sQuire: A Web Based Collaborative Editor
Homework 4 Individual Work
Group 3

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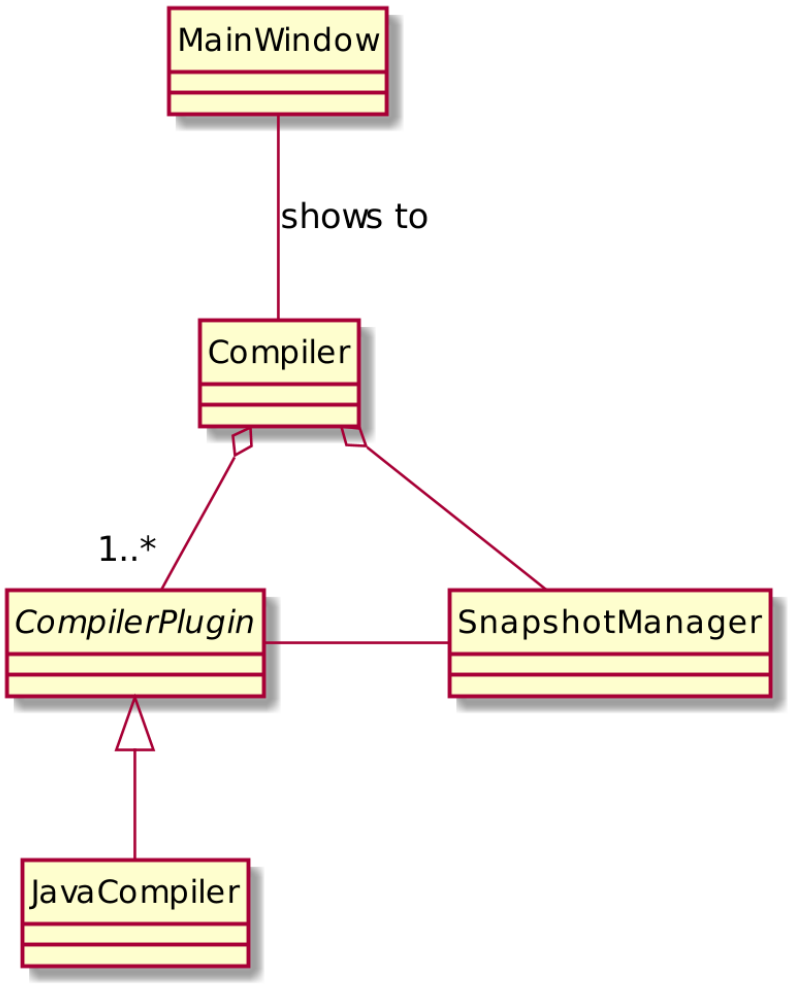
Contents

1 Functional Requirements

1.1 Compiler (boss2849)

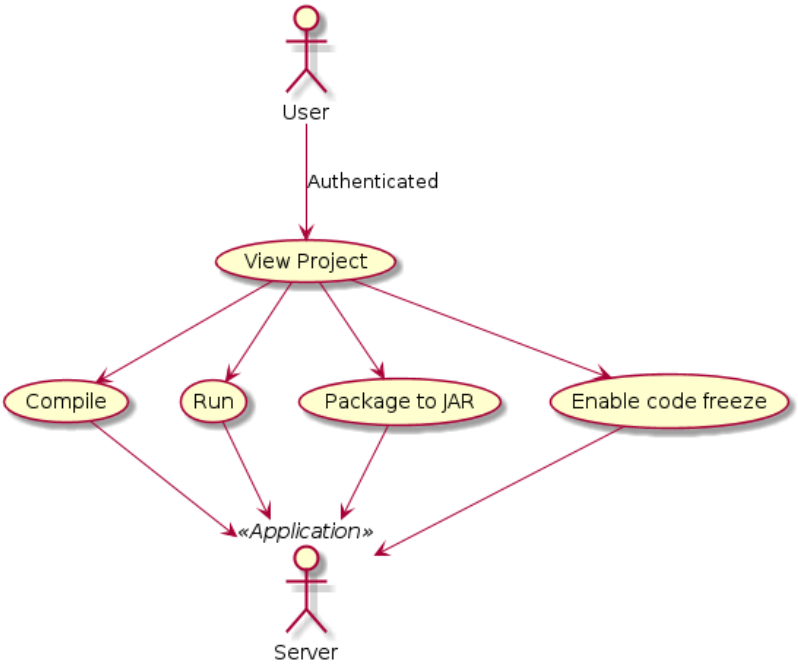
- Compile project sub-modules or entire project.
- Compile and run code within IDE.
- Compile code and package to a JAR.
- Impose temporary code freeze during compilation.

2 Compiler Class Diagram



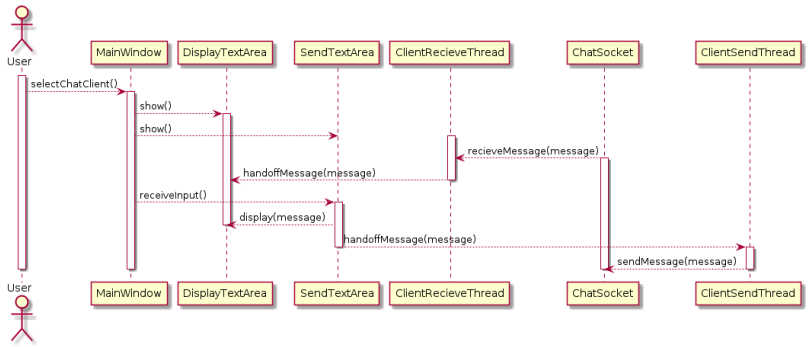
Class diagram for compiler.

3 Compiler Use Case Diagram

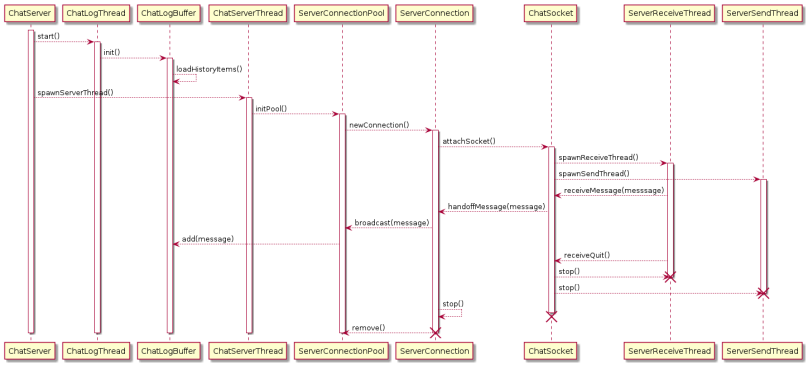


Use case driagram for compiler.

4 Communication Sequence Diagram



Sequence diagram for chat client interaction.



Sequence diagram for chat server interaction.

5 Compiler Use Case Descriptions

5.0.1 Compile (boss2849)

Actors: User

Goals: Compile source

Pre-conditions: User is logged in and viewing project.

Summary: User requests that the code be compiled, the server compiles the code.

Related use cases: Run, Compile To Jar

Steps:

1. User selects "Compile" from "Build" dropdown menu for the current module.
2. The Server receives the request to compile.
3. The Server caches the current state of the project using the SnapshotManager and compiles it using the active CompilerPlugin.
4. The Server returns the results of compilation to the User.

Alternatives: In step 1, user chooses to compile entire project, including all sub modules.

Post-conditions: None.

5.0.2 Run (boss2849)

Actors:	User.
Goals:	Run the program.
Pre-conditions:	User is logged in and viewing a project.
Summary:	User chooses to run the program and the server compiles it or executes the last compilation result if no changes.
Related use cases:	Compile
Steps:	1. User selects "Run" from the "Build" menu drop down. 2. The Server receives the request to execute. 3. The Server retrieves the most recent compilation from the SnapshotManager. 4. The Server spawns a new window for the client that is the interface to the program.
Alternatives:	In step 3 the SnapshotManager has either an out of date compilation or no last compilation, the Server invokes the compiler to compile the project.
Post-conditions:	None.

5.0.3 Package to Jar (boss2849)

Actors: User

Goals: Compile and package source to a jar

Pre-conditions: User is signed in and viewing a project.

Summary: User selects to build the project to a jar, the server outputs a jar on the project path.

Related use cases: Compile

Steps:

1. The user seclects "Compile To Jar" from "Build" dropdown menu.
2. The Server receives the request to build a jar.
3. The Server fetches the most recent compilation from the Snapshot-Manager.
4. The Server packages the result of the last compilation to a jar and outputs it on the project path.
5. The Server notifies the user of success.

Alternatives: In step 3 the SnapshotManager has either an out of date compilation or no last compilation, the Server invokes the compiler to compile the project. In step 4 or 5, the compilation process fails and the Server notifies the user with the reason of failure.

Post-conditions: None.

5.0.4 Enable code freeze (boss2849)

Actors:	User
Goals:	Impose a code freeze on the project.
Pre-conditions:	User is signed in, viewing a project, and has admin rights.
Summary:	User places a code freeze on the project, preventing editing until undone.
Related use cases:	None.
Steps:	1. The User selects "Code Freeze" from the dropdown menu. 2. The Server receives the request for code freeze. 3. The Server restricts all editing of project files.
Alternatives:	None.
Post-conditions:	None.