**Network Programming – Simple Guessing Game**

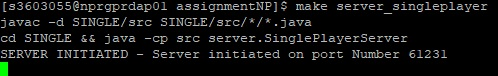
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How to compile and run the program in Netprog servers

* Run the make file created, on terminal see picture below for example.

Navigate to the root folder that contains the Makefile, then proceed with   
one of the following commands listed below.





Make commands to be used in command prompt terminal

* **Single player**

make server\_singleplayer – launch server for multiplayer  
make client\_singleplayer – launch client for multiplayer (up to 6 players)

* **Multiplayer**   
  make server\_multiplayer – launch server for single player

Make client\_multiplayer – launch client for multiplayer

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| **Class** | **Description** |
| Client.java | Main method of client |
| GuessingGame.java | State of game |
| GuessingGameCallBack.java | Contains game methods |
| GuessingGameCallbackImpl.java | Contains replies to game methods |
| GuessingGameCBLoggerimpl.java | Logging game/communication |
| GuessingGameRegulator.java | Connects with GameCallback class |
| GuessingGameRound.java | One game can contain multiple rounds |
| Player.java | Player status and interaction with game |
| LoggerFileHandler.java | Contains logger file creating |
| Response.java | Gets server messages and send to client as object |
| ServerCallback.java | Contains methods to do with connection |
| ServerCallbackImpl.java | Logs connection activity to file |
| ServerProcess.java | Main controller class |
| MultiPlayerServer.java | Main method to host multiplayer server |
| SinglePlayerServer.java | Main method to host single player server |

How the program operates

**Single Player**

Once the server has been run, it waits for a player client to be connected to it. Afterwards, it asks the player to register their name. Then, the server generates the secret code. As soon as the user is notified that “the secret code has been generated”, the game starts. During the game, it checks if user’s guess equals the secret code. The user has 4 attempts until the server gives the answer on the 4 attempt. If user gets it correct before the max attempts which is 4, then they win and game round finishes. It tells the players how many incorrect and correct guesses they got per round. Players then have the option to continue to play or quit.

**Multiplayer**

Similarly, the server starts, and multiple players can join up to 6 players in total. For the game round to start, there needs to be at least 3 players in the round currently for it to start. Players can still join during this. The secret code is generated, and each player has their shot at guessing the secret number code. They have 4 attempts each and it counts how many incorrect guesses they got until answer is given to them at 4th wrong guess. If a player gets the secret code right, wrong or forfeits, it will be shown after the game round finishes. Players then have the option to continue to play or quit.