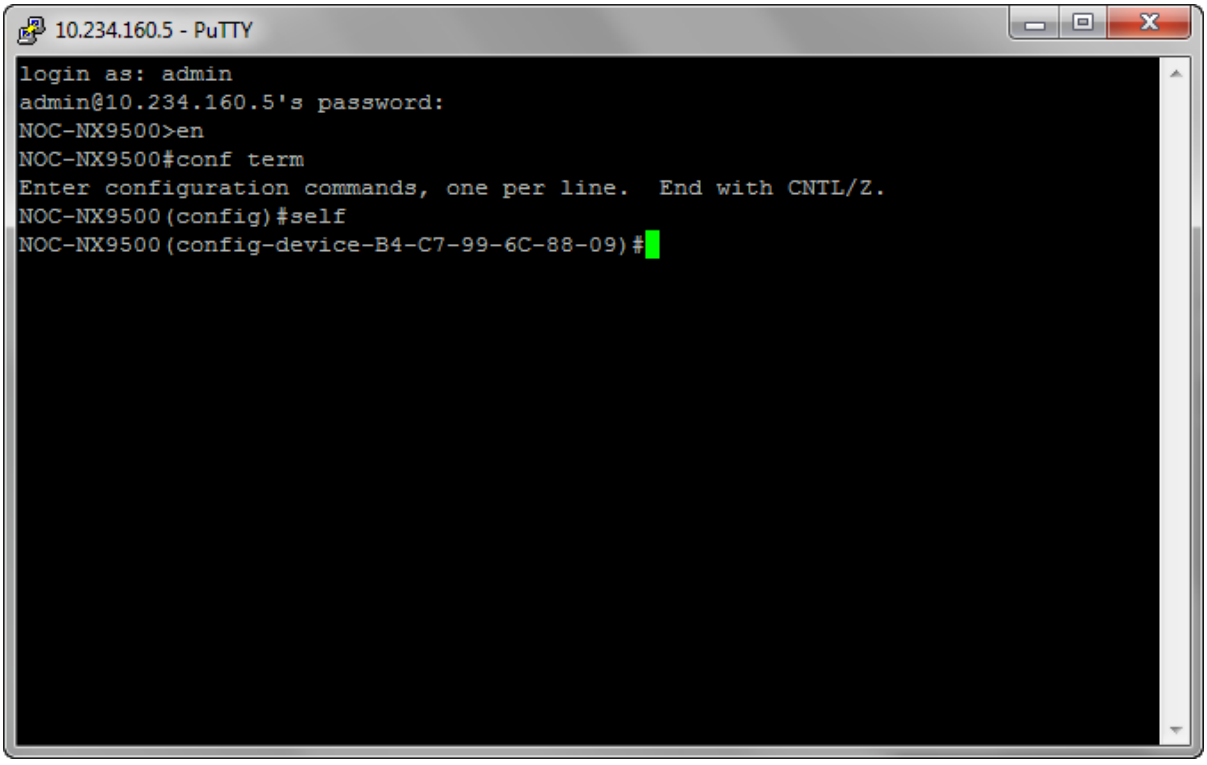
To link your tenant account number to a WiNG controller using the WiNG CLI:

1 Login to the CLI interface on your WiNG controller using the **admin** credentials. Then navigate to its configuration context using **en** command followed by the **conf term** command.



2 Enter the WiNG controller's context using the `self` command.

You are taken to the WiNG controller's context.



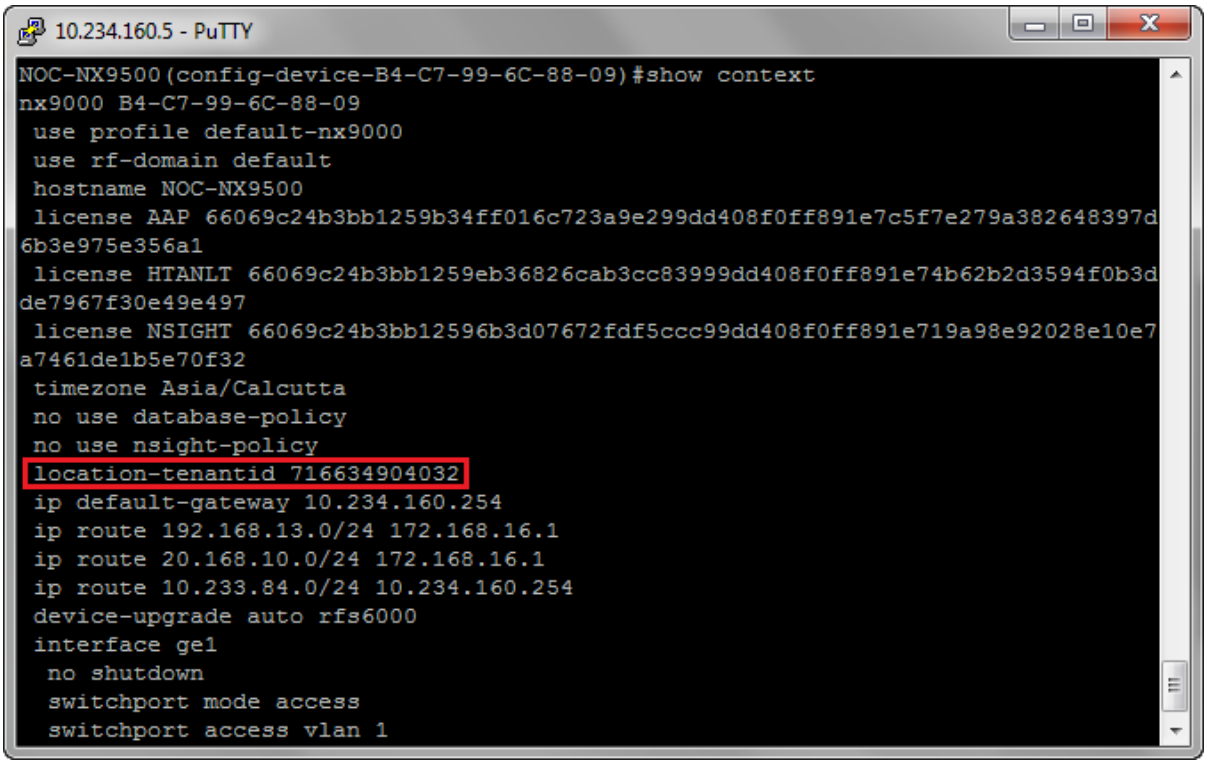
3 From within the `self` context, execute the following command:

```
location-tenantid <your tenant id>
```

4 Verify the location-tenantid configuration with the following command:

```
show context
```

The current configuration for the WiNG controller is displayed.



If required, make appropriate changes to this configuration.

5 Commit the changes made to this WiNG controller by using the following command:

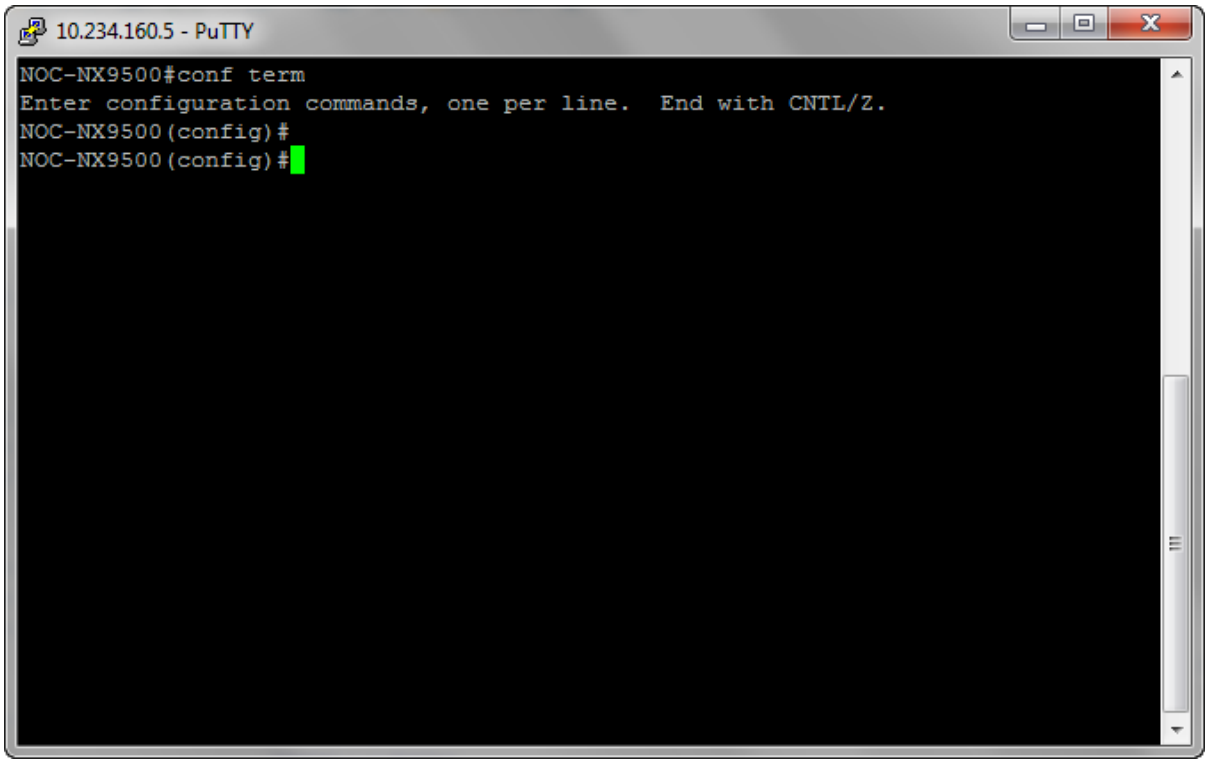
```
commit write memory
```

The configuration changes made to this WiNG controller is saved.

ExtremeLocation Tenant Account Number Integration With WiNG Controllers - Removing Tenant Account Number

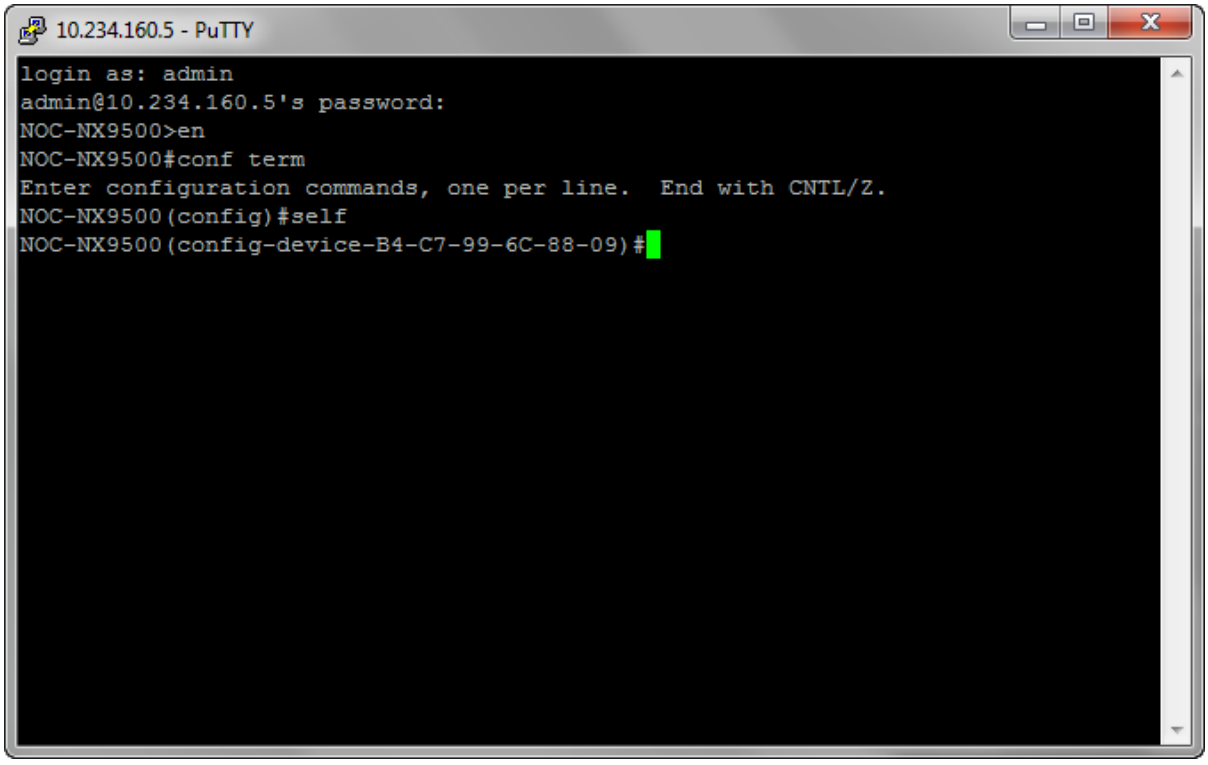
To remove the linked tenant account number to your WiNG controller using the WiNG CLI:

1 Login to the CLI interface on your WiNG controller using the **admin** credentials. Then navigate to its configuration context using **en** command followed by the **conf term** command.



2 Enter the WiNG controller's context using the **self** command.

You are taken to the WiNG controller's context.



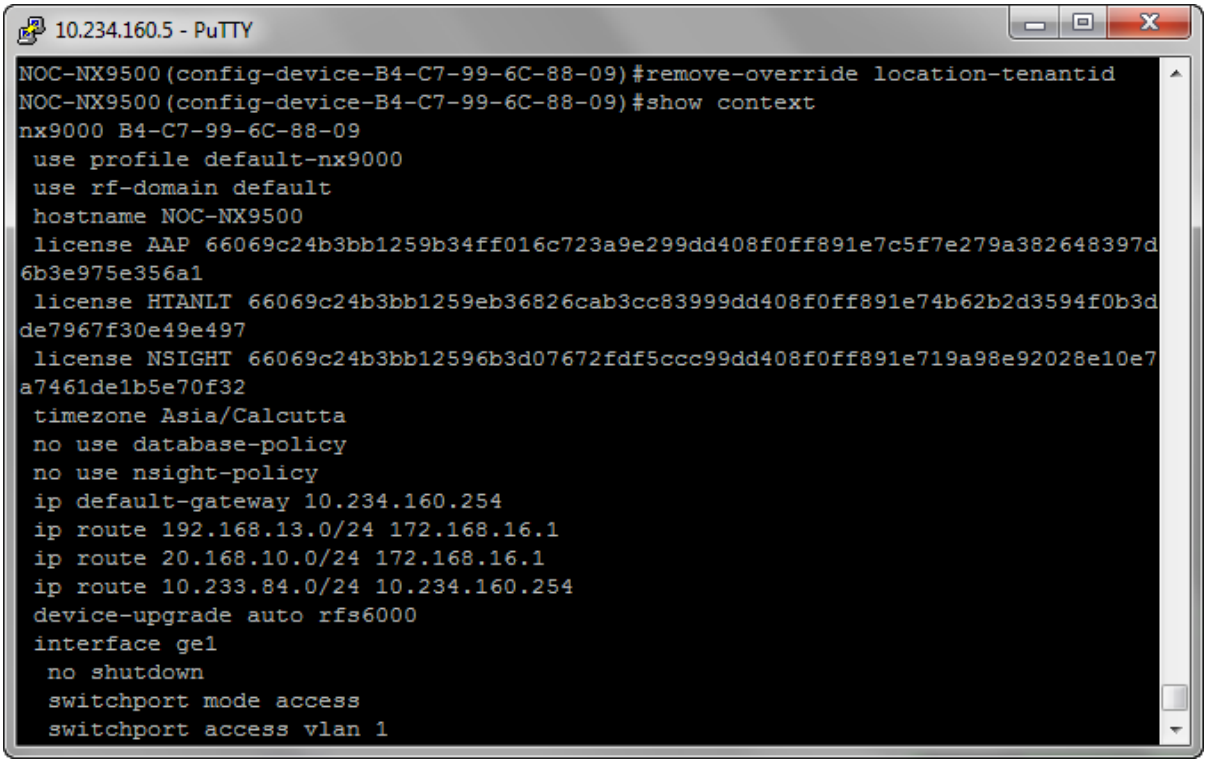
3 From within the `self` context, execute the following command:

```
remove-override location-tenantid
```

4 Verify the location-tenantid configuration has been removed from the WiNG controller with the following command:

```
show context
```

The current configuration for the WiNG controller is displayed.



If required, make appropriate changes to this configuration.

5 Commit the changes made to this WiNG controller by using the following command:

```
commit write memory
```

The configuration changes made to this WiNG controller is saved.

4 Configuring ExtremeWireless Access Points

Enabling support for ExtremeLocation on ExtremeWireless Controllers
Configuring AirDefense Sensor Support

ExtremeWireless access points are a range of 802.11ac Wave 2 and 802.11abgn indoor and outdoor access points that deliver enterprise-grade performance and security for areas ranging from small service areas such as residence halls, patient rooms, or conference rooms to large and very large areas such as warehouses, manufacturing plants, parks, or stadiums.

The following ExtremeWireless access point models are supported:

- ExtremeWireless AP3912
- ExtremeWireless AP3915
- ExtremeWireless AP3916
- ExtremeWireless AP3917
- ExtremeWireless AP3935
- ExtremeWireless AP3965

Note
Both indoor and outdoor access point models are supported.

Note
For the following ExtremeWireless access points that have 2 LAN ports, use the port labeled "LAN 1" to connect to the controller.

- AP3917
- AP3935
- AP3965

This chapter describes these steps to configure access points for use with ExtremeLocation:

- Enabling support for ExtremeLocation on ExtremeWireless Controllers. See Enabling support for ExtremeLocation on ExtremeWireless Controllers on page 83.
- Enabling support for ExtremeWireless access points in a mixed ExtremeLocation and AirDefense Service Platform deployment. See Configuring AirDefense Sensor Support on page 87.

Enabling support for ExtremeLocation on ExtremeWireless Controllers

To enable support for ExtremeLocation on ExtremeWireless controllers:

1 Navigate to the login page of the ExtremeWireless Controller and login using your credentials.

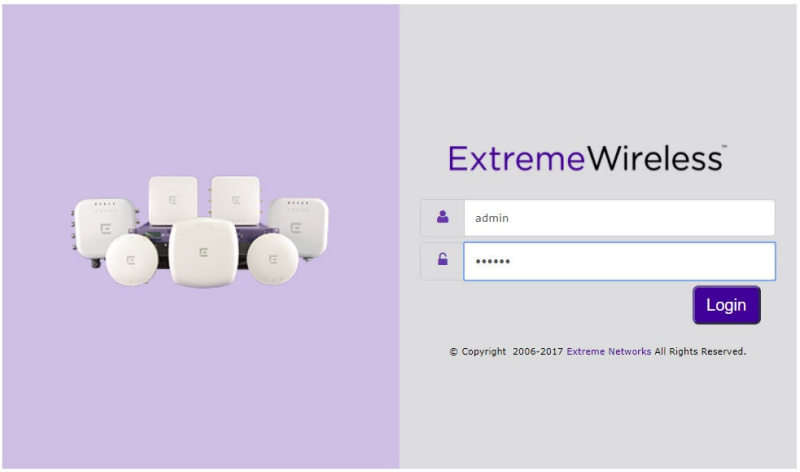
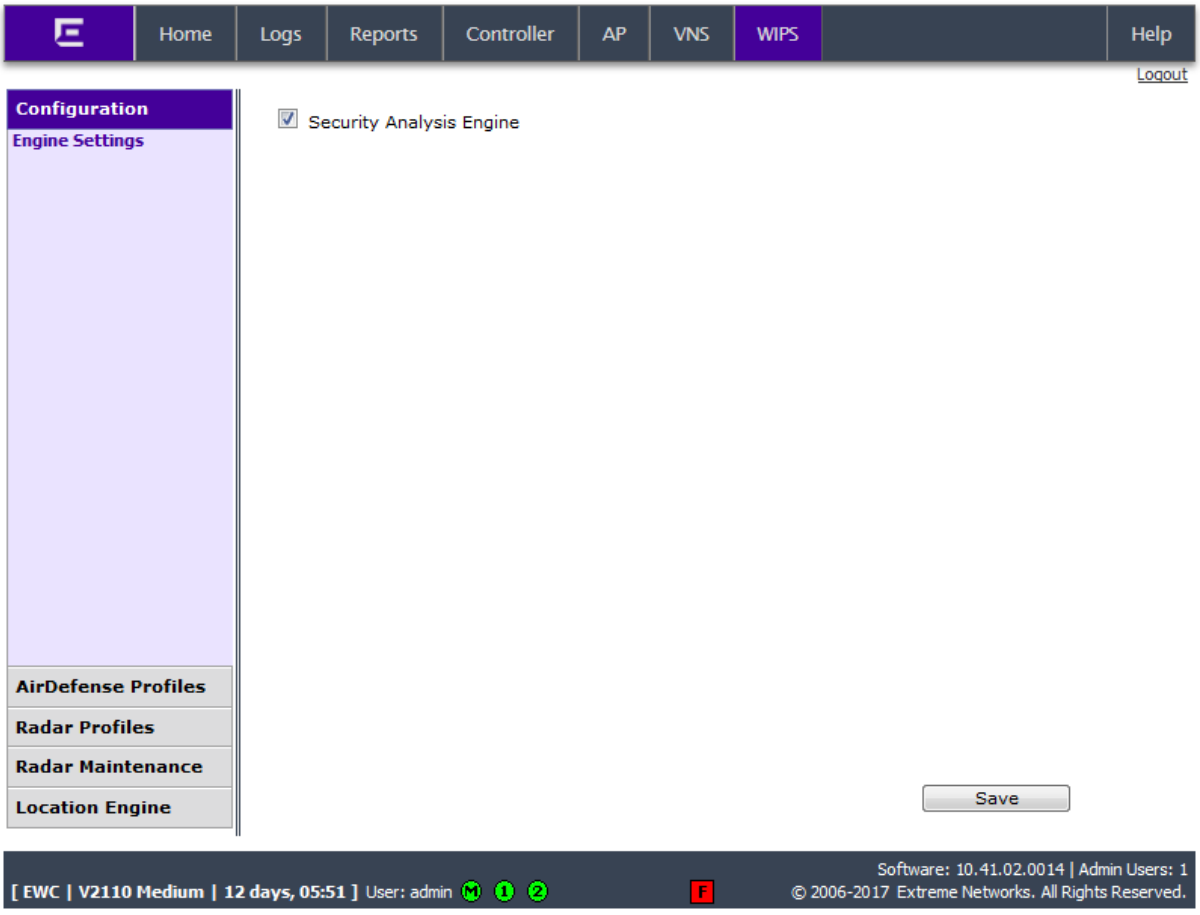


Figure 44: ExtremeWireless Controller Login Screen

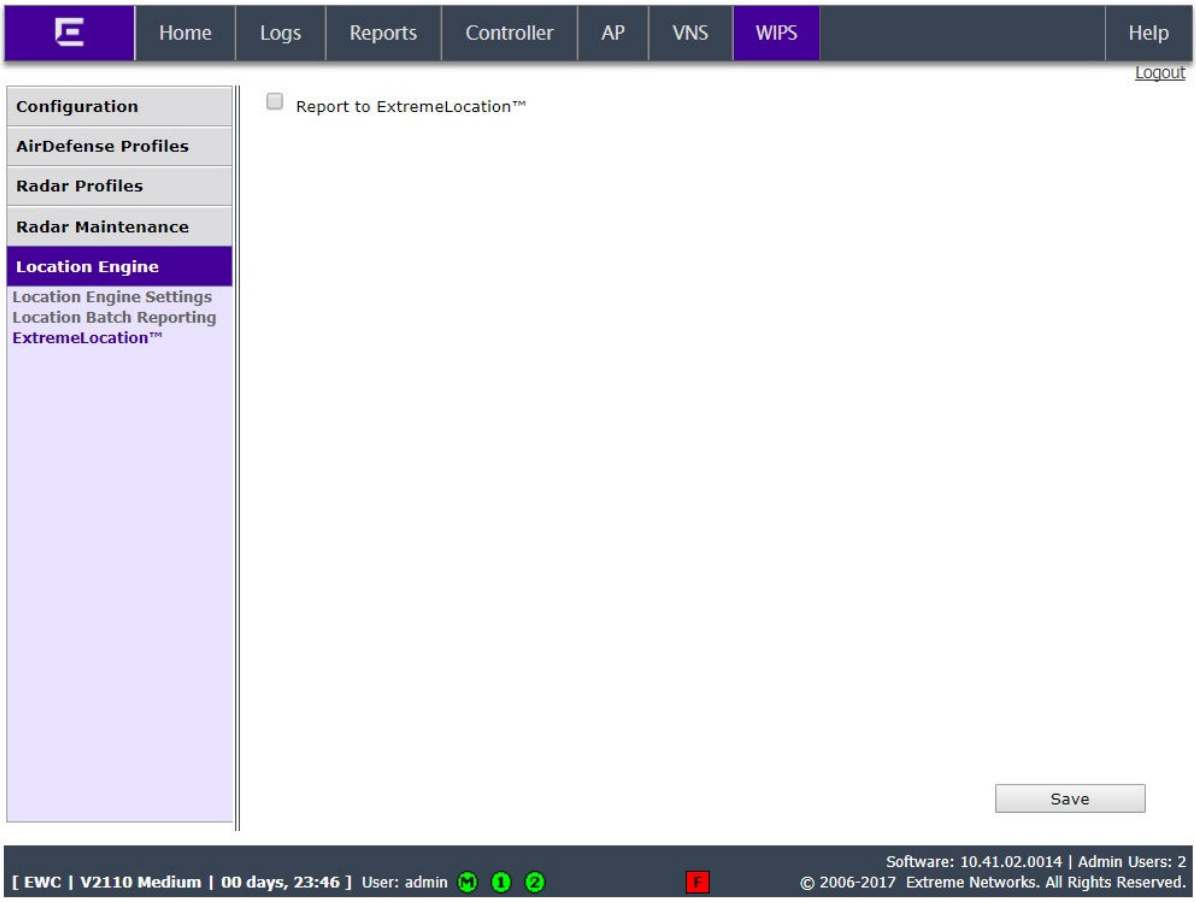
2 From the menu on the top, select the **WIPS** menu item.

The WIPS Configuration screen appears.



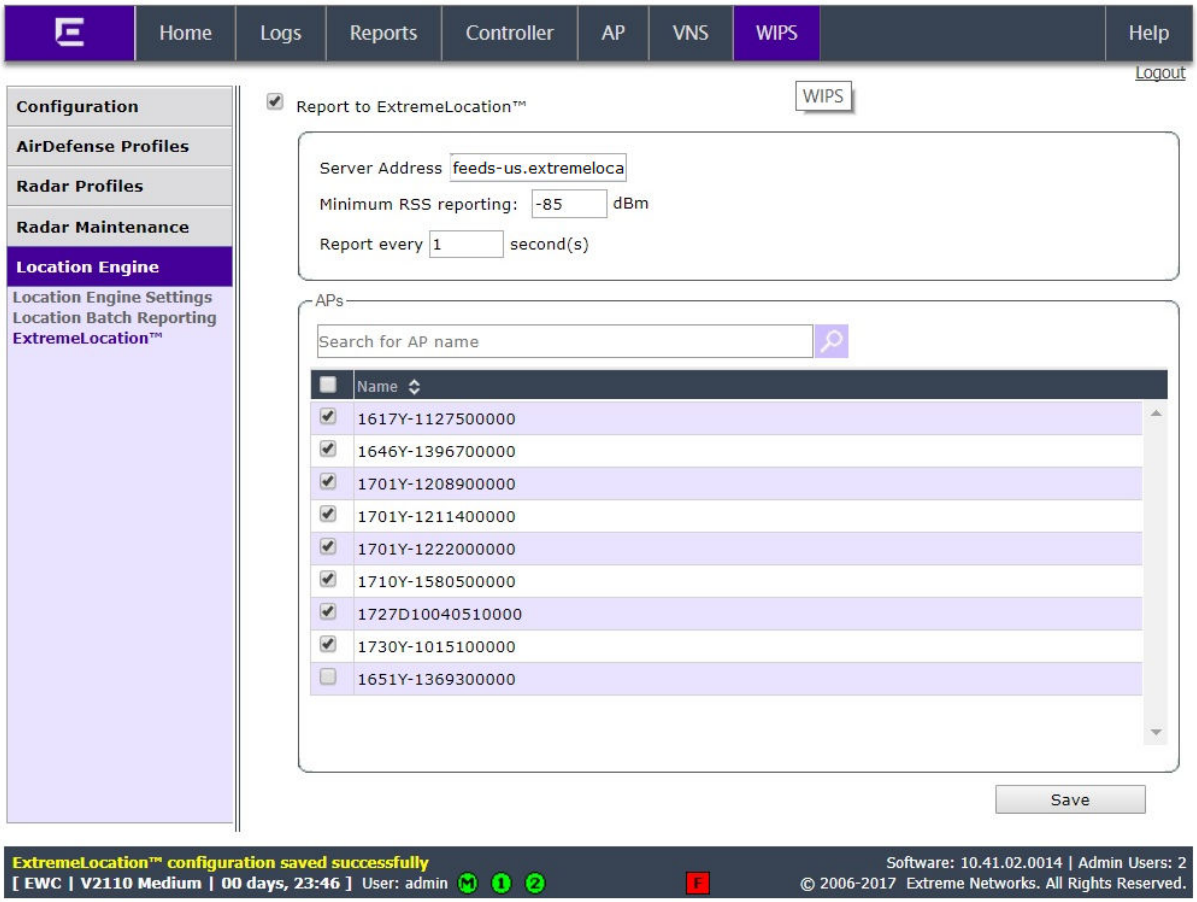
3 Select the option **Location Engine** > **ExtremeLocation**

The following screen displays.



4 Select the **Report to ExtremeLocation** option to enable configuring the parameters for sending location data to the remote ExtremeLocation servers.

The following screen displays:



5 Set the **Server Address** of the ExtremeLocation server.

The following is the URL for the ExtremeLocation server.

- *Sensor Server for US Customers*

6 Set the **Minimum RSS Reporting** value. This is the RSS value below which location information is not sent to the ExtremeLocation server.

7 Set the **Report every** controller to the reporting interval in seconds. This is the time period (in seconds) after which the location data is sent to the remote ExtremeLocation server.

8 from the **AP** field, select the access points to which the ExtremeLocation configuration will be pushed when this configuration is saved.

9 Select **Save** to save the changes to the Wireless Controller configuration.

For further configuration of ExtremeWireless access points to enable them to work with ExtremeLocation, refer to the latest ExtremeWireless Users Guide located at http://documentation.extremenetworks.com.

Configuring AirDefense Sensor Support

Use the configuration described in this section to configure ExtremeWireless access points to act as AirDefense Sensors when using AirDefense Service Platform alongside ExtremeLocation in a mixed deployment.

ADSP assigns individual licenses to sensors that are allowed to send data to ADSP for analysis. ExtremeWireless access points managed by ExtremeWireless Controllers must be configured so that they are visible to an ADSP server to push configurations to these access points.

The following configurations must be performed:

- Configure the ExtremeWireless Controller by creating an ADSP profile and assign the access points that will act as sensors for ADSP.
- Configure the ADSP server to push ADSP configuration to these access points.

Creating ADSP Profile on an Extreme Networks Controller

For an access point that is managed by an ExtremeWireless controller to act as a sensor for ADSP, it must be made visible to the ADSP server for it (the ADSP server) to push configuration to the access points. This is done by creating an ADSP profile and assigning access points to it. These access points will then receive configuration updates from ADSP and also act as ADSP sensors.

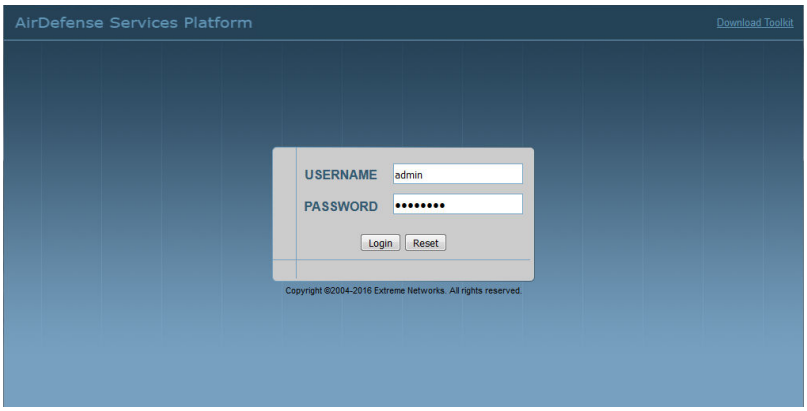
To learn how to create an ADSP profile, refer to the latest ExtremeWireless Users Guide located at http://documentation.extremenetworks.com.

Configuring ADSP Sensor Operation

These configuration steps are performed on your ADSP server.

Use the Sensor Operation screen to configure the settings that ADSP sends to the sensors registered with it. Some of the parameters that can be configured are Scan Settings, Scan Modes, Scan Weight, and other parameters.

1 Login in to the AirDefense Server from its login screen.



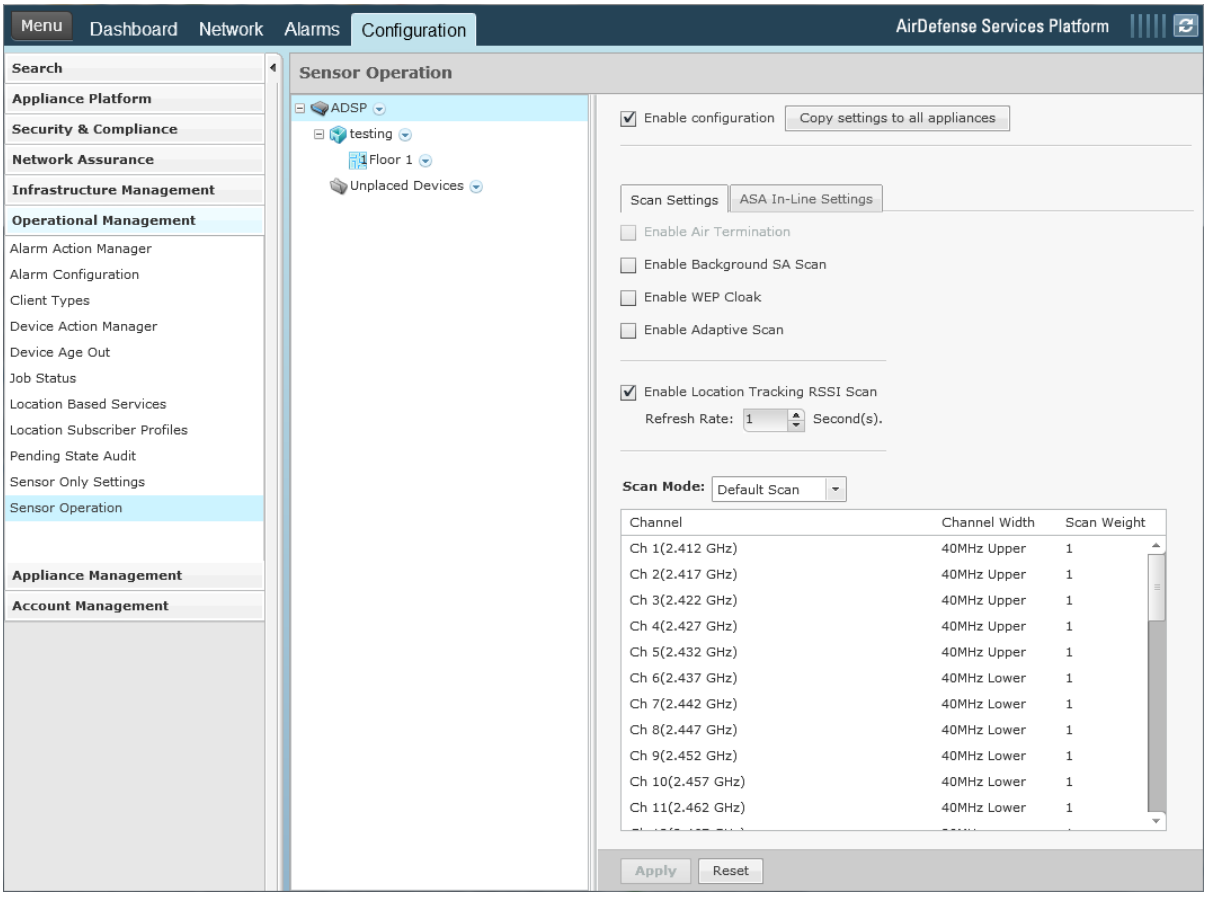
Provide a valid login user name its password to access the ADSP user interface.

2 Select the **Configuration** menu from the toolbar on the top of the screen.

3 Select the **Operational Management** item from the menu on the left of the screen to expand it.

4 Select the **Sensor Operation** item from the **Operational Management** sub menu.

The Sensor Operation screen displays.



5 From the Sensor Operation screen, select the **ADSP** item if it is not selected by default.

The Sensor Operation screen changes to display the configuration parameters for the ADSP system.

6 Select one of the following **Scan Mode** options.

Default Scan	Select this option to use the default values. When selected, all the 2.4 GHz and 5.0 GHz channels are scanned.
Custom Scan	Select this option to get fine grained control on the channels to be scanned in the 2.4 GHz and 5.0 GHz spectrum.
Channel Lock	Select this option to lock the channel scan to a single channel in either the 2.4 GHz or 5.0 GHz spectrum.

7 Select **Save** to save changes made to the ADSP Sensor Operations parameters.

5 Migration Path to ExtremeLocation for Clients Having ADSP or WiNG Deployments

There are various ways that you can migrate your existing ADSP location based services or WiNG sites and site hierarchy to ExtremeLocation

The four most common migration scenarios are:

- Customers having WiNG and ExtremeLocation deployment
- Customers having WiNG and ADSP Location Based Services deployment
- Customers having WiNG only and are planning to migrate Location Based Services to ExtremeLocation
- Customers having WiNG and ADSP and are not using Location Based Services

Suggested Migration Path - WiNG Customers Planning To Deploy ExtremeLocation

These steps are for existing WiNG customers, who want to use ExtremeLocation for locationing.

- Upgrade WiNG to version 5.9.2
- Configure Tenant Account Number for all new RF Domains that do not already have an equivalent site in ExtremeLocation
- You can (optionally) configure the REST API end points (by configuring a location policy and applying it) for those RF Domains that need to be created as sites in ExtremeLocation post migration
- Continue to use WiNG to configure Sensors.

Suggested Migration Path - WiNG Sites and Site Hierarchy to ExtremeLocation

These steps are for existing WiNG customers who have both WiNG and ExtremeLocation deployed, specifically older WiNG releases (pre version 5.9.2). The following steps must be completed to successfully migrate WiNG sites and site hierarchy to ExtremeLocation.

- Upgrade WiNG to version 5.9.2
- Configure Tenant Account Number for all new RF Domains that do not already have an equivalent site in ExtremeLocation

- You can (optionally) configure the REST API end points (using server URL and API key) for those RF Domains that do not have an equivalent site in ExtremeLocation post migration. Do not configure API end points (using the server URL and API key) for those RF Domains that have an equivalent site in ExtremeLocation.
- Continue to use WiNG to configure Sensors.

Suggested Migration Path - WiNG and ADSP to ExtremeLocation

These steps are for existing AirDefense Service Platform customers who have both WiNG and ADSP deployed, specifically older WiNG releases (pre version 5.9.2). The following steps must be completed to successfully migrate ADSP Location Based Services to ExtremeLocation.

- Upgrade WiNG to version 5.9.2
- Upgrade ADSP to version 9.5 to enable it to work with WiNG version 5.9.2.
- Deploy the migration patch to ADSP
- Migrate data from ADSP to ExtremeLocation as defined in this document. Do not configure API end points (using the server URL and API key) for those RF Domains that have an equivalent site in either ExtremeLocation or ADSP
- Once migration from ADSP is successful, you can (optionally) configure the REST API end points (using server URL and API key) for those RF Domains that do not have an equivalent site in ExtremeLocation post migration
- Configure ExtremeLocation Tenant Account Number for all those RF Domains that do not have an equivalent site in ExtremeLocation post migration
- Continue to use ADSP to configure Sensors. You will be able to configure Sensors on ADSP without the ADSP Proximity License.

Suggested Migration Path - WiNG and ADSP (non LBS) to ExtremeLocation

These steps are for existing AirDefense Service Platform customers who have both WiNG and ADSP (without Location Based Services) deployed, specifically older WiNG releases (pre version 5.9.2). The following steps must be completed to successfully configure ADSP Location Based Services on ExtremeLocation.

- Upgrade WiNG to version 5.9.2
- Configure Tenant Account Number for all new RF Domains that do not already have an equivalent site in ExtremeLocation
- You can (optionally) configure the REST API end points (using server URL and API key) for those RF Domains that do not have an equivalent site in ExtremeLocation post migration. Do not configure API end points (using the server URL and API key) for those RF Domains that have an equivalent site in ExtremeLocation.
- Export sites and site hierarchy from WiNG to ExtremeLocation. Do not migrate tree setup from ADSP.
- Deploy the migration patch to ADSP
- Migrate data from ADSP to ExtremeLocation as defined in this document. Do not configure API end points (using the server URL and API key) for those RF Domains that have an equivalent site in either ExtremeLocation or ADSP

- Once migration from ADSP is successful, you can (optionally) configure the REST API end points (using server URL and API key) for those RF Domains that do not have an equivalent site in ExtremeLocation post migration
- Configure ExtremeLocation Tenant Account Number for all those RF Domains that do not have an equivalent site in ExtremeLocation post migration
- Continue to use ADSP to configure Sensors. You will be able to configure Sensors on ADSP without the ADSP Proximity License.