Coursework 2 Pair Submission

Q1 Composition/Originality

Q1.1 Describe what the Web services composition does

Answer:

Web service1: used to manage student information in database.

Web service2: used to manage timetable schedule/event information in database.

Web service3: used to generate a pdf URL according to input json data.

Q1.2 Composition - Details

Answer:

Web service1:

Own

Input:

Get: input some keywords.

Post: input one student information.

Put: input some keywords and one student information.

Delete: input some keywords.

Output:

Get: output a list of students information searched by keywords.

Post: one int value to show whether work correctly.

Put: one int value to show whether work correctly.

Delete: one int value to show whether work correctly.

Web service2:

Own

Input:

Get: input some keywords.

Post: input one schedule/event information.

Put: input some keywords and one schedule/event information.

Delete: input some keywords.

Output:

Get: output a list of schedule/event information searched by keywords.

Post: one int value to show whether work correctly.

Put: one int value to show whether work correctly.

Delete: one int value to show whether work correctly.

Web service3:

External

Input: a Json data.

Final output: one url which will show the pdf created according to the json data.

Q2 Details

Q2.1 External Service - Details

Answer:

Name of RESTful service: PDF GENERATOR

Name of publisher:Tartu HQ 2021 team

Description: used to easily generate a pdf documents, and provide url for the document.

URL: https//pdfgeneratorapi.com

How to invoke: we use Unirest jar package to use service. There is a post method provided in the Unirest and return a HttpResponse<String> variable.

Code:

HttpResponse<String> response = Unirest.post("").header().header().body().asString();

And this service need authentication by using JWT(JSON Web Token) which can be found by sign in it’s website. You can use account:sc20yx@leeds.ac.uk password: Comp3211 to sign in and find create JWT button to generate JWT string.

Create a new pdf template

mean: 1601.8 ms; standard deviation: 984.651

Delete a pdf template

mean: 563.9 ms ; standard deviation: 225.995

Q2.2 External Service - Evidence of Successful Execution

Answer:

Q3 Web Services Integration

Answer:

The first web service can manage student information, and the second service can manage event information. we use student name to be key to search schedules/events information by using second service and enable to manage student event/schedule information, which means we can manage student timetable information. And generate pdf url for the information by using third web service.

Q4 Web User Interface

Answer:

We have 5 web pages: home.jsp, create.jsp, delete.jsp, retrieve.jsp,and update.jsp.

Create.jsp is used to call first two web service post method and create a student information or a student event information.

delete.jsp is used to call first two web service delete method and delete a student information or a student event information.

update.jsp is used to call first two web service put method and update a student information or a student event information.

retrieve.jsp is used to call first two web service get method and retrieve a list of student events information. And generate pdf according to the events information then provide the url to user.

Q5 Application - Evidence of Successful Execution

Answer:

Q6 Code

Answer:

Q7 Demo (Video)

Answer: