- Online Java Compiler Details

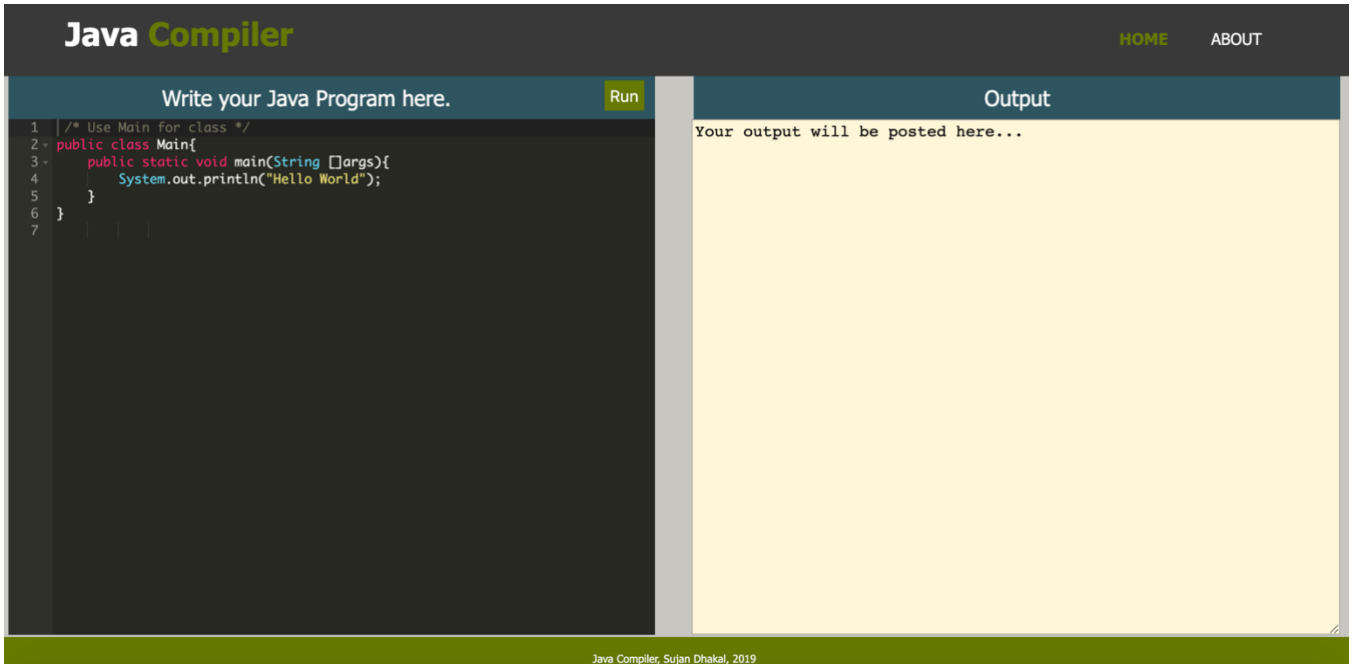
GitHub Link: https://github.com/sujan-dhakal/Java_Compiler

- Java Compiler
  - Fully Responsive web design for all device platforms.
  - Frontend: HTML, CSS, JavaScript, jQuery
  - Backend: Node.js, Express.js
  - Client-Server Model
    - Client- submits a Java Program
    - Server- compiles the Java program and returns the output to the client.

How to run on your local device? - Java Compiler can be run on your local device by creating a local server on your device. Note: Java must be installed on your device.

- `Open terminal and navigate into the directory. cd Java_Compiler`
- `npm install (to install all dependencies)`
- `node app (Port: 3100)`
- `Open browser and visit: http://localhost:3100/`

Home Page Preview:



Development of Java Compiler

The client writes the Java Program and submits the program by clicking 'Run', and the server receives it and runs it in the backend. The server then returns the output of the program.

I have adopted a high-performance code editor for the web, Ace. Ace is an embeddable code editor written in JavaScript. It matches the features and performance of native editors such as Sublime, Vim and TextMate. It can be easily embedded in any web page and JavaScript application. Ace supports syntax highlighting, automatic indent and outdent, multiple themes, handles huge program (4 million lines) and other features of native editors.

Ace also supports different programming languages, so the Java Compiler could be simply extended to support other programming languages if necessary.

What happens in the backend?

When the client clicks the 'Run' button, the compiler sends an AJAX POST request to the server. The data, which is the written JAVA program by the client, is sent as JSON string.

The following diagram illustrates the steps in the backend.

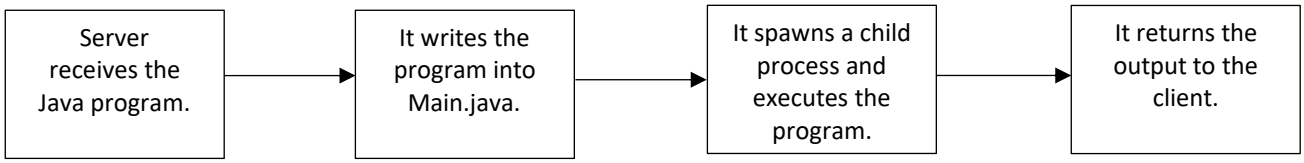


Fig: Steps in the server