

In the following, I explain the steps needed for running the application:

1. open a terminal, and start the database server on port 27017
2. configure the browser so to accept self-signed localhost certificates. The configuration of this step differs from one browser to another. In Chrome, you need to enter the following url <chrome://flags/#allow-insecure-localhost> and then enable the flag "Allow invalid certificates for resources loaded from localhost", and then add keystoreHF.p12 to "My certificates" in the certificate manager you can find by opening the browser preferences and then clicking on manage certificates in the HTTPS/SSL section. In Safari, you need to add the certificate keystoreHF.p12 to the system keychain, and make the certificate trusted for SSL connections. In firefox, you also need to add the certificate in the browser preferences. Also, make sure that your browser does not delete cookies when you close it.
3. download the source files and the war file from: <https://github.com/Rokia88/locateNearbyShops>
4. open a terminal and then execute the command `java -jar locateNearbyShops.war`
5. instead of step 4, you can download the standalone tomcat-core from the official web-site, in which case you need to follow the next steps:
 - add the following configuration to the file `conf/server.xml`:

```
<Connector port="8443" protocol="org.apache.coyote.http11.Http11NioProtocol"
    maxThreads="150" SSLEnabled="true" scheme="https" secure="true"
    keystorePass="password" keystoreFile="conf/keystoreHF.p12"
    sslProtocol="TLS">
</Connector>
```
 - you may also need to comment this line:

```
<Listener className="org.apache.catalina.core.AprLifecycleListener"
    SSLEngine="on" />
```
 - And then add the following configuration to the file `conf/web.xml`:

```
<session-config>
    <cookie-config><max-age>86400</max-age></cookie-config>
    <session-timeout>120</session-timeout>
</session-config>
```
 - you need also to copy the file `keystoreHF.p12` to the `conf` folder of tomcat.
 - Afterwards, copy `locateNearbyShops.war` to the `webapps` folder and, finally start the server by executing the shell script `bin/startup.sh`.
6. open the browser, and enter the url `https://localhost:8443/locateNearbyShops/`. You may be prompted to share your location with the application. Answer yes.