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Overview

This guide consists of two parts:

- **Part 1** – Outlines the initial setup and configuration of a Nx Witness System.
- **Part 2** – Introduces Users to the frequently used features of Nx Witness.

For additional help beyond this guide:

- Review the Nx Witness User Manual.
- Contact Support (dw-tech@dwcc.tv).

Part 1 – Initial Setup

Install the Nx Witness Server and/or Nx Witness Desktop Client before starting the System Setup process.



Note: The settings made in step 4 cannot be changed later.

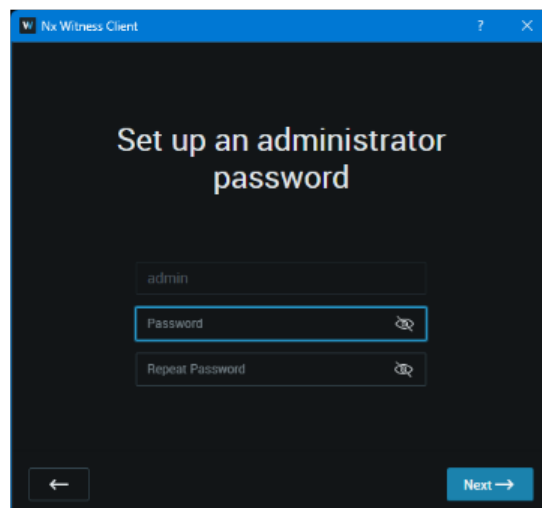
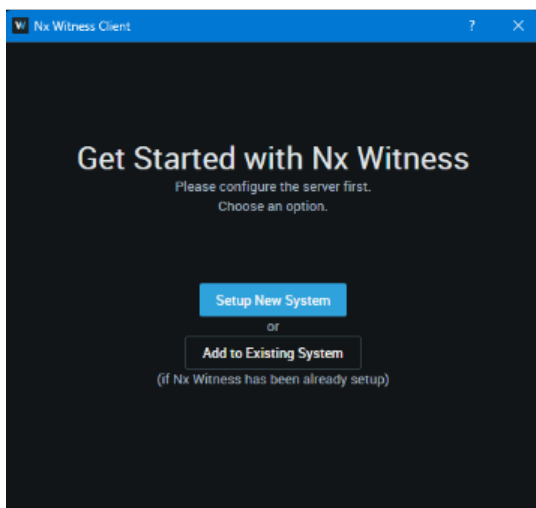
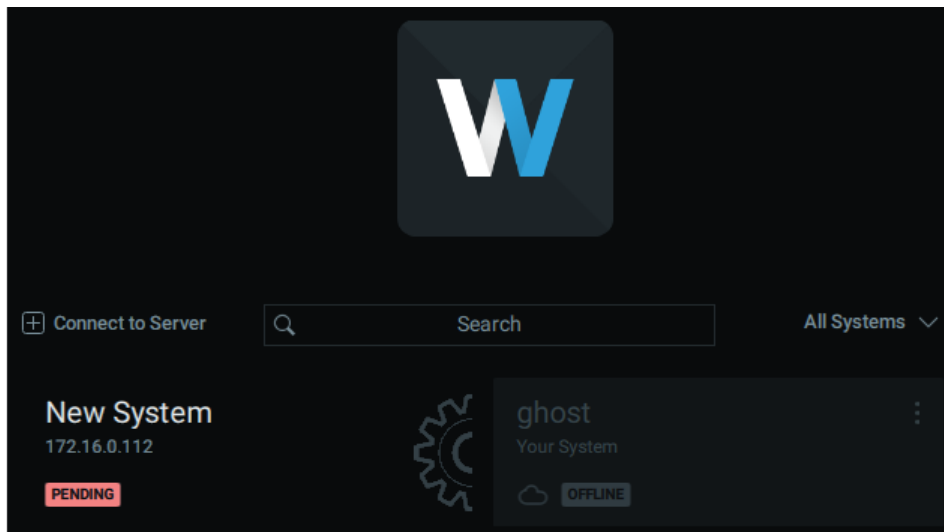
1. Start the Server setup process by performing one of the following two actions using the Desktop Client or Web Admin:
 - Desktop Client: click on the **New System** tile on the Welcome Screen.
 - Web Admin: Connect to the Server by entering the Server IP address and port into a browser (i.e. <https://172.16.0.112:7001/>).
2. Click **Setup New System**.
3. Enter a name for the new Nx Witness System.
4. Click the **Advanced system settings** link below the System Name and configure the following options:
 - Enable device auto discovery.
 - Allow device setting optimization.
 - Send anonymous usage statistics and crash reports.
 - Select the *Security Level* using the menu. The System Security Level cannot be changed once set (see "[System Settings and Security](#)"⁵).

Standard:

- "Encrypt video traffic to desktop and mobile client" is disabled.
- Camera credentials are shown in the Camera settings dialog.
- Server IP is shown in API responses.

High:

- “Encrypt video traffic to desktop and mobile client” is enabled.
 - Camera credentials are not shown in Camera settings.
 - Server IP is not shown in API responses.
5. Enter a password for the admin account.
- !** **Important:** The admin account is the primary System account and the only account with all System privileges. The preset username "admin" cannot be changed.
6. Review the confirmation message and click **Finish**.



System Settings and Security

The settings below affect your entire Nx Witness System. Assess each setting carefully before making any changes.

1. Open the **Main Menu** > **System Administration** and ensure the *General* tab is displayed.
2. Toggle on/off the options under *System Settings* as needed:
 - *Enable cameras and servers autodiscovery and automated camera status check* – The system continuously discovers new cameras and Nx Witness servers on the network and sends frequent discovery requests to cameras for status updates. If disabled, Cameras must be added manually; Cameras will appear as if they are offline due to the lack of status updates.



Important: Multicast must be enabled on your network for autodiscovery to work.

- *Send anonymous usage and crash statistics to software developers* – Automatically sends anonymized data about the Nx Witness system (e.g. cameras, server hardware, software version, crashes, etc.) to help improve Nx Witness.
- *Allow System to optimize camera settings* – Configures cameras to send two streams at the optimal resolution. Read [Camera Optimization](#) for more information.



Note: The above setting can be changes when setting up a new system on the Welcome Screen (see "[Part 1 – Initial Setup](#)"³).

- *Custom language for mobile notifications* – If desired, select a different language to be used for mobile notifications.
3. Click on the **Security** tab and toggle the following options:
 - *Data Protection*
 - *Use only HTTPS to connect to cameras* – Ensures that Nx Witness servers only connects to cameras using HTTPS, preventing management traffic between cameras and Nx Witness servers from being intercepted and analyzed.
 - *Force servers to accept only encrypted connections* – Forces all servers in the Nx Witness system to accept only secure HTTPS connections. This prevents API requests, the server Web Admin interface, and other data (user accounts, device access credentials, etc.) from being intercepted and analyzed.
 - *Encrypt video traffic to desktop and mobile clients* – Protects Prevents your video streams (live and playback) from being intercepted and viewed.
 - *Display watermark with username over video* – Watermarks will be displayed over live, archive, and exported videos for non-admin users only.
 - *User Activity*

- *Enable audit trail* – Tracks and logs all user actions.
- *Limit session duration* – If enabled, users will be automatically logged out whenif their session exceeds the specified duration.
- *Display servers in tree for non-administrator users* – Allows regular users to see available Nx Witness servers in the Resource Tree.
- *Archive Encryption* – once enabled, this setting encrypts the archive data to prevent it from being viewed outside of Nx Witness. To view the encrypted archive within the Desktop Client, it is necessary to provide a password.

Activate a License

To activate a License:

1. Open the **Main Menu** and click **System Administration**.
2. Go to the *Licenses* tab.
3. Enter the license key and click **Activate** License.



Note: Read [Internet Activation of Licenses](#) and [Types of Nx Witness Licenses](#) for more information.

Create Nx Cloud Account with 2FA / Log in to Nx Cloud System

Create a Nx Cloud Account

1. Open the Nx Cloud account registration webpage.
2. Enter your registration information and click **Create Account**.
3. An activation Email will be sent to the Email address provided. Open the Email and click **Activate Account**.

Log in to the Nx Cloud Portal

The Nx Cloud portal homepage displays tiles, and each tile represents a cloud-connected system to which the user has access.

1. Open the Nx Cloud portal homepage and click **Log In**.
2. Enter your Nx Cloud account email and click **Next**.
3. Enter your Nx Cloud account password and click **Log In**.
4. Click on a tile to access the following web pages for the selected system:
 - *View* – Use the Resource Tree to view live and archive footage.

- *Settings* – Manage users, system and security settings, activate licenses, enable recording, create a motion mask, etc.
- *Information* – Use the Health Monitoring tool to check to see if the system is in good shape and displays information such as the performance of the system and if any errors have occurred.

Enable Two-Factor Authentication (2FA)

Prevents unauthorized access by requiring a verification code generated by a mobile authentication app when logging in to your Nx Cloud account.

1. Install Google Authenticator, Microsoft Authenticator, or Duo Mobile on your mobile phone.
2. Open Nx Cloud portal homepage and log in to your account.
3. Open the account settings dropdown by clicking on your email at the top right and click **Security**.
4. Enable **Two-factor authentication** by clicking on the switch.
5. Enter your Nx Cloud account password.
6. Open the mobile authentication app and scan the QR code.
7. Enter the TOTP verification code generated by the mobile authentication app.
8. Click **Verify** to complete the setup process.

 **Note:** For additional security, enable *Ask for verification code on every login with Nx Cloud account*, or generate single-use backup codes to keep somewhere safe that can be used to log in if you lose access to the mobile authentication app.

Log in to Nx Cloud on Nx Witness Desktop

1. Click the Nx Cloud icon () on the Navigation Panel.
2. Enter your [Nx Cloud account](#)  email and click **Next**.
3. Enter your [Nx Cloud account](#)  password and click **Log in**.

Connect Nx Witness System to Nx Cloud

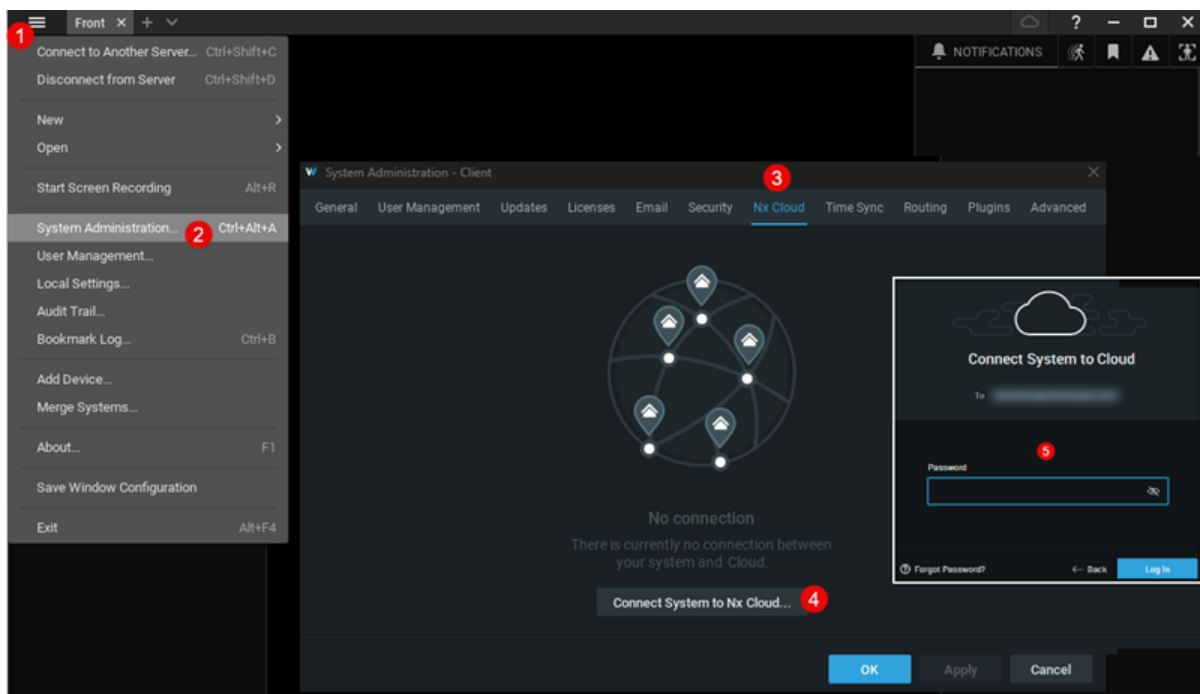
A Nx Witness System connected to Nx Cloud allows users to access all Servers in the System without directly connecting to an individual Server along with these additional benefits:

- Users logged in to their Nx Cloud account on Nx Witness Desktop can access any Nx Witness System on the account without entering credentials.
- Easily share access to Nx Cloud Systems with new users, only requiring a user Email for the invite.
- View and manage your Nx Witness System from the Nx Cloud portal.

To Connect a Nx Witness System to Nx Cloud

1. Open **Main Menu > System Administration**.
2. Go to the *Cloud* tab.
3. Click **Connect System to Cloud**.
4. Enter your [Nx Cloud account](#) ⁶ account Email and click Next.
5. Enter your [Nx Cloud account](#) ⁶ password and click Log in.

! **Important:** If your firewall restricts most connections by default, be sure to allow the required [Fully Qualified Domain Name](#) to prevent Cloud-connectivity issues.



Create a User / Share Access via Nx Cloud

The *User Management* dialog is used to create and configure System Users. This section covers creating Users and granting predefined permissions to Users. See the User Manual for additional information and option related to Users and Permission Groups.

Create a Local User

1. Open **Main Menu > User Management**.
2. Click the *Users* tab.
3. Click the **Add User** button.
4. Select the **Local User** type.
5. Set Access Type as: "**Regular User with Credentials**".

6. Enter User credentials.
7. Select a **Permission Group** for the user.
8. Click **Add User**.

Create a Temporary User

1. Open **Main Menu > User Management**.
2. Click the *Users* tab.
3. Click the **Add User** button.
4. Select **Local User** type.
5. Set Access Type as: "**Temporary with link**".
6. Configure the expiration date and/or maximum usage duration for the Temporary User.
7. Select a **Permission Group** for the user.
8. Click **Add User**.
9. Provide the User with the Temporary Link.

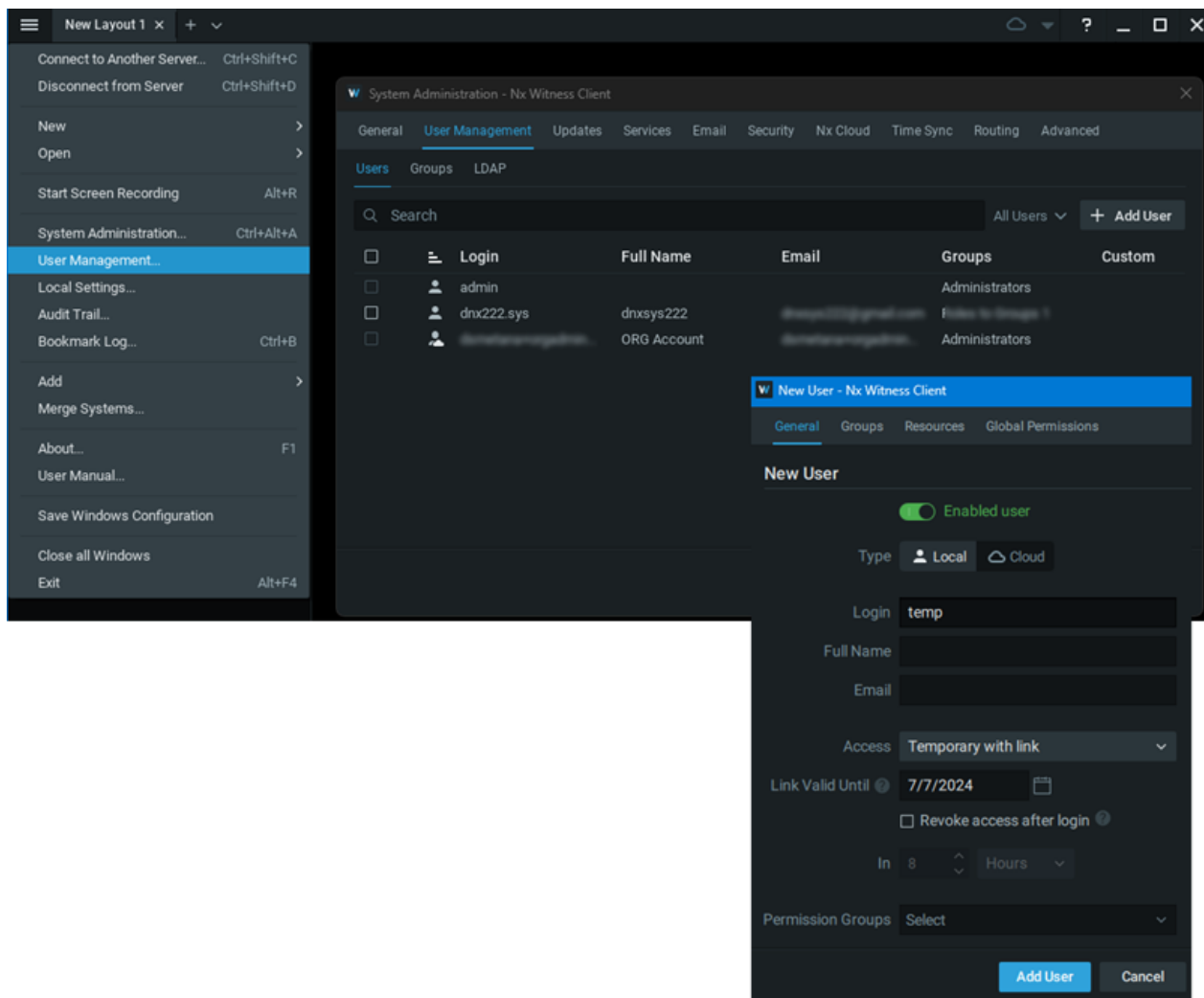
Create a Cloud User / Share Access to a Nx Cloud System

Existing Nx Cloud Users will receive an email stating that they now have access to the Nx Witness System, while new Users will receive an Email that prompts the User to create a Nx Cloud account to gain access to the shared System.

1. Open **Main Menu > User Management**.
2. Click the *Users* tab.
3. Click the **Add User** button.
4. Select the **Cloud** user type.
5. Enter an Email address for the user.
6. Select a **Permission Group** for the User.
7. Click **Add User**.



Note: Nx Cloud must be connected to the cloud before Cloud Users can be added to the System. Once added, users can access a Cloud Connected system by [logging into Nx Witness Desktop Client or the Nx Cloud portal](#).



Storage and Backup Configuration

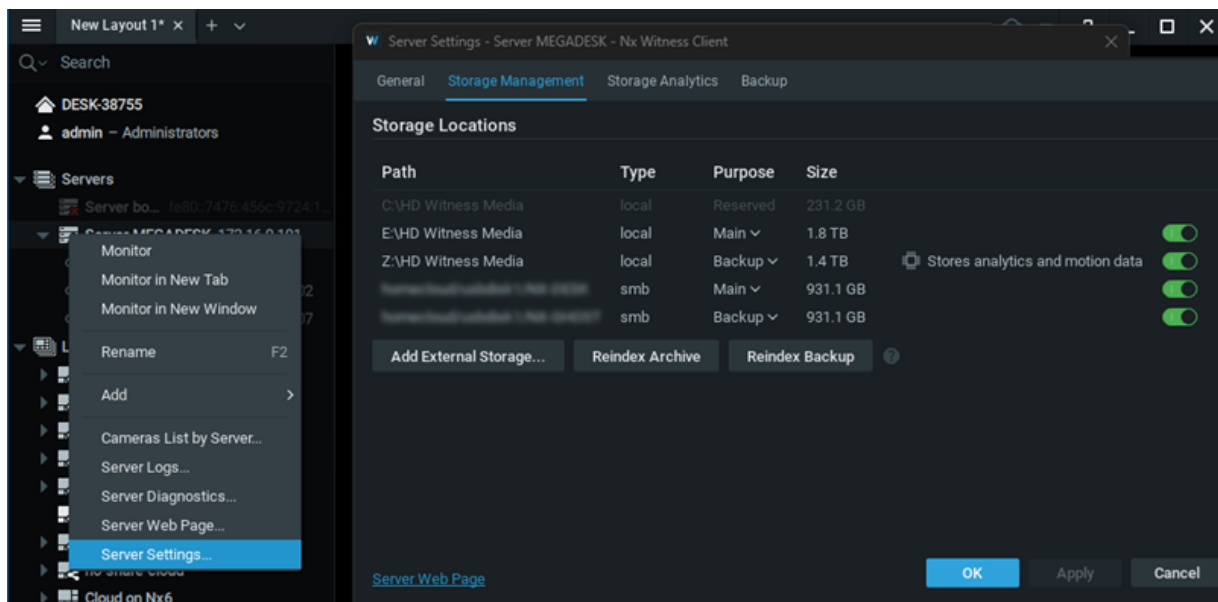
Add Storage

Each accessible local and network drive should automatically be detected as a separate storage. Network drives can be added manually if not detected automatically:

1. Right-click on a Server to open the context menu and select **Server Settings**.
2. Go to the *Storage Management* tab.
3. Click **Add External Storage** and enter the storage location and credentials. Click **OK**.
4. Choose which locations should be used for **Main** and **Backup** storage.
5. To store analytics data, hover over the desired drive and click *Use to store analytics data*.



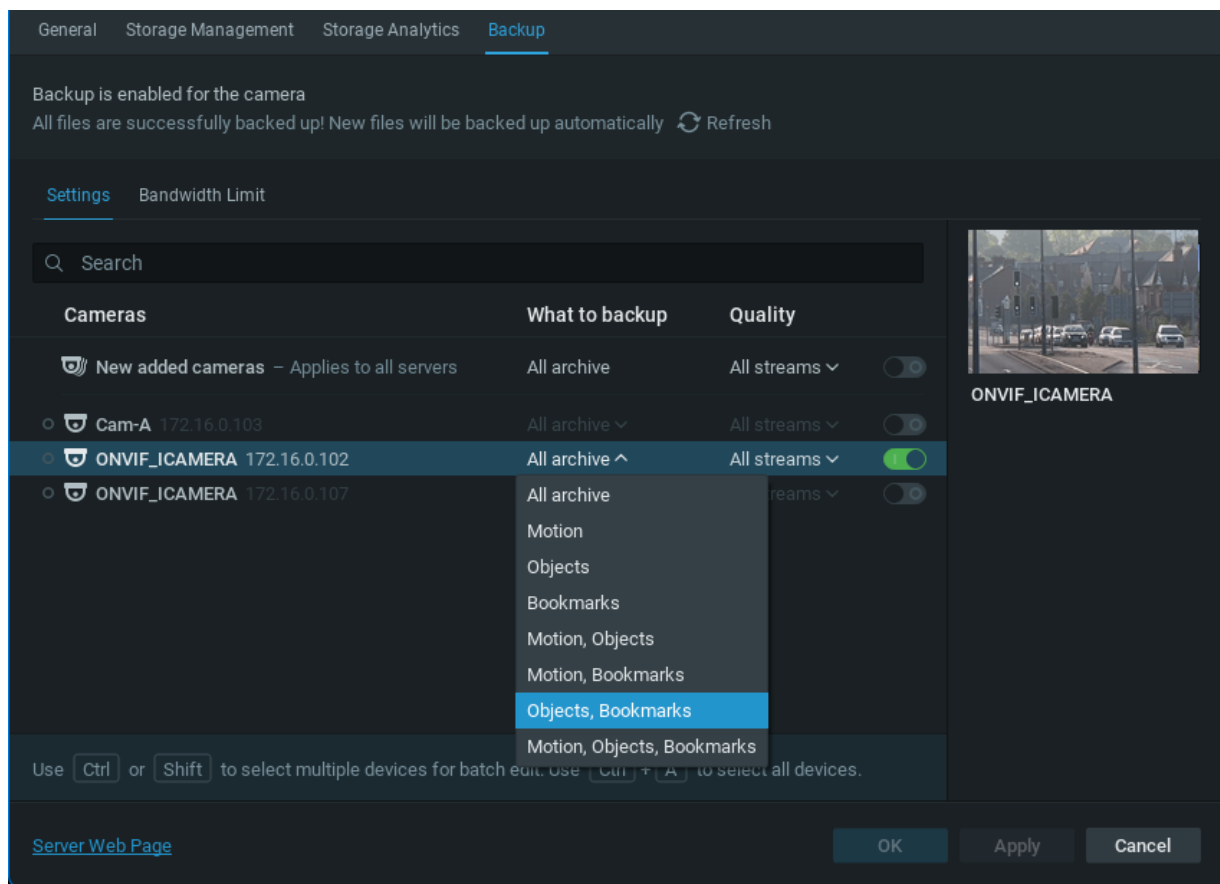
Note: It is not recommended to store analytics data on the Main drive as analytics data cannot be moved and takes up large amounts of space. If you encounter a storage issue, read [How to fix the Analytics Database Storage Issue](#).



Configure Backup

1. Click on the *Backup* tab.
2. Click on the *Settings* sub-tab within the *Backup* dialog to access the backup configuration settings:
 - Select the Cameras to backup by toggling the switch on the right side. Toggle the **New added devices** option to automatically begin backing up a device once it has been added to the Nx Witness system
 - Use the **What to backup** menu to select what aspect of the camera's archive should be backed up:
 - *All archive.*
 - *Motion.*
 - *Objects.*
 - *Bookmarks.*
 - *Motion and Objects.*
 - *Motion and Bookmarks.*
 - *Objects and Bookmarks.*
 - *Motion, Bookmarks, and Objects.*
 - Use the **Quality** menu to select which streams to backup:
 - *All streams.*
 - *Low-res.*
 - Click *Bandwidth Limit* tab and select a bandwidth mode:

- *No Limit* – The entire archive will be backed up. Afterward, the server will continuously back up live streams.
- *Fixed* – The bandwidth remains a specified Mbit/s across all days and times.
- *Scheduled* – Backup is performed only during the selected days and hours. Fill in the cells of the schedule using the following options: *Unlimited*, *No backup*, and *Limited* to (limit to a certain Mbit/s, but remember that too tight a bandwidth constraint can cause the entire backup to fail). Footage will be backed up since the last time backup was completed. If network bandwidth is insufficient, the backup may not be fully completed within the specified time frame. In this case the date and time of the footage that was backed up will be clearly indicated (Archive backup complete until...).



Add Devices

Compatible devices will usually be detected automatically since autodiscovery is enabled by default, although sometimes devices will need to be searched for and added manually.

Manually add a Device

There are two ways to add a device. First, **Right-click** on the Server, click **Add** to expand the sub-menu, then select **Device...**

- Single Device – In the *Known Address* tab, enter the Device address to search. If needed, enter the port or authorization credentials and click **Search**.
- Multiple Devices in the same network – In the *Subnet Scan* tab, enter the subnet to search for the Devices. If needed, enter the port or authorization credentials and click **Scan**.

Authorization Credentials

Some Cameras require authorization credentials before being able to access their stream. These Cameras have a lock icon next to them in the Resource Tree.

1. Right-click on a Camera and click **Camera Settings**.
2. In the *General* tab, click **Edit Credentials**.
3. Enter the login and password. Click **OK**.

Enable Recording on a Camera

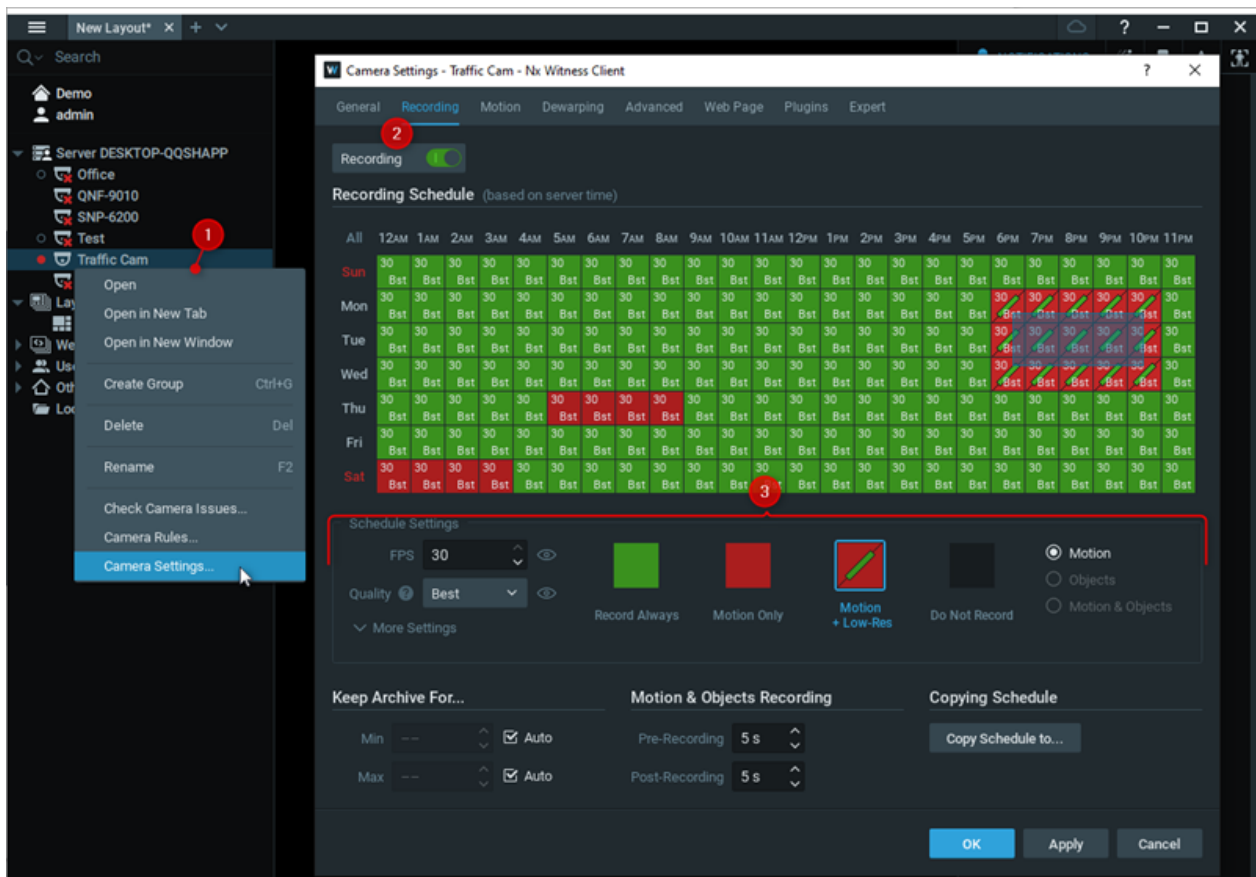
To enable recording:

1. Right-click on a Camera and click **Camera Settings**.
2. Go to the *Recording* tab and enable Recording using the slider control.
3. Select the recording schedule settings: dates/times, recording mode and type, FPS, and Quality. Click **OK**.

There are three recording types to choose from: Motion, Objects, or Motion & Objects. This selection will change the type of Recording Modes available to choose from.

Recording Modes

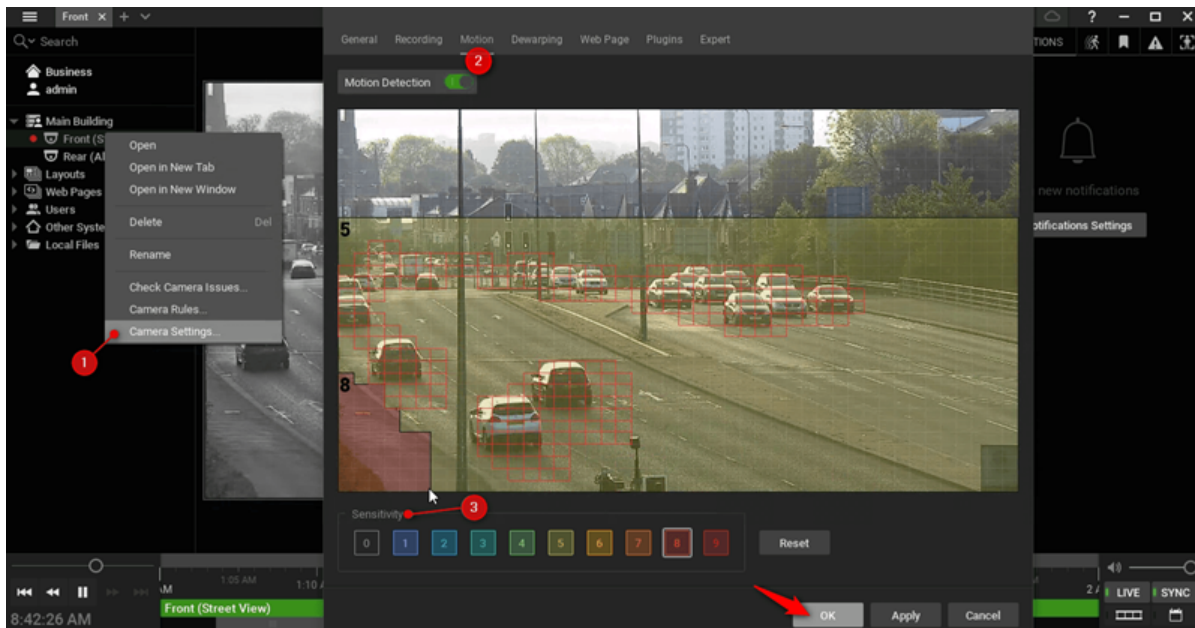
- Record always – Records the stream all the time.
- Motion Only / Objects Only / Motion & Objects Only – Records the stream only when Motion, Objects, or both are detected.
- Motion + Lo-Res / Objects + Lo-Res / Motion & Objects + Lo-Res – Records the stream in low resolution all the time and high resolution only when Motion, Objects, or both are detected.
- Do Not Record.



Enable Motion Detection and Create a Motion Mask

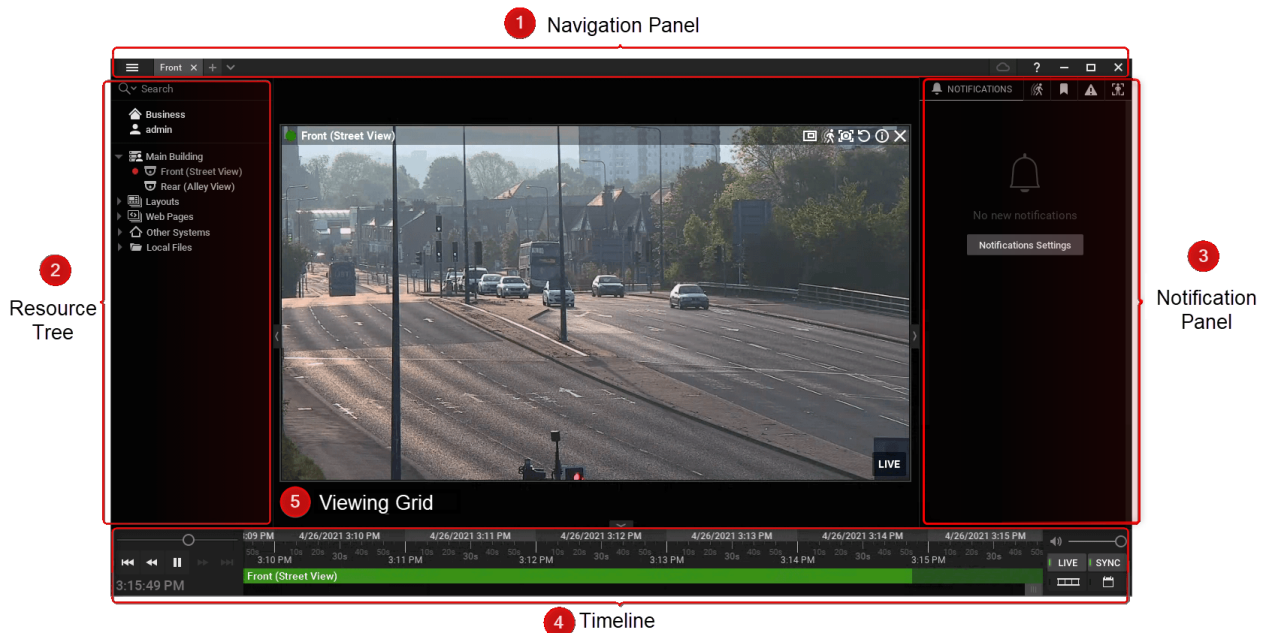
To set up motion detection on a Camera:

1. Right-click on a Camera and click **Camera Settings**.
2. Go to the *Motion* tab and enable the **Motion Detection** option.
3. Select a sensitivity level and click and drag on the video preview to create motion masks over the desired area. Click **OK**.



Part 2 – Using Basic Features

The User Interface:



1. Navigation Panel – Access the Main Menu, create and organize layouts, log in to Nx Cloud, and use the context-sensitive user manual.
2. Resource Tree – Organize all servers, cameras, layouts, webpages, and other resources. Use Keyword Search to find resources quickly. Right-click on a resource and choose Rename to change its name.
3. Notification Panel – Access the following tabs:

- Notifications – Displays important information about the system's state and triggered event rules.
 - Motion – Displays detected motion events from cameras with recording enabled.
 - Bookmarks – Displays bookmarks that were manually created or triggered by an event rule.
 - Events – Displays triggered event rules.
 - Objects – Displays detected objects from plugin or camera analytics. Only visible when certain analytics are detected.
4. Timeline – Playback controls are to the left (Play/Pause, Last/Next Frame, Last/Next Video Segment), and stream toggles are to the right (Live, Sync, Thumbnail, and Calendar). Recorded video appears as a solid green bar. If the Motion tab is open, motion recordings appear as red segments. If the Bookmarks tab is open, bookmarks appear as blue segments.
 5. Viewing Grid – Displays up to 64 items (e.g. cameras, webpages, etc.). Items are easily adjustable (drag-and-drop to move) and can change dynamically in size depending on the number of items on the Viewing Grid.

Create a Layout

To create a Layout:

1. Click on the plus (+) icon on the window header of the *Navigation Panel* to create a new tab.
2. Drag and drop items from the *Resource Tree* onto the *Viewing Grid* and configure them as needed.
3. Right-click on the newly created tab and click **Save Layout** or **Save Layout As...** to rename the Layout.

Searching Through the Video Archive

These are a few different ways to navigate the archive:

- Manually dragging or placing the position slider at a specific position on the Timeline.
- Using [Preview Search](#)¹⁷ to break a section of video into equal sized units of time.
- Configuring [Smart Motion Search](#)¹⁸ to identify Objects of Interest.
- Accessing the [Calendar](#)¹⁹ to view dates and times tag with additional information.

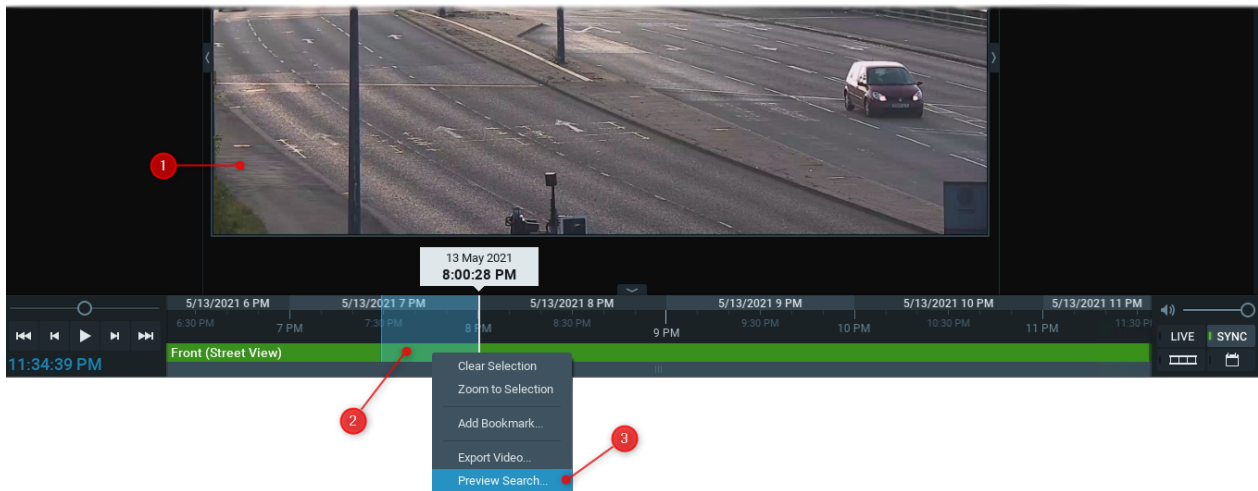
Navigation

- Drag the position slider on the Timeline to select a segment of time. The slider shows the time currently being displayed on the selected Camera or all Cameras on the Viewing Grid if the SYNC button is active.
- Zoom in or out of the Timeline to show smaller or larger time intervals using the mouse scroll wheel or the +/- buttons.

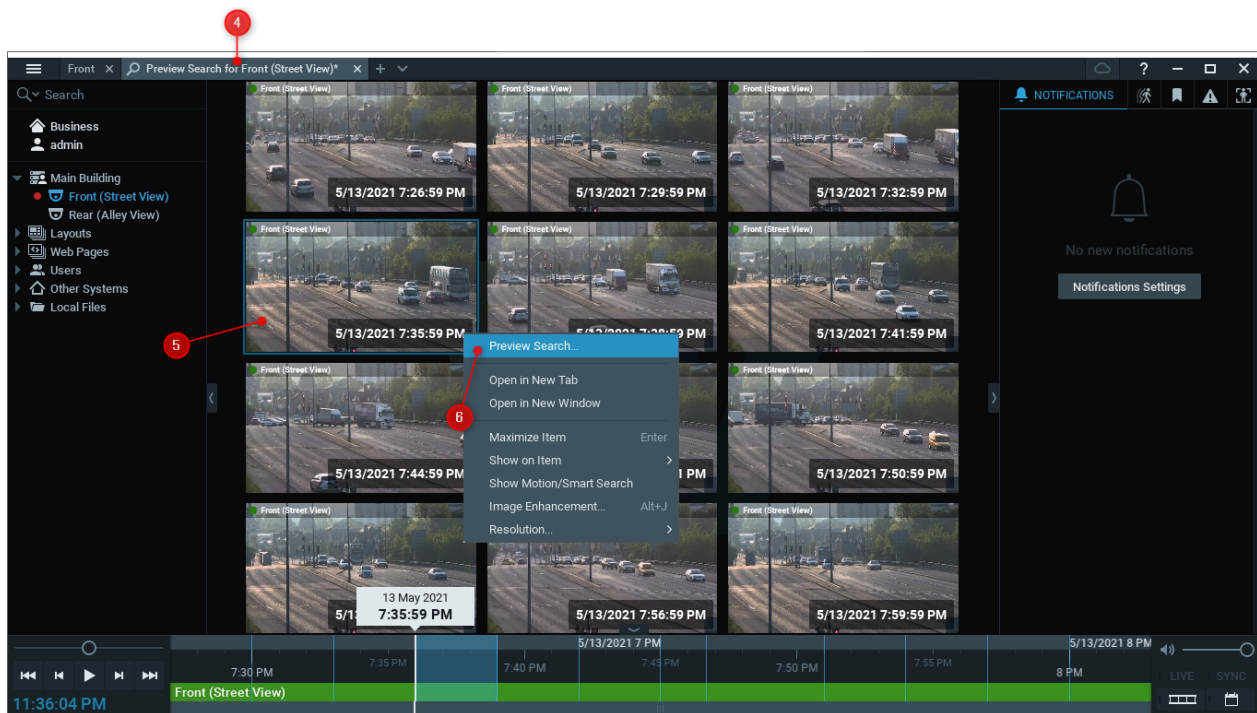
Preview Search

To look for the recorded footage using Preview Search:

1. Select a Camera on the Viewing Grid.
2. Click and drag the position slider on the Timeline to highlight the desired segment of recorded video.
3. Right-click the highlighted segment and click **Preview Search...**



4. The selected time segment will automatically be divided into several equal time segments. A new Layout will be created, and these smaller time segments will be displayed with thumbnails for each time segment.
5. Click on a Preview Search Thumbnail to see the corresponding archive time segment highlighted in the Timeline.
6. Preview Search thumbnails can be divided into smaller time segments by right-clicking on the desired thumbnail and choosing **Preview Search**. The smallest time segment that Preview Search will process thumbnails for is 15 seconds.

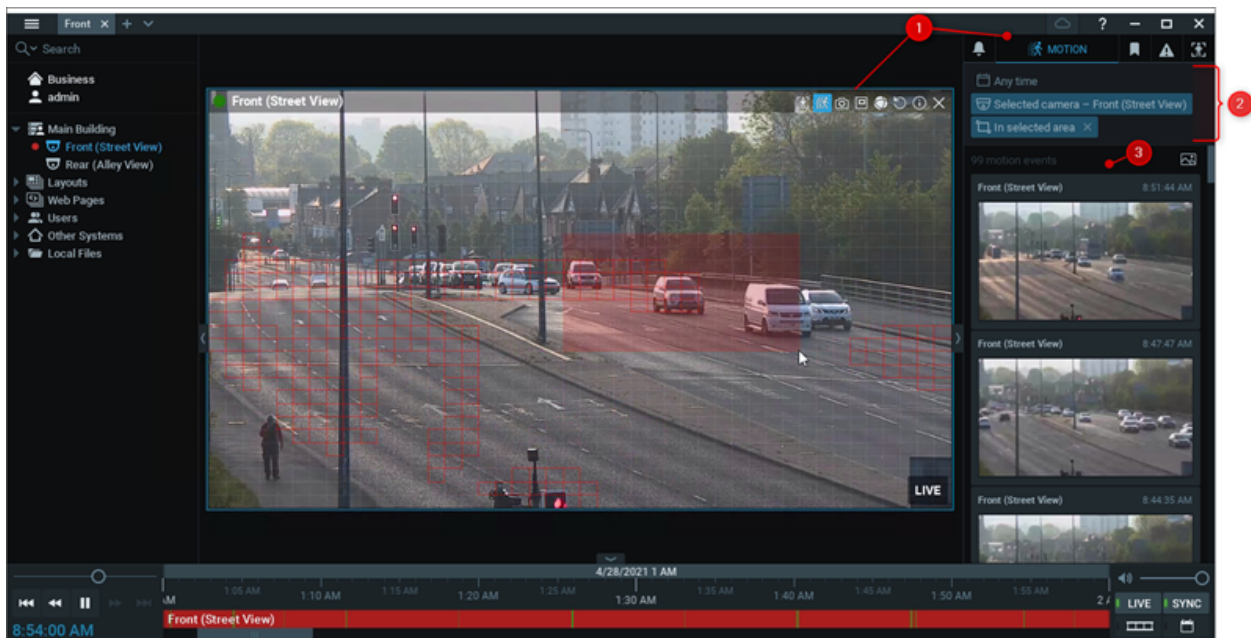


Smart Motion Search

To be able to use Smart Motion Search make sure it is enabled and configured for the desired device (see "[Enable Motion Detection and Create a Motion Mask](#)" for details).

To search for motion events in the archive:

1. Go to the *Notification Panel* and click the *Motion* tab, or hover over a Camera on the Viewing Grid and click the **Smart Motion Search** icon.
2. Apply the following filters:
 - *Area* (required) – Click and drag over the camera to define the Smart Motion Search area. This limits the results to motion events that occurred within a specified zone of the camera's stream.
 - *Camera* (required) – Limits the results to motion events from the selected camera.
 - *Time* (optional) – Limits the results to motion events that occurred within the selected time interval: **Last day**, **Last 7 days**, **Last 30 days**, and **Any time**.
3. View the search results in the Notification Panel.



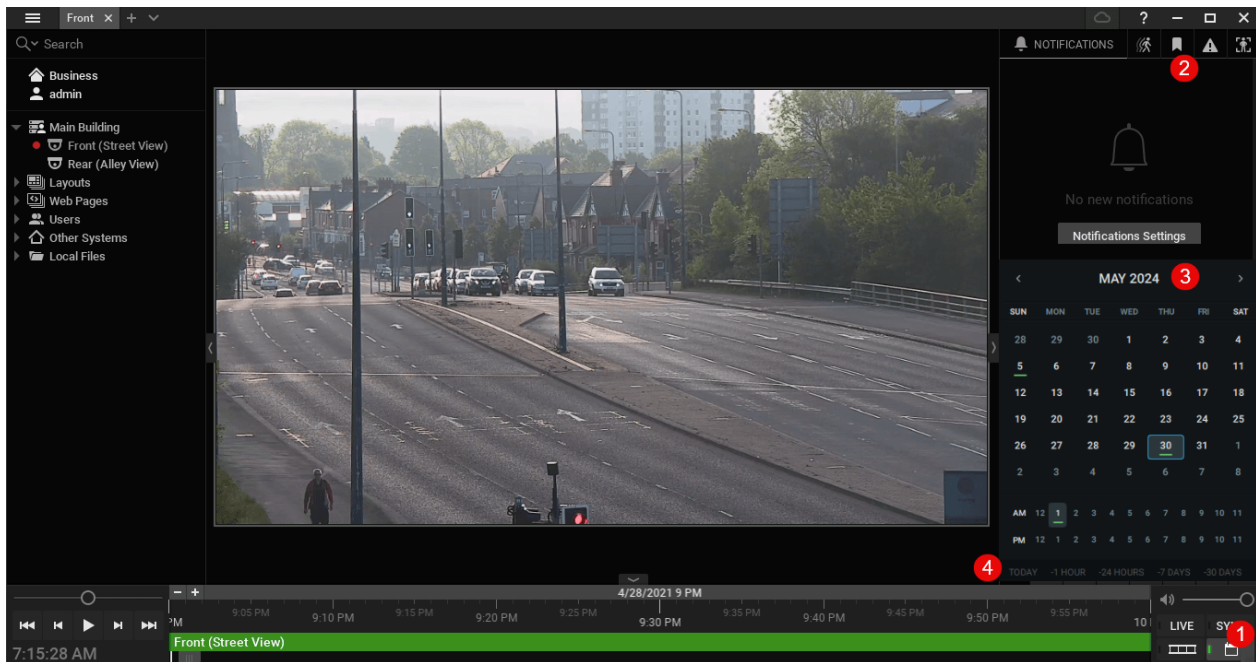
Calendar Search

Search for and view archive video by filtering via a Camera's archive recording date/time:

1. Click on the *Calendar* icon to the right of the Timeline to toggle the Calendar display.
2. The Calendar reflects available archives for the mode set in the Right Panel.
 - Notifications are marked with Green.
 - Motion events are marked with Orange.
 - Objects are marked with Yellow.
3. Change the Month and Year by clicking on the Calendar heading.
4. Use the quick-select labels in the Calendar footer to display today, the last hour, the last 24-hours, the last 7-days, or the last 30-days.



Note: Hold the **CTRL** key while selecting dates/times to choose more than one.

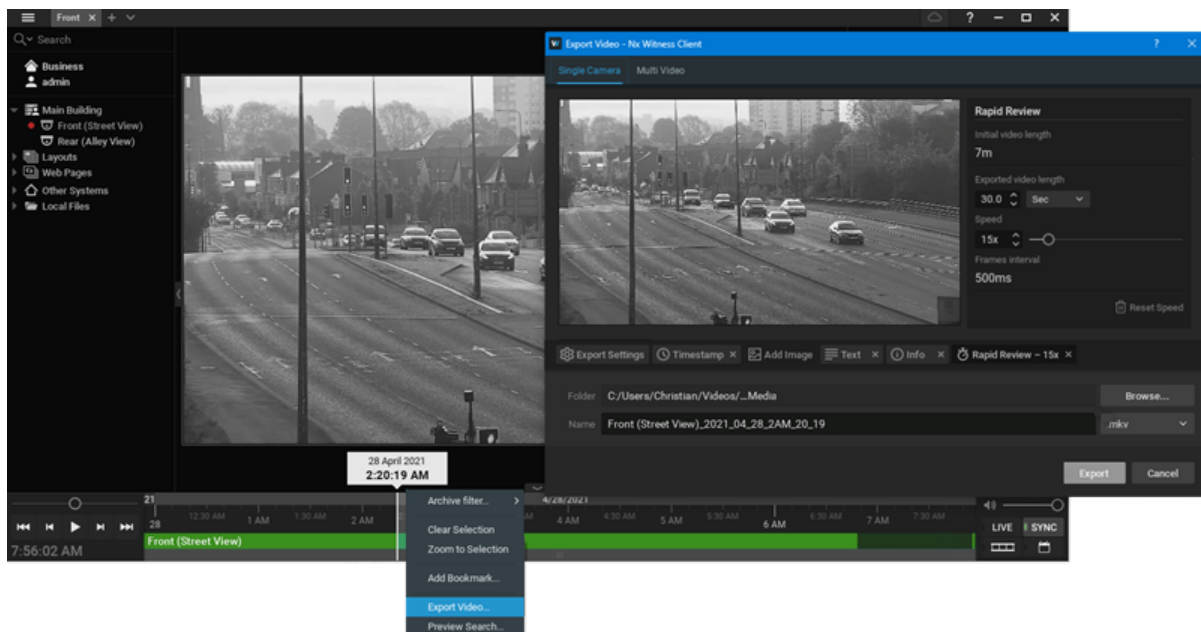


Export Recorded Video

To export fragment(s) from the video archive:

1. Select a Camera on the Viewing Grid.
2. Click and drag the position slider on the Timeline to highlight the desired segment of recorded Video.
3. Right-click the highlighted segment and click **Export Video**.
4. Configure optional Export Settings:
 - Expert Settings – Apply image correction filters and transcoding options.
 - Add Timestamp – Select format and font size of Timestamp.
 - Add Image – Browse for an Icon to scale and overlay.
 - Text – Enter and scale custom text to be applied.
 - Info – Toggle display of Camera name and date.
 - Rapid Review – Adjust speed and frame interval.
 - Select the file type and export location. Click **Export**.

 **Note:** Read [Exporting Video](#) for more information.





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