What is XMPro?

XMPro's Application Development Platform empowers engineers and subject matter experts to build real-time applications without coding. The platform consists of 3 main software components:

XMPro App Designer

A visual page designer that enables you to create custom page designs by dragging blocks from the toolbox onto your page, configure their properties and connect to your data sources, all without having to code.

XMPro Data Stream Designer

A drag-and-drop interface to visually design Data Streams (a streaming data pipeline). Use XMPro Connectors in your Data Streams to bring in real-time data from a variety of sources, add contextual data, apply analytics, and initiate actions based on events in your data.

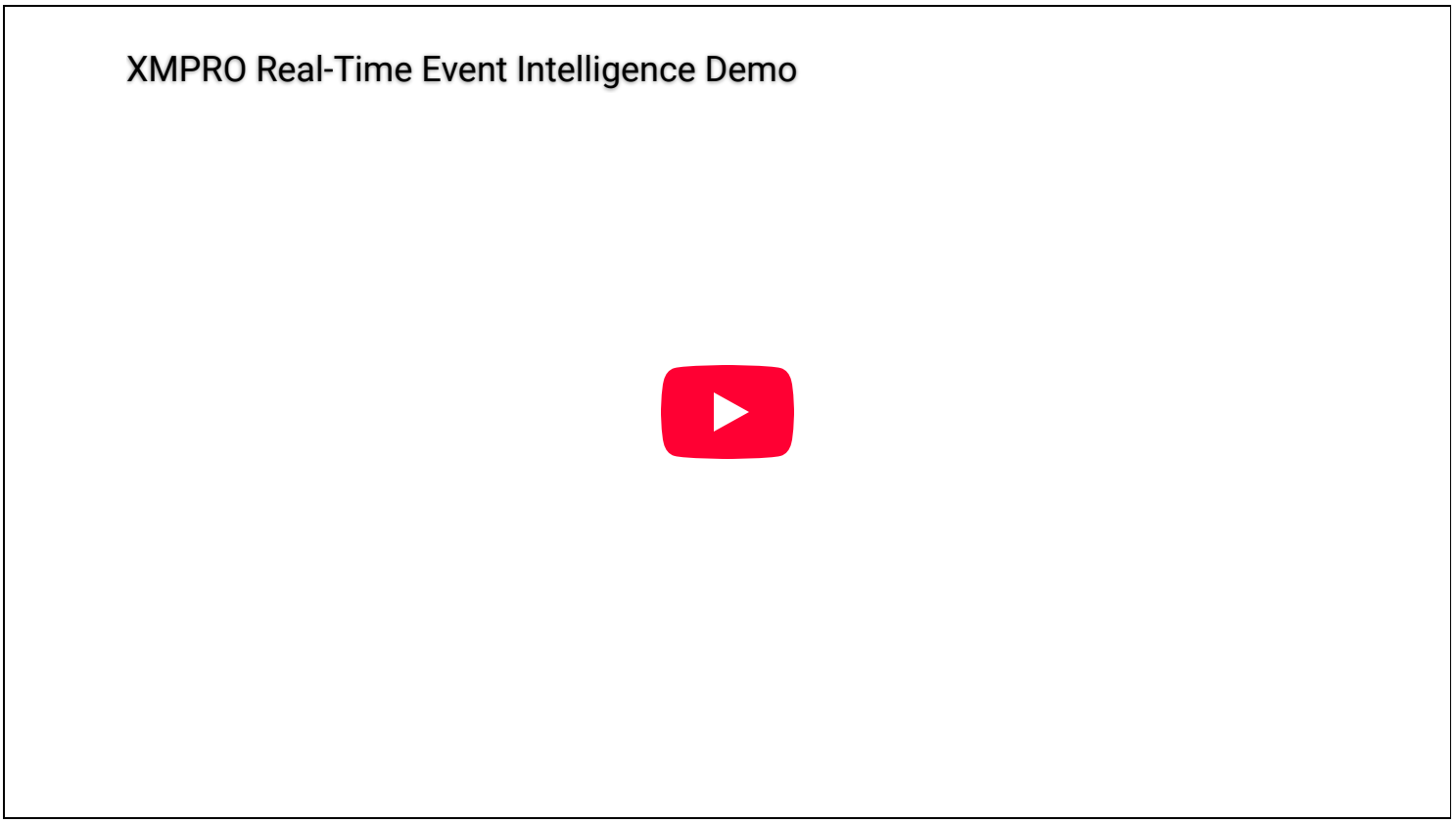
XMPro Notebook

Harnessing the power of the Jupyter Notebook, XMPro Notebook provides an intuitive and flexible interface for data analysis, scientific computing, machine learning, and more. Users can write and execute code independently, facilitating step-by-step exploration and experimentation with real-time data.

XMPro Connectors

XMPro's extensible integration library includes 100+ Connectors for industrial automation solutions, IoT platforms, historians, enterprise applications, AI/ML, and collaboration solutions.

Watch The Demo Video



> Watch the demo video to see XMPro's platform in action

How The Documentation Is Organized

- **Getting Started -** New here? Sign up for a free trial and get started with the End-To-End Use Case sample project.
- **Resources** - A goldmine of general articles, such as release news, a sizing guideline, an icon library, and FAQs to elevate your product experience.
- **Concepts -** Get detailed explanations of the platform's essential concepts, like Data Streams, Recommendations, Applications, and Connectors.
- **How-To Guides -** Follow step-by-step tutorials to help you create Apps and Data Streams.
- **Blocks -** Get detailed descriptions of the components you can use to design your App pages and how to configure them.
- **Administration -** Find out how to manage users, licenses, and subscriptions in XMPro.
  This documentation is only relevant to administrators.
- **Installation -** Learn how to Install XMPro in a variety of environments.
  This documentation is only relevant to administrators.
- **Release Notes -** Stay up to date on the latest features and bug fixes.

> **NOTE**
>
> Can't find what you're looking for? **Search** the docs for instant results or contact support.
>
> - Try **searching a phrase** - such as a release version "v4.3.2" to find pages added for that release.
> - Try **asking a question** - for best results use a full sentence rather than a phrase.
>
> 
>
> DocFX powers Documentation.xmpro.com. The search functionality is driven by an index which includes all XMPro documentation, video tutorials, blogs, publications, and the website.

> **NOTE**
>
> The Beta tag indicates incremental functionality, added to prepare for a future feature.
>
> 

Browser Requirements

Supported Browsers

The XMPro platform can be run on a variety of browsers and operating systems. The latest two major releases of the following browsers are supported on the indicated operating systems:

Browser	Windows	macOS	iOS	Android
Google Chrome	✓	✓	✓	✓
Apple Safari	✗	✓	✓	✗
Microsoft Edge	✓	✓	✗	✗
Mozilla Firefox	✓	✓	✗	✗
Opera	✓	✓	✗	✗

Supported Operating Systems

The following operating systems are supported for browsers running the XMPro platform:

Operating System	Supported versions
Windows	Windows 10 or later
macOS	10.13 or later
iOS	iOS 10 or later
Android	5 or later

Third-Party Cookies

The XMPro Platform requires third-party cookies on web browsers to be allowed/enabled for it to function properly. Follow the steps below to enable cookies on the different browsers.

> **NOTE**
>
> Enabling third-party cookies is essential for the XMPro platform to function correctly. Without this setting, you may experience issues with authentication and certain features.

Google Chrome

1. On your computer, open Chrome.
2. At the top right, click More, then Settings.
3. Under "Privacy and security," click Site settings.
4. Click Cookies.
5. Next to "Blocked," turn on the switch to turn on cookies.

For more information, you can visit the Official Google Chrome Documentation.

Microsoft Edge

1. Open Microsoft Edge, select Menu (3 dots icon on the top right corner of the browser) > Settings > Site permissions > Cookies and site data
2. Turn on "Allow sites to save and read cookie data (recommended)" to unblock cookies
3. Turn on "Block third-party cookies" or add desired sites in the "Block" section to block the cookies.

For more information, you can visit the Official Microsoft Documentation.

Apple Safari

1. In the Safari app on your Mac, choose Safari > Preferences
2. Click Privacy
3. Unselect "Block all cookies".

For more information, you can visit the Official Apple Documentation.

Free Trial

How To Sign Up

Are you interested in taking the XMPro Application Development Platform for a test drive? Visit this link to request a 90-day free account with no credit card required to get started.


Free trial signup page

After completing the registration form, you will receive a confirmation email with your login details.

What's Included in the Free Trial

During the free trial, you will get access to the full suite of XMPro Products along with:

- Unlimited Data Streams
- Unlimited Applications
- Unlimited Recommendations
- XMPro Notebook
- Selection of XMPro Agents and Connectors
- Basic 2GB Azure SQL database for master data storage

Please get in touch with support if you require additional Agents and Connectors unavailable in your trial account.

> **NOTE**
> You will need to upgrade your XMPro Free Account to a paid subscription to continue using the services after your trial period expires. Read the free trial terms and conditions for more details.

Explore The Demo Use Case

Your free trial account includes a pre-built demo use case, which includes a Data Stream, App and Recommendation focused on solving a specific business problem.

In this scenario, a renewable energy company wants to move from a planned maintenance schedule to condition-based maintenance for their assets across multiple plants.

There is a Data Stream to:

- Simulate real-time telemetry data for the assets
- Combine it with contextual data from a SQL database
- Check whether the data exceeds certain thresholds

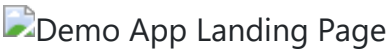
- Run recommendation rules
- Publish data to an XMPro App


Demo Data Stream

We've also created an App to provide the energy company's engineers with decision support for their new condition-based maintenance program.

The App provides them with:

- A map view of all their assets at their various plants
- The remaining useful life for assets that require maintenance in the next 14 days
- Recommendation alerts when specific assets exceed certain thresholds


Demo App Landing Page

If you drill down into a specific asset, you will see:

- Live telemetry data such as bearing vibration and temperature for different components
- Live wind speed and gearbox oil level visualizations
- Operational safety intelligence information to prevent safety incidents during maintenance
- The effective utilization score for this specific asset


Demo App Drill Down

In this scenario, XMPro will generate a recommendation alert when:

- Gearbox oil viscosity for a wind turbine goes above 75
- Oil level reaches a low threshold


Demo Recommendation

Next Steps

This demo use case demonstrates how you can use the XMPro Platform to build a real-time application in 3 simple steps:

1. Create Data Streams to integrate your data sources & orchestrate the data flow
2. Design visualizations for a real-time view of your operations
3. Create prescriptive recommendations that trigger when critical events happen

Once you're done exploring the demo, you can start building your first End-To-End Use Case by following this detailed tutorial.

End-To-End Use Case

> **NOTE**
>
> This Use Case assumes the XMPro platform is installed and configured, or you are using the Free Trial that has everything set up for you.

This step-by-step tutorial is meant to be an introduction to using the XMPro platform. Completing it will give you a solid foundation to understand the more advanced concepts and detailed how-to guides. This tutorial will explain how to create and design a Data Stream, configure Stream Objects to ingest, analyze, transform, and perform actions on data. You will also learn how to set up a Recommendation to generate alerts based on rule logic, create and design an App, create Data Sources and Connections, and configure a simple Data Grid and Chart.

> **WARNING**
>
> Please note that the XMPro platform requires third-party cookies to be enabled on your browser.

Use Case

Let's assume there is a power plant that uses a heat exchanger to keep the turbine cool and at the optimum temperature. The heat exchanger circulates water between the cooling tower and the heat exchanger to dissipate heat. To keep a proper circulation of liquid, there are three pumps [A, B, C] installed. Each Pump has a sensor that provides live data for Flow Rate (L/m) and Temperature (°C) using MQTT.

Unless the Pump is under maintenance the Flow Rate should be above 15000 L/m and Water temperature should be below 130°C.

Engineers should be alerted if the average flow rate falls below 250 L/s. If the average temperature starts to rise above 130°C then a critical level alert should be raised.

Engineers should be provided a view to check the history of pump telemetry, maintenance records, and reservoir level to enable them to take necessary action.

1. Design Data Streams with Real-Time Data Sources

[Content for this section would be added during the actual migration]

2. Create Event Rules & Recommendations

[Content for this section would be added during the actual migration]

3. Create Event Boards & Apps

[Content for this section would be added during the actual migration]

Data Stream

A Data Stream is a visual representation of a flow of data. It is created through the Data Stream Designer and consists of Stream Objects that ingest, transform, analyze, and act on data.

Overview

Data Streams are the backbone of real-time data processing in XMPro. They allow you to:

- Ingest data from various sources
- Transform and enrich data
- Analyze data for patterns and anomalies
- Take actions based on the data

Data Streams are designed to be:

- Visual and intuitive
- Real-time
- Scalable
- Flexible

Components of a Data Stream

A Data Stream consists of the following components:

Stream Objects

Stream Objects are the building blocks of a Data Stream. They are instances of Agents that perform specific functions in the data flow. Stream Objects are connected together to form a pipeline of data processing.

Connections

Connections define how data flows between Stream Objects. They are represented as arrows in the Data Stream Designer.

Data

Data flows through the Stream Objects and is transformed, analyzed, and acted upon as it moves through the Data Stream.

Types of Data Streams

There are two types of Data Streams:

Streaming

Streaming Data Streams run continuously, processing data as it arrives. They are used for real-time monitoring and alerting.

Recurrent

Recurrent Data Streams run on a schedule, processing data in batches. They are used for periodic reporting and analysis.

Related Concepts

- Stream Object Configuration
- Verifying Stream Integrity
- Running Data Streams
- Timeline