

# Steps to deploy Spring app to Heroku

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1. Deploy DB in Heroku.
  - a. Copy the existing spring app and create a new one.
  - b. Create a new app in Heroku portal.
    - i. Create a free project.
    - ii. Install add-on ClearDB MySQL.
  - c. Open the spring boot app in an IDE (preferably IntelliJ).
  - d. Open terminal.
  - e. To login enter command: `heroku login`
  - f. Config the heroku app with local: `heroku config --app <heroku app name>`
    - i. Should receive something like this
    - ii. `CLEARDB_DATABASE_URL: mysql://<username>:<password>@<datasource url>`
  - g. Modify the datasource url, username and password in your spring project from the above representation.
  - h. Create new connection in MySQL workbench,
    - i. In hostname section provide the datasource url (beginning to cleardb.net, not the whole).
    - ii. Port keep same.
    - iii. Username & password provide the same as above
    - iv. Provide a name to the connection.
  - i. Start up the new connection in MySQL Workbench.
  - j. Run the project.
  - k. Find the schemas on the left side panel once Spring boot starts up.
  - l. Start up the local react app.
    - i. Execute few testable tasks.
    - ii. Validate and check if all records are visible in the MySQL db.
2. Deploy Spring Backend in Heroku.
  - a. Create a file without any extension named Procfile
  - b. Add the command:  
`web: java $JAVA_OPTS -jar target/ppmtool-0.0.1-SNAPSHOT.jar -Dserver.port=$PORT $JAR_OPTS`
  - c. Open terminal window inside the project folder:  
`mvn clean install`  
`cd target`  
Validate if the .jar is created
  - d. Create a new project repo in Github.
  - e. Come back to the spring project folder, perform
    - i. `git init`,
    - ii. `git add .`
    - iii. `git commit -m "<desired message>"`
    - iv. `git remote add origin <git remote url>`
    - v. `git push -u origin master`
  - f. Go back to Heroku dashboard.
    - i. Open Deploy tab.
    - ii. Under Deployment method click connect to Github. Perform the steps requested to authenticate and authorize Heroku to connect to Github.
    - iii. Find the repo name created just now, provide in the repo name bar and connect.
  - g. Scroll down under Manual deploy
    - i. Verify the branch.
    - ii. Click on "Deploy Branch".
    - iii. If any error comes on completion:
      - 1) Eg: Failed to execute goal org.apache.maven.plugins:maven-compiler-plugin:3.8.1:compile (default-compile) on project ppmtool: Fatal error compiling: invalid target release: 11.
      - 2) Add a new file **system.properties** and the content added to the file is **java.runtime.version=11**.
      - 3) Rerun the "Deploy Branch"
    - iv. If any errors if deploy is success, but viewing the project gives error:
      - 1) Login to Heroku cli from cmd.

- a) Use API key from heroku account as password if MFA is enabled.
- 2) To check logs, use command  
heroku logs --app <heroku\_project\_name>
- 3) Eg: Web process failed to bind to \$PORT within 90 seconds of launch
  - a) Add default port number in **application.properties**  
**server.port=\${PORT:8080}**
  - b) Update version in pom.xml and Procfile
- 3. Deploy React frontend in Heroku
  - a. Copy the heroku url and replace the proxy url with this url.
  - b. Run in terminal  
npm run build
  - c. Once the build succeeds
    - i. Copy the contents of build folder newly created,
    - ii. Paste inside resources/static folder inside spring boot.
  - d. Git push and deploy the spring boot project once again.
  - e. Once deploy success, validate the app using the new url.
  - f. For IE not able to render issue, open index.html inside public folder, just above project title paste this  
 <script nomodule src="https://cdnjs.cloudflare.com/ajax/libs/babel-polyfill/6.26.0/polyfill.min.js" integrity="sha256-WRc/eG3R84AverJv0zmqxAmdwQxstUpqkiE+avJ3WSo=" crossorigin="anonymous"></script>