

# Network Programming

## Simple Guessing Game Documentation

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### Requirements

- Java SE 1.8
- Make (make sure make is in the path)

### Available make commands

#### Multi-player version

- `make multiplayer-server` - Launches the server for multiplayer project
- `make multiplayer-client` - Starts the client for multiplayer project. Make sure the server is running before you start this command

#### Single-player version

- `make singleplayer-server` - Start the server for the single-player project
- `make singleplayer-client` - start the client for the single-player project

### How to launch?

Navigate to the root folder that contains the Makefile. Use the available make commands above. Example if you want to launch the multiplayer server, in your terminal, type

```
make multiplayer-server
```

### Project Structure

**Note:** Program structure for SimpleGuessingGameSinglePlayer and SimpleGuessingGameMultiplayer are the same

- **Core** - contains code to manage the game state
  - Game.java - the state of the game is reflected in this class
  - GameRound.java - a game can have multiple rounds.
  - Player.java - class that represents the player
  - GameManager.java - model class that bridges the game to the GameCallback
  - GameCallback.java - contains series of game event methods (eg. onGuessAdded())
  - GameCallbackImpl.java - used to send replies to the client based on events
  - GameCallbackLoggerImpl.java - used to logging events

- **Server** - contains code to manage server processes
  - MultiPlayerServer/SinglePlayerServer.java - contains the main() method
  - ServerProcess.java - main controller class. Each client will have 1 instance
  - ServerCallback.java - has network related event (eg. onClientConnected())
  - ServerCallbackImpl.java - Uses a Logger to log network related events to a file.
  - Response.java - Wraps server's messages/commands and sent to clients as object
  - Utils.java - contains utility static methods
- **Client**
  - Client.java - contains the main() method.

## Higher level overview class diagram

NOTE: This is the class diagram for both SimpleGuessingGameSinglePlayer and SimpleGuessingGameMultiPlayer projects

