Installation

Java Environment

Please ensure the JRE is below 9. Since above Java 1.8, the JAXB annotation was removed from JDK.

Import the `sza.war` to Eclipse. The pre-populate sql files are located in `sza/Java Resources/sql`.

Tomcat

Version: 8.5

Database Setting (Localhost)

MySQL: Version 8.0.15 (latest)

The default project database connection already connected to a local MySQL database.

In `/WebContent/META-INF/context.xml` ● `Line 9`

`url="jdbc:mysql://localhost:3306/bis?`
`useLegacyDatetimeCode=false&serverTimezone=America/Toronto"`

Run the following SQL script:

create_user.sql // create a user `username=sza4413` `password=eecs4413` on localhost

setup.sql // create a database named `bis`, pre-populate the database

Usage

Right click on the project, and select `Run as ➔ Run on server`, choose a Tomcat 8.5 server, and select finish.

A browser with URL `http://localhost:8080/sza` should show.

Use an external browser to get the best experience.

All pages are composed by **header** and **footer**.

In the header, you can click on the hyperlinks to navigate to 'HOME' page, 'About Us' (footer), and 'Top 5 Sellers' (Listner). At the upper right corner, you can click 'Cart' and 'Login/Signup' button to respective pages.

In the footer, there is our group name — `SZA`, and the resource of the books (pictures, descriptions etc.)

There are 3 built-in users:

UID	Username	Password	Group
1	jWhite	4413	CUTOMER
2	pBlack	4413	ADMIN
3	aGreen	4413	PARTNER

You can also sign up a new user. However, the new user will be registered as 'CUSTOMER', the **only** way to add 'ADMIN' or 'PARTNER' is hard code SQL on the SQL server side.

Requirement: E.UC M3

To add a review for a specific book, you must login before to do so. Visitors are not allowed to write review (the input section will not rendered).

Requirement: E.UC M4

To text search the store, just type the book title in the search bar in main page. You can just partially specify the title, all relevant results will be rendered in an Ajax call.

Requirement: H.UC A1

To access the monthly report page, you must login as `pBlack`, who is in group 'ADMIN'. Then an button named `View Report` will show in the header part, click it will navigate to the monthly report page.

Requirement: H.UC A2

To access the real time analytics listener, you can click the `Top 5 Sellers` in the header, which will navigate to the analytics page. The books are listed in quantity descendingly. Each time of successfully process an order, the top sellers will be updated.

Requirement: G

Every 3 checkout request should be denied. Since the pre-populated database already has 9 records, so your first 2 orders will be successfully processed (since they are No.10 and No.11), and the 3rd order will be denied (since it is No.12).

Requirement: B and I

To access the REST web service in browser:

XML:

All orders: `<http://localhost:8080/sza/rest/orders?partner=3>`

Catalog: `<http://localhost:8080/sza/rest/product?id=b002>`

Json:

All orders: `<http://localhost:8080/sza/rest/orders/json?partner=3>`

Catalog: `<http://localhost:8080/sza/rest/product/json?id=b002>`

Test Client

Import the `sza_Test.war` to Eclipse.

Util

In package `util`, there are 2 classes. `JsonFormatter.java` and `XmlFormatter`, they are utility classes used to format the Json and XML to human readable output. Otherwise, the message passed by web service will be an extremely long 1 line string.

REST

In package `rest`, there is only one class `OrdersClient.java` which contains the test method:

```
public static void test(String service, String paramName, String paramValue, boolean
format)
```

You can modify the parameter in `main` method to custom the test case.

Note:

If you try to access all orders but pass an invalid partner number ('3' is the only partner number), you will get an `HTTP 403 Forbidden` Exception.

Similarly, the book detail can also be retrieved by REST service, if you pass a bid which is not recorded in the database, you will get an `HTTP 404 Not Found` Exception.

SOAP

In package `soap`, `ProductClient.java` is the test client. Run the `main` method in it. You can see some sample output.

Scalable Clients Test

We use [Apache JMeter](#) to do the load test. Therefore, there is no code for this part.

Details see 'Performance and Scalability' in the design document.