

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 browser preferences -> advanced -> manage certificates. However, for some reason, Chrome does not set cookies on connections coming from localhost, so we can not use it in our tests. 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 to "your certificates" in the browser preferences -> advanced -> certificate manager.
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.