

Runtime Installation Wizard

⚠ Disclaimer! 🚧 This release is provided as a technical preview and is not intended for production environments.

✓ Milestone Systems A/S does not collect any data or telemetry from this installation.

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Introduction

This document describes the official procedure for installing the **Milestone Runtime Environment** via the Runtime Installation Wizard.

It is intended for our external partners and covers the following objectives:

1. **Deploy Milestone Private Cloud and App Center** onto a dedicated Kubernetes cluster.
2. **Install the App Center MIP Plugin**, enabling the access to the App Center from the XProtect Video Management Client.
3. **Install, start, and upgrade** all associated services in a controlled and repeatable manner.

The Runtime Installation Wizard is a desktop application available for **Windows**. It uses Ansible and Kubernetes to provision the Runtime Environment on a remote Ubuntu server.

System Requirements & Prerequisites

The Runtime Installation Wizard is a desktop GUI application that can be run from Windows.

The Milestone Runtime Environment requires to be installed into the remote Linux machine (only Ubuntu is supported at the moment)

Client Machine Requirements

- **Operating System:** Windows 11 or later, or a supported Linux distribution
- **Network:** Ability to establish SSH connections to the target server
- **User Privileges:** Local user must have permission to install and launch desktop applications

Target Server Requirements

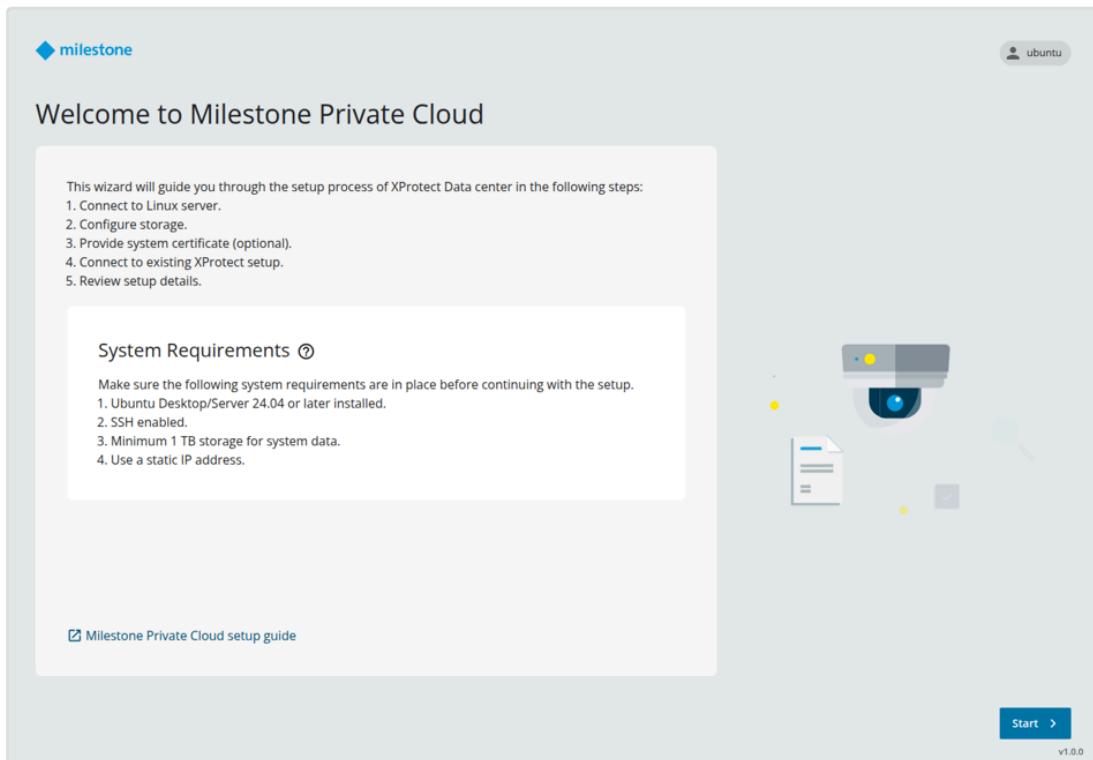
- **Operating System:** Ubuntu 24.04 LTS or later
- **Memory:** Minimum of 8 GB RAM
- **CPU:** Minimum of 4 cores
- **Storage:** Minimum of 20 GB available disk space for **Video Degradation** and **logs**
- **SSH Access:** Key-based, passwordless SSH authentication is strongly recommended
 - run the following command `sudo apt install openssh-server` to install the ssh server.
- **Sudo Rights:** The deploying user must possess sudo privileges
- Static IP Address:
 - For detailed guidance, refer to [Configure Static IP Address on Ubuntu](#)

XProtect Installation Access Requirements

Before starting the installation, please create a basic administrator account in the XProtect VMS.

Installing Milestone Runtime Environment (GUI)

- Download the latest version of the Installation Wizard from [here](#).
- Unzip the content of the file above and double-click the executable file to start the installation process.

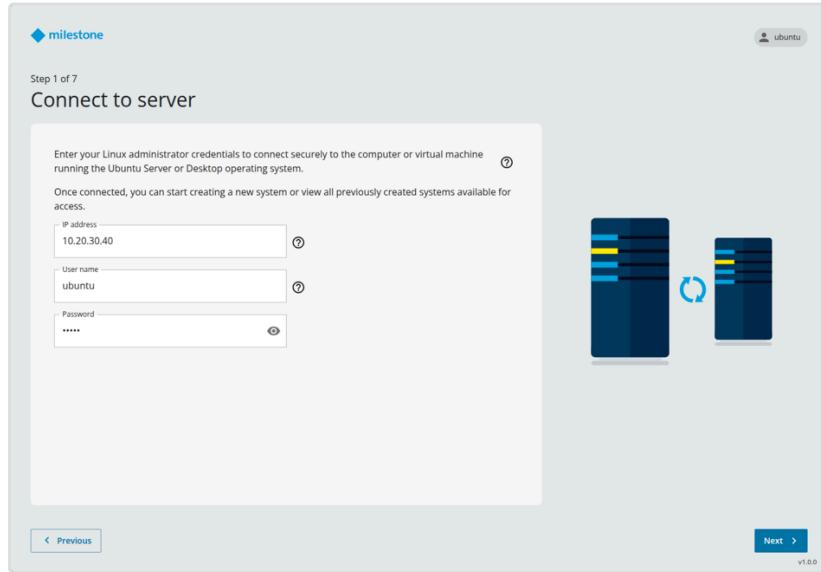


Once the Welcome screen appears, you will find the application version in the bottom-right corner.

- Click Start button on the right-bottom corner.
- A Connect to server form will appear.

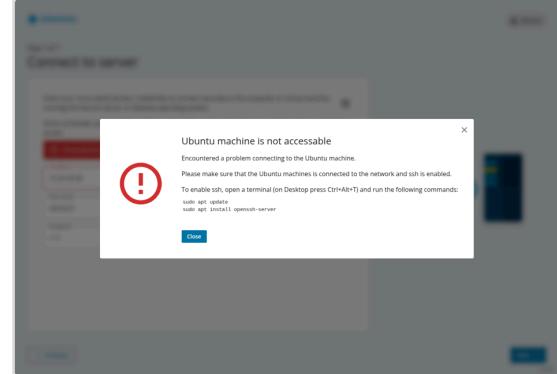
The Connect to server form requires you to enter the remote server ip address, user name and password.

Connect to Server step



When you reach the Connect to Server step, provide the following information:

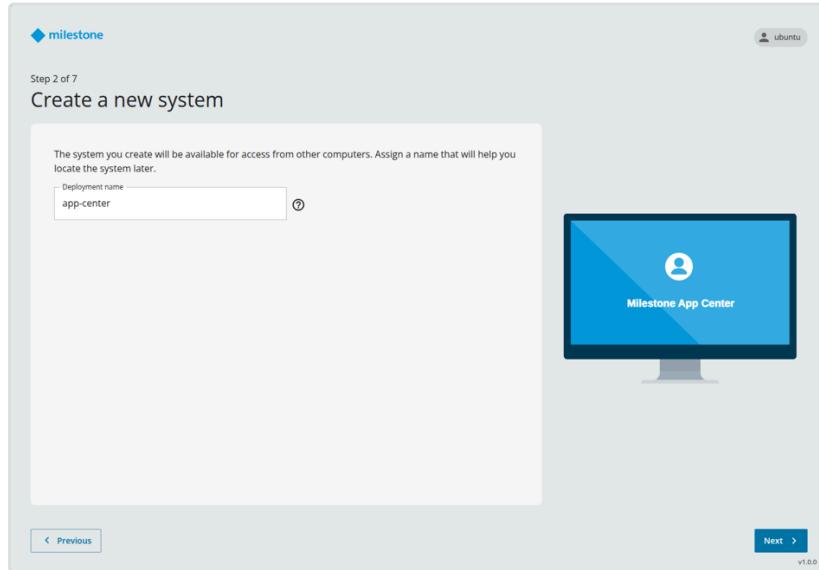
- **IP address** – Enter the remote server's address. You may use either an IP address or a domain name. Only static IP addresses are supported; dynamic addresses are not permitted. See the prerequisites for more details.
- **User name** - Enter your Ubuntu user name. This account must have sudo privileges.
- **Password** - Enter the password for that user account.



If you make a mistake, an error popup will appear. Click the error bar to view detailed information about the issue.

Once all fields are completed, click **Next** to proceed to the next step.

Create a new system - deployment name



There is only one field - deployment name

In this step, you will assign a name to your new cluster (klynge). There is only one field:

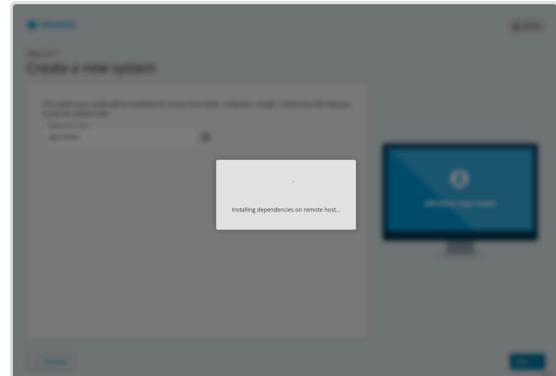
- **Deployment Name** – Enter a single, letter-only/dash name. For example: `app-center` .

Press **Next** button to continue.

Upon doing so, the Wizard will:

1. Establish a secure connection to your remote server.
2. Install the necessary prerequisites.
3. Collect storage information.

These actions prepare your environment for the subsequent step.



Wizard is collecting required information.

Configure storage

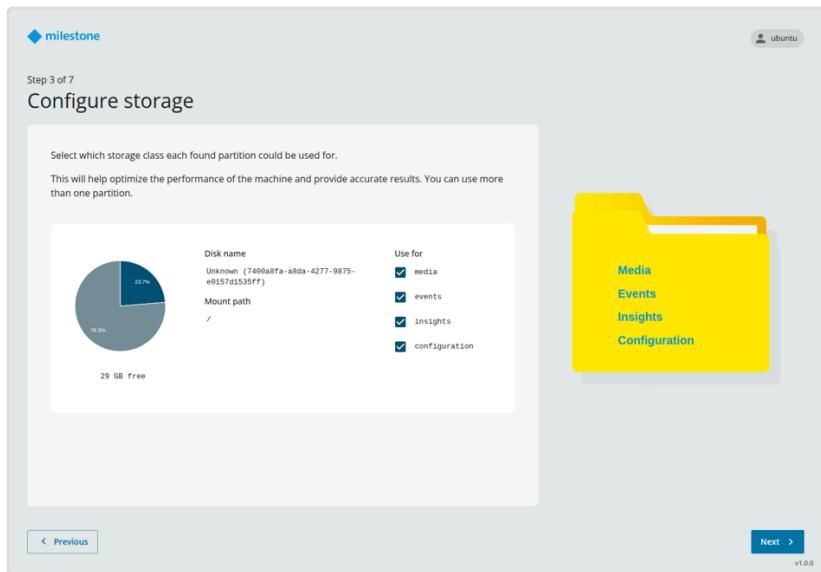
In this step, the Wizard displays each discovered partition along with its disk name , mount path and free space.

Please select one or more storage classes for each partition to match your deployment needs.

Proper assignment helps optimize performance and ensures accurate operation of your Kubernetes cluster.

Available Storage Classes:

- **Media** – Stores recorded video streams and media files.



- **Events** – Stores event metadata and alarm history.
- **Insights** – Stores analytics data and reporting results.
- **Configuration** – Stores system configuration, logs and application state.

1. Review each partition's size and mount point.
2. For each partition, tick the checkbox(es) beside the class(es) you wish to use.
3. When you have assigned classes to all required partitions, click **Next (Næste)** to proceed.

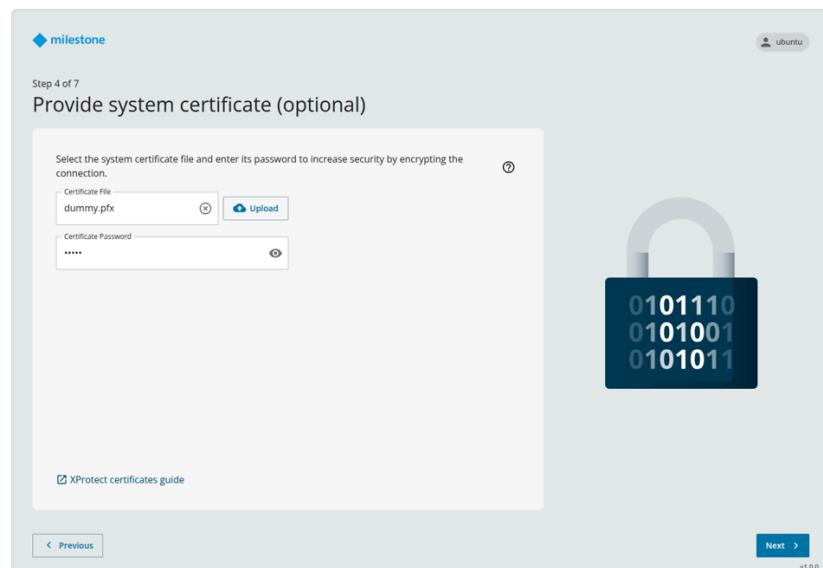
Tip: You may assign multiple classes to a single partition if it has sufficient capacity. Conversely, you can distribute classes across separate partitions to isolate workloads.

Provide system certificate

In this optional step, you may upload a system certificate to encrypt communication between components in your Kubernetes cluster. If you prefer not to use a certificate at this time, simply click **Next** to skip this step.

Procedure:

1. **Certificate File** – Click **Upload** to select a valid **.pfx** file containing your certificate and private key.
2. **Certificate Password** – Enter the password that protects the

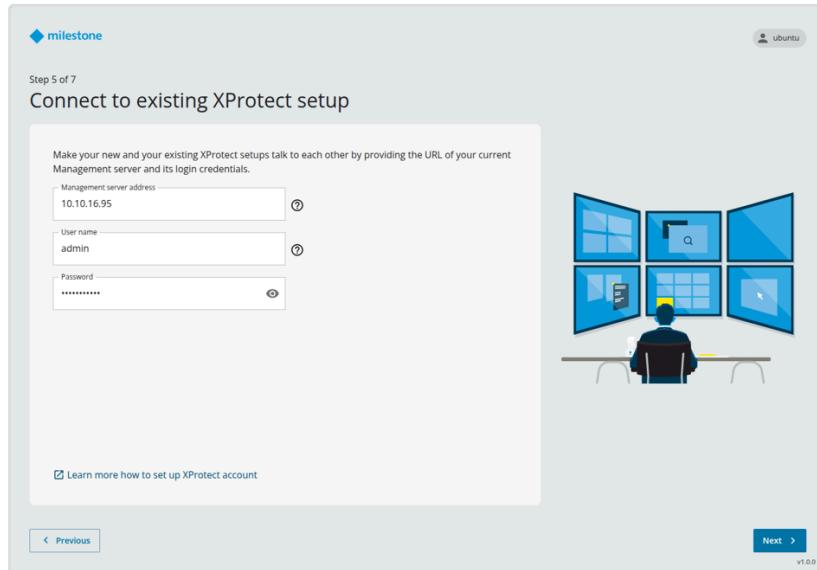


.pfx file.

3. After selecting the file and entering its password, click **Next** to continue.

For guidance on generating or converting certificates, please refer to the [XProtect Certificates Guide](#).

Connect to XProtect server



This **mandatory** step enables your Runtime **cluster** to communicate with the XProtect Management Server and leverage its APIs.

• Management Server Address

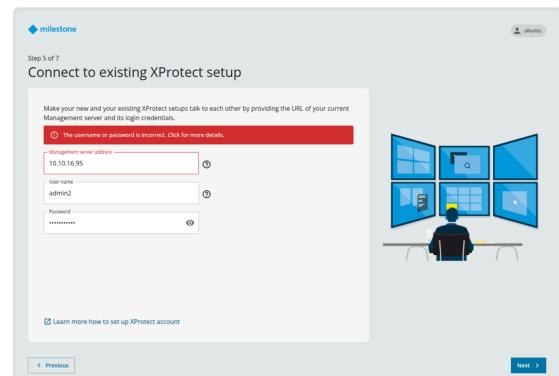
- Enter the URL or IP address (or domain name) of your current XProtect Management Server.
- Example: **10.10.16.95** or **xprotect.example.com**

• User Name

- Provide a basic account with administrator privileges on the Management Server. This account will be used by the Runtime cluster to authenticate against XProtect APIs.

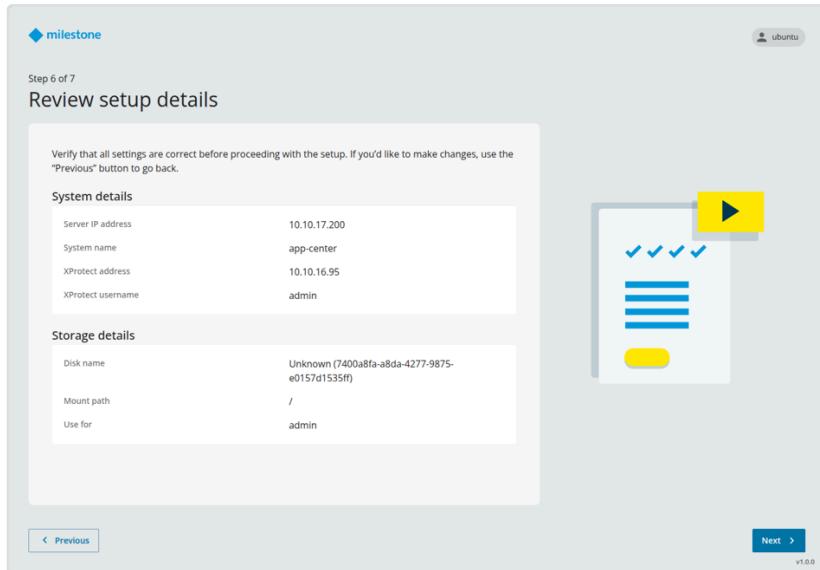
• Password

- Enter the password for the above user.



Once all fields are filled, click **Next** to validate the connection. The Wizard will verify credentials, discover available APIs.

Review setup details



Review details window

Before initiating the deployment, please verify that all configuration settings are correct. If you need to make changes, click **Previous** to return to the relevant step.

System Details

- **Server IP address** – The address of the Ubuntu host where the Runtime will be deployed.
- **Deployment name** – The cluster name you provided.
- **XProtect address** – The URL or IP of your XProtect Management Server.
- **XProtect username** – The administrator account used to authenticate with XProtect.

Storage Details

- **Disk name** – The identifier of the target partition.
- **Mount path** – The filesystem mount point.
- **Assigned classes** – The storage classes (Media, Events, Insights, Configuration) selected for this partition.

When you have confirmed that every detail is correct, click **Next** to begin the installation process. The Wizard will then execute the Ansible playbooks to provision your Kubernetes cluster.

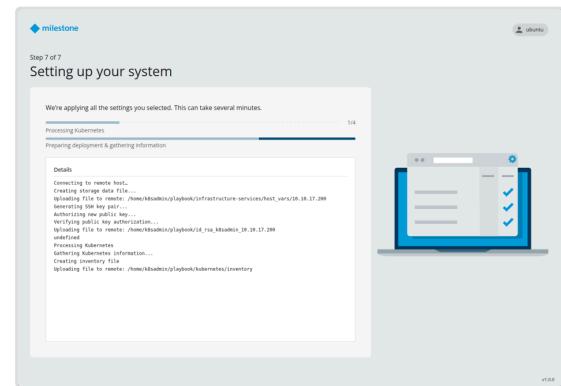
Setting up your system

In this final step, the Wizard applies all of your selected settings and provisions the entire Kubernetes cluster. This process can take approximately **15–20 minutes** to complete.

What happens during deployment:

1. Processing Kubernetes and its dependencies –

The Wizard generates and uploads Ansible playbooks to configure your cluster.



2. Preparing deployment & gathering information –

Storage data files, SSH keys, and inventory manifests are created and transferred to the server.

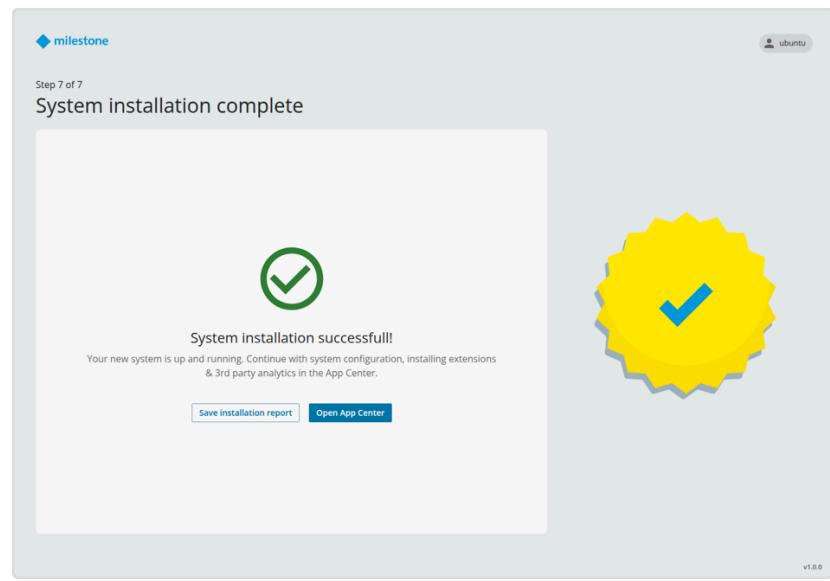
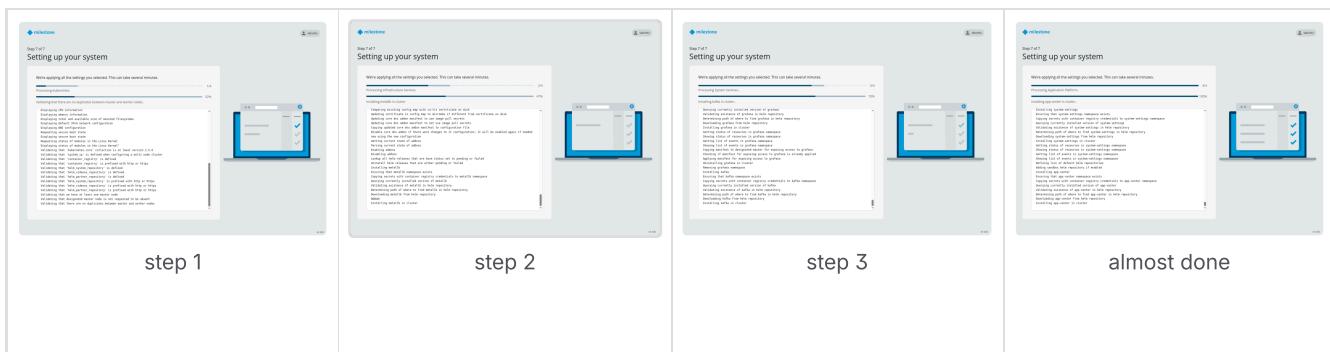
3. Installing services – All required components

(Milestone Private Cloud, App Center, Client Plugin, gateways, etc.) are deployed.

4. Finalizing configuration – Certificates, credentials, and network settings are applied.

A live progress shows the number of sub-tasks completed, and a detailed log pane displays each action. Once all stages reach 4/4, the deployment is finished successfully.

⚠ Please do not close the Wizard or interrupt your network connection during this phase.



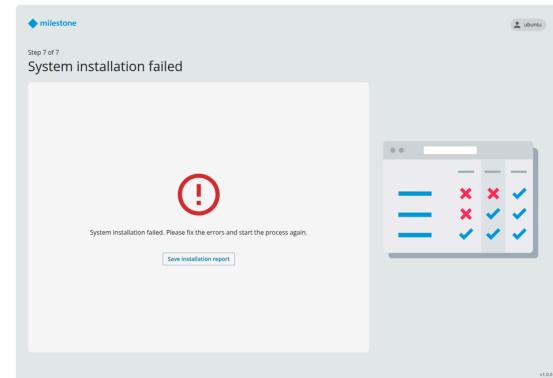
Success!

Next Steps

- Click **Open App Center** to open the App Center in the default browser.
- Consult the Administration Guide for instructions on managing and upgrading your Runtime Environment.

Install Sample Application (Httpd WebGL)

To validate that your Runtime Environment has been installed correctly, we provide a simple sample application. Follow these steps to deploy and verify **Httpd WebGL** from the App Center:



Oops! Something went wrong! Time to download the logs.

1. Find & Install

- In the App Center's **Find new apps** section, locate **Httpd WebGL** and click **Install**.

2. Confirm Installation

- Switch to the **Installed Apps** tab and ensure that **Httpd WebGL** appears in the list.

3. Verify Service

- Open a new browser tab and navigate to

```
http://yourclusteripaddress/httpd-webgl
```

4. Observe Output

- You should see a rotating 3D cube rendered by WebGL. This confirms the application (application) is running as expected.

5. Completion

- Once you see the 3D cube, you're done!

Thank you for using the **Milestone Runtime Installation Wizard**. Should you encounter any issues, please refer to the Troubleshooting section or contact Milestone Support.

Installing Milestone Runtime Environment (CLI)

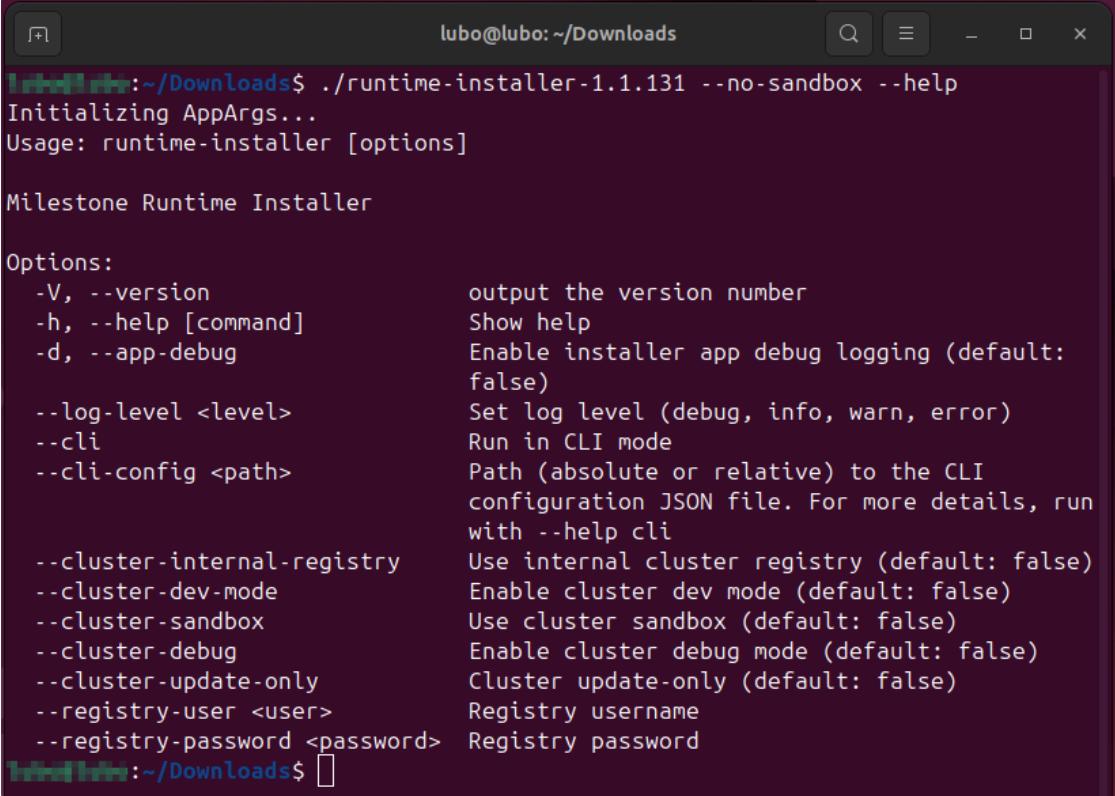
You can use the same installer file to install the App Center in CLI mode using Terminal in Linux or PowerShell in Windows.

Runtime installer help section

The CLI mode of the Runtime Installer comes with a help section. By running the Linux app image or Windows executable with the **--help** command, the installer prints out a help section in the command line i.e.:

1. Linux Terminal

Running the app image in the Linux Terminal also requires the **--no-sandbox** argument to be set.



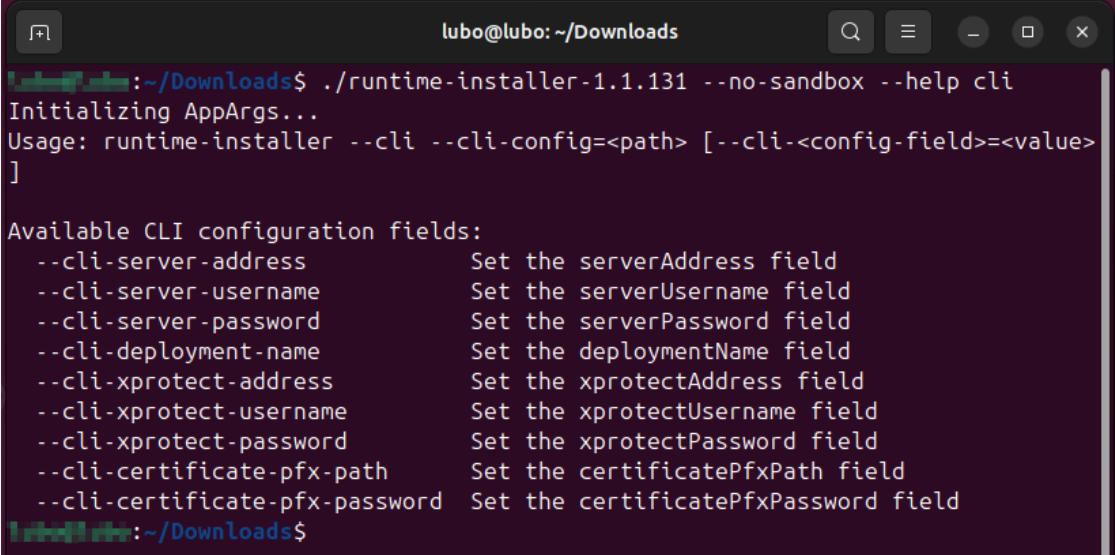
```
lubo@lubo:~/Downloads$ ./runtime-installer-1.1.131 --no-sandbox --help
Initializing AppArgs...
Usage: runtime-installer [options]

Milestone Runtime Installer

Options:
  -V, --version           output the version number
  -h, --help [command]    Show help
  -d, --app-debug         Enable installer app debug logging (default: false)
  --log-level <level>    Set log level (debug, info, warn, error)
  --cli                  Run in CLI mode
  --cli-config <path>     Path (absolute or relative) to the CLI configuration JSON file. For more details, run with --help cli
  --cluster-internal-registry Use internal cluster registry (default: false)
  --cluster-dev-mode      Enable cluster dev mode (default: false)
  --cluster-sandbox        Use cluster sandbox (default: false)
  --cluster-debug          Enable cluster debug mode (default: false)
  --cluster-update-only    Cluster update-only (default: false)
  --registry-user <user>  Registry username
  --registry-password <password> Registry password

lubo@lubo:~/Downloads$
```

There is also a help section specifically to the CLI mode. You can access it by appending **cli** after **--help** i.e.:



```
lubo@lubo:~/Downloads$ ./runtime-installer-1.1.131 --no-sandbox --help cli
Initializing AppArgs...
Usage: runtime-installer --cli --cli-config=<path> [--cli-<config-field>=<value>]

Available CLI configuration fields:
  --cli-server-address      Set the serverAddress field
  --cli-server-username     Set the serverUsername field
  --cli-server-password     Set the serverPassword field
  --cli-deployment-name    Set the deploymentName field
  --cli-xprotect-address   Set the xprotectAddress field
  --cli-xprotect-username  Set the xprotectUsername field
  --cli-xprotect-password  Set the xprotectPassword field
  --cli-certificate-pfx-path Set the certificatePfxPath field
  --cli-certificate-pfx-password Set the certificatePfxPassword field

lubo@lubo:~/Downloads$
```

2. Windows PowerShell



Currently in Windows, the Runtime installer in CLI mode accepts arguments, but does not display their output. This is a known issue and will be resolved in a future release.

Linux Installation (recommended)

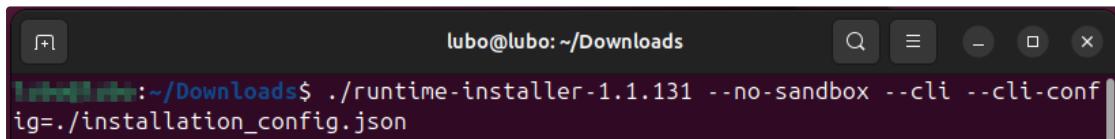
Using a configuration file

1. Create a **.json** configuration file with the following contents and store it somewhere on your computer (i.e. `installation_config.json`):

```
1  {
2    "deploymentName": "Deployment Name",
3    "serverAddress": "192.168.0.1",
4    "serverUsername": "someUsername",
5    "serverPassword": "somePassword",
6    "xprotectAddress": "192.168.0.2",
7    "xprotectUsername": "anotherUsername",
8    "xprotectPassword": "anotherPassword",
9    "certificatePfxPath": "./certificate.pfx",
10   "certificatePfxPassword": "123456"
11 }
```

The **certificatePfxPath** and **certificatePfxPassword** fields are optional, however if a **certificatePfxPath** is provided, the **certificatePfxPassword** field also becomes mandatory.

2. Open the Linux Terminal and run the installer app image with the following CLI arguments:

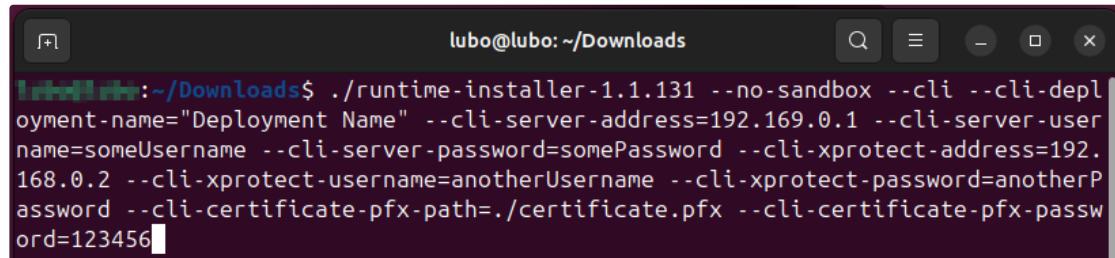


```
lubo@lubo:~/Downloads$ ./runtime-installer-1.1.131 --no-sandbox --cli --cli-config=./installation_config.json
```

The **--cli-config** argument should point to the location of your configuration file either using an absolute or relative file path.

Using CLI arguments instead of a configuration file

Open the Linux Terminal and run the installer app image with the following CLI arguments:



```
lubo@lubo:~/Downloads$ ./runtime-installer-1.1.131 --no-sandbox --cli --cli-deployment-name="Deployment Name" --cli-server-address=192.168.0.1 --cli-server-user-name=someUsername --cli-server-password=somePassword --cli-xprotect-address=192.168.0.2 --cli-xprotect-username=anotherUsername --cli-xprotect-password=anotherPassword --cli-certificate-pfx-path=./certificate.pfx --cli-certificate-pfx-password=123456
```

The **--cli-certificate-pfx-path** and **--cli-certificate-pfx-password** arguments are optional, however if a **--cli-certificate-pfx-path** is provided, the **--cli-certificate-pfx-password** argument also becomes mandatory.

Windows Installation

⚠ Running the Windows installer in CLI mode will execute the installation process but does not yield any output to the PowerShell console. This is an issue we are aware of and will fix in a future release. If you try to run the installer in Windows using the CLI mode, be aware that you are doing so blindly until a new installer with the appropriate fix has been released.

Using a configuration file

1. Create a **.json** configuration file (i.e. `installation_config.json`) with the contents shown in the [Linux example](#) and store it somewhere on your computer.
2. Open Windows PowerShell and run the installer executable with the following CLI arguments:

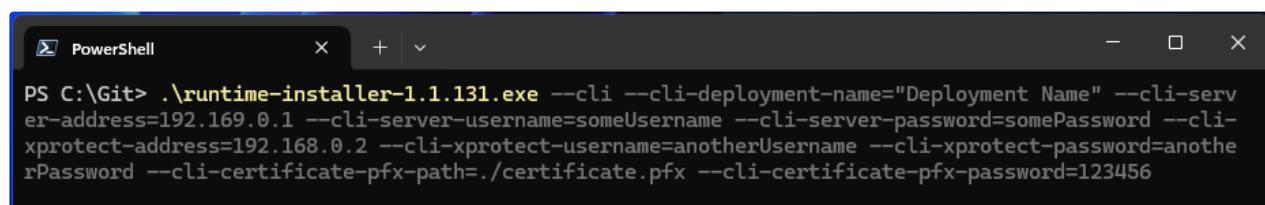


```
PS C:\Git> .\runtime-installer-1.1.131.exe --cli --cli-config=C:\installation_config.json
```

The **--cli-config** argument should point to the location of your configuration file either using an absolute or relative file path.

Using CLI arguments instead of a configuration file

Open Windows PowerShell and run the installer executable with the following CLI arguments:



```
PS C:\Git> .\runtime-installer-1.1.131.exe --cli --cli-deployment-name="Deployment Name" --cli-server-address=192.169.0.1 --cli-server-username=someUsername --cli-server-password=somePassword --cli-xprotect-address=192.168.0.2 --cli-xprotect-username=anotherUsername --cli-xprotect-password=anotherPassword --cli-certificate-pfx-path=./certificate.pfx --cli-certificate-pfx-password=123456
```

The **--cli-certificate-pfx-path** and **--cli-certificate-pfx-password** arguments are optional, however if a **--cli-certificate-pfx-path** is provided, the **--cli-certificate-pfx-password** argument also becomes mandatory.

Integrate App Center in Management Client

Prerequisites

- **XProtect Management Client** – A working installation of the XProtect Management Client.

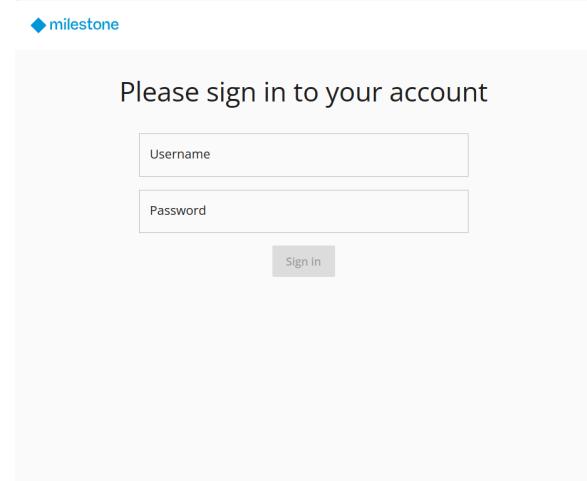
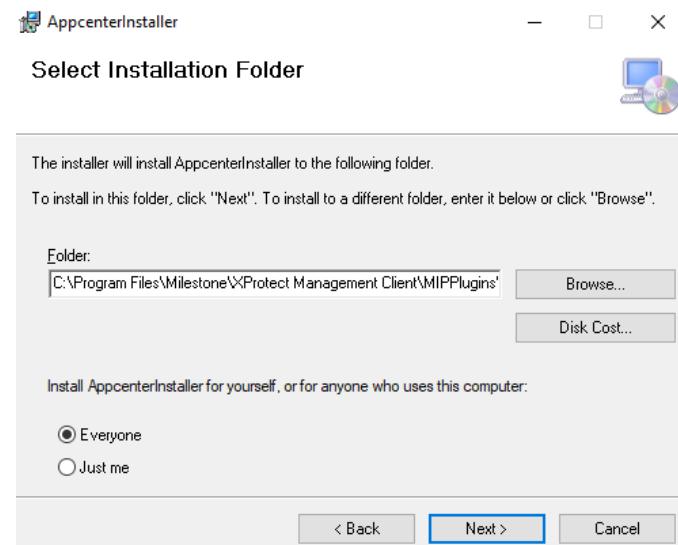
- **Microsoft WebView2** – Required by the App Center plugin. If WebView2 is not present, download the Evergreen Bootstrapper from Microsoft's website: <https://developer.microsoft.com/en-us/MicrosoftEdge/webview2/?form=MA13LH#download>

Download & Install the App Center Plugin

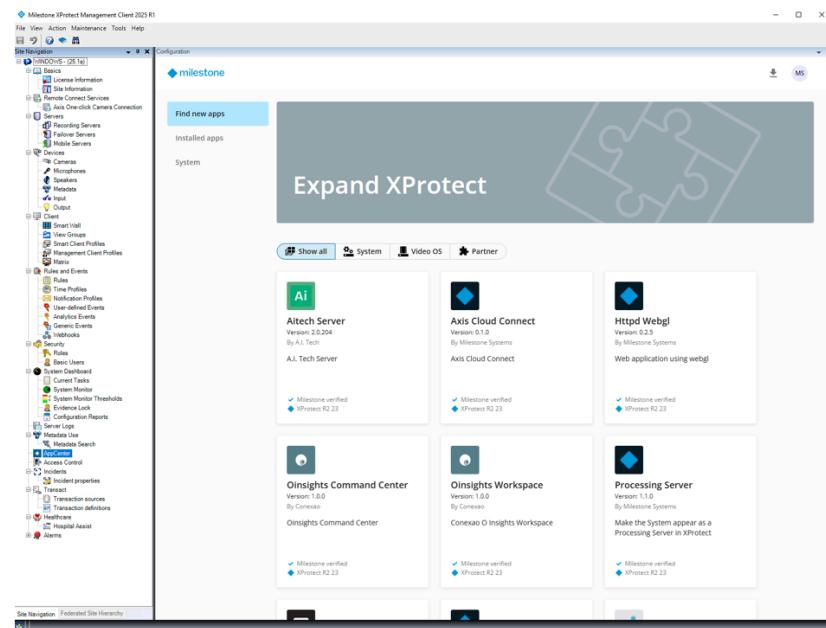
1. On the same machine where the XProtect Management Client is installed, download **AppcenterInstaller.msi** from [here](#).
2. Run the **AppcenterInstaller.msi** package. By default, it will install into the Management Client's plugin folder.
 - If your Management Client resides in a custom directory, click **Browse** during installation and select the correct path.
3. When installation completes, **restart** the XProtect Management Client.

Access the App Center Node

1. Open the XProtect Management Client.
2. In the **Navigation Tree**, locate the new **App Center** node under **Plugins**.
3. Click **App Center** to launch the interface.
4. When prompted, log in with a basic admin Management Client user



You can now manage and deploy services directly from within your XProtect Management Client—just as you would when using App Center in a web browser.



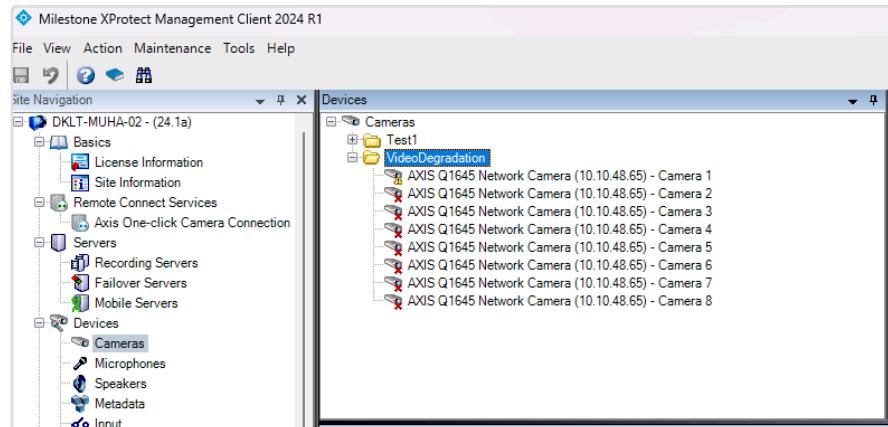
Install Video Degradation App

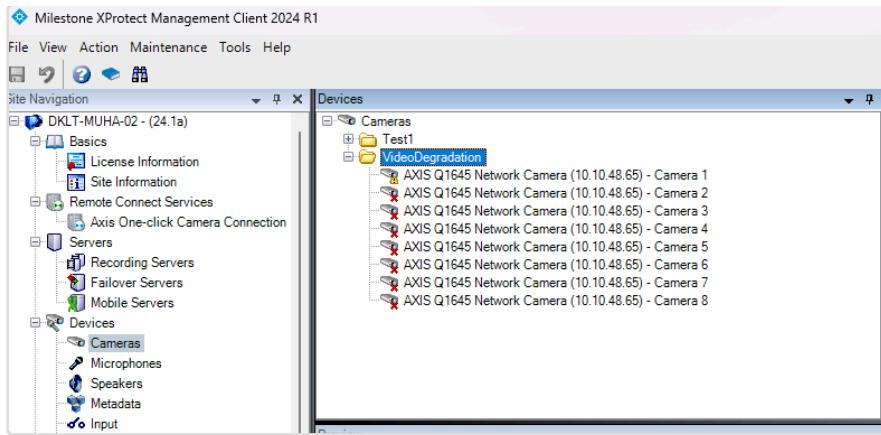
Prerequisites

- **App Center Plugin** – Must be installed before proceeding with the Video Degradation App installation.
- **Processing Server** – Required for video analysis.

Download & Install the Processing Server

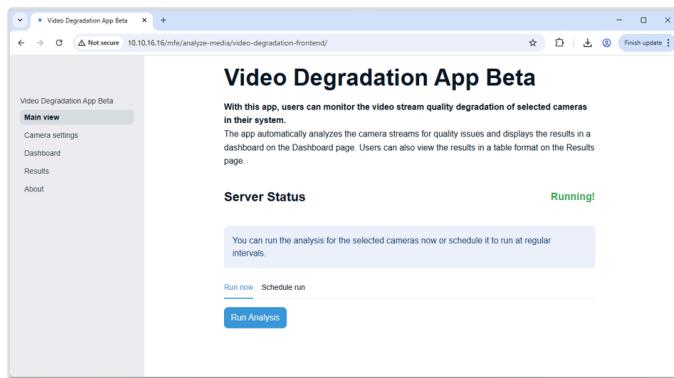
1. Open the **XProtect Management Client**.
2. In the **Navigation Tree**, go to **App Center**.
3. Install the **Processing Server**.
4. Install **Video Degradation App** once the processing server is installed.
5. Create a Camera group named **VideoDegradation**.
6. Add cameras to the VideoDegradation group.





7. Once installation is complete, access the app at:

1 | `http://<your-system-ip>/mfe/analyze-media/video-degradation-frontend/`



Using the Video Degradation App

1. Navigate to the **Cameras Setting** page and activate the camera(s) you want to check.
 - The app retrieves the list of cameras from **AI Bridge**
2. Return to the **Main** page and click **Run Inference**.
 - The process takes less than a minute, but a short delay may occur.
3. Once complete, explore the **Dashboard** and **Results** pages to review findings.
4. On the **Results** page, you can export all data to CSV format.
 - The CSV includes all collected data, not just what is visible in the table.

Troubleshooting

Should you encounter any issues during installation or operation, this section provides guidance to help you identify and resolve common errors. Each entry outlines the symptom, possible cause, and recommended solution so you can quickly restore full functionality. If you do not find your specific issue listed, please consult the [Milestone Support portal](#) for further assistance.

Log File Locations

To assist with troubleshooting, the installer writes detailed logs that capture every action and error. Please refer to the appropriate path below to locate the `log.txt` file:

Linux:

```
1 | ~/.config/runtime-installer/logs/log.txt
```

Windows:

```
1 | %appdata%\runtime-installer\logs\log.txt
```

- When contacting Milestone Support, please attach the relevant `log.txt` file so we can diagnose any issues more effectively