USER MANUAL

TABLE OF CONTENTS

PURPOSE

This user manual describes how to install and use the Collaborative UML Diagram Editing Tool.

INSTALLATION

PREREQUISITES

This application supports Windows 11 desktop and laptop computers. No support is guaranteed for other operating systems or platforms.

This application requires Java 17 to run. Download the Java 17 JDK for your operating system from https://www.oracle.com/ca-en/java/technologies/downloads/#java17.

INSTALLATION

The latest release is available on GitHub at https://github.com/Andrei486/uml-diagram-collab/releases/latest.

From the latest release, under Assets below the release notes, download the executable JAR file uml-diagram-collab-1.0-SNAPSHOT.jar. Move the file to a suitable location on your computer, typically outside the Downloads folder.

LAUNCHING THE APPLICATION

To launch the application, double-click the JAR file from the File Explorer.
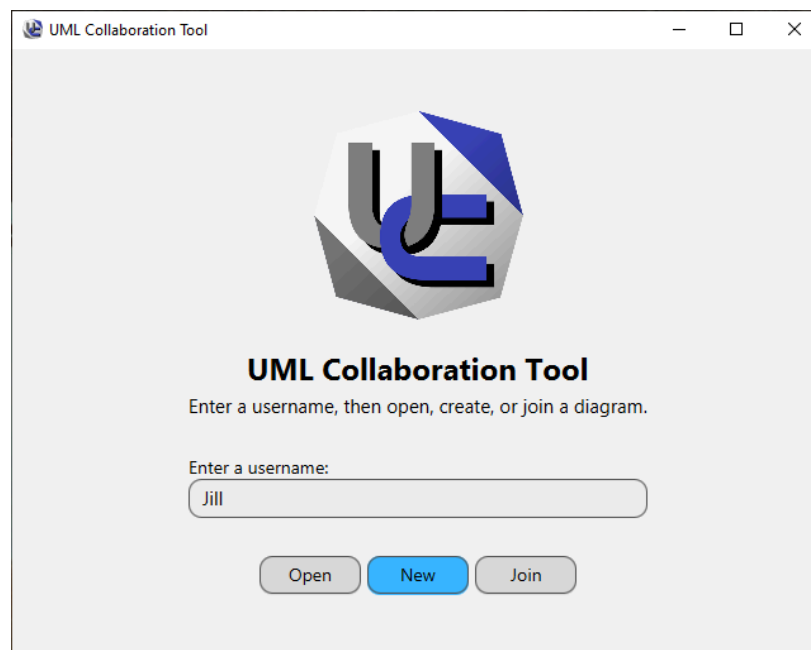
Name	Date modified	Type	Size
uml-diagram-collab-1.0-SNAPSHOT.jar	2024-04-03 6:34 PM	JAR File	9,441 KB

This will open the UML Collaboration Tool title screen.
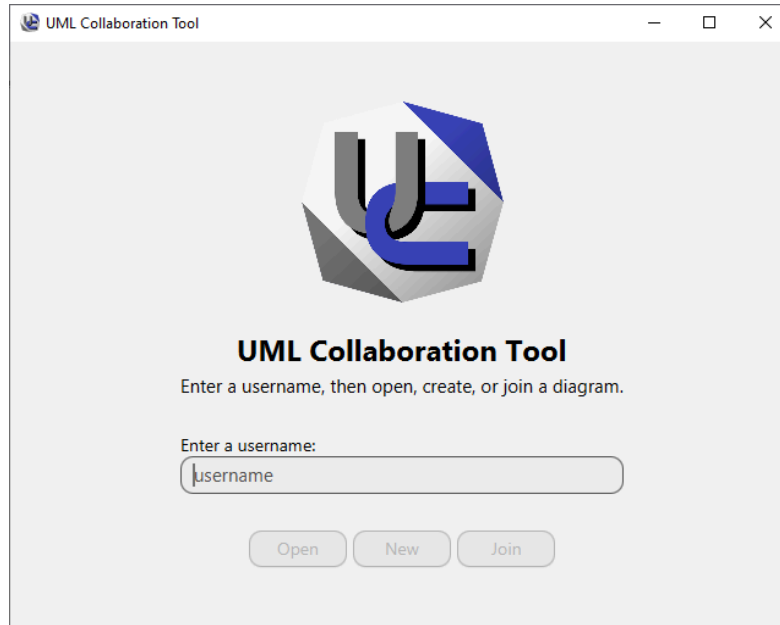
CREATING A DIAGRAM

To create a diagram, enter a username into the username text input field and then click the new button below the username input field.
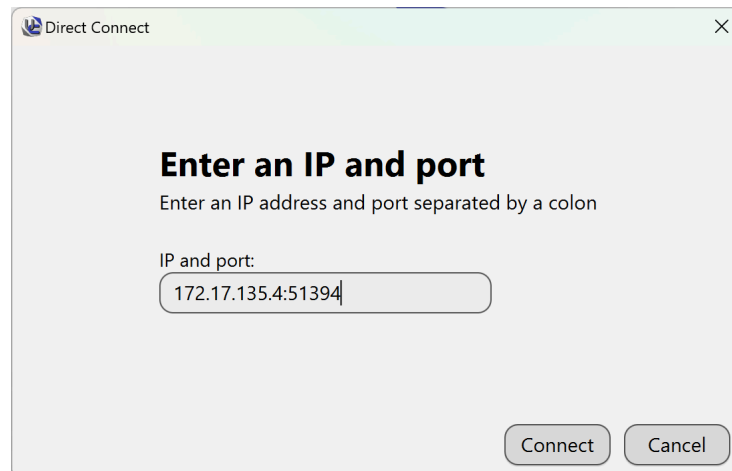

This will open the Diagram editor that can be seen in Diagram Editor Overview.

JOINING A DIAGRAM

To join a diagram, enter a username into the username text input field and then click the join button below the username input field.
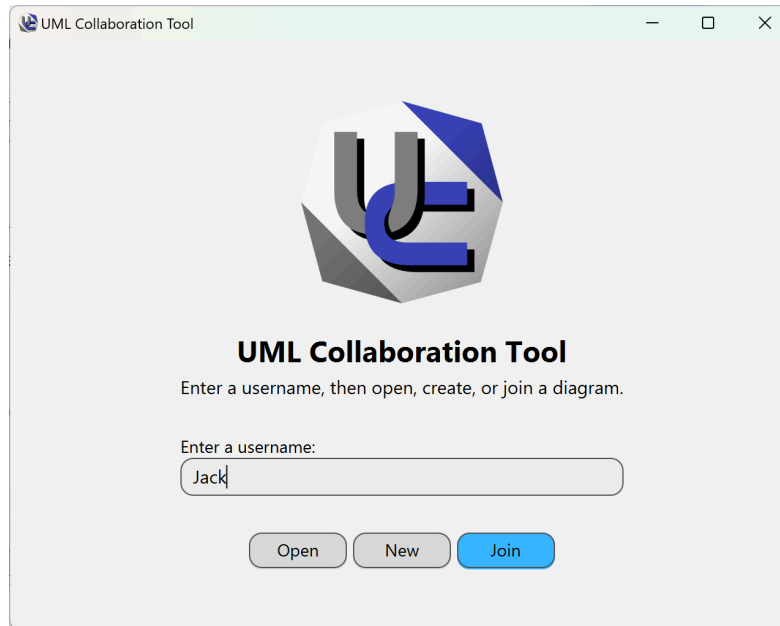

This will open a menu, enter the IP and port in the text field labeled IP and port.


The ip is the IPv4 Address of the host's machine and should be entered first, which should be followed by a colon (:). After the port that the host application is using should be entered. Afterward click the connect button to connect. Both the IP and port can be found on the bottom left of the host's diagram editor.

172.17.135.4:51394

Once the connect button is clicked, if the information entered is correct, the [diagram editor](#) will open up, though until the host accepts you the diagram will be blank and you will be unable to interact with it. the host will have the request to join dialog popup appear on the bottom right of the diagram editor. The username of the joining user will be below the "Request to join from", where Jack can be seen in the image below.
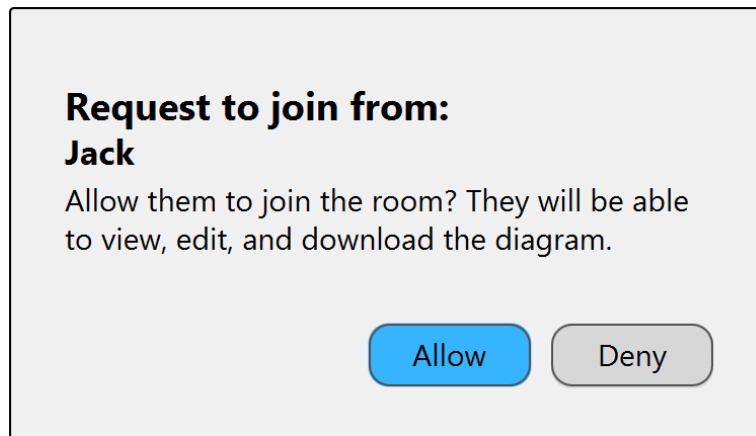

If you wish to allow the user to join and edit the diagram, click allow. This will send over the diagram to the person and allow them to start participating in some jolly cooperation. When clicking deny the diagram will not be sent over and the joining user will be informed that they have been denied.Once the host leaves the clients will not be able to edit the diagram, but they may save and open the diagram to continue editing themselves.
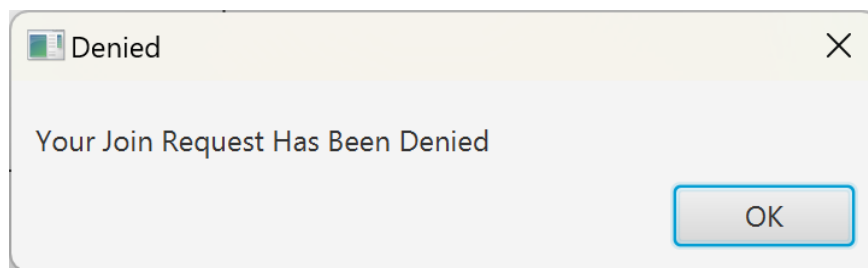
To connect to a host on a different network we recommend using a VPN. If that is out of the question the host will need to forward the port that was chosen by the network.
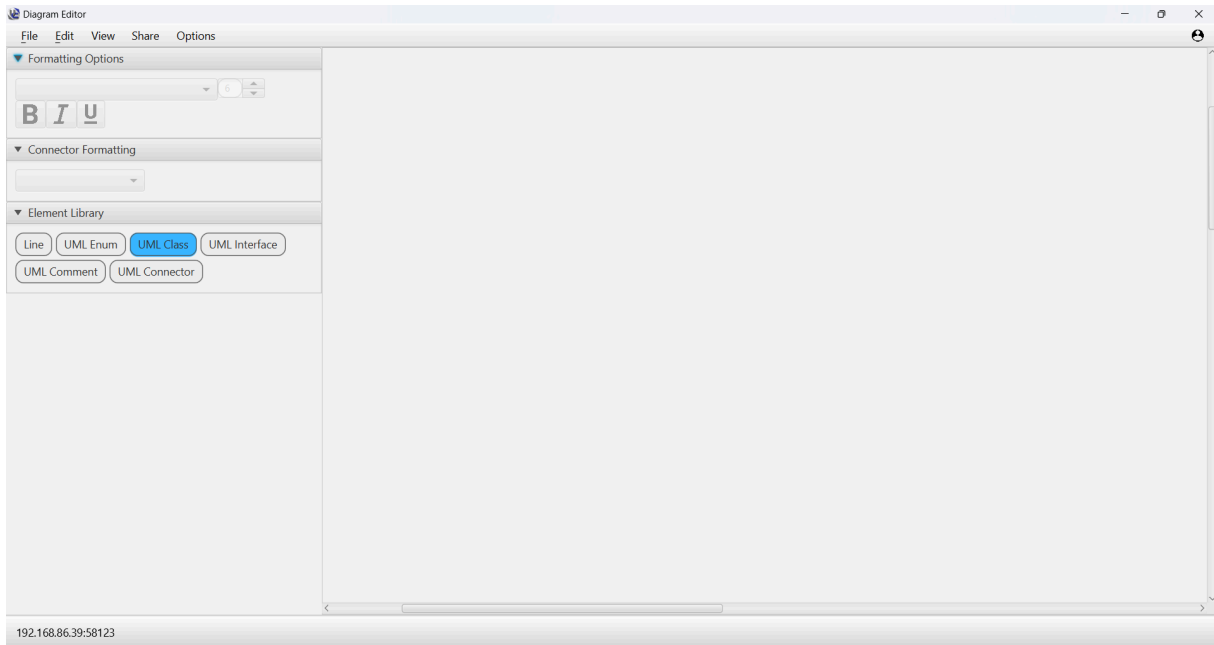
Diagram Editor Overview
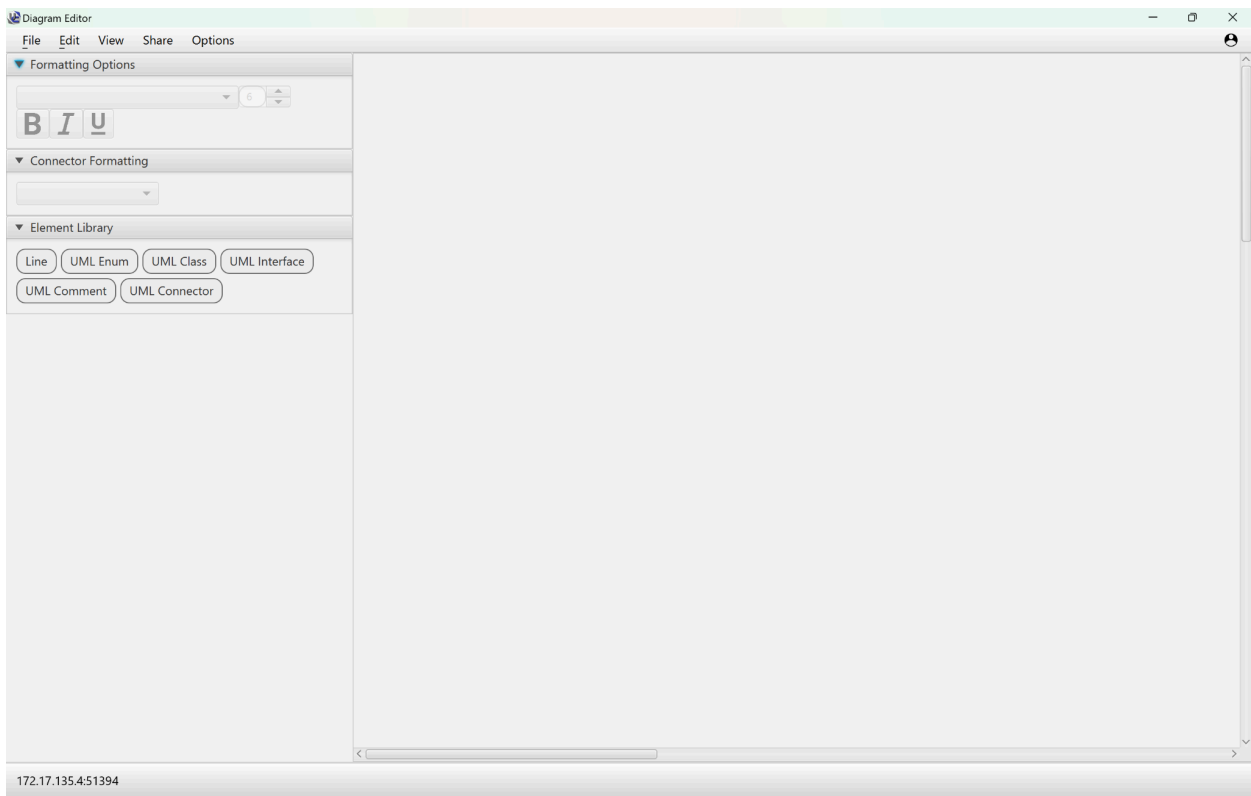
ADDING DIAGRAM ELEMENTS

To add diagram elements, click on any of the buttons in the Element Library. The element will appear near the center of the editor.

Note that the UML connectors will be created as associations by default. This can be changed as described in Formatting a Connector.

Hovering over the button to add a UML class box to the diagram
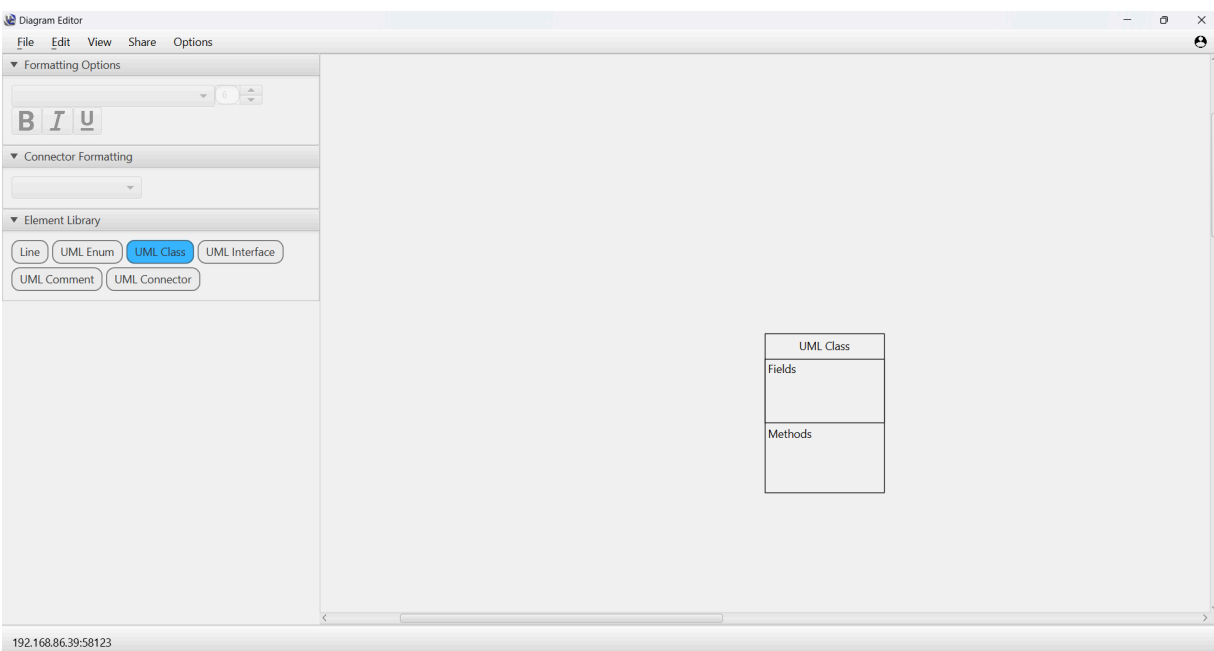
*After clicking the button to add the element*

Moving Around the Diagram

Diagrams are created with a large, preset size: because of this, only a part of the diagram can be shown on the screen. The diagram editor supports several ways of moving around the diagram to see different parts of it:

- By panning the diagram. This can be done by clicking anywhere except on elements, and dragging the mouse;
- By using the scroll bars on the editing area (to the right and bottom of it);
- By scrolling with the mouse scroll wheel. Shift+ScrollWheel will scroll horizontally.
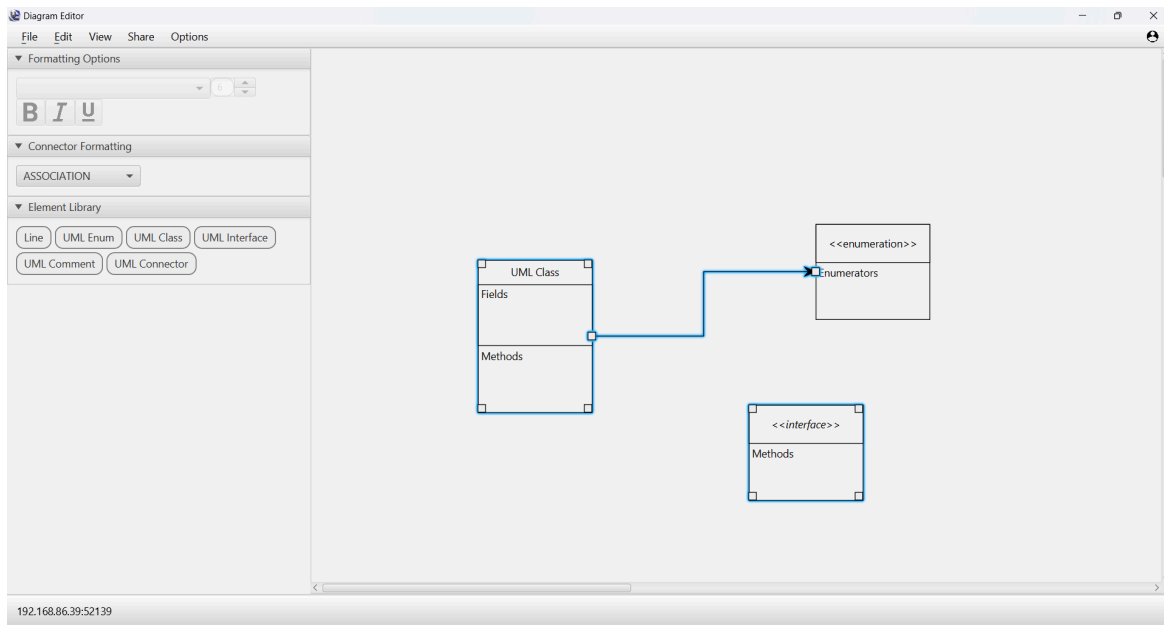
Selecting Elements

Any element on the diagram can be selected by left-clicking on it. To select multiple elements, hold down the Ctrl key while selecting each one. To deselect one element, right-click it. To deselect all elements, click on empty space within the editing area.
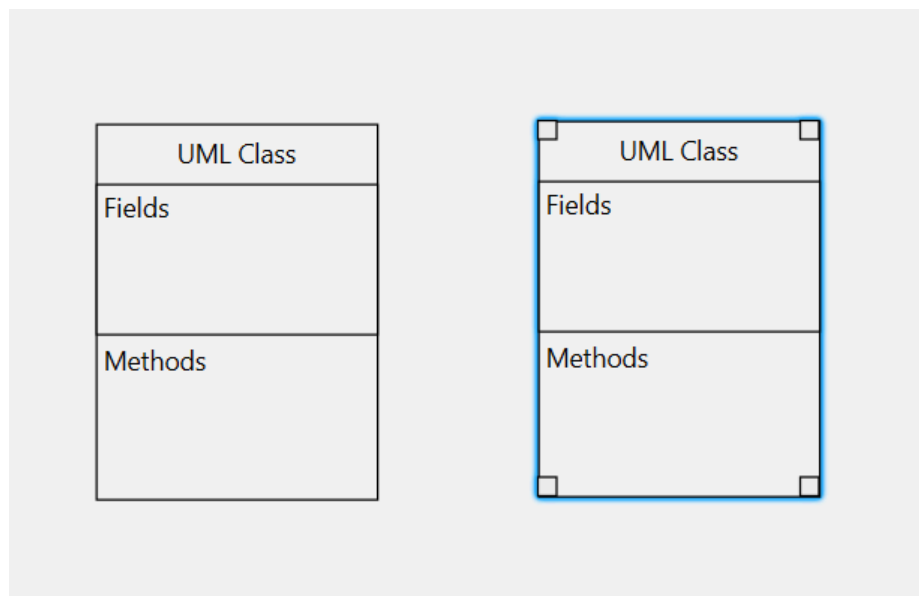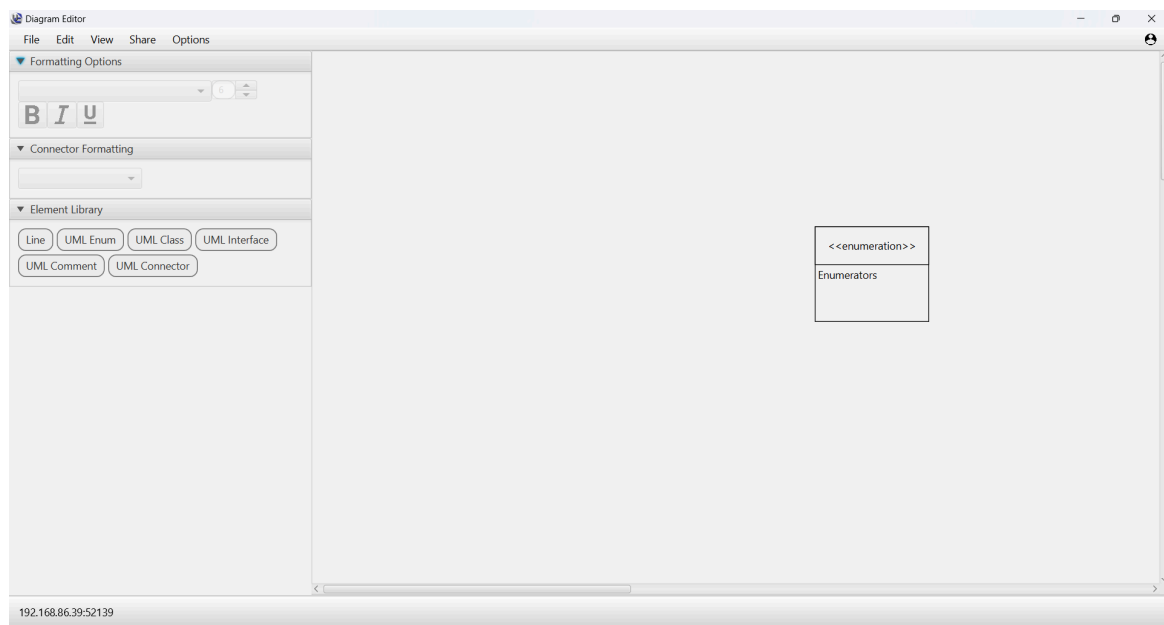
DELETING ELEMENTS

To delete elements, first select the element(s) that should be deleted. Then, press the Del key. The elements should be removed from the diagram.

Alternatively, instead of the Del key, navigate to the "Edit" menu at the top left, and select "Delete Selected Elements". Pressing the Alt, E and D keys in order will also delete elements.
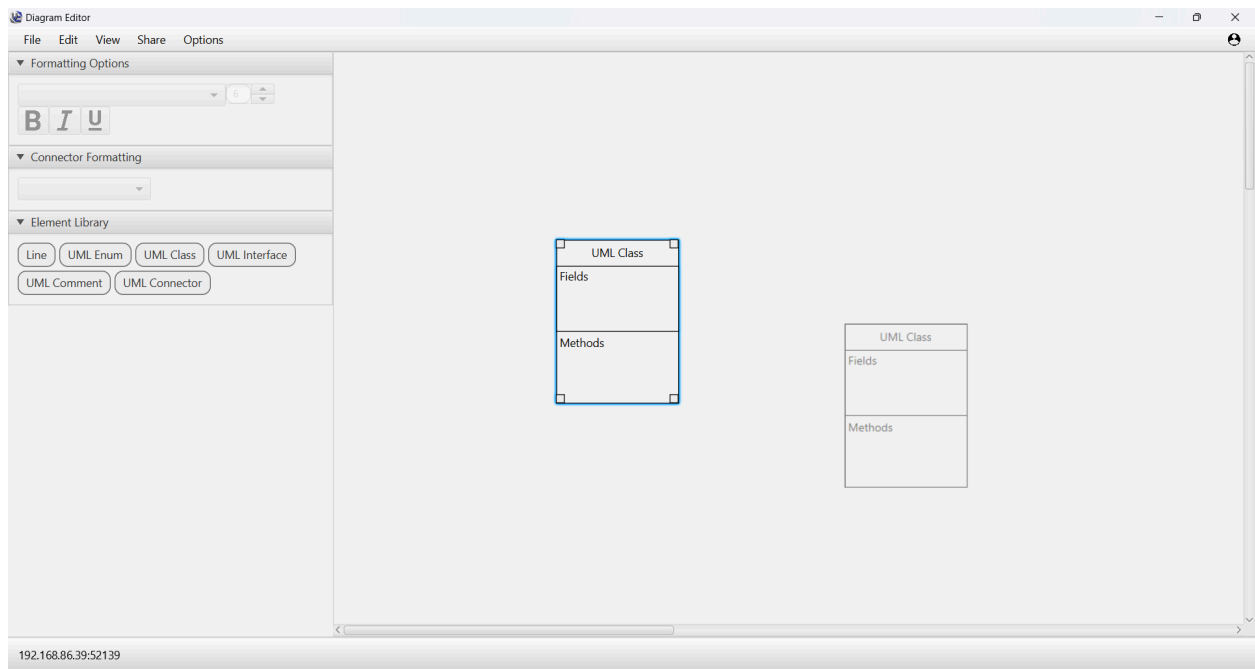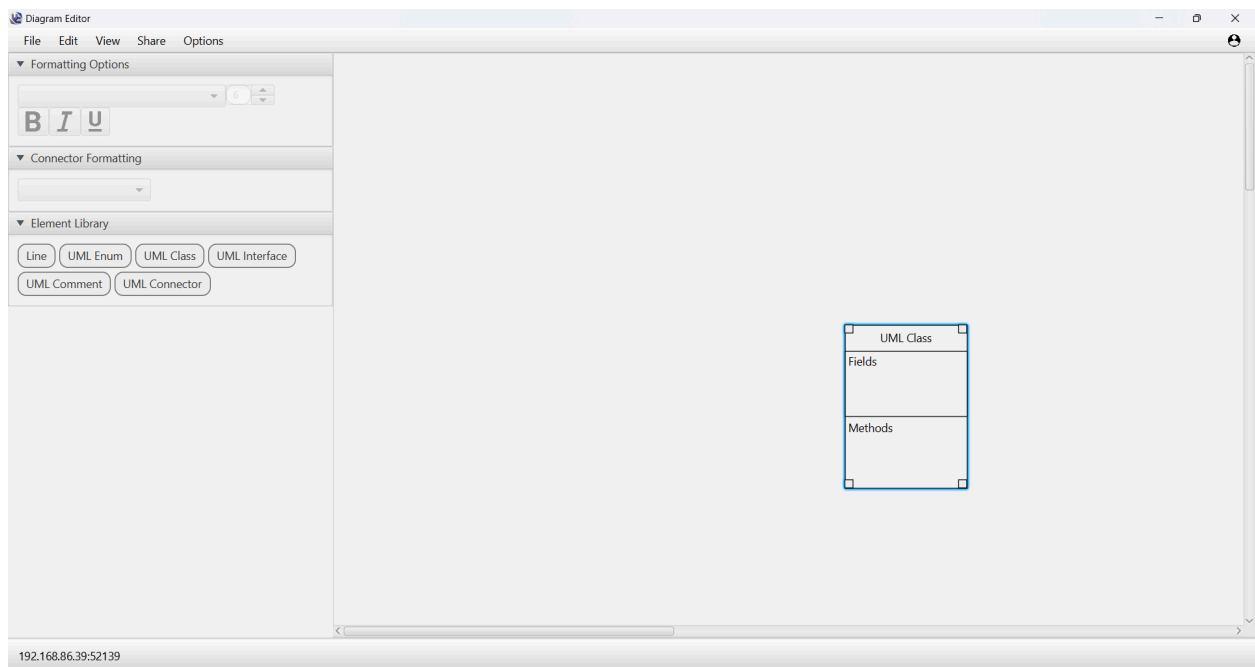

Selecting elements to delete them

After deleting elements

Moving an Element

To move an element, left-click it and drag the mouse until the element reaches the desired position. A preview will show where the element will be moved. Once the mouse is released, the element will be moved to its new position.


Dragging an element to move it

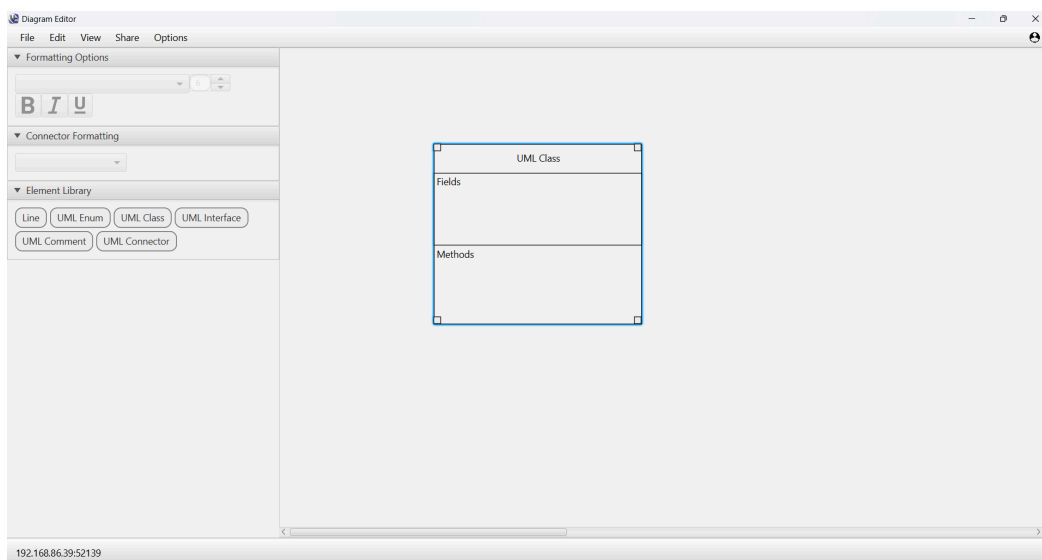*After releasing the mouse to move the element*

RESIZING AN ELEMENT

All elements except connectors can be resized. See [Resizing a Connector](#) for similar operations that can be performed on connectors.

To resize an element, first select it. Four square handles will appear at the corners of the element. Using the mouse, left-click one of those handles and start dragging it. A preview outline will appear, showing the size of the element after resizing. Continue dragging the handle to the desired position. Once the mouse is released, the element will be resized. Note that elements have a minimum size. If an element is resized too small, some text may not be displayed until the element has space to show it.
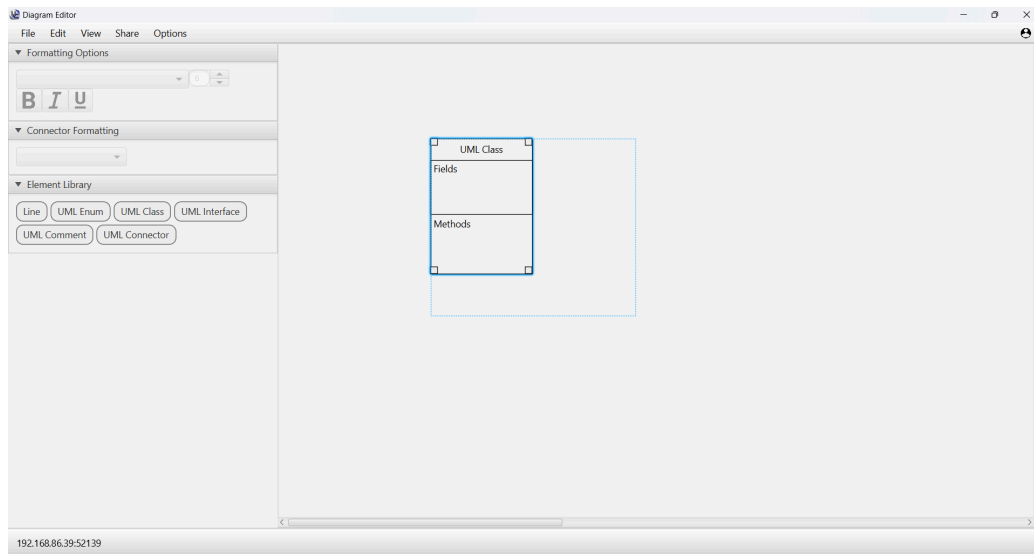
*Dragging a resize handle to resize an element*

*After releasing the mouse to resize the element*

Connectors can be "resized" in a similar way to other elements, moving one of their endpoints to a new position. This applies to both lines and UML connectors.

To resize a connector, first select it. Two square handles will appear, one at each end of the connector. Using the mouse, left-click one of the handles and start dragging it. A preview of the connector will appear, showing how it will display after the point is moved. Continue dragging the handle to the desired position. Once the mouse is released, the connector's point will move to the new position.
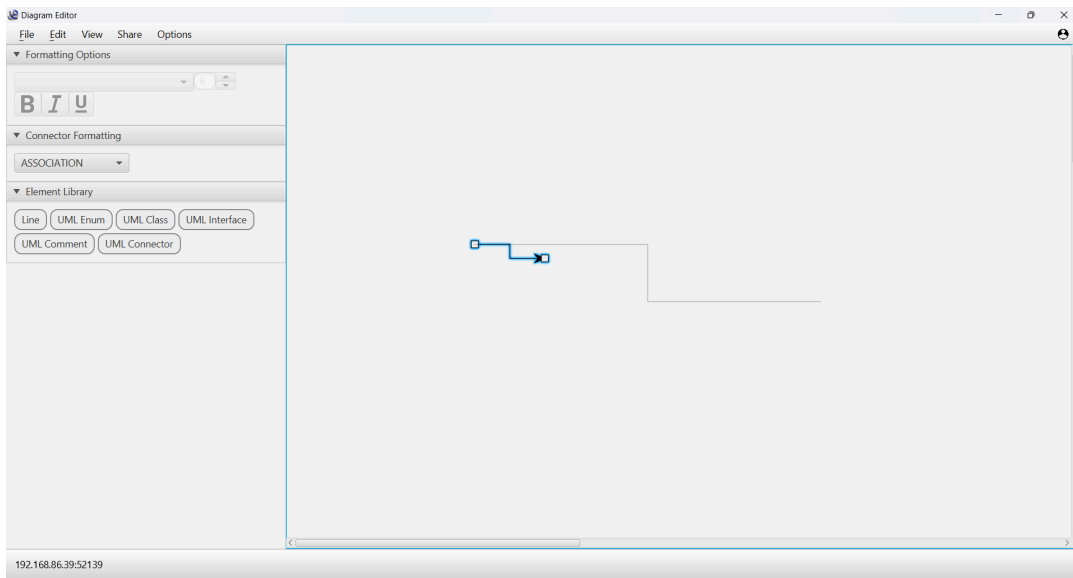
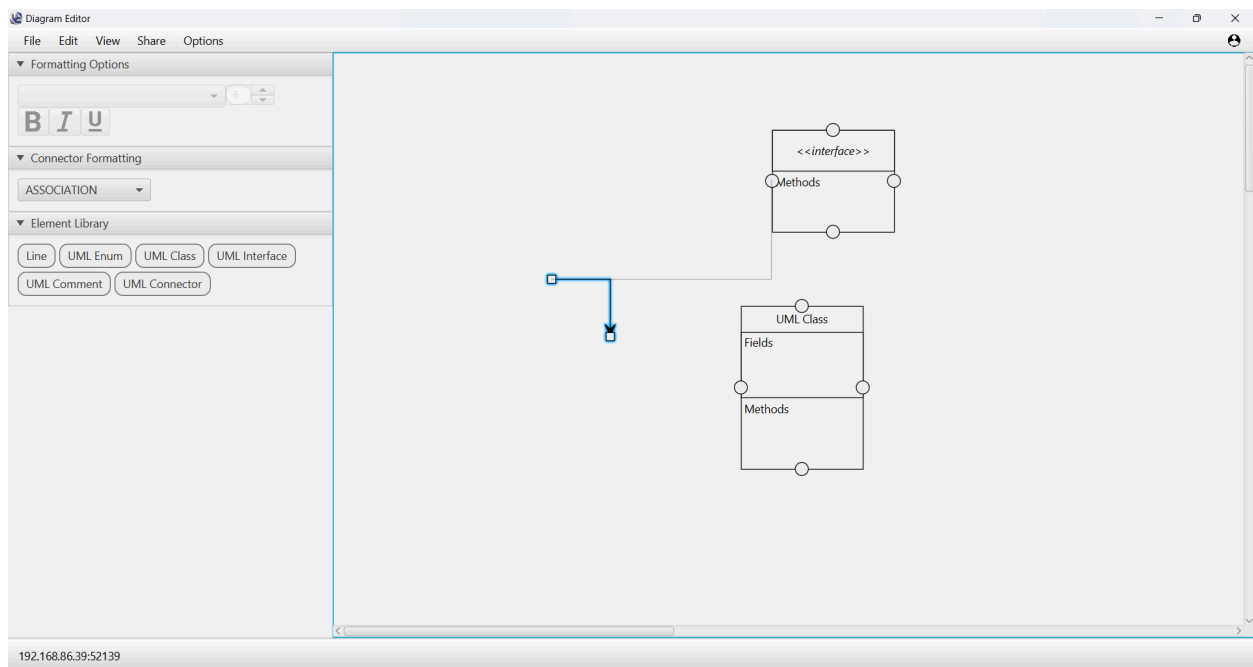*Dragging a connector handle to move one of the points*
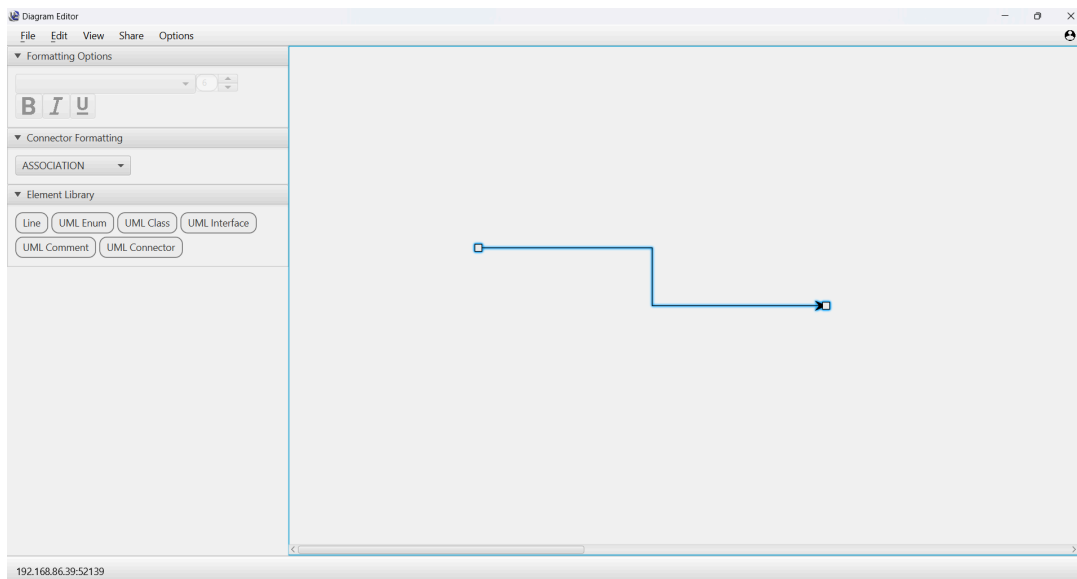
After releasing the handle to move the point

SNAPPING A CONNECTOR TO AN ELEMENT

Connectors can be "snapped" to non-connector elements. Snapping a connector to an element allows one or both of the connector's endpoints to move with the other element. Both lines and UML connectors can be snapped.

To snap a connector to another element, first select it. Two square handles will appear, one at each end of the connector. Using the mouse, left-click one of the handles and start dragging it. A preview of the connector will appear, showing how it will display after the point is moved. Additionally, circles will appear on non-connector elements, as shown below. These indicate where the connector can be snapped to.

Dragging a connector handle over a snap point

Drag the handle over one of the circles, where you want the connector to snap to. Once the mouse is released, the connector's point will move to the new position, and the connector point will be snapped to the element. Moving the element will move the connector's point as well.
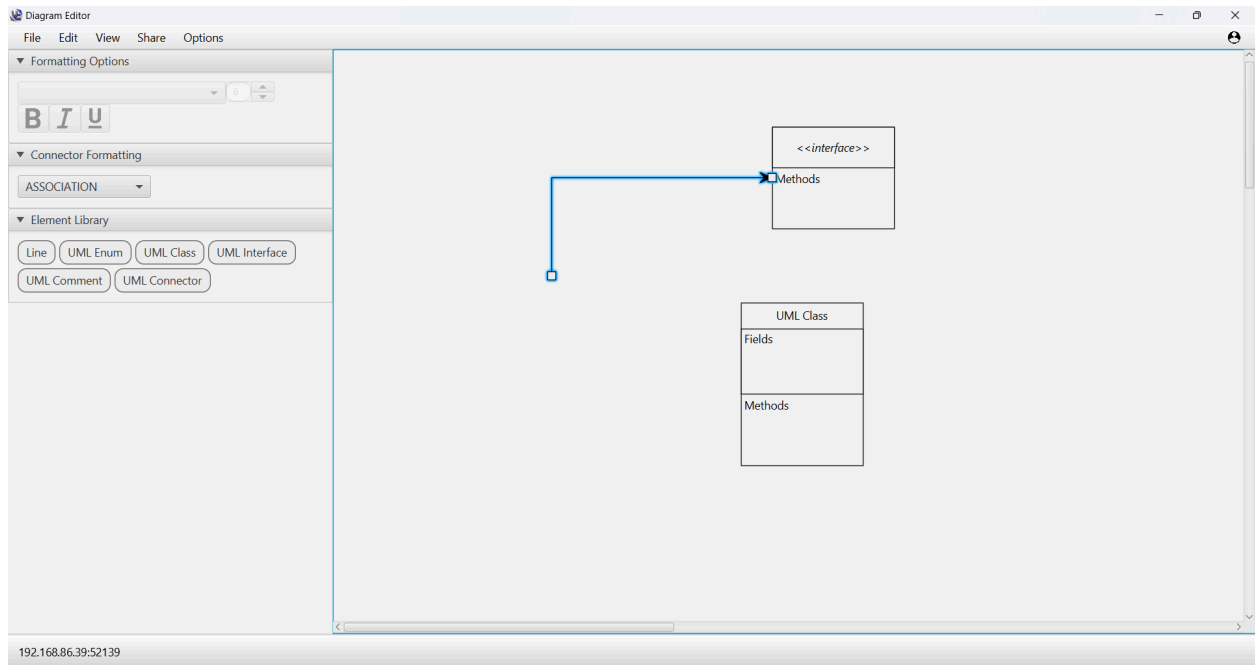
Releasing the mouse over a snap point to snap the connector

Both points of a connector can be snapped independently.

There are also ways to un-snap connector points. Moving a connector will un-snap both its start and end points if they were snapped to elements previously. Additionally, moving a connector's point (see Resizing a Connector) will un-snap that point.

Formatting a Connector

UML connector elements will be created with an arrowhead that represents an association relation by default. To change this, select one or more UML connector elements. Then, use the "Connector Formatting" panel on the left-hand side to choose the type of relation that the connector(s) should represent.
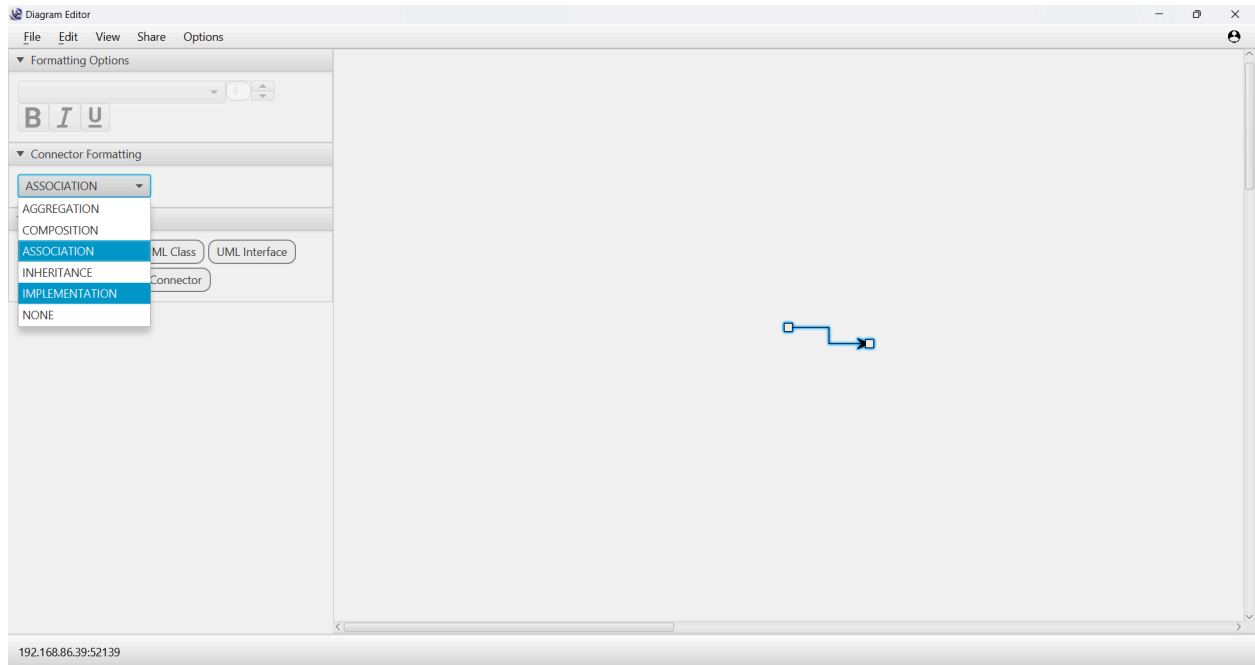
Using the dropdown to select an arrow type for the selected connector

All selected connectors will change to match the selected relation. The possible types of connectors are shown below.
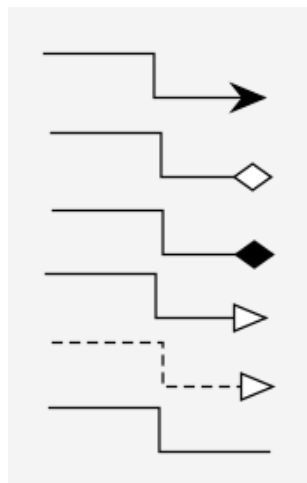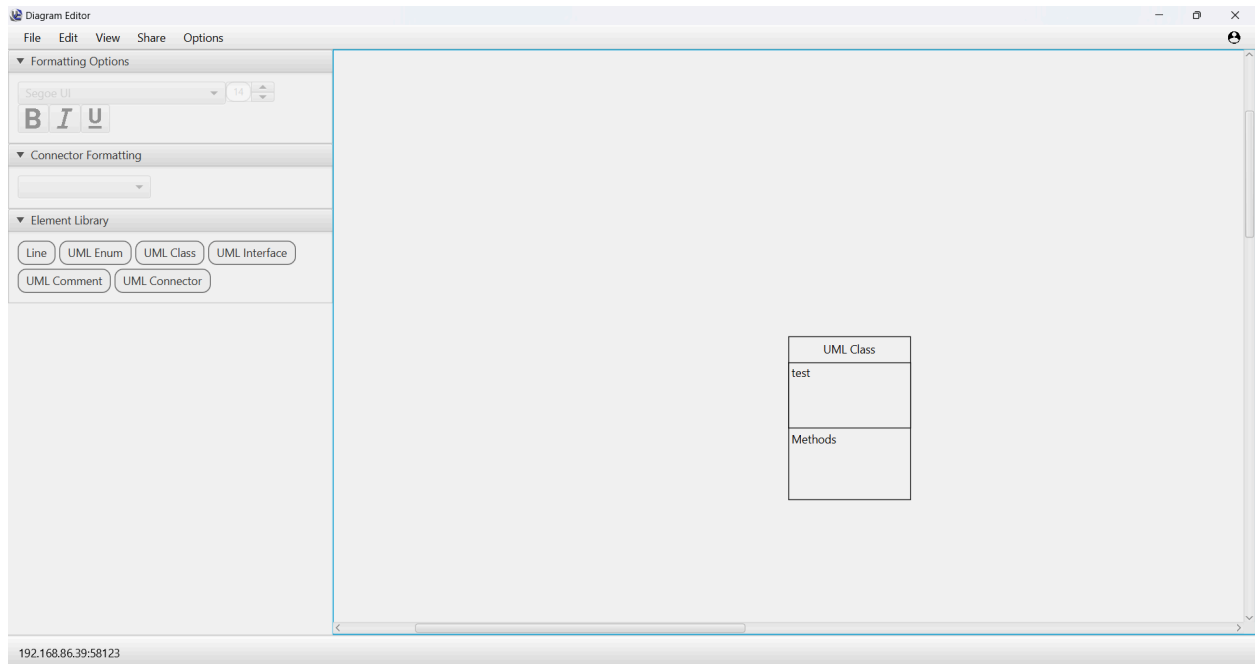

From top to bottom, the connectors represent: Association, Aggregation, Composition, Inheritance, Implementation, None.

Editing Text

To edit the text of an element, double click the text area you would like to edit. When you click off of an element, the text edits will be applied and sent to other users you are working with.
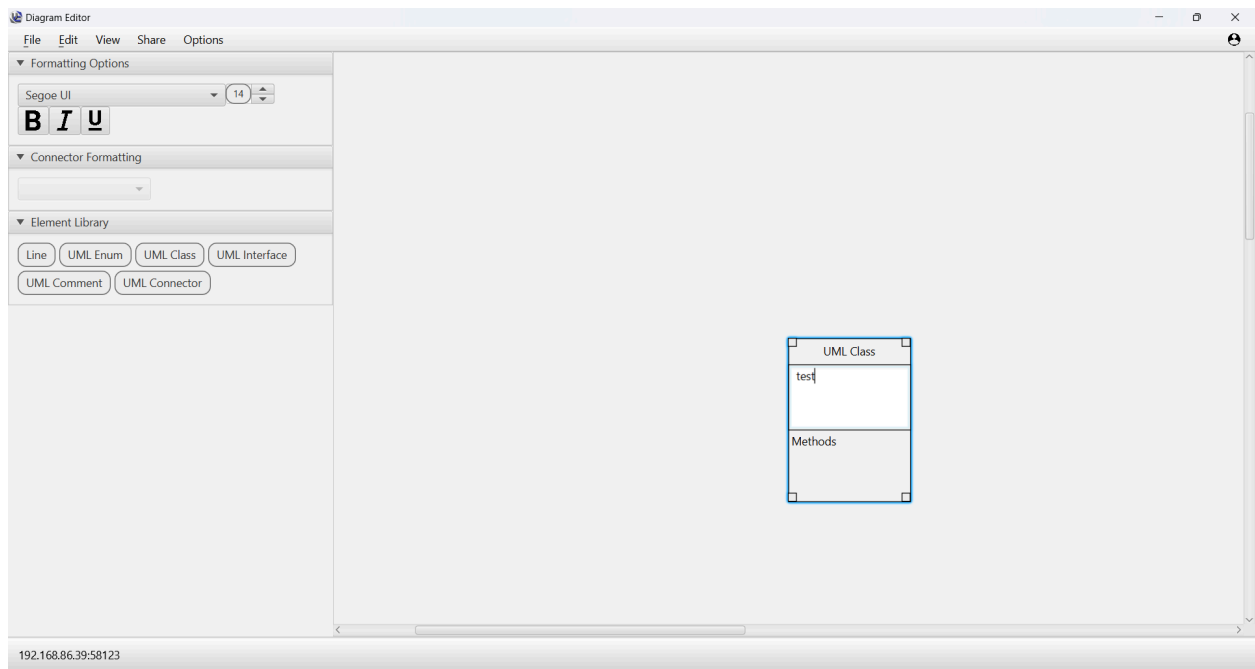

Editing text after double-clicking it

*Text element after editing and clicking away to apply the edits*

The formatting options panel is enabled when editing the text of an element. It is located in the top left corner, as seen in the image below. Like many other text editing applications, there are options to choose a font, change the font size, and make the text bold, italicized, or underlined. Formatting options will be applied to the entire text field.
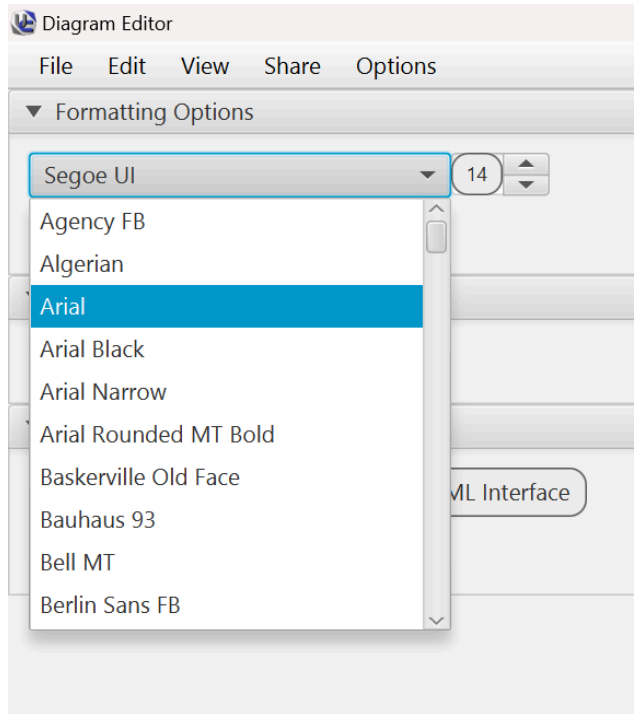
Any fonts installed on the system can be used. The font size is limited to 6px at the smallest and 60px at the largest. The font size can be changed with the arrows beside the box or by manually typing a number in the box.
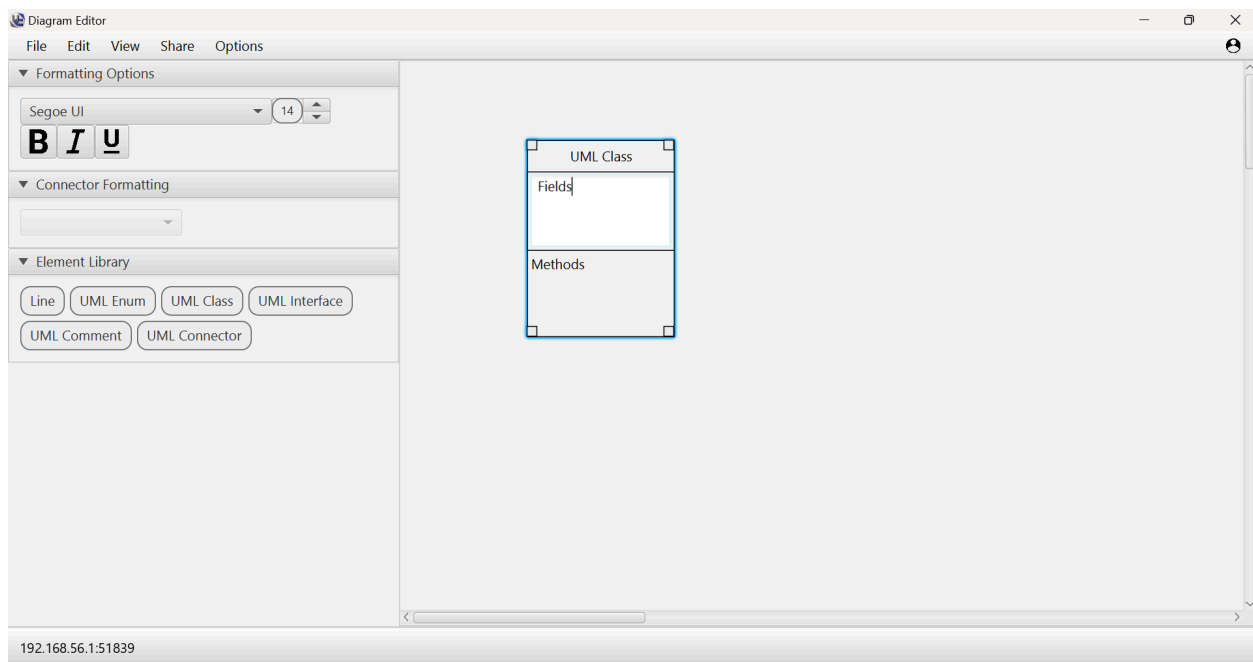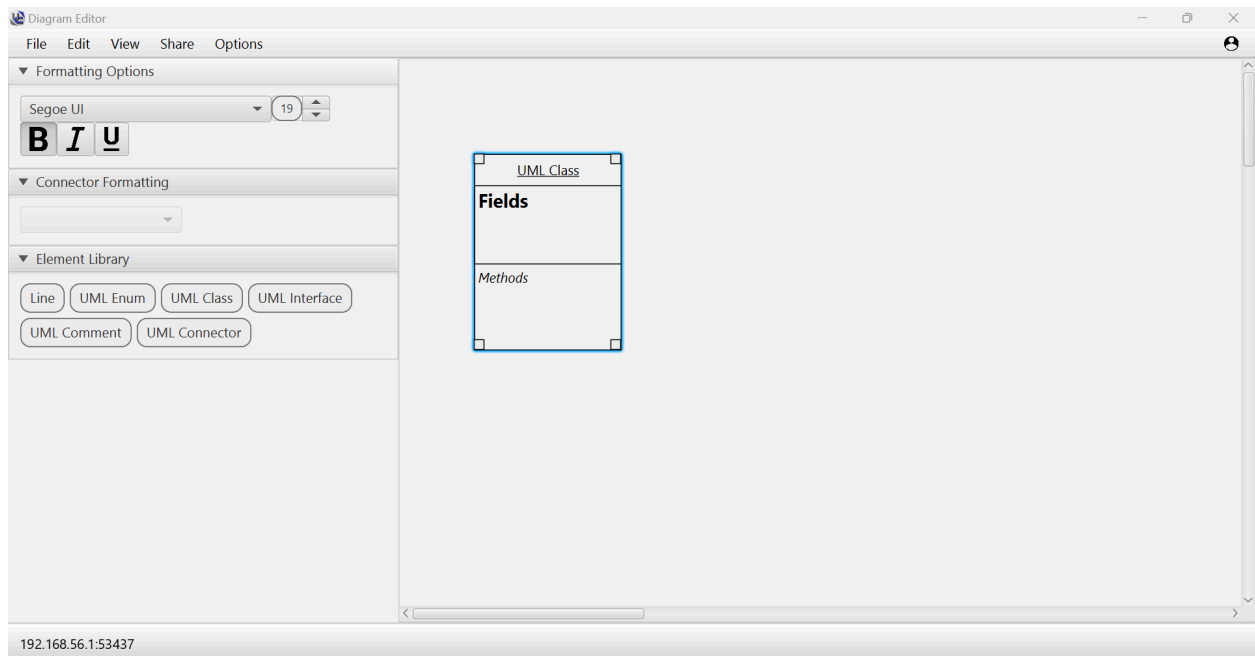

The buttons for bold, italics, and underline can be toggled.
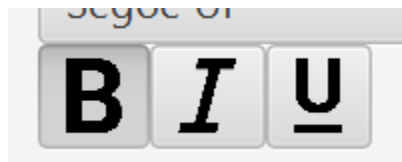

The font select dropdown opens when clicked.

Text fields formatted with various options.

Saving the Diagram

To save a diagram, press the "File" option on the menu bar at the top. A menu will appear. Select "Save" or "Save as" from the menu. If the diagram has already been saved, "Save" will update the same file that the diagram was previously saved to. If the diagram has not yet been saved or if you press "Save as", you will be prompted to choose a file location and name in the Windows file explorer to save the diagram.

If you encounter an error saving a file, make sure you have permissions in the directory you are trying to save it in.
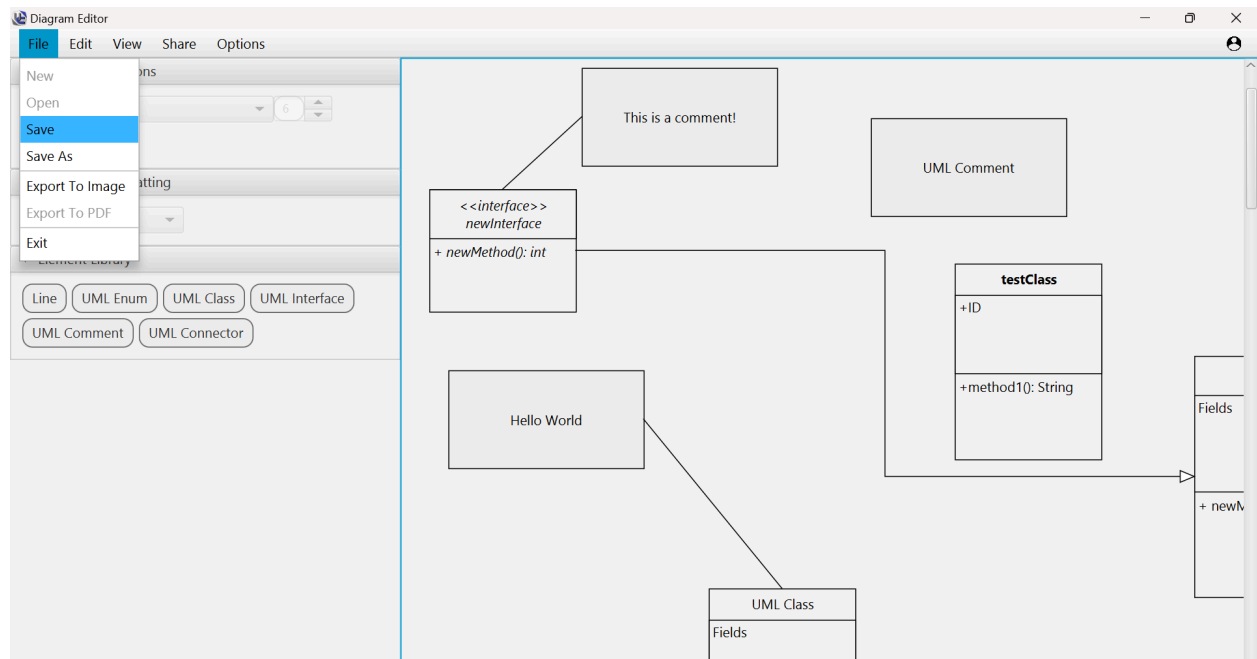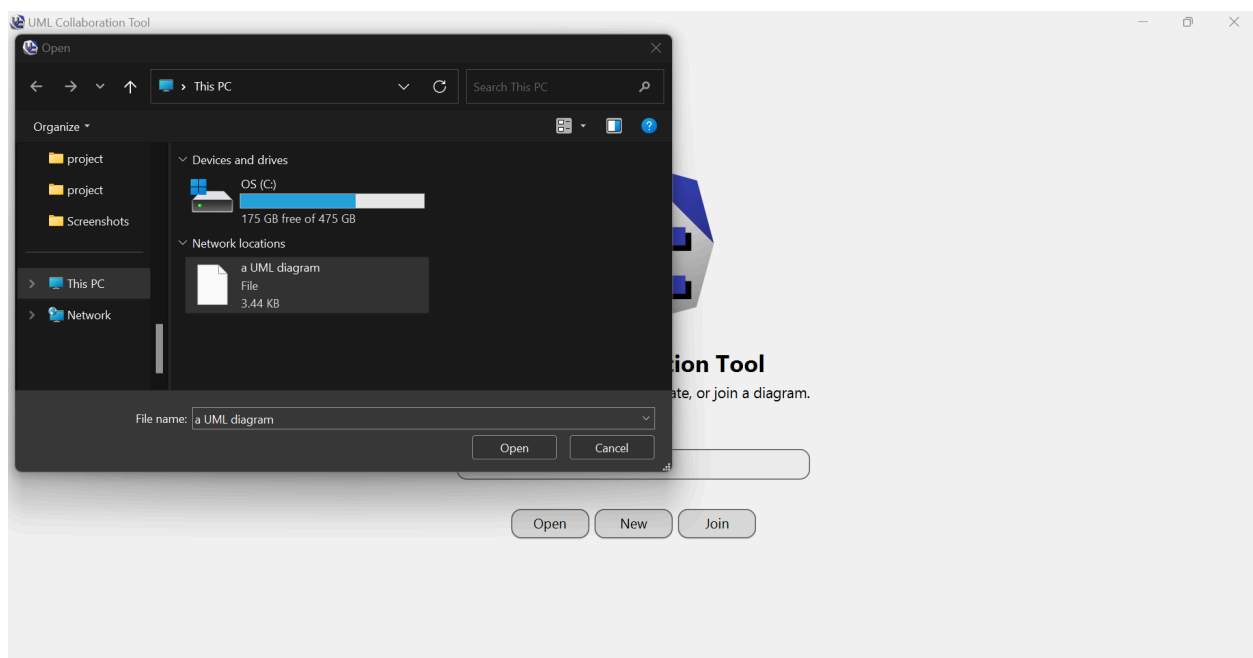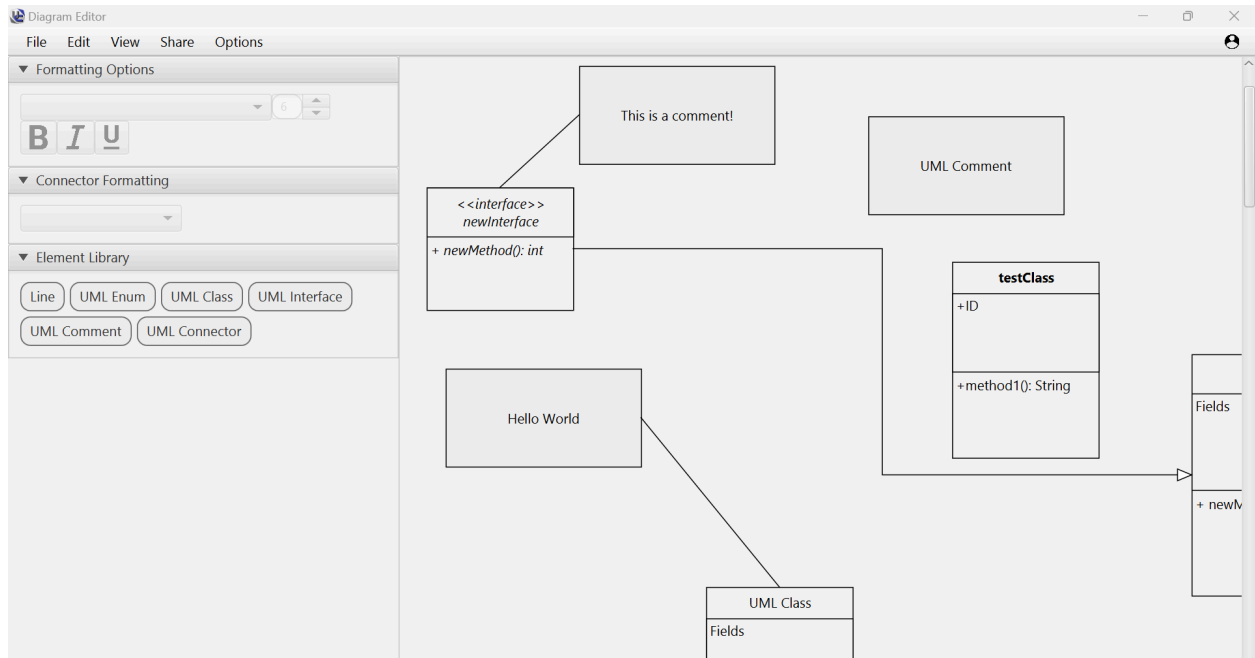

Loading the Diagram

To load a previously saved diagram, first click on the open button on the start screen. You will need to enter a username before the buttons will be enabled.
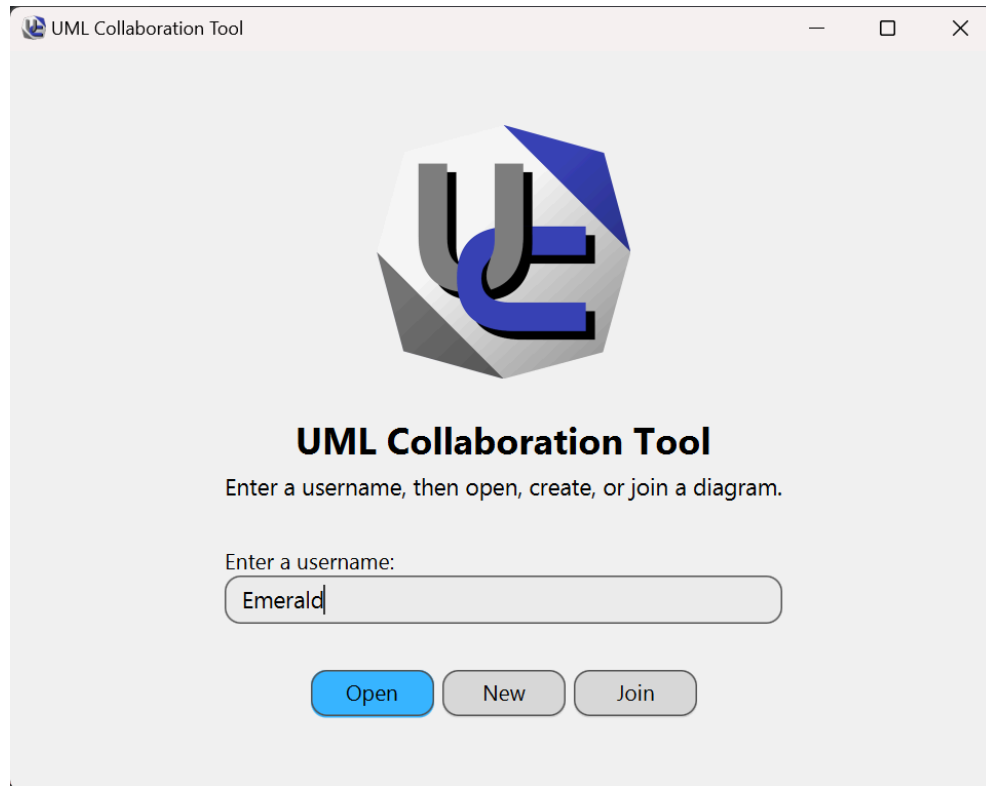
This will open the file explorer. Navigate to your file in the file explorer and press open. If you encounter an error opening a file, make sure you have permissions in the directory it is saved in. Note that only files created with the UML Collaboration Tool are able to be opened with the application. Trying to open other files will result in an error message.
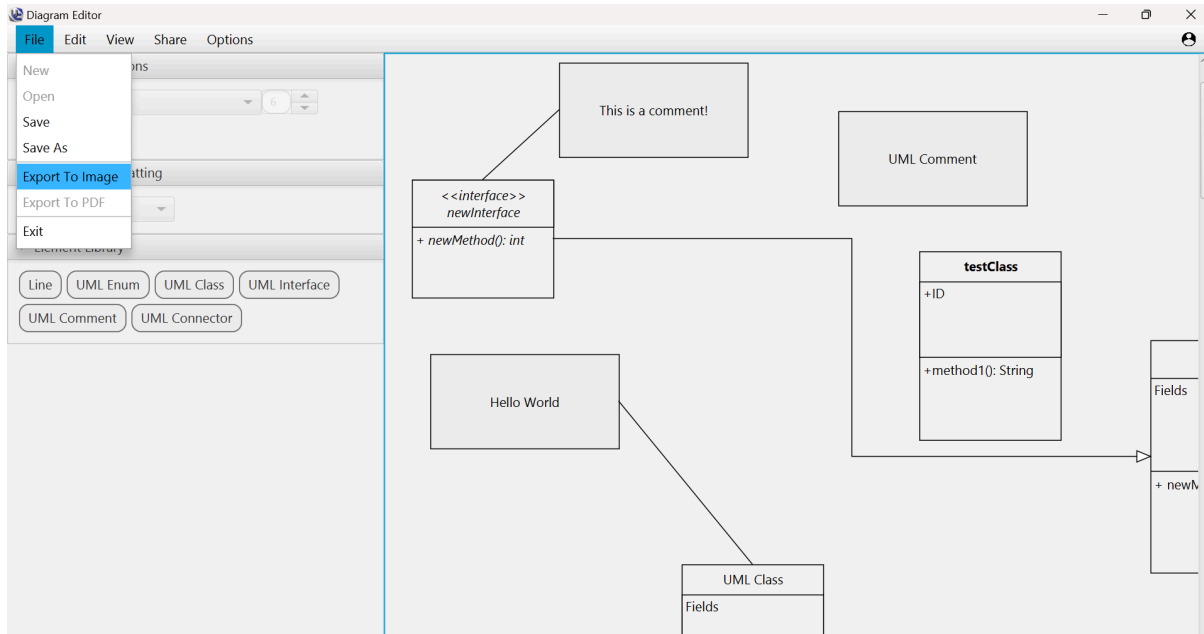
The editor will open and your file will be loaded.

Exporting the Diagram

A diagram can be exported as an image. To export, press the "File" option on the menu bar at the top. This will open a dropdown menu. Press "Export To Image" in this menu as shown in the image below.

You will be prompted to choose a file location and name in the Windows file explorer to export the diagram to. If you encounter an error exporting a file, make sure you have permissions in the directory you are trying to save it in.