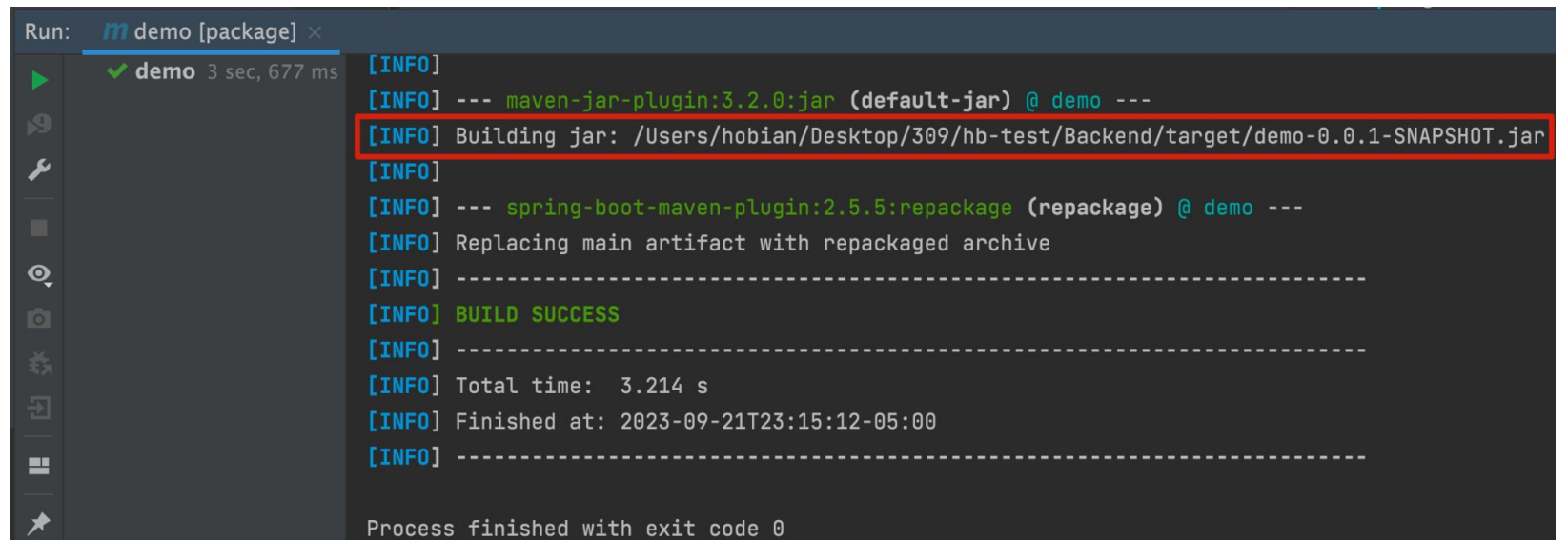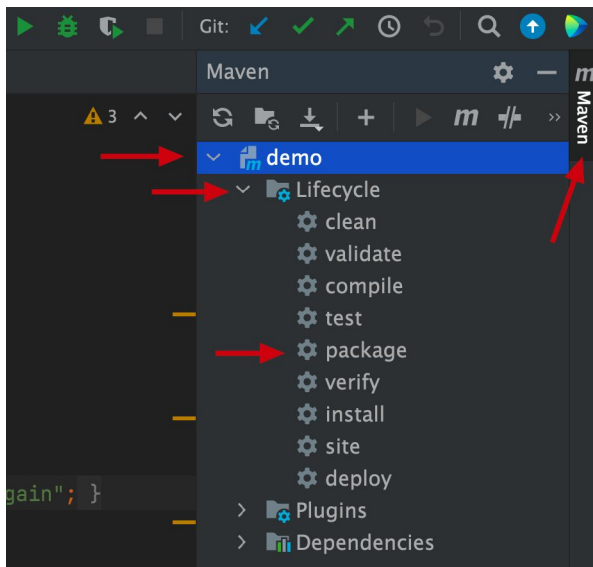# How to deploy jar file to the server

Chaitanya Sunkara

Generate jar file from IntelliJ

1. Make sure your app runs within IntelliJ locally. Then stop running it (green arrow button & red square button)
2. On the right side of IntelliJ, click on maven -> expand your project -> life cycle -> double click 'package'
3. Maven will build the jar; look for where it stores it in the outputs

Copy jar file to the server

- Make sure your application is working in your local and able to connect to remote mysql database.
- Two ways of copying:
  1. Use FileZilla to copy your jar file into the VM.
  2. Use secure copy scp command line tool

1. FileZilla

1. Download FileZilla: https://filezilla-project.org/download.php
2. **Host**: sftp://<server_address>
   - note: remove '<' and '>' in your actual url
3. **Username**: your netid
4. **Password**: your netid password
5. **Port**: leave it blank
6. Click "Quick Connect"

2. SCP

1. Open terminal/cmd/powershell on your local machine
2. Navigate to your jar file on local machine
3. Use the following command to upload your jar file:
   - scp <local_file> <username>@<remote_host>:<remote_file>
   - credentials: same as what you use for 'ssh' (netid+password)
   - note: remove '<' and '>' in your actual command
   - note: 'remote_file' will be the full path where you want to have your jar on the remote server's filesystem
4. Example:

scp C:\Desktop\hellopeople\target\hellopeople-1.0.0.jar csunkara@coms-309-002.cs.iastate.edu:/tmp/

Run the jar

1. SSH into the server.
2. Find the jar file.
3. Use command "java –jar <filename>.jar" to run the application.
4. If it is successful, it will display a message 'Tomcat started on port'.

```
 ● ● ●     🏠 chaitanyasunkara — csunkara@coms-309-002:~ — ssh csunkara@coms-3...

Last login: Tue Mar  2 16:42:38 on ttys000
[chaitanyasunkara@mac-air-074 ~ % ssh csunkara@coms-309-002.cs.iastate.edu
[csunkara@coms-309-002.cs.iastate.edu's password:

NOTES:
  These systems are designed to automatically update and restart on Monday
  mornings between 1:00 am and 6:00 am.

  If this is your first time logging in, please read the README.txt file
  in your home folder (less README.txt).

Last login: Tue Mar  2 16:43:02 2021 from 10.65.167.189
[[csunkara@coms-309-002 ~]$ ls
onetoone-1.0.0.jar  README.txt
[[csunkara@coms-309-002 ~]$ java -jar onetoone-1.0.0.jar ▮
```

```
Last login: Tue Mar  2 16:42:38 on ttys000
[chaitanyasunkara@mac-air-074 ~ % ssh csunkara@coms-309-002.cs.iastate.edu       ]
[csunkara@coms-309-002.cs.iastate.edu's password:                               ]

NOTES:
  These systems are designed to automatically update and restart on Monday
  mornings between 1:00 am and 6:00 am.

  If this is your first time logging in, please read the README.txt file
  in your home folder (less README.txt).

Last login: Tue Mar  2 16:43:02 2021 from 10.65.167.189
[[csunkara@coms-309-002 ~]$ ls                                                   ]
onetoone-1.0.0.jar  README.txt
[[csunkara@coms-309-002 ~]$ java -jar onetoone-1.0.0.jar                         ]

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 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::                (v2.4.2)

2021-03-02 16:48:38.679  INFO 25884 --- [           main] onetoone.Main                            : Starting Main v1.0.0 using Java 1.8.0_275 on coms-309-002.cs.iastate.edu with PID 25884 (/home/csunka
ra/onetoone-1.0.0.jar started by csunkara in /home/csunkara)
2021-03-02 16:48:38.682  INFO 25884 --- [           main] onetoone.Main                            : No active profile set, falling back to default profiles: default
2021-03-02 16:48:39.357  INFO 25884 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Bootstrapping Spring Data JPA repositories in DEFAULT mode.
2021-03-02 16:48:39.429  INFO 25884 --- [           main] .s.d.r.c.RepositoryConfigurationDelegate : Finished Spring Data repository scanning in 61 ms. Found 2 JPA repository interfaces.
2021-03-02 16:48:39.984  INFO 25884 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with port(s): 8080 (http)
2021-03-02 16:48:39.996  INFO 25884 --- [           main] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2021-03-02 16:48:39.997  INFO 25884 --- [           main] org.apache.catalina.core.StandardEngine  : Starting Servlet engine: [Apache Tomcat/9.0.41]
2021-03-02 16:48:40.056  INFO 25884 --- [           main] o.a.c.c.C.[Tomcat].[localhost].[/]       : Initializing Spring embedded WebApplicationContext
2021-03-02 16:48:40.056  INFO 25884 --- [           main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: initialization completed in 1319 ms
2021-03-02 16:48:40.268  INFO 25884 --- [           main] o.hibernate.jpa.internal.util.LogHelper  : HHH000204: Processing PersistenceUnitInfo [name: default]
2021-03-02 16:48:40.344  INFO 25884 --- [           main] org.hibernate.Version                    : HHH000412: Hibernate ORM core version 5.4.27.Final
2021-03-02 16:48:40.586  INFO 25884 --- [           main] o.hibernate.annotations.common.Version   : HCANN000001: Hibernate Commons Annotations {5.1.2.Final}
2021-03-02 16:48:40.708  INFO 25884 --- [           main] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Starting...
2021-03-02 16:48:40.880  INFO 25884 --- [           main] com.zaxxer.hikari.HikariDataSource       : HikariPool-1 - Start completed.
2021-03-02 16:48:40.917  INFO 25884 --- [           main] org.hibernate.dialect.Dialect            : HHH000400: Using dialect: org.hibernate.dialect.MySQL8Dialect
2021-03-02 16:48:41.710  INFO 25884 --- [           main] o.h.e.t.j.p.i.JtaPlatformInitiator       : HHH000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.
NoJtaPlatform]
2021-03-02 16:48:41.719  INFO 25884 --- [           main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2021-03-02 16:48:42.155  WARN 25884 --- [           main] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed during vi
ew rendering. Explicitly configure spring.jpa.open-in-view to disable this warning
2021-03-02 16:48:42.263  INFO 25884 --- [           main] o.s.s.concurrent.ThreadPoolTaskExecutor  : Initializing ExecutorService 'applicationTaskExecutor'
2021-03-02 16:48:42.516  INFO 25884 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port(s): 8080 (http) with context path ''
2021-03-02 16:48:42.524  INFO 25884 --- [           main] onetoone.Main                            : Started Main in 4.31 seconds (JVM running for 4.764)
Hibernate: insert into laptop (cost, cpu_clock, cpu_cores, manufacturer, ram, user_id) values (?, ?, ?, ?, ?, ?)
Hibernate: insert into user (email_id, if_active, laptop_id, name) values (?, ?, ?, ?)
Hibernate: insert into laptop (cost, cpu_clock, cpu_cores, manufacturer, ram, user_id) values (?, ?, ?, ?, ?, ?)
Hibernate: insert into user (email_id, if_active, laptop_id, name) values (?, ?, ?, ?)
Hibernate: insert into laptop (cost, cpu_clock, cpu_cores, manufacturer, ram, user_id) values (?, ?, ?, ?, ?, ?)
Hibernate: insert into user (email_id, if_active, laptop_id, name) values (?, ?, ?, ?)
client_loop: send disconnect: Broken pipe
chaitanyasunkara@mac-air-074 ~ %
```

Verify it using postman

1. Open postman.
2. Send a GET request with the URL format
   a. http://<server>:<port>/<path>
3. Example: http://coms-309-002.class.las.iastate.edu:8080/users
4. To kill the application use "Ctrl" + "c".

Collections

APIs

Environments

Mock Servers

Monitors

History

Over...   GET h.   GET h.   POST h   GET h. ●   GET h.   GET h.   GET h.   POST   +   ∘∘∘   No Environment

http://localhost:8080/people

GET ⌄   **http://coms-309-002.class.las.iastate.edu:8080/users**   Send ⌄

Params   Authorization   Headers (6)   Body   Pre-request Script   Tests   Settings   Cookies

Query Params

KEY	VALUE	DESCRIPTION	∘∘∘ Bulk Edit
Key	Value	Description	

≡   Today

GET   http://coms-309-002.cs.iastate.edu:8080/users

GET   http://coms-309-002.cs.iastate.edu:8080/users

GET   http://coms-309-002.cs.iastate.edu:8080/users

GET   https://coms-309-002.cs.iastate.edu:8080/users

GET   https://coms-309-002.cs.iastate.edu:8081/users

GET   http://coms-309-002.cs.iastate.edu:8080/users

GET   http://coms-309-002.cs.iastate.edu:8081/users

GET   http://coms-309-002.cs.iastate.edu:8080/users

February 23

POST   http://localhost:8080/people

GET   http://localhost:8080/people

GET   http://localhost:8080/

GET   http://localhost:8080/people

POST   http://localhost:8080/people

GET   http://localhost:8080/people

GET   http://localhost:8080/

Body   Cookies   Headers (5)   Test Results   ⊕   Status: 200 OK   Time: 1703 ms   Size: 2.97 KB   Save Response ⌄

Pretty   Raw   Preview   Visualize   JSON ⌄   ≡

```
 1  [
 2      {
 3          "id": 1,
 4          "name": "John",
 5          "emailId": "john@somemail.com",
 6          "laptop": {
 7              "id": 1,
 8              "cpuClock": 2.5,
 9              "cpuCores": 4,
10              "ram": 8,
11              "manufacturer": "Lenovo",
12              "cost": 300
13          },
14          "isActive": true
15      },
16      {
17          "id": 2,
18          "name": "Jane",
19          "emailId": "jane@somemail.com",
```

Port 8080 already in use?

In case of error such as 'port 8080 already in use', you can use the following command to kill the process that is using the port

- sudo fuser -k 8080/tcp

Switch to Java 17?

Use command on your server to switch between Java 11 and 17:

- sudo alternatives --config java

```
[hobian@coms-309-070 ~]$ sudo alternatives --config java

There are 2 programs which provide 'java'.

  Selection       Command
-----------------------------------------------
*  1             java-11-openjdk.x86_64 (/usr/lib/jvm/java-11-openjdk-11.0.18.0.10-3.el9.x86_64/bin/java)
 + 2             java-17-openjdk.x86_64 (/usr/lib/jvm/java-17-openjdk-17.0.6.0.10-3.el9.x86_64/bin/java)

Enter to keep the current selection[+], or type selection number: 2
```