

COMP3402 T6 submission

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1. Step 1: Server side implementation

1. Generate all portable artifacts needed for web service deployment and invocation

1. `wsgen -classpath . -keep helloservice.Hello`

1. Results:

```
wei:helloservice chengwei$ ls
Hello$DivideNumbersException.class
Hello.class
Hello.java
HelloClient.class
HelloService$DivideNumbersException.class
HelloService.class
HelloService.java
jaxws
```

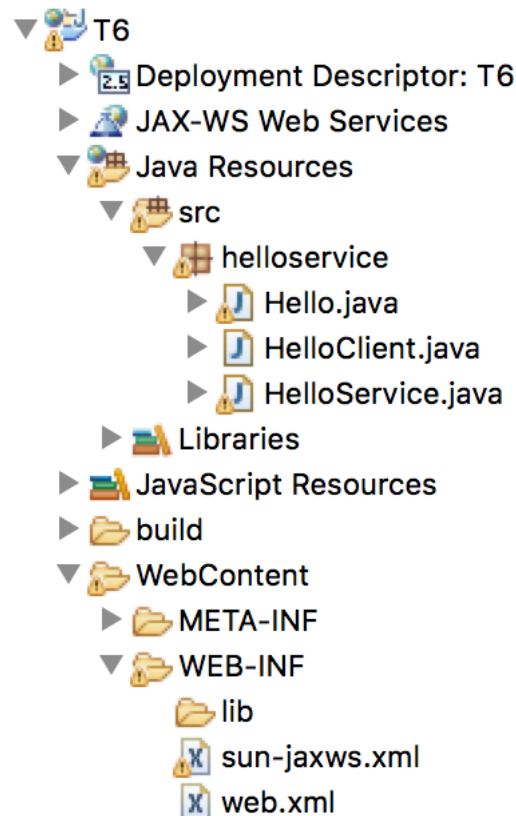
2. A new file called jaxws is created

2. Step 2: Download and install JAX-WS runtime for Tomcat

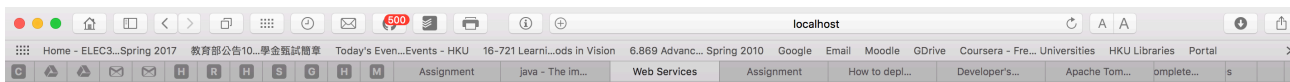
3. Step 3: Deploy the web service in Tomcat

1. **** Notice that I choose the second method as suggested in tutorial slides (Deploy as a single WAR file)**

2. The project structure on Java EE Eclipse IDE



4. Step 4: Run the Tomcat application & access the web service:



Web Services

Endpoint	Information
Service Name: {http://helloservice/}HelloService Port Name: {http://helloservice/}HelloPort	Address: http://localhost:8080/hellows/hello WSDL: http://localhost:8080/hellows/hello?wsdl Implementation class: helloservice.Hello

5. Step 5: (Client side) Run wsimport tool to generate the client side artifacts

1. Command: `wsimport -keep http://localhost:8080/hellows/hello?wsdl`
2. Client side artifacts generated

```
wei:helloservice chengwei$ ls
AddNumbers.class           HelloResponse.class
AddNumbers.java            HelloResponse.java
AddNumbersResponse.class   HelloService.class
AddNumbersResponse.java    HelloService.java
DivideNumbers.class        Hello_Type.class
DivideNumbers.java         Hello_Type.java
DivideNumbersException.class ObjectFactory.class
DivideNumbersException.java ObjectFactory.java
DivideNumbersException_Exception.class SayHello.class
DivideNumbersException_Exception.java SayHello.java
DivideNumbersResponse.class SayHelloResponse.class
DivideNumbersResponse.java SayHelloResponse.java
Hello.class                package-info.class
Hello.java                  package-info.java
```

6. Step 6: Running the client side application

1. Access the web service successfully

```
Console
<terminated> Client [Java Application] /Library/Java/JavaVirtualMachines/jdk1.8.0_65.jdk/Contents/Home/bin/java (Apr 15, 2017, 2:47:08 PM)
Retrieving the port from the following service: helloservice.HelloService@1540e19d
Invoking the sayHello operation on the port.
Hello, World.
Invoking the addNumbers operation on the port.
121|
Invoking the divideNumbers operation on the port.
helloservice.Hello$DivideNumbersException: Divisor cannot be zero!
    at helloservice.Hello.divideNumbers(Hello.java:27)
    at web_client.Client.main(Client.java:35)
```

** The following files are attached for your reference

1. Hello.java
2. HelloService.java
3. Client.java
4. helloservice.war (The Web Archive File)