

Assessment of 5 days JEE Training

Purpose:

Assessment of the 5 Days training of Architect Enterprise Applications with Jakarta EE (Microservices with Spring Boot)

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GitHub URL: <https://github.com/KahouTong/sample>

Section A : Multiple Choices (20%)

No	Questions
1	What is JEE ? a) Java Enterprise Edition b) Jakarta Enterprise Edition c) Jupiter Environment Edition d) Java Environment Edition
Answer: a) before 2019, b) after 2019	
2	What are the Not true about Git Hubs a) Version Control and keep track changes of file b) GitHub is a website to hosts repositories and source file online c) Is a networking hub to control the network bandwidth and network speed d) You can make use of github as your IT knowledge profile
Answer: c	
3	Which are the below Not covered under Spring a) Dependencies Injection b) AOP (Aspect Oriented Programming) c) Java EE d) Spring Boot
Answer: d	
4	What is Dependency Injection? a) It is a design pattern which implements Inversion of Control for software applications. b) It is one of the spring module. c) It is a technique to get dependencies of any project.

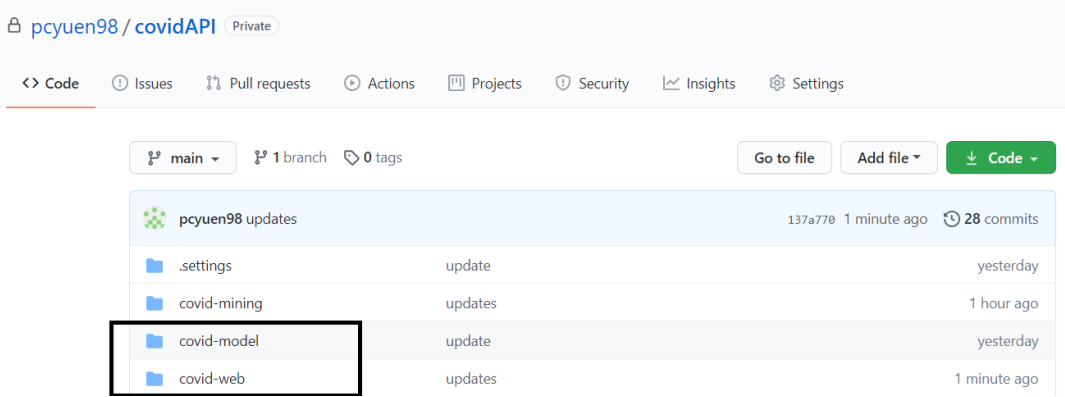
	d) It is used to promote tight coupling in code.
Answer: a, b, c	
5	Which are the below is Not HTTP method of restful services a) Put b) Post c) Backup d) Delete
Answer: c	
6	Which of the following components of HTTP response indicates server status for the requested resource? a) Status/Response Code b) HTTP Version c) Response Header d) Response Body
Answer: a	
7	Which of the following HTTP methods should be used to fetch resources using RESTful web service? a) GET b) DELETE c) PUT d) OPTIONS
Answer: a	
8	Which of the following elements maps java.util.List property in hibernate? a) <set> b) <list> c) <bag> d) <map>
Answer: b	
9	What is Not true about Microservices below a) Is a design pattern b) It can be installed c) It promote scalability d) It promote ease of performance tuning

Answer: b	
10	API is stands for Application Programming Interface a) True b) False
Answer: a	

Section B : Multiple Choices (20%)

1	Provide 3 benefits of using GitHub?
Answer: a. Version Control and keep track changes of file b. IT knowledge profile showcase to recruiter c. Easy to contribute to open-source projects	
2	Provide 5 benefits of using Microservices?
Answer: a. promote scalability b. promote ease of performance handling c. improved fault isolation d. independently deployable which enable continuous improvement and faster app updates e. cross-cutting business functionality	
3	Provide 3 disadvantages of using Microservices?
Answer a. complex to handle and develop b. expensive architecture c. present security threats due to sharp increase in the volume of data exchanged between modules	

Section C : Writing Code (60 %)

1	<p>Commit Your Projects to your own repository as profile</p> <p>This exercise needs completion of the Manual B and Manual D setup as URL below https://github.com/pcyuen98/covidAPI</p> <p>It should contains of 2 projects as below on your own repository</p> <ul style="list-style-type: none">a) covid-modelb) covid-web  <p>The screenshot shows a GitHub repository page for 'pcyuen98 / covidAPI'. The repository is private. The file list shows the following files and their last update times:</p> <table border="1"><thead><tr><th>File</th><th>Update Time</th></tr></thead><tbody><tr><td>.settings</td><td>yesterday</td></tr><tr><td>covid-mining</td><td>1 hour ago</td></tr><tr><td>covid-model</td><td>yesterday</td></tr><tr><td>covid-web</td><td>1 minute ago</td></tr></tbody></table>	File	Update Time	.settings	yesterday	covid-mining	1 hour ago	covid-model	yesterday	covid-web	1 minute ago
File	Update Time										
.settings	yesterday										
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covid-web	1 minute ago										
2	<p>Troubleshooting using Lombok Logger</p> <p>Hit the http://localhost:8081/covid/logging?aNumberOnly=testing on browser then should throw some error on log file. Locate the log file and paste the top 5 lines of stacktrace. Stack Trace should contain time and date of the exercise week.</p> <p>Example:</p> <pre>2021-03-08 19:28:51.040 ERROR 7580 --- [nio-8081-exec-2] o.a.c.c.C.[.[.[dispatcherServlet] : Servlet.service() for servlet [dispatcherServlet] in context with path [] threw exception [Request processing failed; nested exception is java.lang.NumberFormatException: For input string: "testing"] with root cause java.lang.NumberFormatException: For input string: "testing" at java.lang.NumberFormatException.forInputString(NumberFormatException.java:68) ~[?:?] at java.lang.Integer.parseInt(Integer.java:652) ~[?:?] at java.lang.Integer.parseInt(Integer.java:770) ~[?:?] at com.app.controller.MyCovidController.getLoging(MyCovidController.java:72) ~[classes/:?]</pre>										

Answer:

```
java.lang.NumberFormatException: For input string: "testing"
    at
java.lang.NumberFormatException.forInputString(NumberFormatException.java:68) ~[?:?]
    at java.lang.Integer.parseInt(Integer.java:652) ~[?:?]
    at java.lang.Integer.parseInt(Integer.java:770) ~[?:?]
    at com.app.controller.CovidController.getLogging(CovidController.java:126)
~[classes/:?]
    at jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method) ~[?:?]
```

3 Your First Practical Spring MVC. Objective is to test the HTTP get and get a hello API response

Refer to the TODO: Practical 1 on

<https://github.com/pcyuen98/covidAPI/blob/main/covid-web/src/main/java/com/app/controller/CovidController.java>

4 Creating your add and delete Service

Refer to the TODO: Practical 4 on

<https://github.com/pcyuen98/covidAPI/blob/main/covid-web/src/main/java/com/app/controller/CovidController.java>

5 Practical 5 - Loosely-Couple Microservices

The mining service under MyCovidController is not optimized and tight coupling to the service. Imagine that you would have 20-30 mining services and each time a HTTP get operation will invoke these services.

The HTTP get - "/covid/mining/my" and relevant classes need to move to a new project and new service

On the covid-web project, you may need to split the service into 2 so it will be cleaner.