

## **Player Project – Babitha**

Steps to run the project

1. Download and Unzip the folder in local.
2. Ensure java jdk 1.8 (Used old version for personal comfort) and maven 3.9.9 is setup in local.
3. Open Command Prompt (cmd) and navigate to the project directory PlayerProject.  
C:\Users\PlayerProject
4. Run Shell Script based on same or separate java process.

Unable to share shell script along with the project folder.  
Run below command in cmd

### **Command for "same process" mode**

mvn clean install

java -cp target/player-communication-1.0-SNAPSHOT.jar com.example.Main same

### **Command for "separate process" mode**

java -cp target/player-communication-1.0-SNAPSHOT.jar com.example.Main  
separate

OR

**Save file start.bat** with below commands in PlayerProject folder

@echo off

SETLOCAL ENABLEDELAYEDEXPANSION

:: Check if an argument is provided

IF "%1"=="same" (

    echo Starting players in the same process...

    mvn clean install

    java -cp target/player-communication-1.0-SNAPSHOT.jar com.example.Main same

) ELSE IF "%1"=="separate" (

    echo Starting players in separate processes...

    mvn clean install

    java -cp target/player-communication-1.0-SNAPSHOT.jar com.example.Main

separate

) ELSE (

    echo Invalid mode. Use 'same' or 'separate'.

)

ENDLOCAL

### **Command for "same process" mode**

start.bat same

## Output

```
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.411 s
[INFO] Finished at: 2025-02-26T02:27:05+01:00
[INFO] -----
Player1 sent: Hello
Player2 received: Hello
Player2 sent: Hello 1
Player1 received: Hello 1
Player1 sent: Hello 1 2
Player2 received: Hello 1 2
Player2 sent: Hello 1 2 2
Player1 received: Hello 1 2 2
Player1 sent: Hello 1 2 2 3
Player2 received: Hello 1 2 2 3
Player2 sent: Hello 1 2 2 3 3
Player1 received: Hello 1 2 2 3 3
Player1 sent: Hello 1 2 2 3 3 4
Player2 received: Hello 1 2 2 3 3 4
Player2 sent: Hello 1 2 2 3 3 4 4
Player1 received: Hello 1 2 2 3 3 4 4
Player1 sent: Hello 1 2 2 3 3 4 4 5
Player2 received: Hello 1 2 2 3 3 4 4 5
Player2 sent: Hello 1 2 2 3 3 4 4 5 5
Player1 received: Hello 1 2 2 3 3 4 4 5 5
Player1 sent: Hello 1 2 2 3 3 4 4 5 5 6
Player2 received: Hello 1 2 2 3 3 4 4 5 5 6
Player2 sent: Hello 1 2 2 3 3 4 4 5 5 6 6
Player1 received: Hello 1 2 2 3 3 4 4 5 5 6 6
Player1 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7
Player2 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7
Player2 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7
Player1 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7
Player1 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8
Player2 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8
Player2 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8
Player1 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8
Player1 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9
Player2 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9
Player2 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9
Player1 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9
Player1 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10
Player1 has reached the message limit.
Player2 received: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10
Player2 sent: Hello 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10 10
```

Command for "separate processes" mode

start.bat separate

## Output

```
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 1.349 s
[INFO] Finished at: 2025-02-26T02:27:28+01:00
[INFO] -----
Starting players in separate processes...

--- Player 1 Log ---
Player1 is available!
Connected to Player2!
Player1 Sent: Hello
Player1 received: Hello 1
Player1 Sent: Hello 1 1
Player1 received: Hello 1 1 2
Player1 Sent: Hello 1 1 2 2
Player1 received: Hello 1 1 2 2 3
Player1 Sent: Hello 1 1 2 2 3 3
Player1 received: Hello 1 1 2 2 3 3 4
Player1 Sent: Hello 1 1 2 2 3 3 4 4
Player1 received: Hello 1 1 2 2 3 3 4 4 5
Player1 Sent: Hello 1 1 2 2 3 3 4 4 5 5
Player1 received: Hello 1 1 2 2 3 3 4 4 5 5 6
Player1 Sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6
Player1 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7
Player1 Sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7
Player1 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8
Player1 Sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8
Player1 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9
Player1 Sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9
Player1 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10
Player1 has reached the message limit.

--- Player 2 Log ---
Player2 is available!
Waiting for Player1 connection...
Player2 connected to Player1!
Player2 received: Hello
Player2 sent: Hello 1
Player2 received: Hello 1 1
Player2 sent: Hello 1 1 2
Player2 received: Hello 1 1 2 2
Player2 sent: Hello 1 1 2 2 3
Player2 received: Hello 1 1 2 2 3 3
Player2 sent: Hello 1 1 2 2 3 3 4
Player2 received: Hello 1 1 2 2 3 3 4 4
Player2 sent: Hello 1 1 2 2 3 3 4 4 5
Player2 received: Hello 1 1 2 2 3 3 4 4 5 5
Player2 sent: Hello 1 1 2 2 3 3 4 4 5 5 6
Player2 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6
Player2 sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7
Player2 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7
Player2 sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8
Player2 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8
Player2 sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9
Player2 received: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9
Player2 sent: Hello 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 9 9 10
Player2 has reached the message limit.
Process completed successfully!
```

- Player1 initiates the communication with Hello.
- Player2 receives and sends back (concatenation of received message and counter) and so on in a loop until 10 messages are sent and received.
- In the same-process mode, two players are created and run on separate threads, communicating through blocking queues.
- In the separate-process mode, each player is started as a separate Java process using Process Builder, with their interactions logged to separate files.
- Player1 is client who initiates call with Hello and Player2 is server communicating via sockets.