Cpg UI Client

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CHAPTER

ONE

INTRO

CPG UI Client is a GUI for command-line code analysis tools like Ocular and Joern. It provides a GUI skin, wrapping many of these code analysis tool's features and making it possible for analysts to perform code analysis in a code-editor-like environment.

Analysts can: * manipulate workspaces and projects under them. * Run CPG queries in a command line-like terminal or a more user-friendly query execution component. * Create, delete, view, and edit scala scripts used to automate code analysis operations. * View repository folder structures and inspect repository files without having to open the repository on a separate code editor. * View query latency in real time.

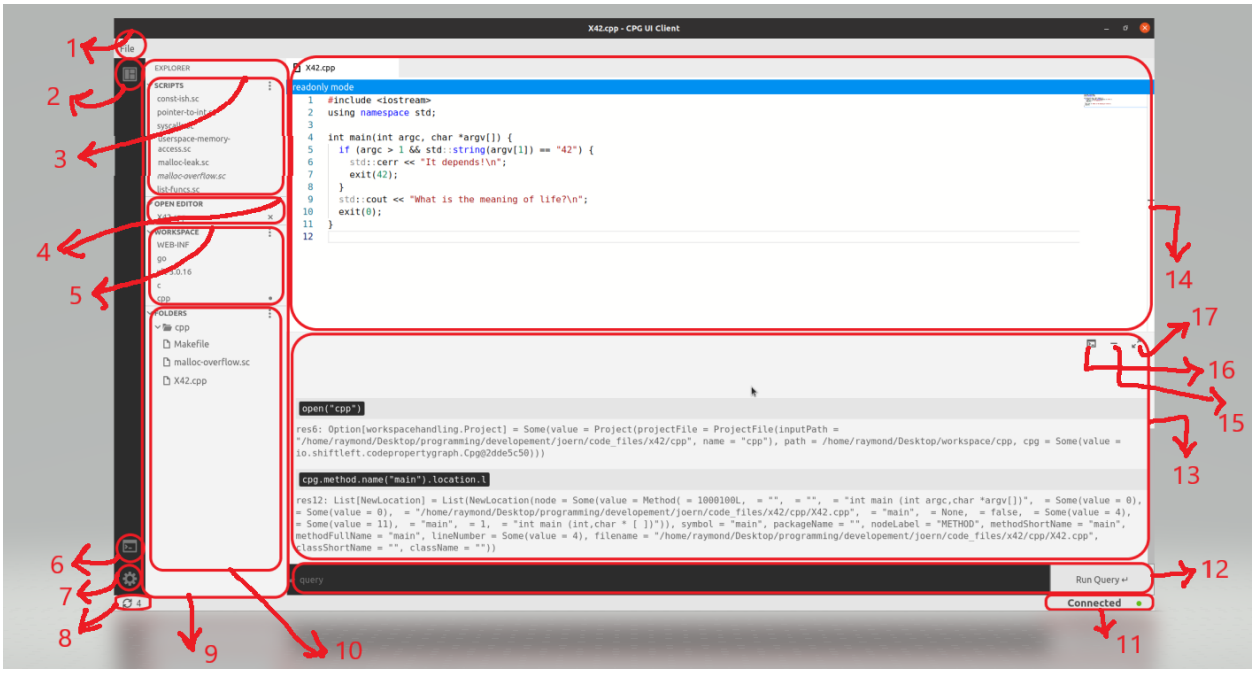
And many other minute but interesting interactions.

CHAPTER

TWO

USAGE

Below is a labeled diagram of the main sections of CPG UI Client;

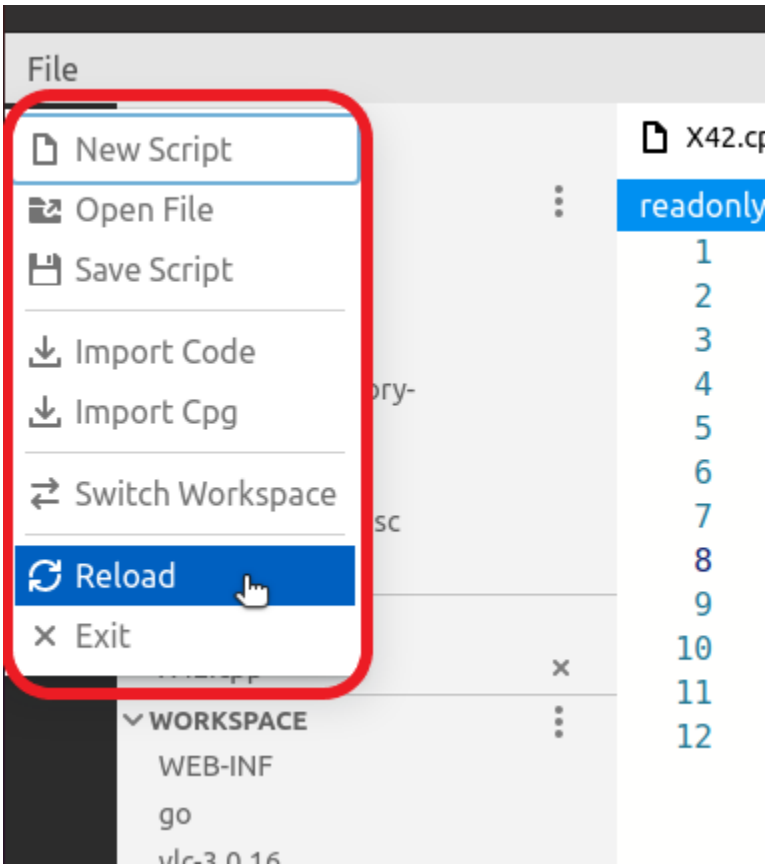


1. File Menu
2. Explorer section toggle control
3. Scripts section
4. Opened files section
5. Workspace section
6. Terminal section toggle control
7. Settings modal toggle control
8. Queries status section
9. Explorer section
10. Folders section
11. Server connection status section
12. Query input section

13. Terminal view section
14. Editor section
15. Terminal hide control
16. Terminal mode toggle control
17. Terminal minimize/maximize control

2.1 1. File Menu

This section contains the normal actions one would expect to be in the file menu section of every tool, plus actions that are unique to code analytic tools like importing code and switching workspace:



2.2 2. Explorer section toggle control

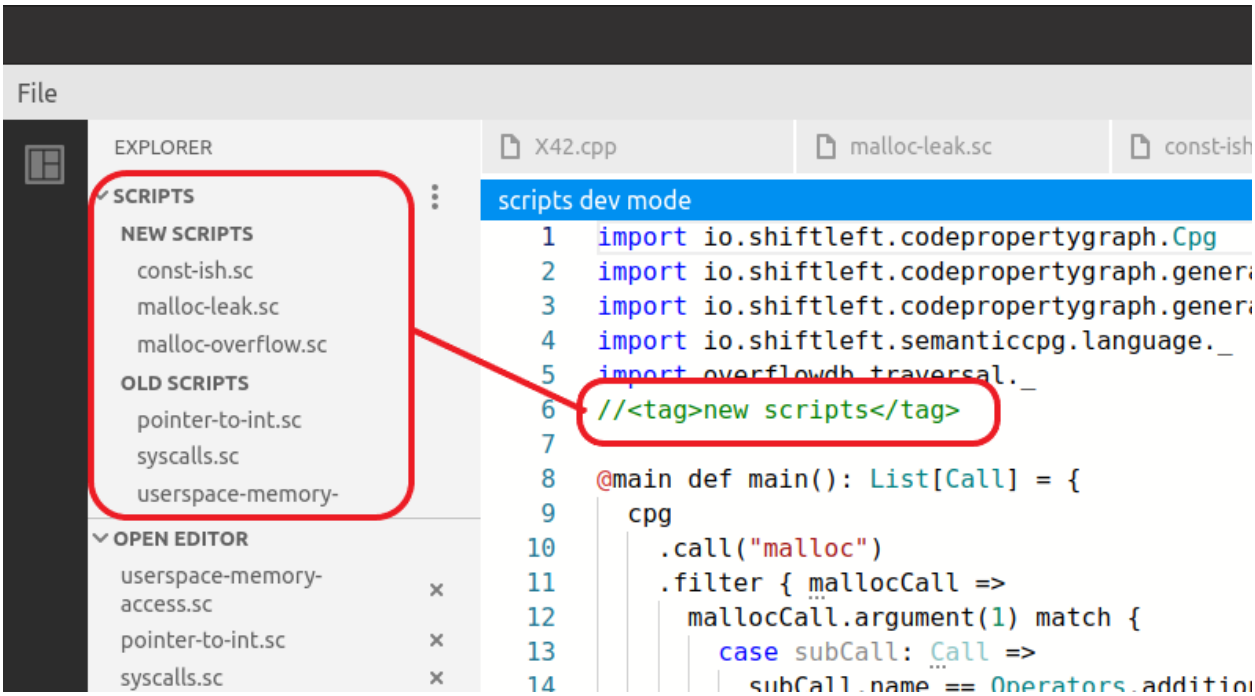
This control button can be used to collapse and expand the whole explorer section.

2.3 3. Scripts section

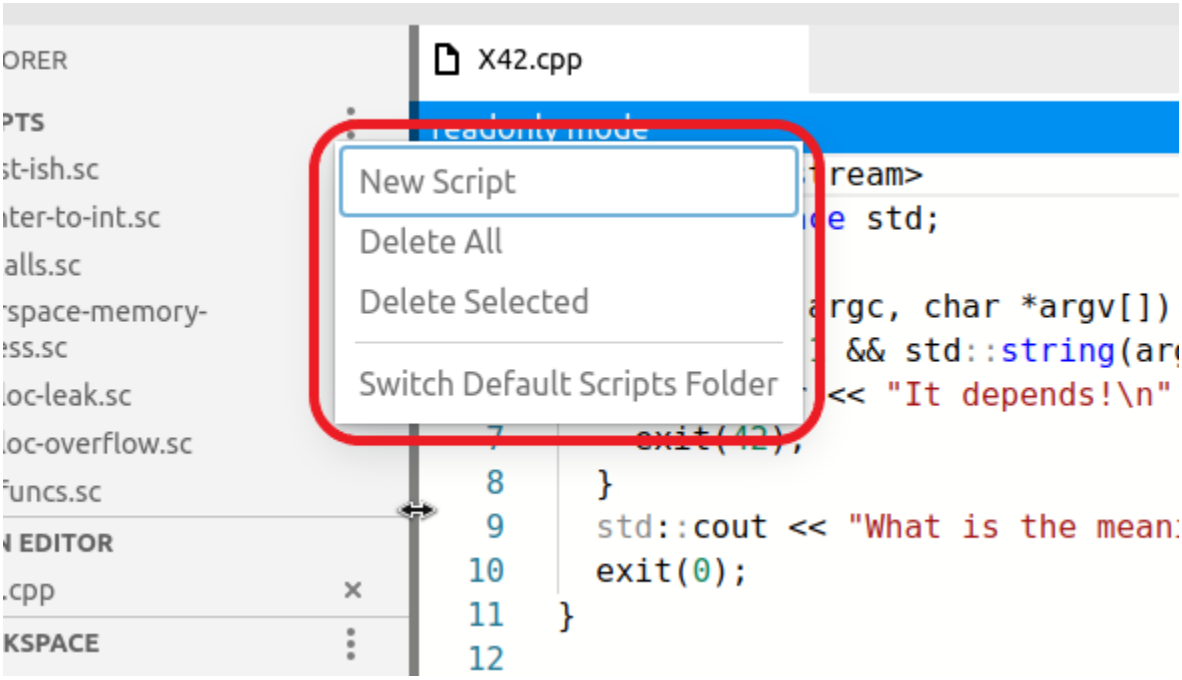
This section is where all the scripts under the current default scripts folder are displayed. Scripts can be created, edited, and deleted through the editor but other files can only be viewed on the editor. * To further organize your scripts, you

can add a special type of comment (e.g. //<tag>my new tag</tag>)

to your script files and the scripts will be organized according to the tag name added in the comment



- Clicking on the "more" icon at the top right-hand side of the script section reveals a hidden menu through which you can perform actions such as deleting selected scripts or changing the default scripts folder.



- you can select multiple scripts to delete by holding down the "ctrl" button and clicking on the scripts you want to select.
- To delete a single script, right-click on the script to reveal the "delete" context menu

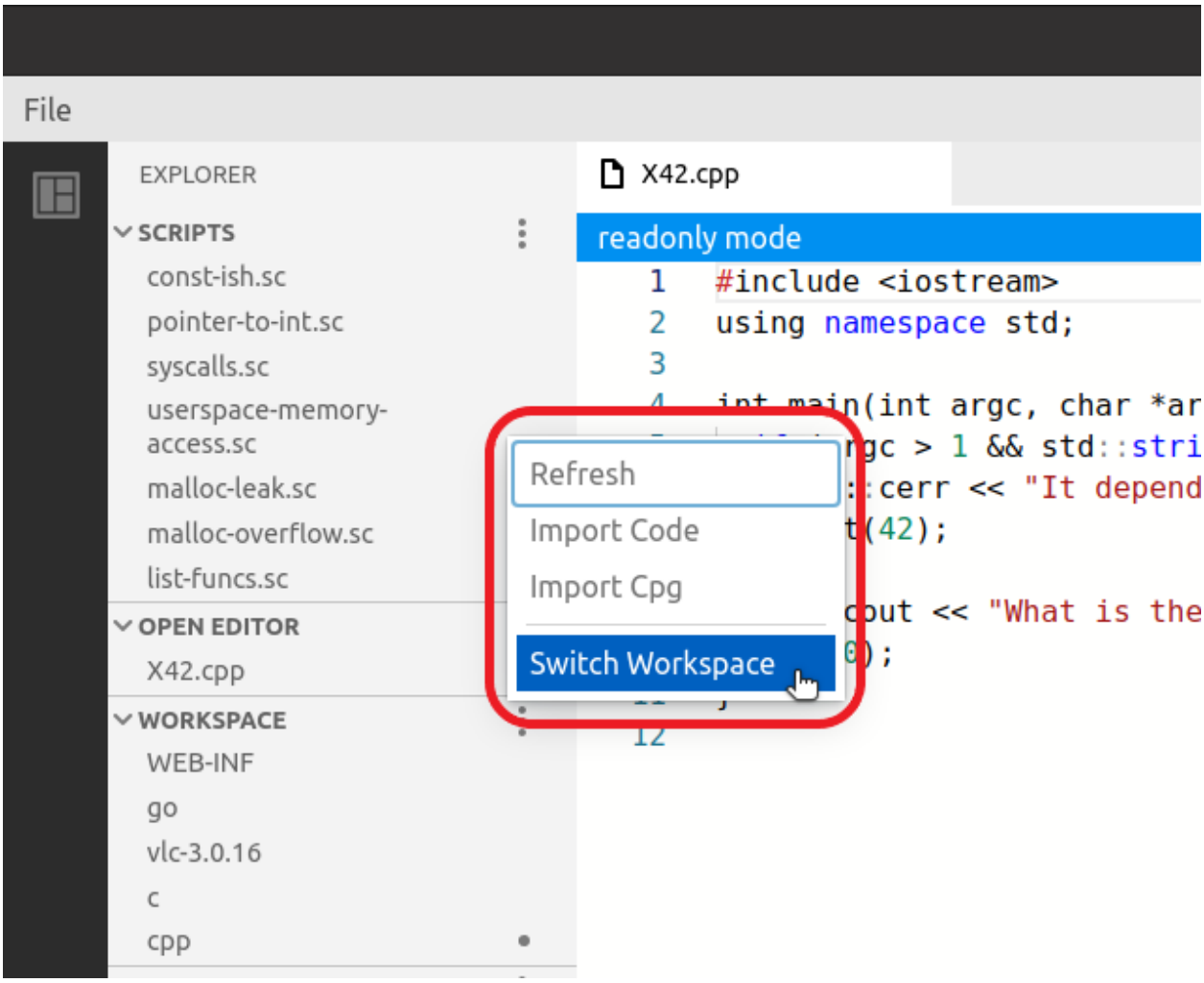
2.4 4. Opened files section

Here you will see all the files that are currently open in the editor. Clicking on a file makes it the active file on the editor

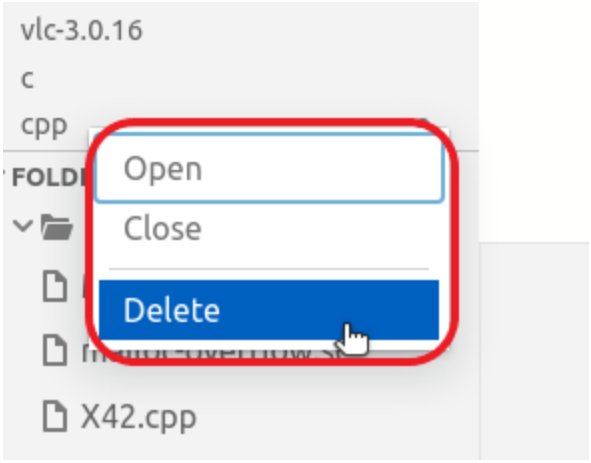
2.5 5. Workspace section

This section contains all the projects open in a particular workspace. * If the workspace does not contain any project, you will be asked to import a project. * Clicking on the "more" icon at the top right-hand side of the workspace section

> reveals a hidden menu where you can perform actions like importing a project, deleting a project, and switching to a different workspace



- Right-clicking on individual projects also reveals a context menu where you open, close, and delete a single project

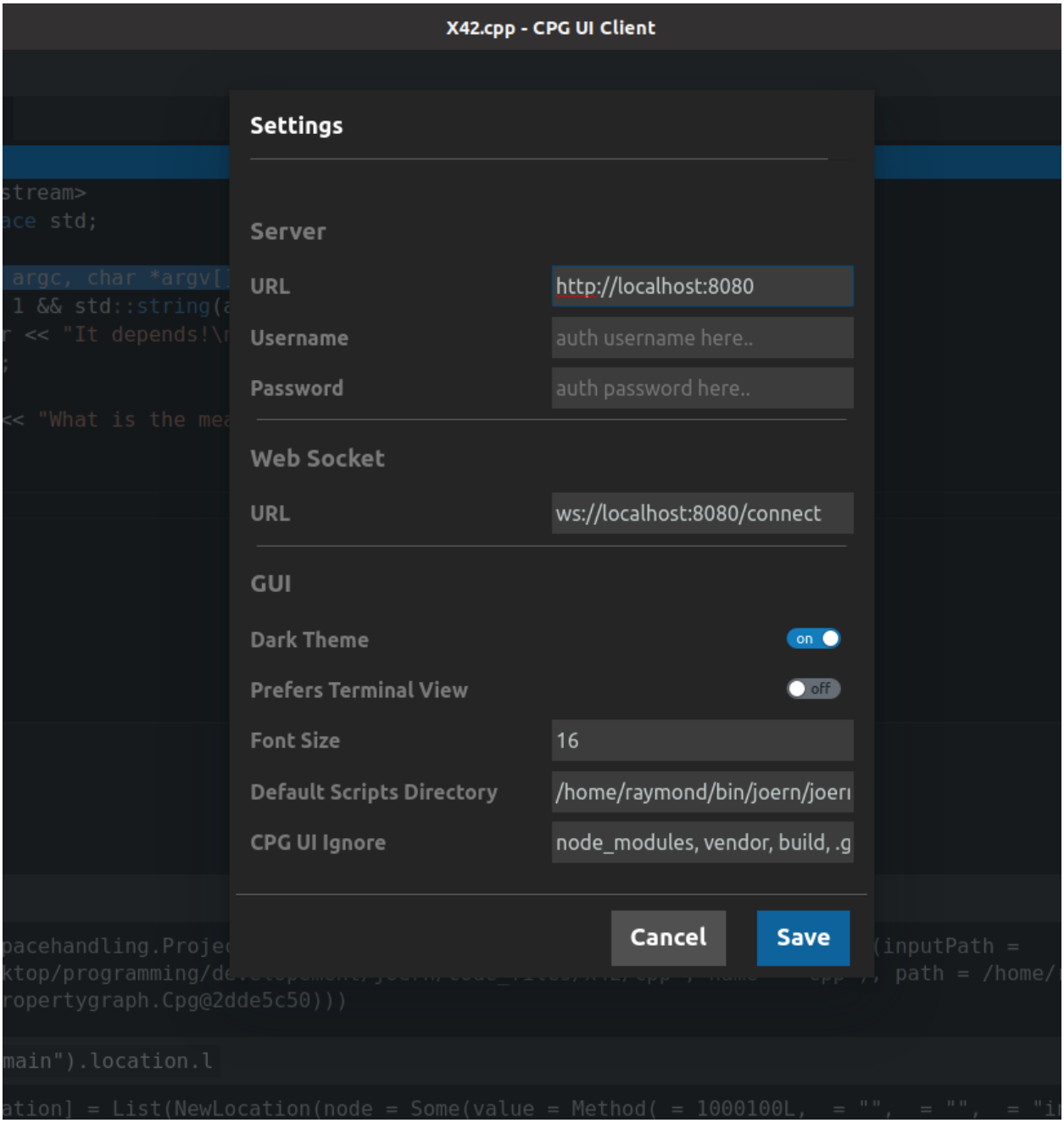


2.6 6. Terminal section toggle control

This control determines if the terminal section should be hidden or visible.

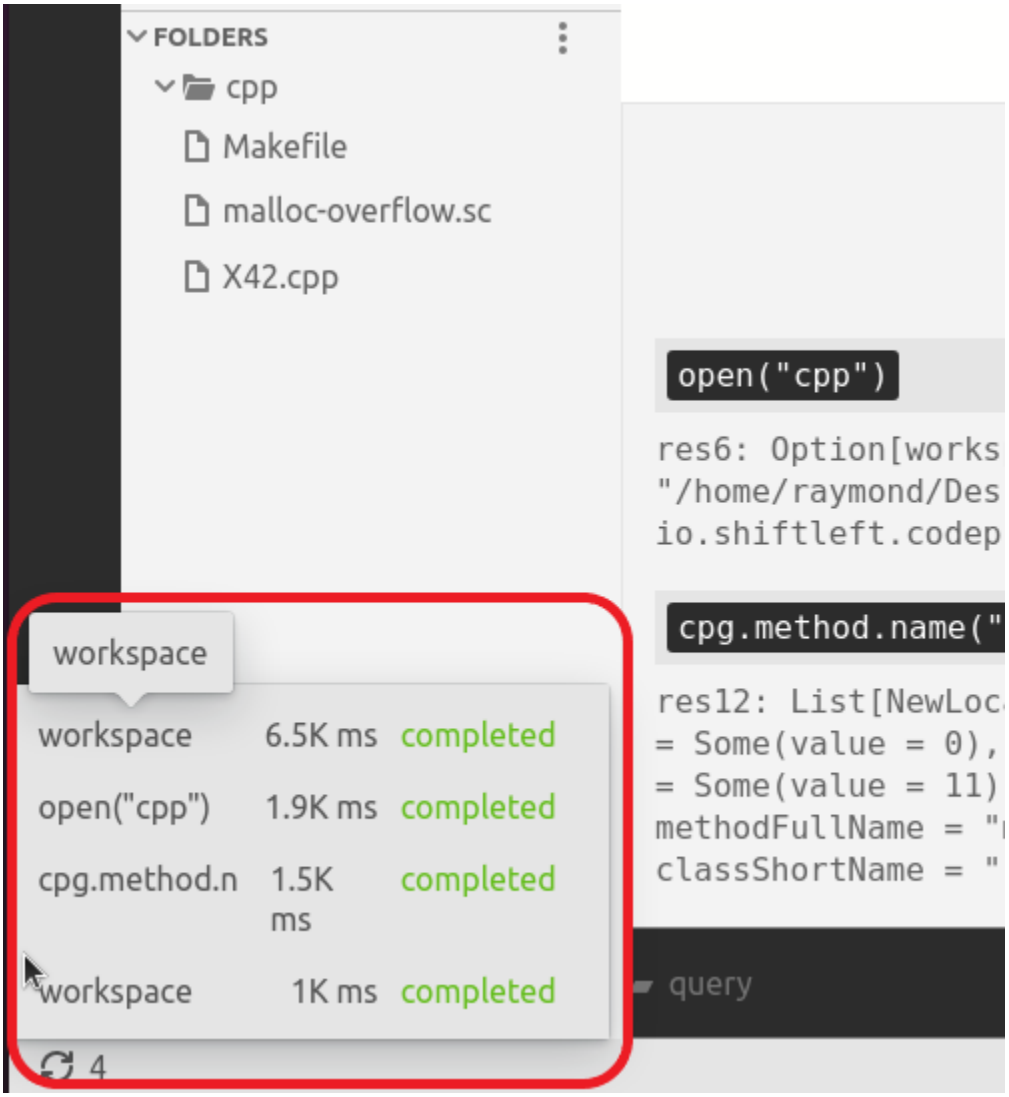
2.7 7. Settings modal toggle control

Clicking on this toggles the settings modal. In the settings, you can specify the URL (and WebSocket URL) to the backend you want the client to connect. You can also change things like server authentication, font size, theme, large folders to be ignored when rendering sections like the folder and scripts section.



2.8 8. Queries status section

This indicates whether there is a currently running query or not, and how many queries have been run since the tool was opened. Hovering on this section reveals additional details showing all previously ran queries, status (pending or completed), and total time it took to run the query.

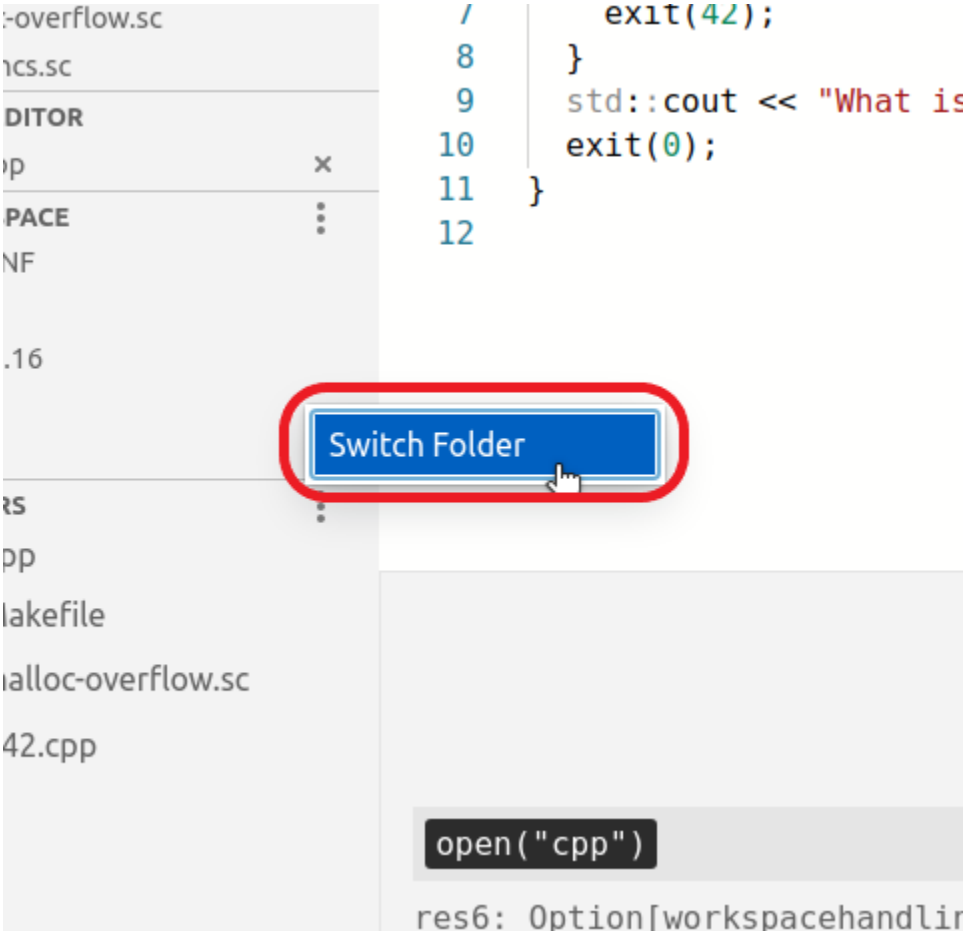


2.9 9. Explorer section

This section houses other sections like folder section, workspace section, etc.

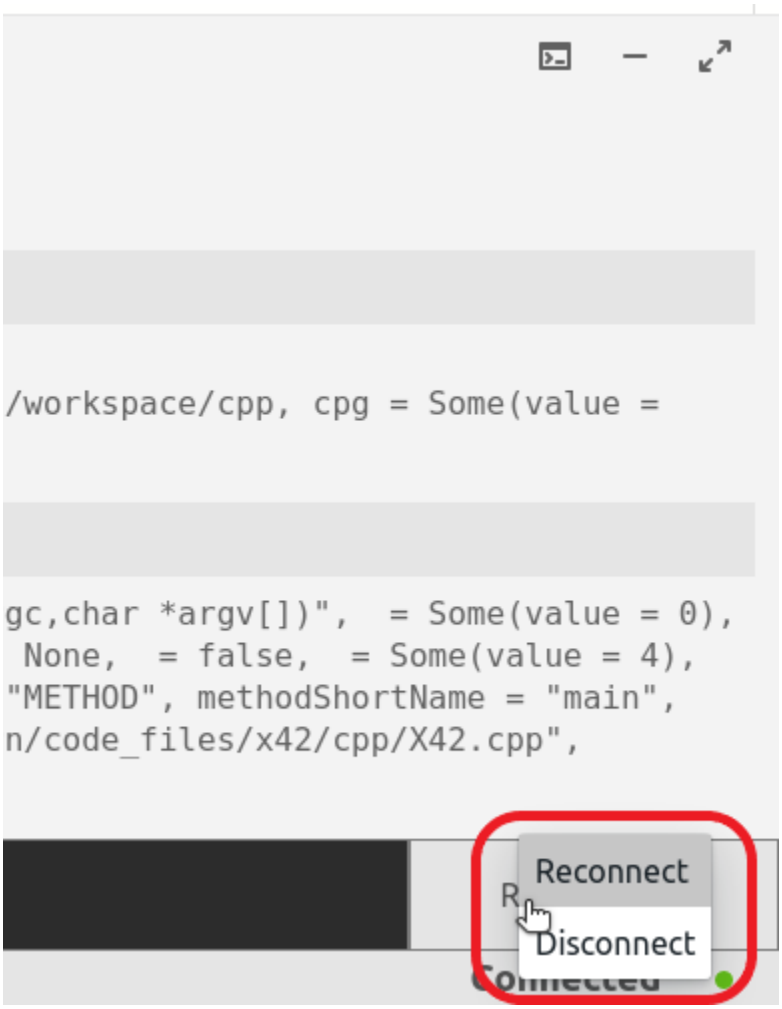
2.10 10. Folders section

This section is where the folder structure of the currently active project is displayed. * You can inspect the folders and files of the currently active project. * When you click on a file in the folder section, the file will be opened in the editor. * Clicking on the “more” icon at the top right-hand side of the folder reveals a hidden menu through which you can change the folder in view by selecting any folder of your choice.



2.11 11. Server connection status section

This section indicates the UI client's connection status to the server. * If the server with the server URL in the settings is not active, the connection status will be "failed" and queries won't work. * You can right-click on this section to manually connect and disconnect from the server



2.12 12. Query Input section

Just like you can perform certain actions (like opening, closing, and importing projects) through the GUI alone without typing any queries, you can also choose to manually type your queries instead. * To type queries manually, this section is where input your manual queries (in the more terminal-like view, you input your queries in a terminal-like view instead) * Queries and results will appear on top according to the order you ran them.

2.13 13. Terminal view sectionScripts

This is the place where you can view queries and their results (in the terminal-like view, this looks like a traditional terminal view)

2.14 14. Editor section

This is the section where scripts can be viewed and edited. Other files that are not scripts can only be viewed here, the editor only allows read-only mode for those files.

2.15 15. Terminal hide control

This controls whether the terminal section is visible or not.

2.16 16. Terminal mode toggle control

With this, you can control the view of the terminal section. * If you prefer a more command line-like interface or a rich GUI mode, you can select it by toggling this control

2.17 17. Terminal minimize/maximize control

As the name suggests, this can be used to minimize or maximize the terminal.