# Vision Windows

Windows are the key to your HMI/SCADA application. A window is the basic building block of any Vision project, where each window can contain any number of components that can display Tag values, run scripts, write values to the database, accept user input and more. When you publish your project, these windows are loaded into the Vision Client where any number of windows can be opened at one time.

Your windows are brought to life through the property bindings and event handlers on your components. They can be designed to fit any need, from simple screens showing basic information, to complex diagrams outlining an entire plant floor with various controls. Despite their abilities, using windows is relatively simple so that even new users can get started creating windows right away. The possibilities are endless when designing windows for your project.

In this Realtime Display example, you can see how windows can be used to display and interact with data and Tags.
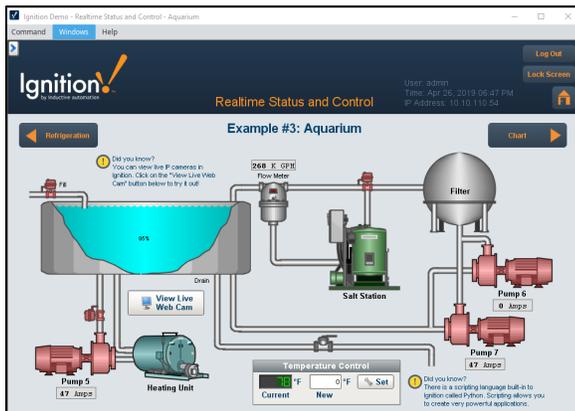
Window Anatomy

While there is only one type of window object, windows have various properties that determine how they behave within the client. When these settings are configured in specific ways, they create certain categories or types of windows: **Main Windows** act like a typical HMI screen and take up all available space, **Popup Windows** are often opened by a component in a Main Window and appear to float on top of the Main Window, and **Docked Windows** stick to one side of the screen and are typically always open. These types of windows all provide different functionality to a project which, when combined create the basis for a Vision project that displays relevant information while remaining intuitive and user friendly.

Root Container

Inside a window there is always a **Root Container**. The Root Container is where you place all components in the window. It's a normal Container component except that it cannot be deleted or resized, and is always set to fill the entire window. The root container will be the root of all components that go onto the window.

Window Name and Title

Windows have both a **Name** and a **Title**. The name is used within the Project Browser to differentiate the windows from each other and to form part of the path to the window. Windows can be renamed by right clicking on the window object and selecting rename or by pressing F2. Each window must have a unique path, so windows can have the same name as long as they are not in the same folder.

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Anatomy of a Window

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Locate All Opened Windows In Client

The Title property is a property within the property editor and works a little differently than the name. By default, Ignition assigns the Title property the same name as the window type that is created (i.e., Main Window, Docked Window, or Popup Window). These window titles are used for the titlebar of a window, but are also used when viewing currently opened windows. In the Client, the Windows menubar command will display a list of all currently opened windows, as well as allow you to switch between which one is in focus. The list of opened windows displays the title of the window, and not the window name or path, so it is also important to have good titles for your window.
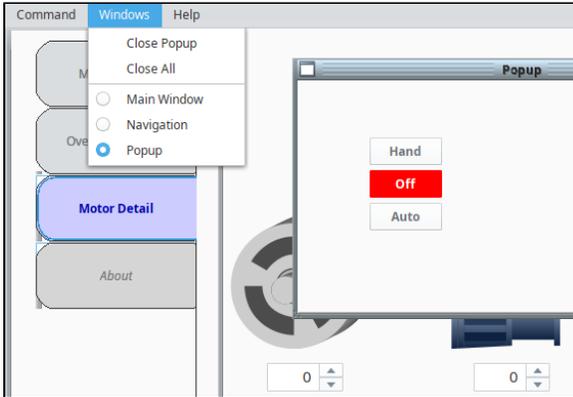
Titlebar and Border

A window can display a **Titlebar** and/or a **Border**. A titlebar allows you to drag a window around the workspace, and contains the window's close, maximize and restore buttons. The border of a window also lets you resize the window when it is floating or docked. Whether or not the titlebar and border are displayed depends on the property values set for your Titlebar and Border properties. A window typically displays both a titlebar and border when it is floating, but only a titlebar when maximized. It is often desirable to remove titlebars and borders on maximized windows.

Creating a Window

Creating windows is easy. There are three ways to create a new window:
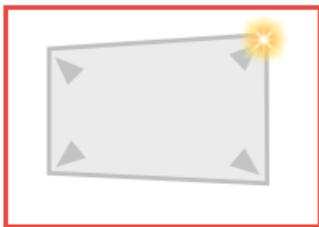
Right Click in the Project Browser

Probably the most common method is to right click within the Windows section of the Project Browser and select one of the window types to create a window. While you can create each type of window, it is important to remember that the only difference is the configuration of the window properties.
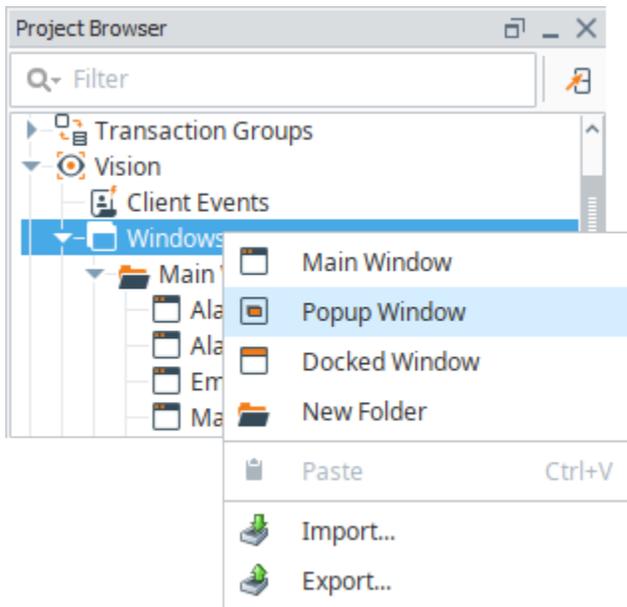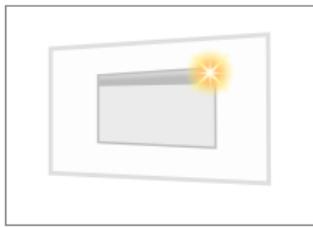
Using the Welcome Window

The Welcome Window that is available when the project is first opened has a few quick start options available on it. One of these options is the ability to add a new window.
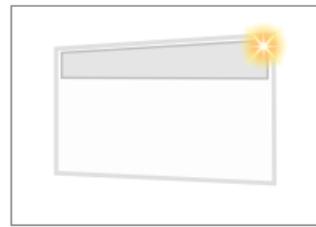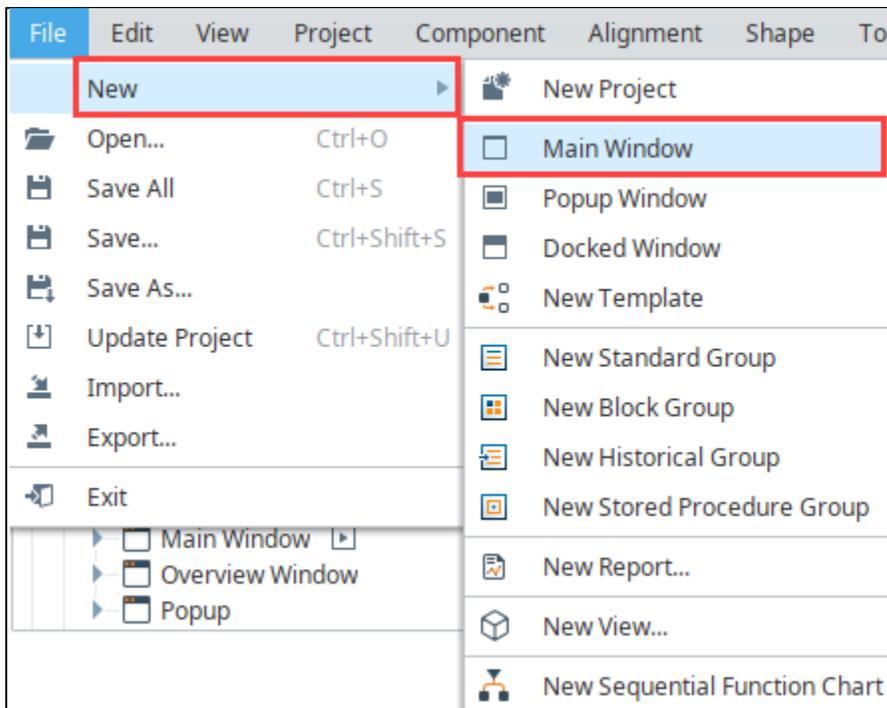

From the Menubar

In the menubar of the Designer, the File menu has a New option that allows you to create a new window regardless of where you are in the project.

Organizing Windows

You can create folders to organize your windows. A window's name must be unique among the windows in its folder, but you can have the same window name in multiple folders. The window name and folder path are very important, they are used as references by other windows. You can create as many folders as you want and nest them as deep as you need for your project. To rearrange a window, just click and drag the window where you want to place it.
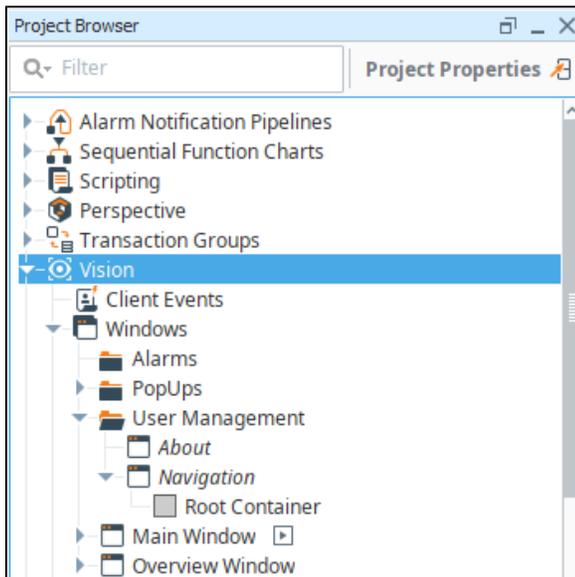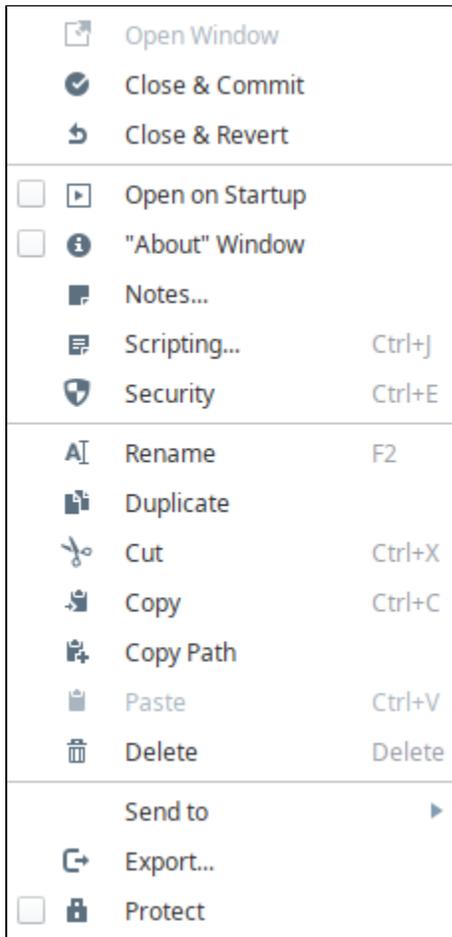

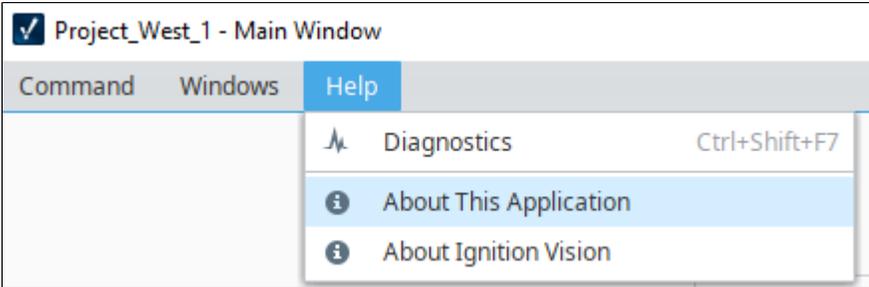**Open Static Window (s) on Startup**

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⚠ If you have a security requirement to open a different startup window depending who is logged in, you can create a client startup script to open a dynamic set of windows. To learn more, refer to Open Dynamic Windows on Startup.

Window Right-Click Menu

For a full list of properties that can be set on windows, refer to Vision - The Window Object. Windows also have right click menu of options for additional functionality.

| Function	Description
Open Window	Opens the selected window.
Close & Commit	Commits any changes to your workspace and closes the window.
Close & Revert	Reverts any changes that were made since the window was last opened or saved.
Open on Startup	One of the most useful properties is the **Open on Startup** property, which when enabled will automatically open the window when the client first starts up. This makes it easy to open a static set of default windows that everyone can see after logging in to the project. Multiple windows can be set to open on startup, though it is recommended that only a single main window is set to open on start, as opening multiple at once will cause them to be hidden behind one main window. All windows that **Open on Startup** have a little box with a Right Arrow icon next to the window name.

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About Window	An "About" Window to relay information to the user that may be important, such as instructions on how to use the project, or information about the projects creator. To specify a window as the About window, right click on the window in the Project Browser. Then click the About Window checkbox. The window will have a Information Bubble ⓘ icon displayed next to its name. In the client, the window will be displayed when a user selected **Help > About This Application**.
Notes	Windows can also have notes attached to them. The notes provide a way for a windows designer to provide some documentation on what the window is doing and how the various components interact with one another. Any windows that have notes will have a small Document 🗐 icon next to the window name.
Scripting	The Scripting option takes you to the Component Scripting for that window. For more information, refer to Component Events and Script Builders in Vision.
Security	The Security options displays Security Settings for role-base security. For more information, refer to Security in Vision.
Rename	To rename a window, select this option then enter a new name.
Duplicate	Duplicates the selected window.
Cut	Cuts the selected window onto the clipboard.
Copy	Copies the selected window onto the clipboard.
Copy Path	Copies the path of the selected window into the clipboard.
Paste	Pastes the content in the clipboard into the selected context.
Delete	Deletes the current selection.
Protect	Locks the individual project resource from inside the Designer.
Send to	Sends the window to a different project on the same Gateway. A dropdown list of projects is displayed.
Export	Exports the window as a project resource file which can then be imported into other projects. See the following sections for examples of Export and Import.
Import	Imports a window that was already saved as a project resource file. See the following sections for examples of Import and Export.
Protect	Protects the window so that it is readable in a client. Writable only through bindings and scripts. The property's value will be synchronized to the browser, but any write attempt from the browser will be ignored.

Exporting Window Example

In the Designer, you can export and import windows from one project to another project using external files.

1. You can export windows in two ways.

a. To export multiple windows, right click on the folder of windows and select the **Export** option. The window export works similarly to the project export, the difference being that it automatically highlights only that window to export from the list of project resources.
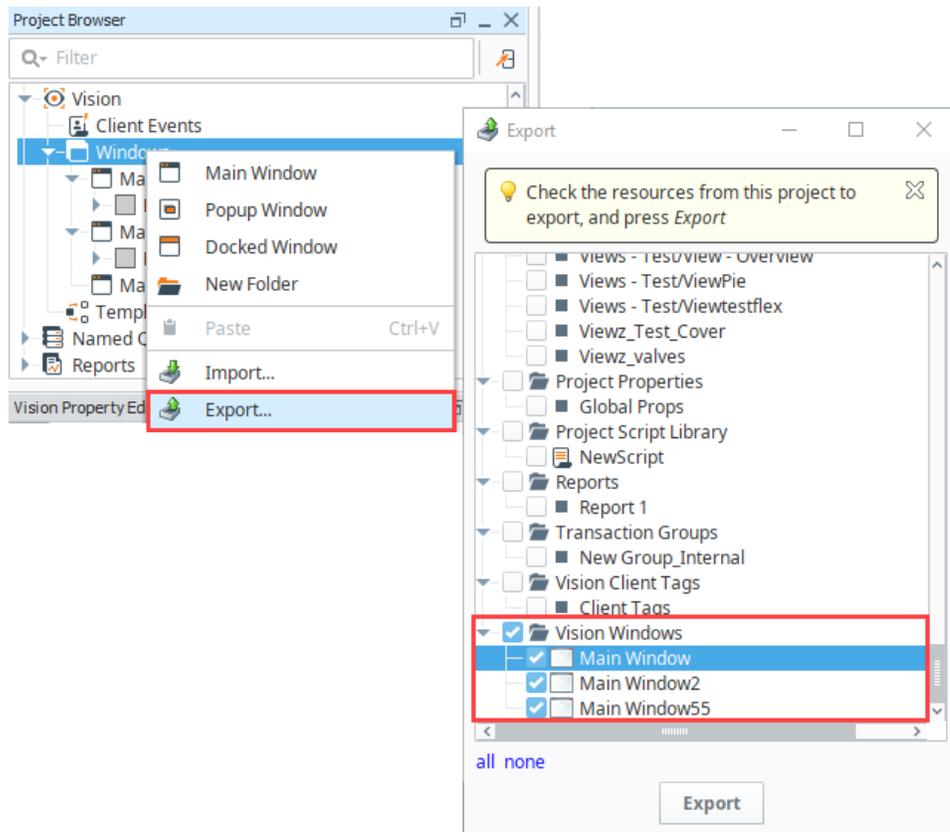
b. To export one window, right click on an individual window and choose the Export option.
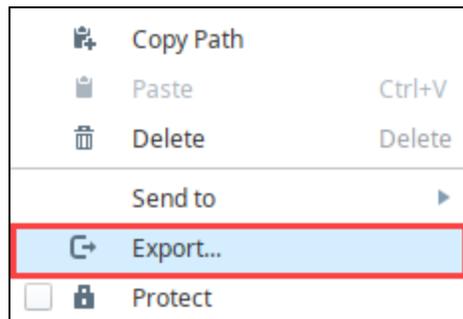
2. The Save window is displayed. You can save the windows with the existing project name (not recommended if you are only exporting part of a project), or type a new name in the File Name field.
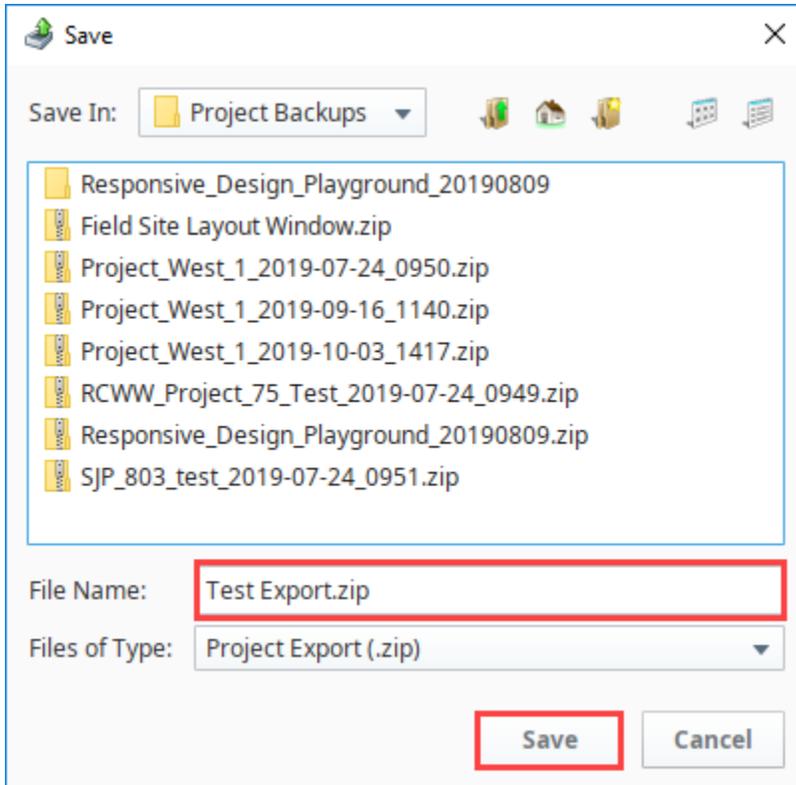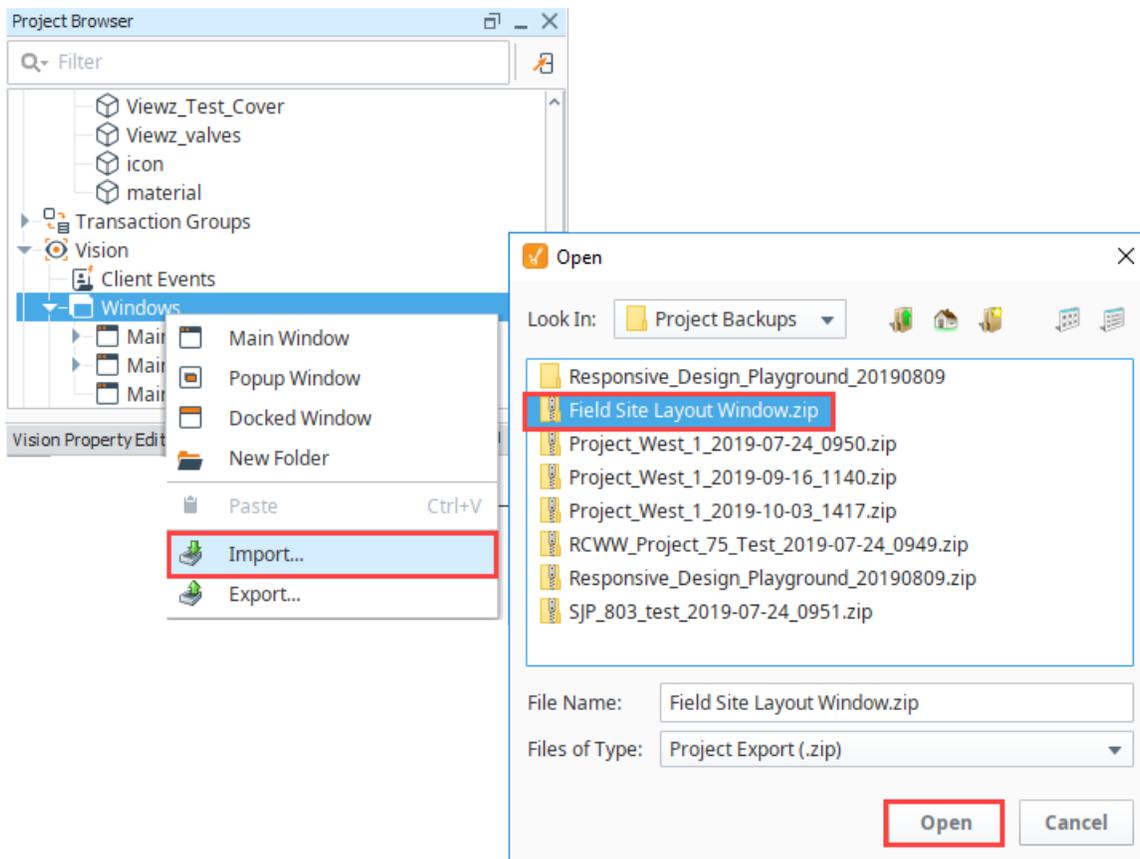

3. Click **Save** to save the windows as a project export file.

Importing Window Example

Importing the individual windows can be done by right clicking on the Windows expandable object and selecting Import.

Browse to the folder that contains the backup file you want to import, and click Open.

Navigation Strategy

Setting up a navigation strategy allows you to navigate between different windows in the runtime Client. While we have a few examples of the most common navigation strategies, it is certainly not an exhaustive list as most users tend to combine multiple strategies to create a project that fits their needs.

A typical navigation strategy for a Vision project is as follows:

- Have a **Docked** window or two, usually docked North and/or West.
- Have a single **Main** window visible at a time.
- Use swap navigation to swap between the **Main** windows. This ensures that only one main window is open at a time.
- Use standard open navigation to open various **Popup** windows as necessary.

This style of project is so common, that the default operation of the Tab Strip component expects it. When it is in its default automatic operation, it expects that each tab represents a main window, and will automatically swap from the current screen to the desired screen. Additionally, the [System]/Client/User/CurrentWindow Tag is calculated based on this strategy: its value is the name of the current maximized window. This navigation strategy is used in the Ignition Online Demonstration that you can download from our website.

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