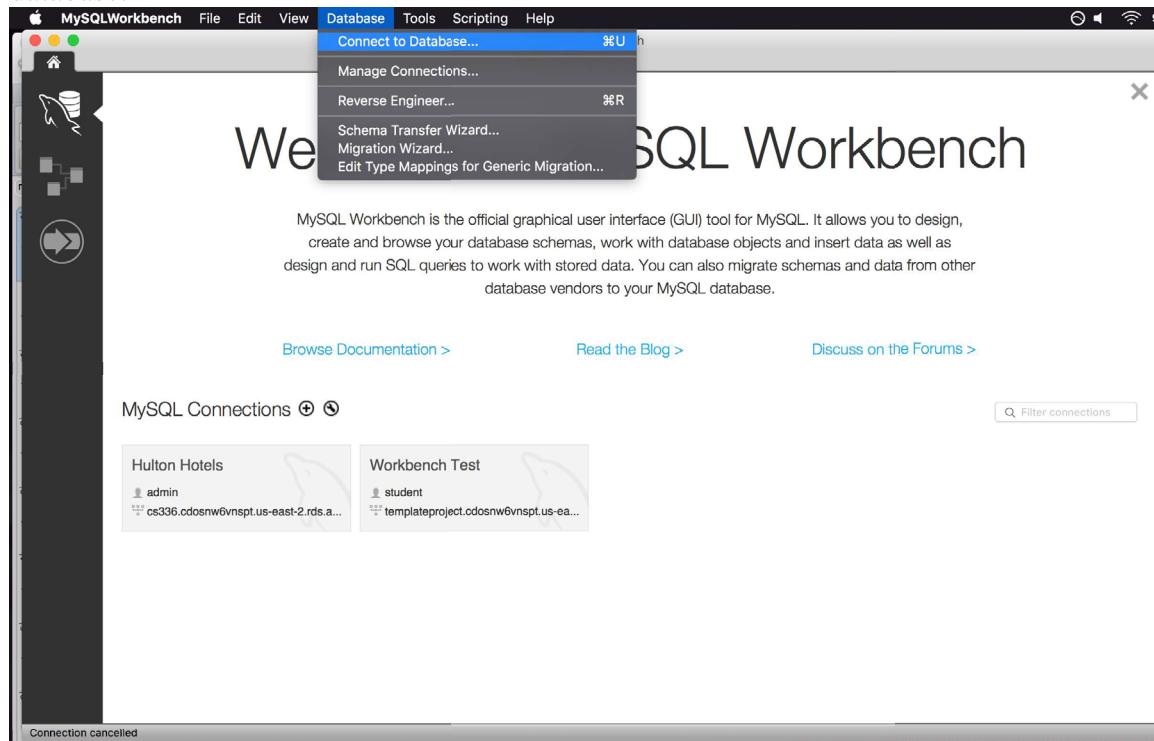


Data Management Project PDF

The following code submission will consist of a war file called HultonHotels.war. You will find all the members of this group and their contribution at the end of this PDF.

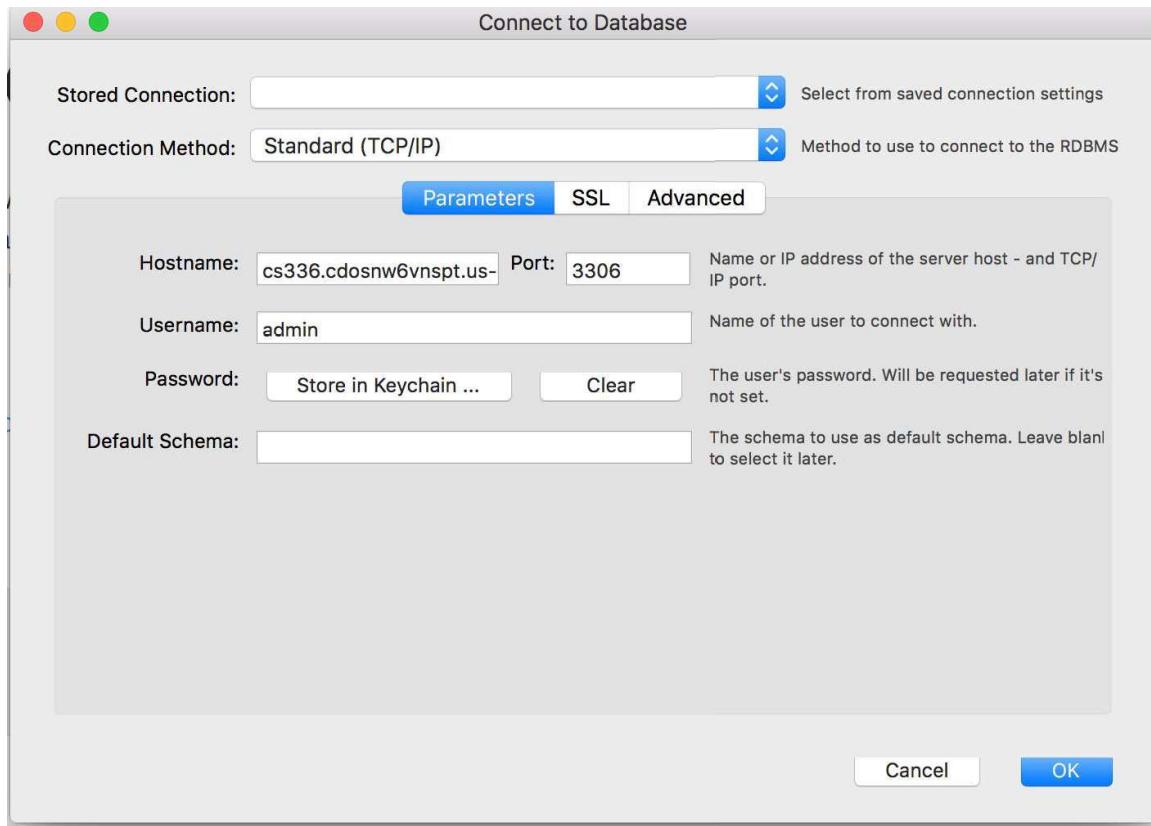
The first thing we should do is to connect to our MySQL workbench, which can be downloaded here: <https://dev.mysql.com/downloads/workbench/>. Complete the following steps to connect to the MySQL workbench:

1. Open MySQL Workbench then select the database tab at the top and select connect to database.



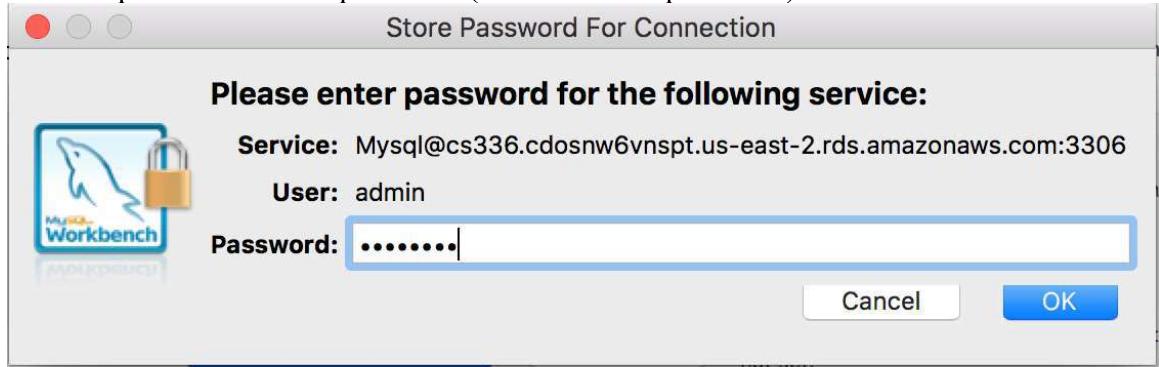
2. This should prompt up a window that asks for information such as hostname, port, username and password. Enter in the following information in order to access our database. **NOTE: this information is case-sensitive**

Hostname: cs336.cdosnw6vnspt.us-east-2.rds.amazonaws.com
Port: 3306
Username: admin
Password: password

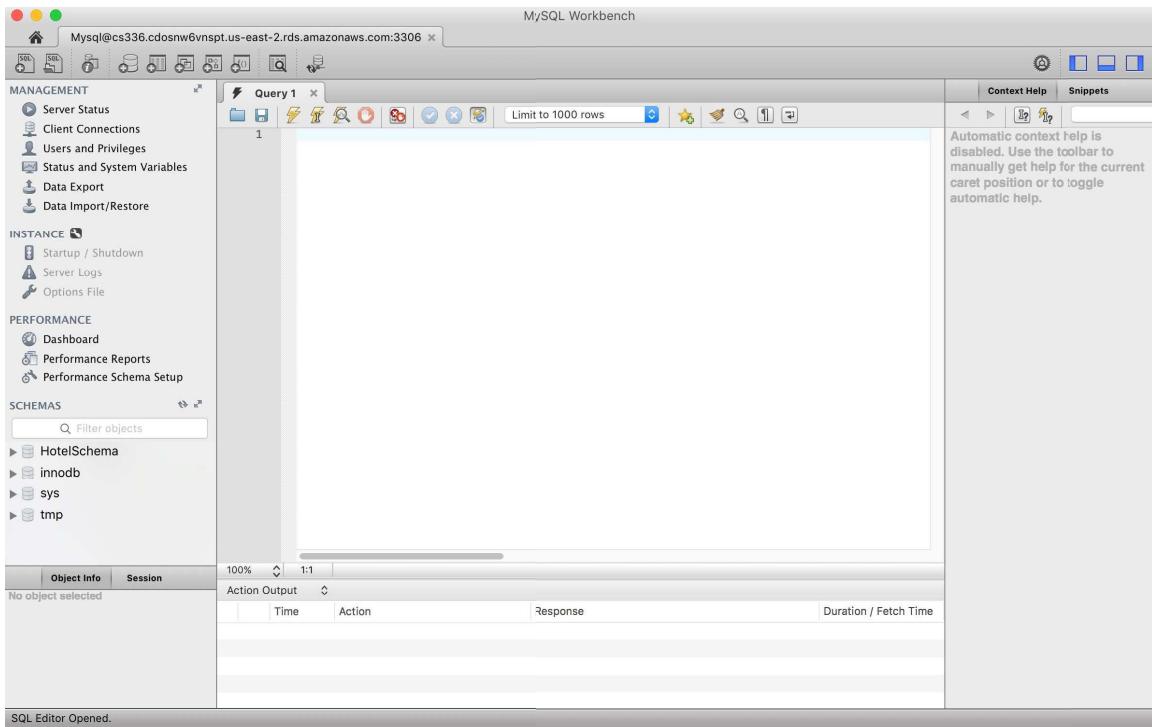


Now press the store in keychain for the password and it should prompt another window asking for the password.

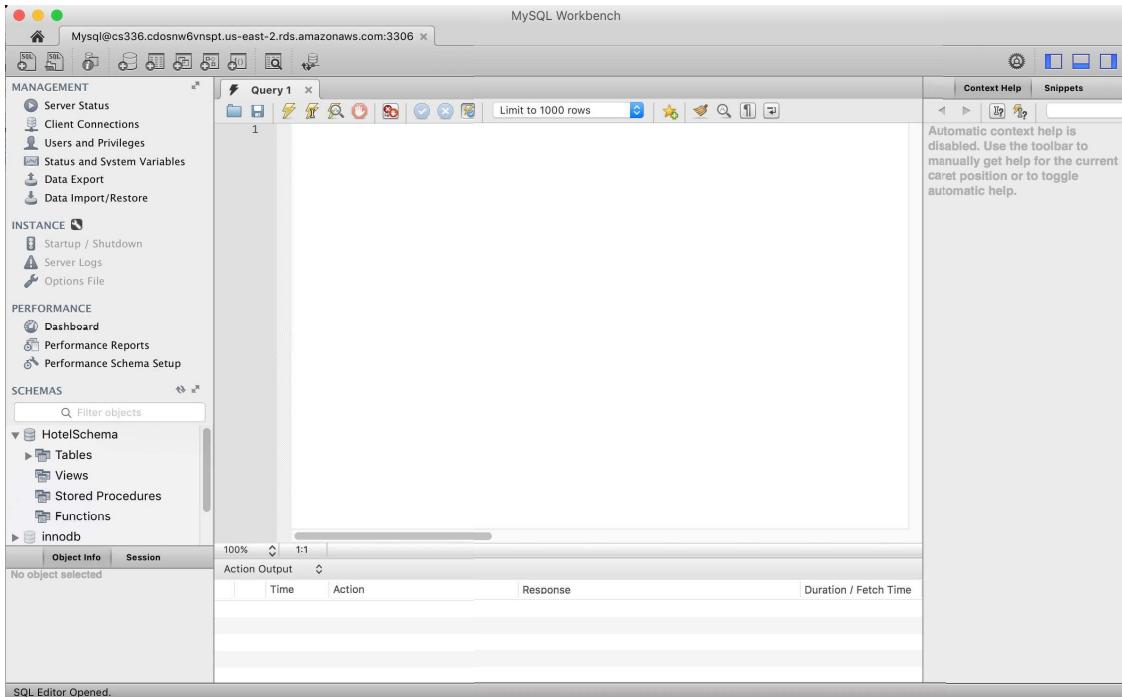
Enter in password for the password (i.e. Password: password)



3. After entering in the information and pressing ok you should have a page that looks like this. If your MySQL Workbench looks like this then you have successfully connected to our database.



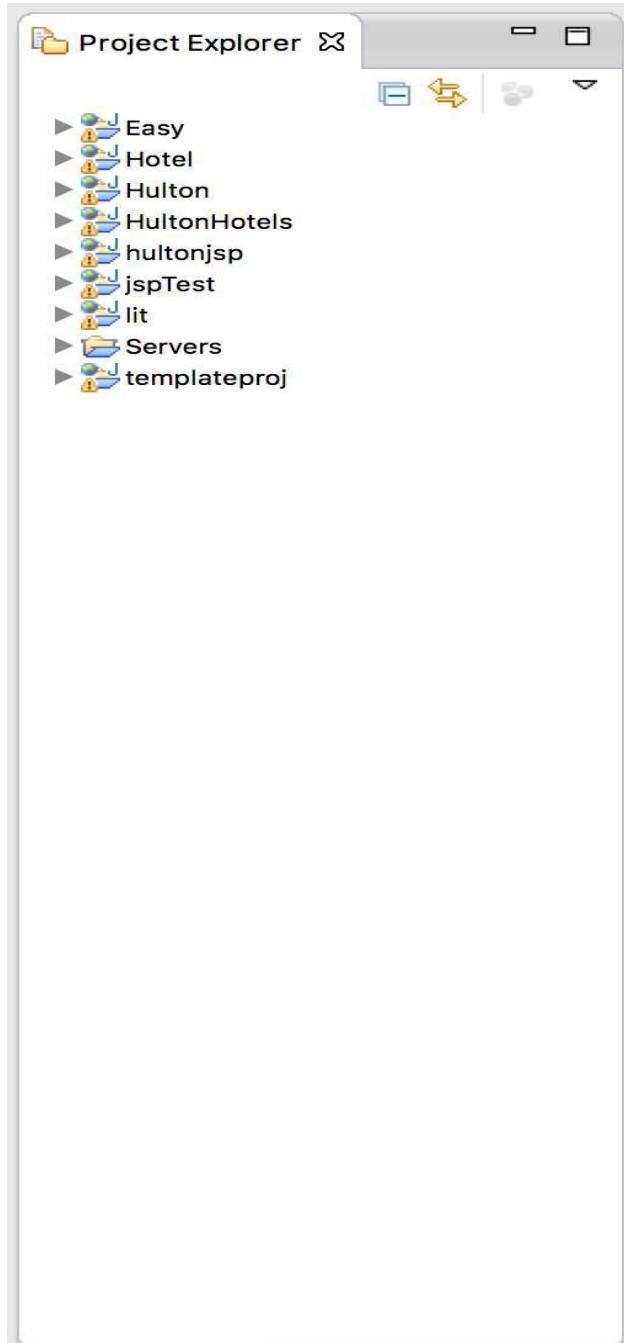
4. Now locate our HotelSchema under the SCHEMAS section on the left side of the program and press on the arrow to display the tables. You are now able to see the tables for our schema.



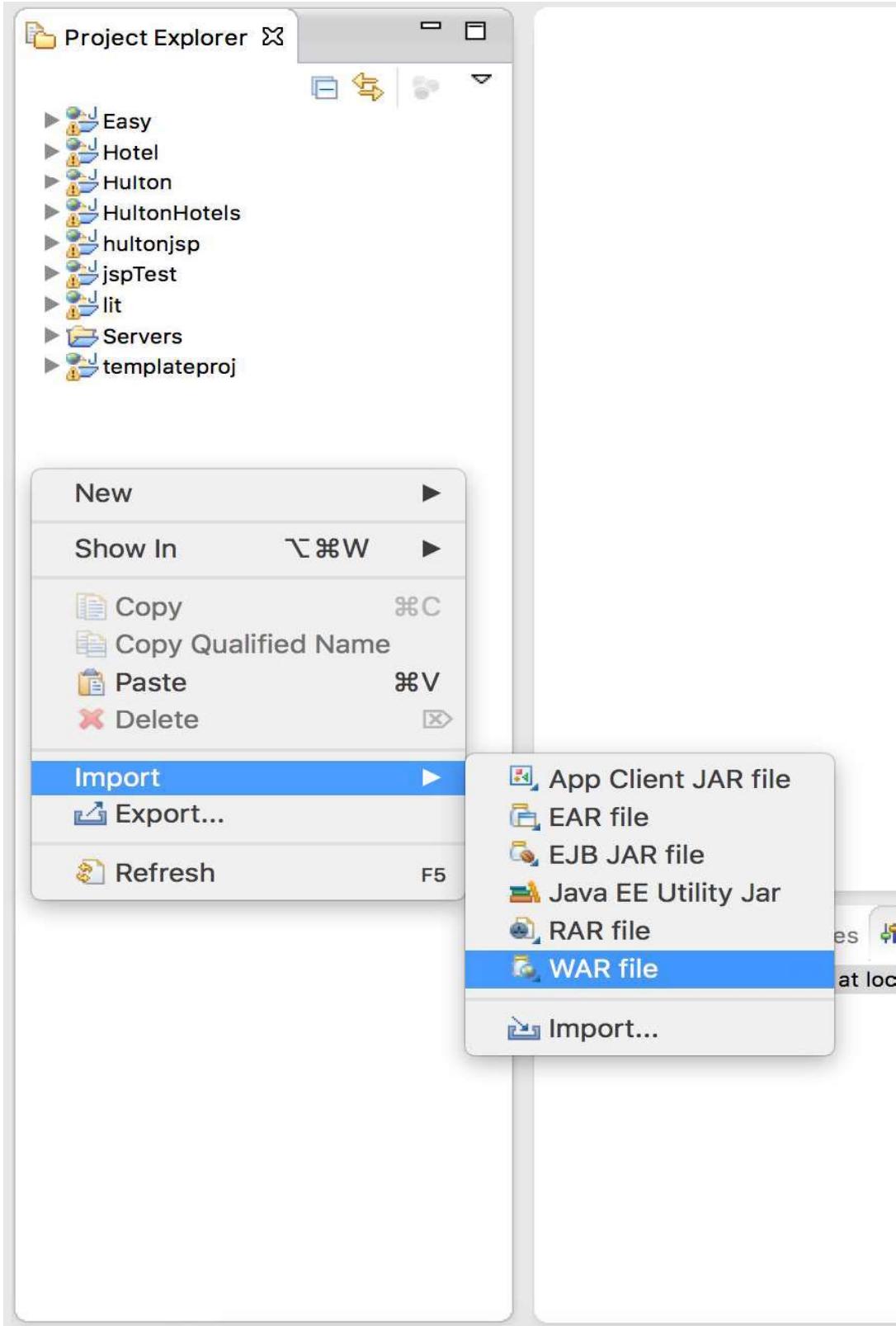
Now we will move onto how to import the HultonHotels.war file into your Eclipse EE workspace, complete the following steps: **NOTE: apache tomcat v7.0 or newer version should be configured on your eclipse.**

1. Open Eclipse EE, it is imperative that the user has Eclipse EE as the war file will not work on any other versions of Eclipse. Eclipse EE can be downloaded here:
<https://www.eclipse.org/downloads/packages/eclipse-ide-java-ee-developers/keplersr2>

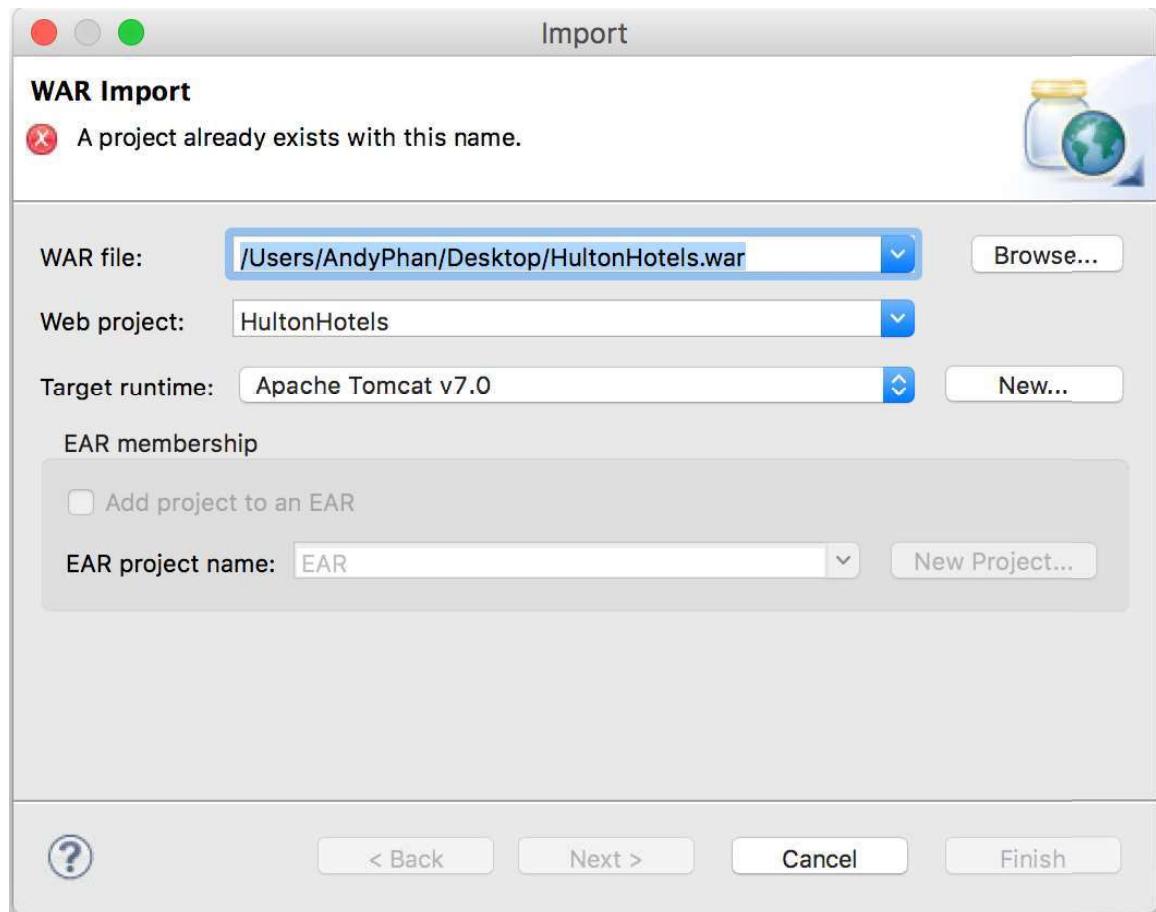
2. Once Eclipse is open locate the project workspace tab on the left hand side of Eclipse EE.



3. Right click inside the white space of the Project Explorer tab and select import then select WAR file.



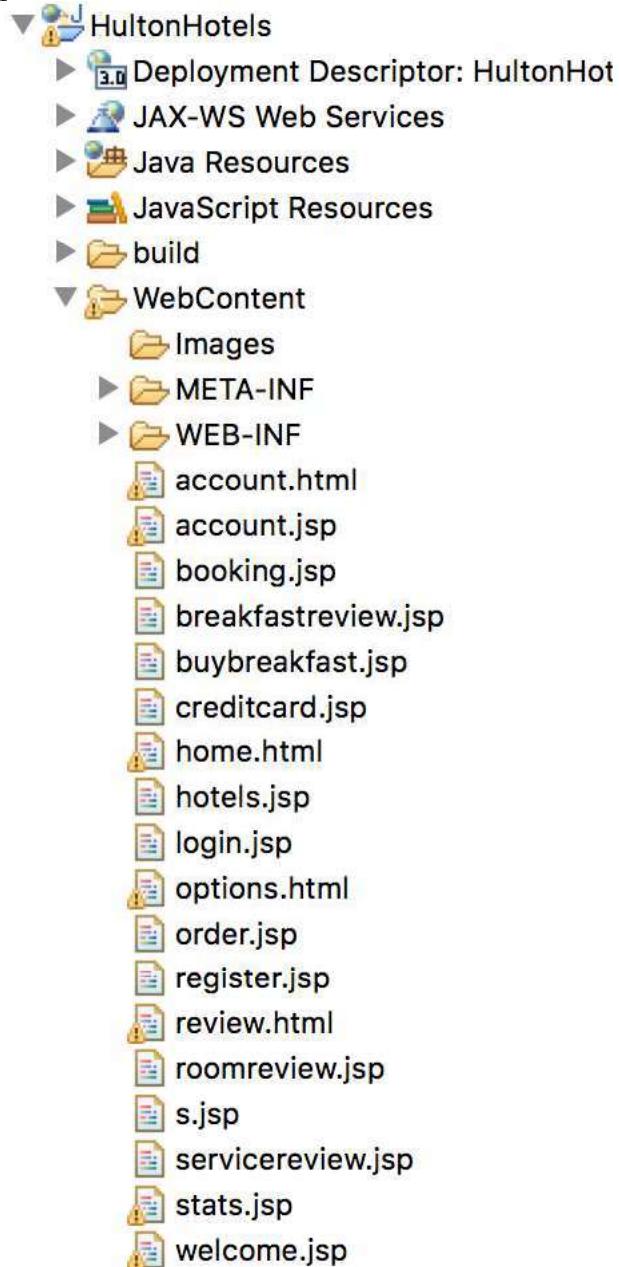
4. A window should pop up where it states to import a war file, press the browse button and locate/select the HultonHotels.war file and click open on that file. For this screenshot our eclipse workspace already has this project hence the X button error. The target runtime should be apache tomcat v7.0 if not make sure it is a newer apache tomcatv7.0+ for example like apache tomcat v8.0 or apache tomcat v9.0. After that press the finish button and the project should appear in the project workspace tab as HultonHotels.



5. Now click on the arrow next to HultonHotels on the Project Explorer tab to extend its contents

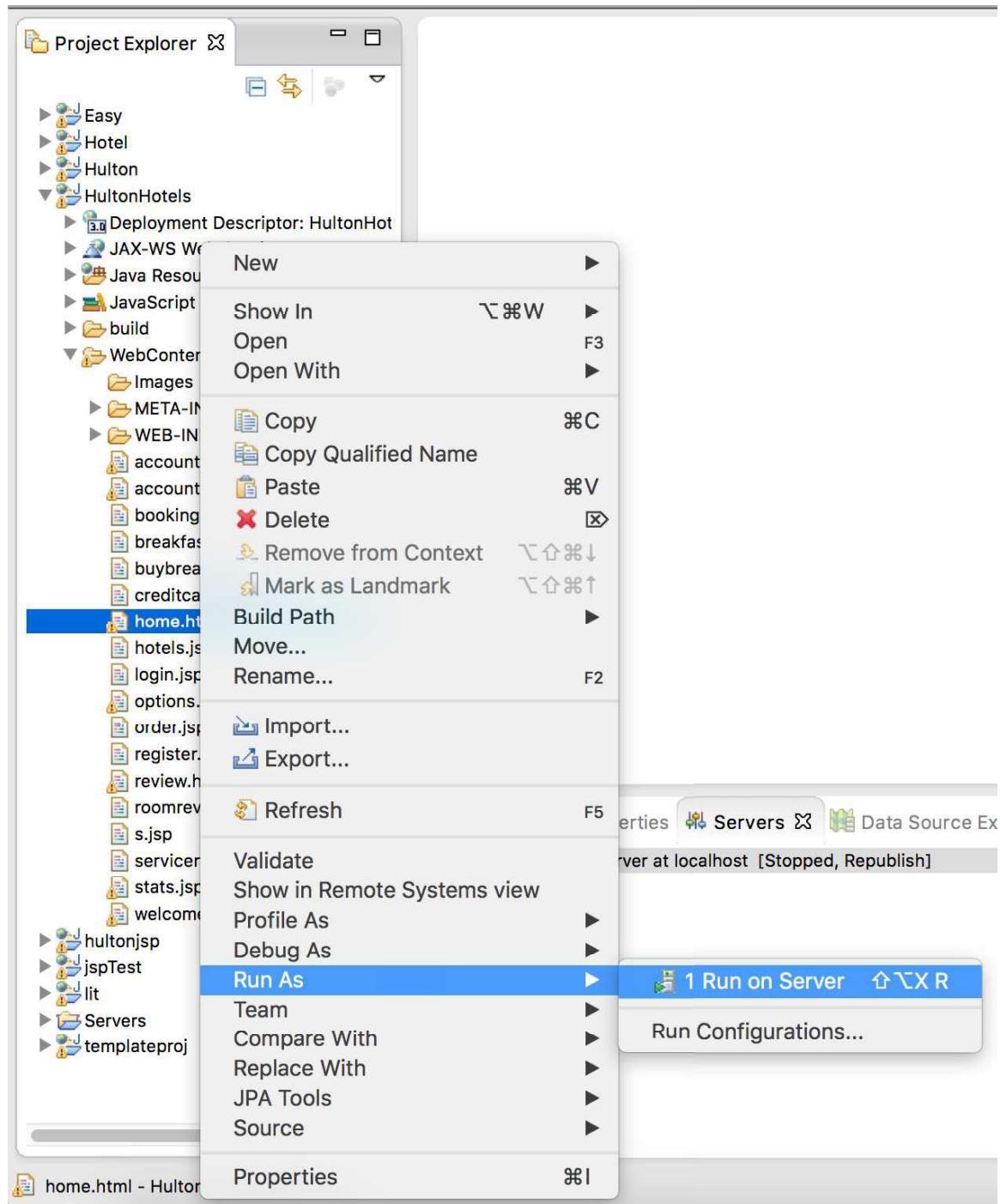


6. Now click on the arrow next to WebContent to extend the files that we will use to load up our website.

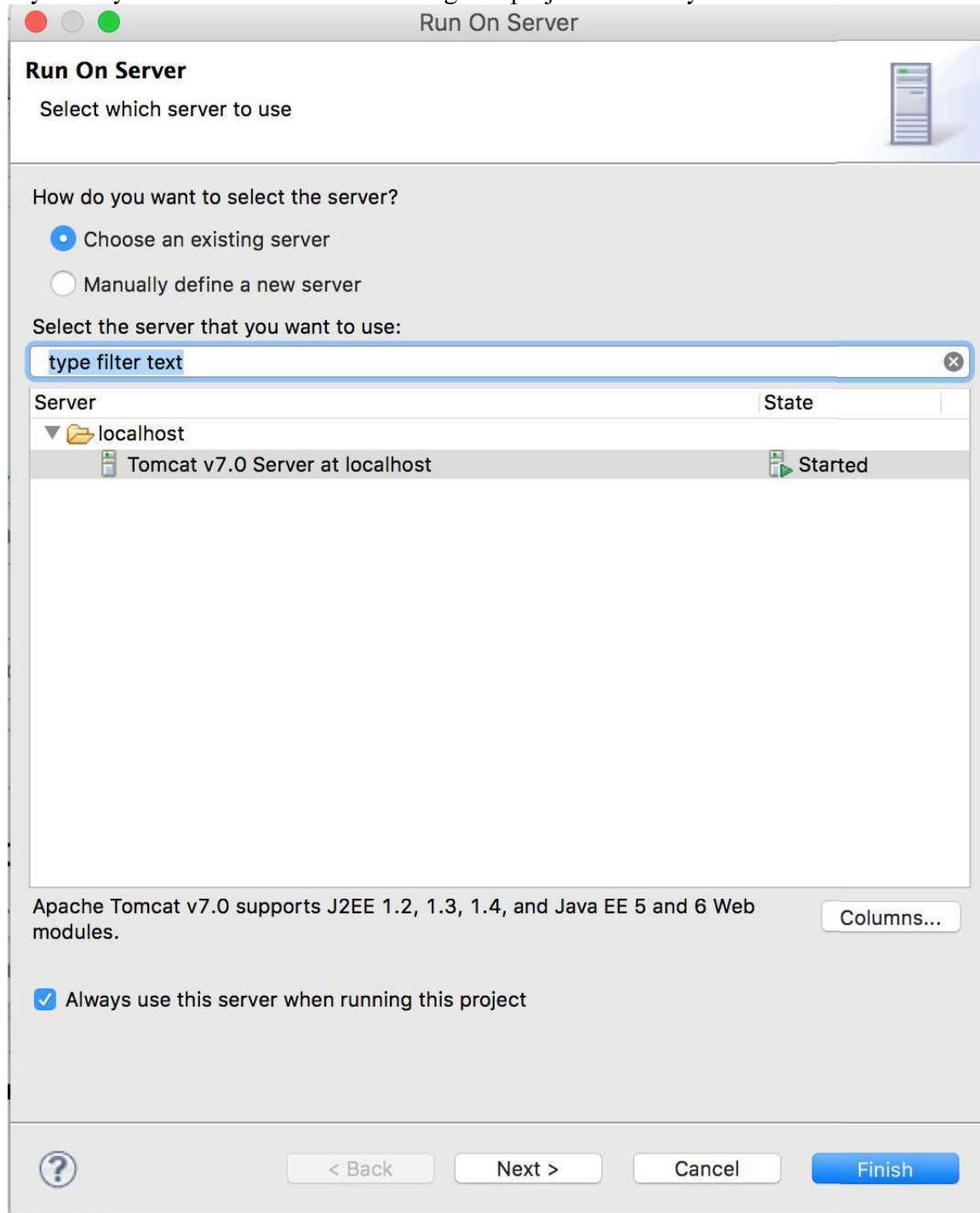


Now we will move onto how to launch our project and what each of our webpages does as well as the result of what happens to the MySQL Workbench database when we use functions on our webpages, complete following steps:

1. Right click the home.html which will act as the homepage of our website and will be how you start up our website. Then select run as then select run on server.



2. Now you will be prompted with a page that asks you run on a server make sure you select which ever Tomcat v server at localhost that you have and check the box where it says always use this server when running this project to make your life much easier.



3. After that you will have a webpage that loads up that looks like this

The screenshot shows a web browser window titled "Choose Login or Register". The URL in the address bar is "http://localhost:8080/HultonHotels/home.html". The main content area has a header "Hulton Hotels". Below it, there are two sections: "Login" and "Register". The "Login" section contains fields for "Username" and "Password", and a "Submit" button. The "Register" section contains a single "Username" field. The entire interface is contained within a light gray frame.

4. Now you should scroll down and enter the information to login into the application. Once you registered correctly a window should pop up stating Registration is complete now you press that reload home page button to be redirected back. After, the same information from when you registered should appear in the customer table under HotelSchema in the MySQL Workbench. We will have two preloaded accounts in there already.

Registration is complete! Press button to reload to login/registration page. [Reload Home Page](#)

The screenshot shows the MySQL Workbench interface. On the left, there's a sidebar with sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), and PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup). Below these are sections for SCHEMAS (BreakfastReview, buyBreakfast, Credit, Customer, Discount) and OBJECT INFO/SESSION (No object selected).

The main area displays a query results grid titled "Customer". The SQL query is:

```
1 • SELECT * FROM HotelSchema.Customer;
```

The results show two rows of data:

CID	CName	Email	Phone	Address	Password
ap1313	Andy Phan	ap1313@rutgers.edu	1234567890	205 Frelinhusen R...	cs336
ben	ben	sadsad	32132131	ewrewr	123

Below the grid, there's a "Customer 1" panel with "Apply" and "Revert" buttons. The "Action Output" section shows three log entries:

Time	Action	Response	Duration / Fetch Time
17:10:52	SELECT * FROM HotelSchema....	2 row(s) returned	0.018 sec / 0.000018...
17:11:01	DELETE FROM `HotelSchema`....	1451: Cannot delete or update a parent row: a foreign...	
17:11:44	UPDATE `HotelSchema`.`Cust...	1451: Cannot delete or update a parent row: a foreign...	

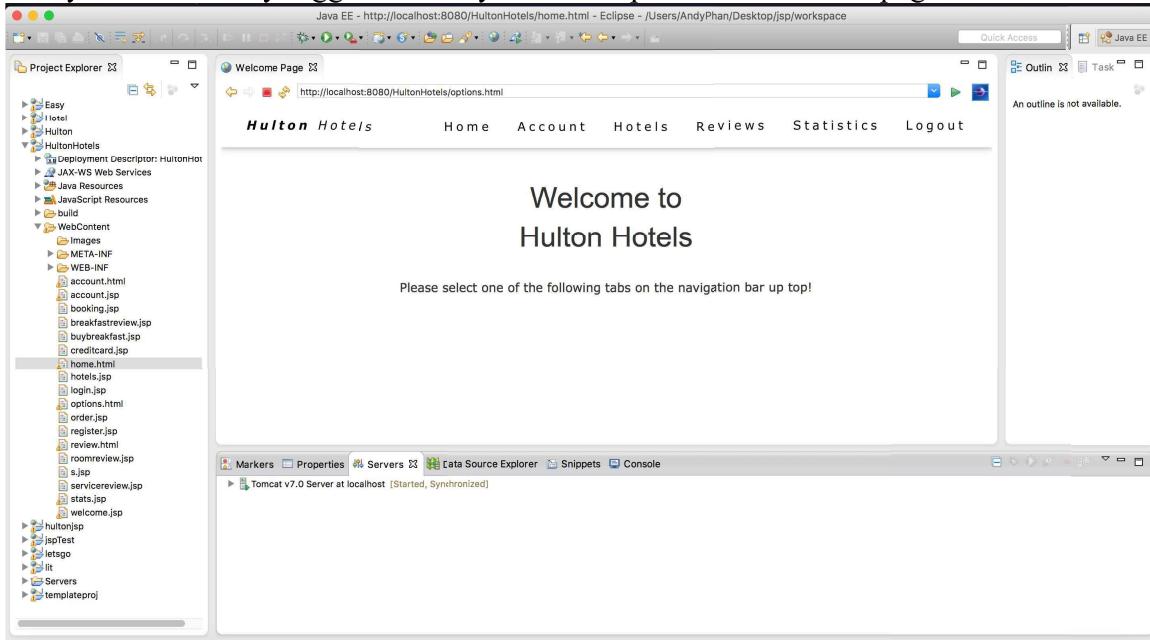
At the bottom, a message says "Query Completed".

5. Now you will be able to login with the information you used to register and if you enter in the wrong username you will be prompted in the console of eclipse with an error saying username is not registered in database! Or Wrong Password please try again!

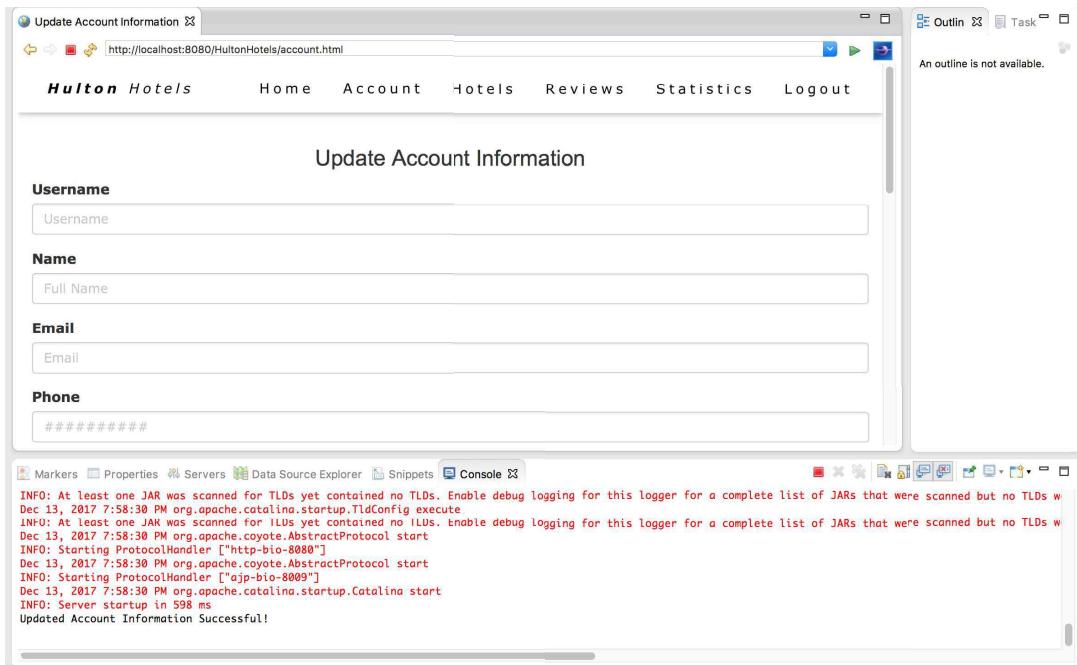
The screenshot shows the Eclipse IDE Console view. The title bar says "Tomcat v7.0 Server at localhost [Apache Tomcat] /Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 4:50:42 PM)". The console output is as follows:

```
INFO: At least one JAR was scanned for TLDs yet contained no TLDs. Enable debug logging for this logger for a complete list of JARs that were scanned but no TLDs w
Dec 13, 2017 4:50:43 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 4:50:43 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 4:50:43 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 677 ms
username is not registered in database!
Wrong Password please try again!
```

6. If you successfully logged in then you will be presented with this page.



7. From here on we will show you the order of the tabs lets start with the Account tab since the Home tab will just take you back to the page present in the picture above. If you press the Account tab you will be presented with a page that will allow you to update your account information and the ability to add a credit card as a payment. The console will let you know if you are successful with these updating your account info and both these actions will be updated in the MySQL workbench under the Customer and Credit tab respectively. **NOTE: when entering the credit card number please make sure there are no dashes between the numbers an example would be (1234123412341234) as a credit card number.**



If you scroll down the Update Account Information you will find Add Credit Card

The screenshot shows a web application interface for 'Hilton Hotels'. At the top, there's a navigation bar with links for Home, Account, Hotels, Reviews, Statistics, and Logout. Below this is a section titled 'Add Credit Card'. It contains several input fields: 'Username' (with placeholder 'Username'), 'Name' (with placeholder 'Full Name'), 'Billing Address' (with placeholder 'Billing Address'), 'Credit Card Type' (with placeholder 'Credit Card Type'), and 'Credit Card Number' (with placeholder 'Credit Card Number'). At the bottom of the page is a Java console window displaying Tomcat startup logs. The logs show the server starting up, including the startup of the 'http-bio-8080' and 'ajp-bio-8009' protocols, and a successful account update message.

```

Tomcat v7.0 Server at localhost [Apache Tomcat] /Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms
Updated Account Information Successful!

```

If you were successful in adding a credit card then open the Credit table on MySQL workbench and refresh it with the lightning button

The screenshot shows the MySQL Workbench interface. On the left, there's a sidebar with sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup), and SCHEMAS (Discount, Evaluates, Hotel, Orders, Owns). The main area shows the 'Customer' schema with the 'Credit' table selected. The table has columns: CName, BillingAddr, CType, CNumber, expDate, and SecCode. One row is displayed: Andy Phan, 2055 frelinhusen road, visa, 1234123412341234, 2017-01-01, 123. Below the table is a 'Result Grid' panel and a 'Query History' panel at the bottom showing recent queries.

8. Moving on to the Hotels tab you will be presented with this page.

The screenshot shows a web browser window with the URL <http://localhost:8080/HultonHotels/hotels.jsp>. The page title is "Update Account Information" and the active tab is "hotels.jsp". The main content is a form titled "Book A Room" with four fields: "Username", "Hotel Location", "Room Type", and "Check-In Date". Below the form is a Java console window showing Tomcat startup logs:

```

Tomcat v7.0 Server at localhost [Apache Tomcat/7.0.50]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
TM000 - Server shutdown in 508 ms

```

Focusing on the book a room form

This is the Hotel Table. We have 12 Hotels, and they are uniquely determined by their Hotel Id. We decided to remove State from the Hotel because a lot of countries do not have State. Our twelve hotel locations are Brazil, Britain, Canada, Egypt, France, Goa, Italy, Japan, Maldives, New Zealand, Spain, and Turkey. When making a reservation, ordering a service, or writing a review make sure to type one of the 12 locations in our database (Case Sensitive). Example. “Brazil” will work, “brazil” will not work

The screenshot shows the MySQL Workbench interface. The left sidebar shows the schema navigation tree with the 'HotelSchema' selected. Under 'Tables', the following tables are listed: Hotel, Breakfast, BreakfastReview, Book, Credit, Customer, Discount, Evaluate, Hotel, Order, OrderDetail, Owner, and Reservation. The 'Hotel' table is currently selected, and its data grid shows 12 rows with columns: HotelID and Country. The data is as follows:

HotelID	Country
1	Brazil
2	Britain
3	Canada
4	Egypt
5	France
6	Goa
7	Italy
8	Japan
9	Maldives
10	New Zealand
11	Spain
12	Turkey

The 'Output' pane at the bottom shows the results of a query on the 'Breakfast' table:

```

Action Output
# Time Action
1 17:06:50 SELECT * FROM HotelSchema.Breakfast LIMIT 0, 1000
2 17:07:10 SELECT * FROM HotelSchema.Breakfast LIMIT 0, 1000

Message
48 row(s) returned
12 row(s) returned

Duration / Fetch
0.031 sec / 0.000 sec
0.031 sec / 0.000 sec

```

These are the rooms of our hotel. Each hotel has 10 rooms. 2 Standard, 2 Double, 2 Deluxe, 4 Suites, and they all have their own price range unique to hotel and room type.

The screenshot shows the MySQL Workbench interface with the 'Room' table selected in the query editor. The table has columns: HotelID, Room_no, RoomType, and Price. The data is as follows:

HotelID	Room_no	RoomType	Price
1	1	Standard	125
1	2	Standard	125
1	3	Double	130
1	4	Double	130
1	5	Deluxe	135
1	6	Deluxe	135
1	7	Suite	145
1	8	Suite	145
1	9	Suite	145
1	10	Suite	145
2	1	Standard	250
2	2	Standard	250
2	3	Double	255
2	4	Double	255
2	5	Deluxe	260
2	6	Deluxe	260
2	7	Suite	270
2	8	Suite	270

If you are successful in booking a room then you will be prompted with a successful booking and reload button. Also the reservation will be booked in the Reservation table on MySQL workbench as shown here.

The screenshot shows the MySQL Workbench interface with the 'Reservation' table selected in the query editor. The table has columns: ReservationID, CID, HotelID, InDate, OutDate, and Room_no. A single row is shown:

ReservationID	CID	HotelID	InDate	OutDate	Room_no
70	ap1313	1	2017-02-01	2017-02-02	1

These are the hotel discounts. Hotel discounts can be inserted and deleted from here. The amount the discount can also be given.

The screenshot shows the MySQL Workbench interface. In the left sidebar, under the 'Schemas' section, the 'HotelSchema' is selected. The 'Tables' section lists several tables: Breakfast, BreakfastDetail, buyBreakfast, Credit, Customer, Discount, Evaluates, Hotel, Orders, Ovns, and Reservation. In the center, a 'Query' window is open with the following SQL query:

```
SELECT * FROM HotelSchema.Discount;
```

The results grid shows the following data:

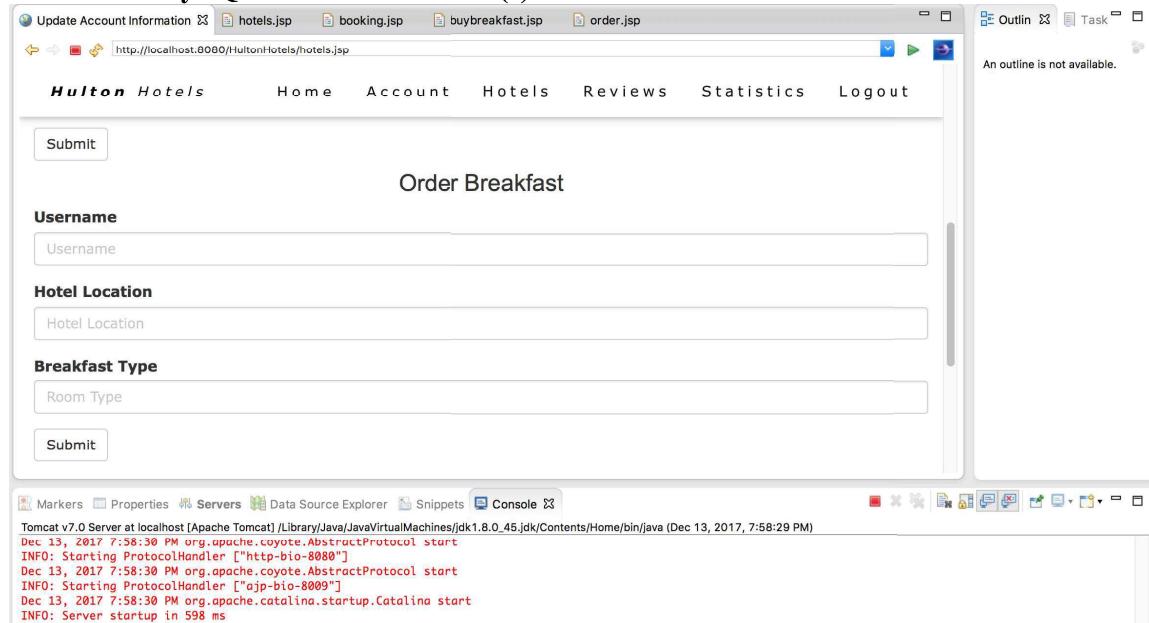
DiscountId	Date	EDate	Discount
11	2017-12-12	2017-12-17	30
12	2017-12-24	2017-12-26	20

At the bottom, the 'Output' pane shows the execution history of the query:

Action	Time	Rows	Time
1	17:06:50	48 rows	0.031 sec / 0.000 sec
2	17:07:10	12 rows	0.031 sec / 0.000 sec
3	17:07:17	120 rows	0.031 sec / 0.000 sec
4	17:07:28	0 rows	0.032 sec / 0.000 sec
5	17:14:43	2 rows	0.047 sec / 0.000 sec

Focusing on the order breakfast form

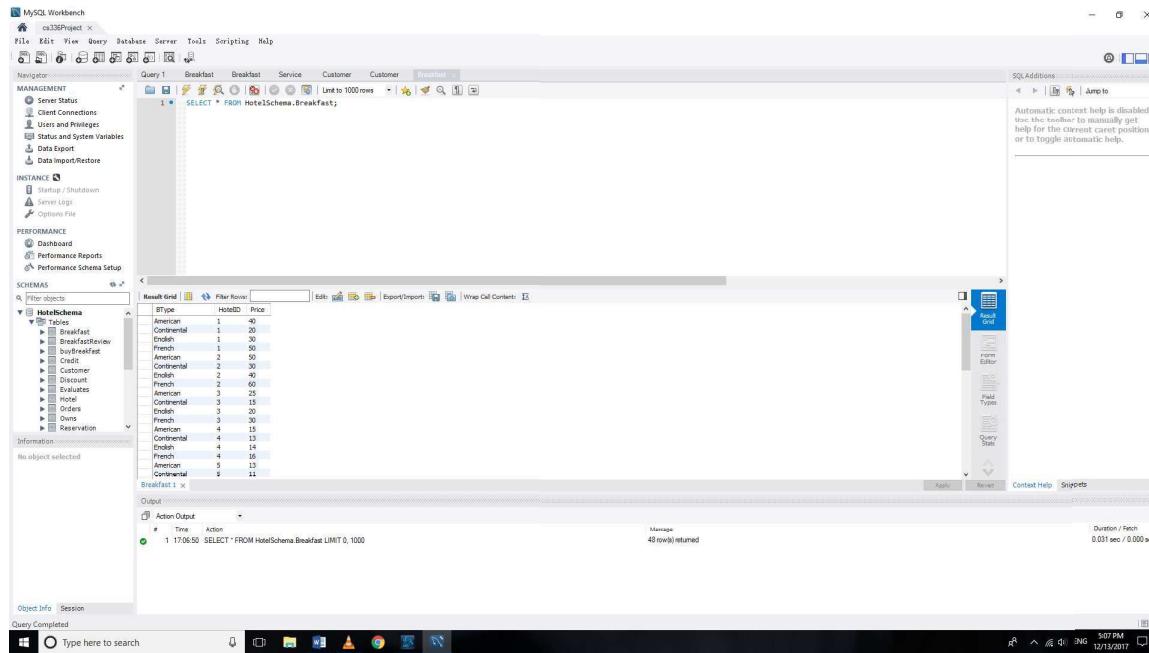
Moving the scroll bar down you will get the order breakfast form. When filing in the information please use the pictures to type in which breakfast types and hotel locations exist. **NOTE: the information is case sensitive so please enter the exact words you see on the MySQL workbench table(s).**



The screenshot shows a web browser window with the following details:

- Title Bar:** Update Account Information, hotels.jsp, booking.jsp, buybreakfast.jsp, order.jsp
- Address Bar:** http://localhost:8080/HiltonHotels/hotels.jsp
- Page Content:**
 - Hilton Hotels** logo
 - Navigation menu: Home, Account, Hotels, Reviews, Statistics, Logout
 - Form fields:
 - Submit button
 - Order Breakfast** section
 - Username**: Username input field
 - Hotel Location**: Hotel Location input field
 - Breakfast Type**: Room Type input field
 - Submit button
- Right Panel:** Outline (empty), Task (empty)
- Bottom Status Bar:** An outline is not available.
- Console Tab:** Shows Tomcat v7.0 Server at localhost [Apache Tomcat] /Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms

These are the breakfasts and breakfasts type each hotel has along with their price amount.



The screenshot shows the MySQL Workbench interface with the following details:

- Project:** ca38Project
- Server:** Tomcat v7.0 Server at localhost [Apache Tomcat]
- Database:** HotelsSchema
- Table:** Breakfast
- Query Editor:** SELECT * FROM HotelsSchema.Breakfast;
- Result Grid:**

BTtype	HotelID	Price
American	1	40
Continental	1	30
English	1	30
French	1	50
American	2	50
Continental	2	30
English	2	40
French	2	60
American	3	25
Continental	3	20
English	3	20
French	3	30
American	4	15
Continental	4	13
English	4	14
French	4	16
American	5	10
Continental	5	11
- Information:** No object selected
- Output:** Action Output: # Time Action, 1 17:06:50 SELECT * FROM HotelsSchema.Breakfast LIMIT 0, 1000; 48 row(s) returned; Duration / Fetch: 0.031 sec / 0.000 sec
- Bottom Status Bar:** Type here to search, 5:07 PM, 12/13/2017

If you are successful in ordering breakfast then you will be prompted with a successful breakfast order and reload button. Also the breakfast order will be stored in the buyBreakfast table on MySQL workbench as shown here.

The screenshot shows the MySQL Workbench interface with the title bar "MySQL Workbench" and the database "Hilton Hotels".

The left sidebar contains the following sections:

- MANAGEMENT**: Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore.
- INSTANCE**: Startup / Shutdown, Server Logs, Options File.
- PERFORMANCE**: Dashboard, Performance Reports, Performance Schema Setup.
- SCHEMAS**: Filter objects, BreakfastReview, buyBreakfast, Credit, Customer, Discount.

The main workspace shows a query editor tab titled "buyBreakfast" with the SQL command:

```
1 • SELECT * FROM HotelSchema.buyBreakfast;
```

The result grid displays the following data:

buyID	HotelID	CID	BType
HULL	HULL	HULL	HULL

The "Action Output" section at the bottom shows the following log entries:

Time	Action	Response	Duration / Fetch Time
22:10:33	SELECT * FROM HotelSchema....	0 row(s) returned	0.018 sec / 0.00013...
22:10:37	SELECT * FROM HotelSchema....	0 row(s) returned	0.018 sec / 0.00012...
22:10:41	SELECT * FROM HotelSchema....	48 row(s) returned	0.018 sec / 0.00021...
22:10:53	SELECT * FROM HotelSchema....	0 row(s) returned	0.018 sec / 0.00012...

The status bar at the bottom says "Query Completed".

Focusing on the order service type form

Moving the scroll bar down you will get the order service form. When filing in the information please use the pictures to type in which service types and hotel locations exist. **NOTE: the information is case sensitive so please enter the exact words you see on the MySQL workbench table(s).**

The screenshot shows a web application for ordering services. The main page has a header with tabs: 'Update Account Information', 'hotels.jsp', 'booking.jsp', 'buybreakfast.jsp', and 'order.jsp'. The 'order.jsp' tab is active. The page title is 'Hilton Hotels'. The main content area is titled 'Order A Service' and contains three input fields with dropdown menus: 'Username', 'Hotel Location', and 'Service Type'. Each field has a 'Submit' button below it. To the right of the form is a MySQL Workbench window. The 'Console' tab is selected, showing server logs:

```
Tomcat v7.0 Server at localhost [Apache Tomcat] [/Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms
```

The 'Service' table results are shown in the 'Result Grid' tab:

HotellID	SType	sCost
1	Laundry	10
1	Parking	12
1	Taxi	11
2	Laundry	8
2	Parking	10
2	Taxi	9
3	Laundry	11
3	Parking	13
3	Taxi	12
4	Laundry	14
4	Parking	12

These are the service types each hotel has along with their price amount.

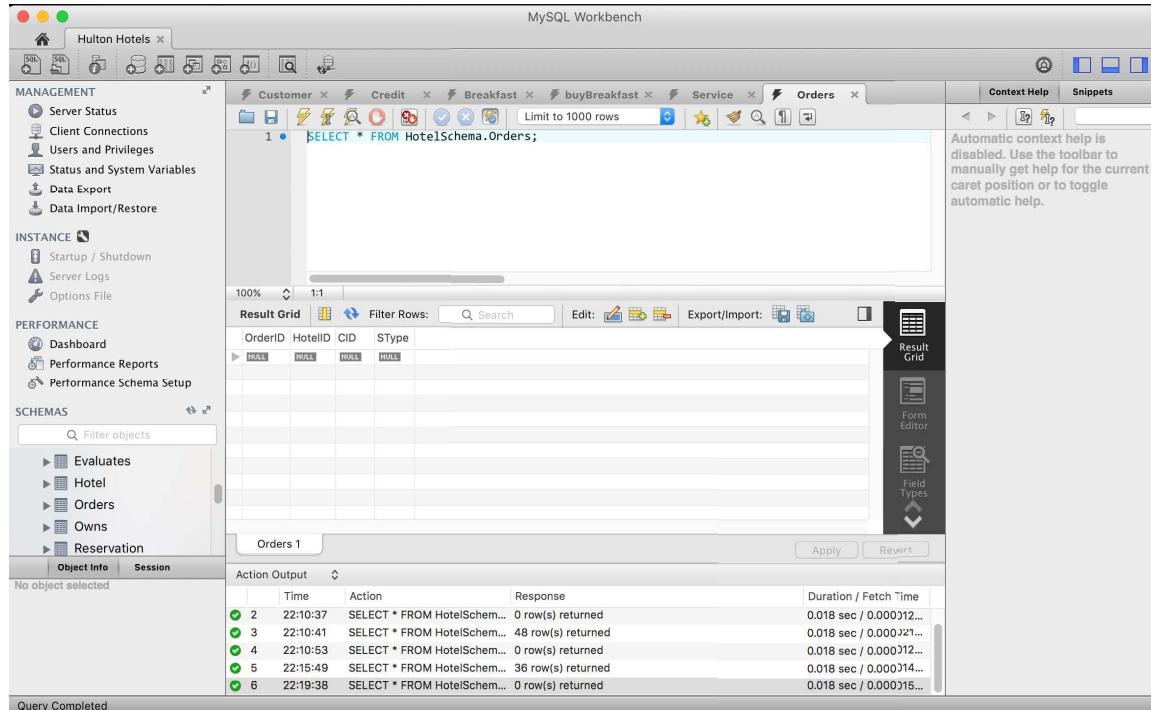
The screenshot shows the MySQL Workbench interface. The left sidebar includes sections for MANAGEMENT, INSTANCE, PERFORMANCE, SCHEMAS, and Object Info. The central area shows the results of a query in the 'Service' table:

HotellID	SType	sCost
1	Laundry	10
1	Parking	12
1	Taxi	11
2	Laundry	8
2	Parking	10
2	Taxi	9
3	Laundry	11
3	Parking	13
3	Taxi	12
4	Laundry	14
4	Parking	12

The 'Action Output' tab shows the history of queries:

Time	Action	Response	Duration / Fetch Time
22:10:33	SELECT * FROM HotelSchema.Service;	0 row(s) returned	0.018 sec / 0.000013...
22:10:37	SELECT * FROM HotelSchema.Service;	0 row(s) returned	0.018 sec / 0.000012...
22:10:41	SELECT * FROM HotelSchema.Service;	48 row(s) returned	0.018 sec / 0.000021...
22:10:53	SELECT * FROM HotelSchema.Service;	0 row(s) returned	0.018 sec / 0.000012...
22:15:49	SELECT * FROM HotelSchema.Service;	36 row(s) returned	0.018 sec / 0.000014...

If you are successful in ordering a service type then you will be prompted with a successful service order and reload button. Also the service order will be stored in the buyBreakfast table on MySQL workbench as shown here.

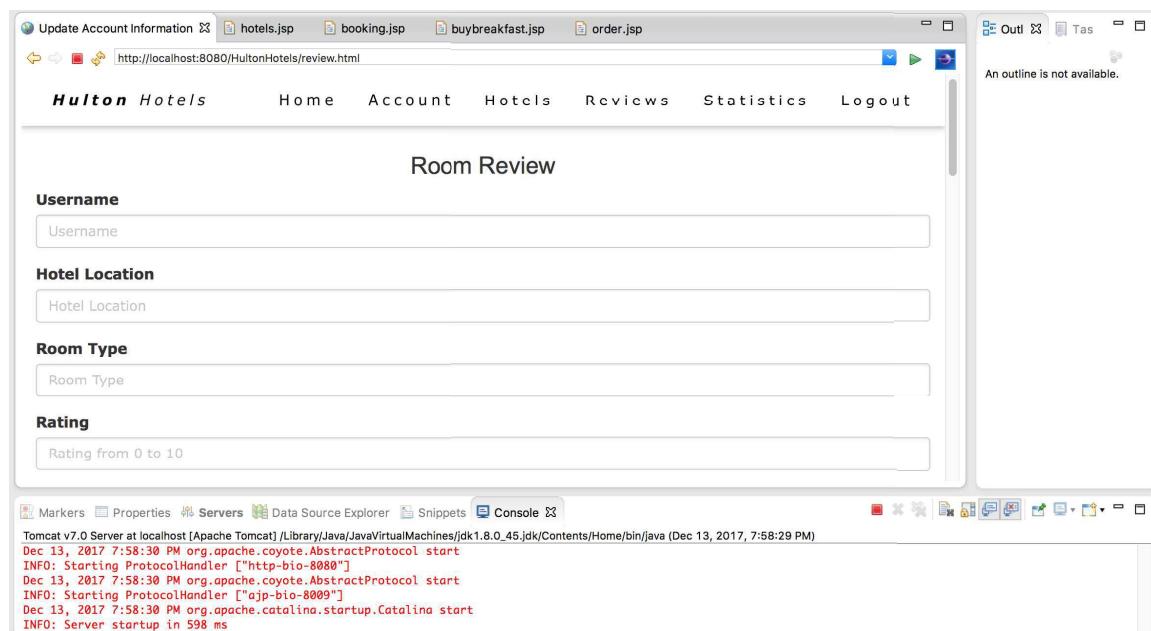


The screenshot shows the MySQL Workbench interface. On the left, there's a sidebar with sections for MANAGEMENT, INSTANCE, PERFORMANCE, SCHEMAS, and Object Info. The SCHEMAS section lists tables like Evaluates, Hotel, Orders, Owns, and Reservation. The main pane displays a query results grid for the Orders table. The query is:

```
SELECT * FROM HotelsSchema.Orders;
```

The results grid has columns: OrderID, HotelID, CID, and SType. Below the grid, there's a table titled "Orders 1" showing the execution history of the query. The table has columns: Time, Action, Response, and Duration / Fetch Time. The history shows six executions of the query at different times between 22:10:37 and 22:19:38, each returning 0 or 48 rows.

9. Moving on to the Reviews tab you will be presented with this page.



The screenshot shows a web browser window with the URL <http://localhost:8080/HultonHotels/review.html>. The page title is "Room Review". It contains several input fields: "Username" (with placeholder "Username"), "Hotel Location" (with placeholder "Hotel Location"), "Room Type" (with placeholder "Room Type"), and "Rating" (with placeholder "Rating from 0 to 10"). Above the form, there's a navigation bar with links: "Update Account Information", "hotels.jsp", "booking.jsp", "buybreakfast.jsp", "order.jsp", "Home", "Account", "Hotels", "Reviews", "Statistics", and "Logout". To the right of the form, there's a sidebar titled "Outline" which says "An outline is not available". At the bottom, there's a "Console" tab showing Tomcat startup logs.

```

Tomcat v7.0 Server at localhost [Apache Tomcat] [/Library/Java/JavaVirtualMachines/dk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms

```

Focusing on the room review form

Filling in the necessary information for a room review will prompt a success or fail depending on if you fill in the information correctly. After successfully making a room review it will be stored in the RoomReview table in MySQL workbench.

The screenshot shows the MySQL Workbench interface. On the left, the 'SCHEMAS' tree view is expanded to show 'REVIEW', 'Room', 'RoomReview', 'Service', and 'ServiceReview'. The central pane displays a SQL editor with the query: `SELECT * FROM HotelSchema.RoomReview;`. Below the query, the 'Result Grid' shows a single row of data with columns 'ReviewID' and 'RType', both containing 'NULL'. The bottom pane shows the 'Action Output' log with seven entries, all of which are successful SELECT queries taking less than 0.018 seconds.

Action	Response	Duration / Fetch Time
3	SELECT * FROM HotelSchema... 48 row(s) returned	0.018 sec / 0.000021...
4	SELECT * FROM HotelSchema... 0 row(s) returned	0.018 sec / 0.000012...
5	SELECT * FROM HotelSchema... 30 row(s) returned	0.018 sec / 0.000014...
6	SELECT * FROM HotelSchema... 0 row(s) returned	0.018 sec / 0.000015...
7	SELECT * FROM HotelSchema... 0 row(s) returned	0.018 sec / 0.000010...

Focusing on the breakfast review form

Moving the scroll bar down you will get the breakfast review form.

The screenshot shows a web browser window with the URL `http://localhost:8080/HiltonHotels/review.html`. The page title is 'Breakfast Review'. It contains several input fields: 'Username' (with placeholder 'Username'), 'Hotel Location' (with placeholder 'Hotel Location'), 'Breakfast Type' (with placeholder 'Breakfast Type'), 'Rating' (with placeholder 'Rating from 0 to 10'), and 'Comments' (with placeholder 'Comments'). To the right of the browser is a 'Console' window showing the Tomcat server log. The log output includes the startup of the server and its components, such as the AbstractProtocol and ProtocolHandler for ports 8080 and 8009.

```
Tomcat v7.0 Server at localhost [Apache Tomcat]/Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms
```

Filling in the necessary information for a breakfast review will prompt a success or fail depending on if you fill in the information correctly. After successfully making a room review it will be stored in the BreakfastReview table in MySQL workbench.

The screenshot shows the MySQL Workbench interface. On the left, the sidebar includes sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup), and SCHEMAS (HotelSchema). The current schema is HotelSchema. In the center, a query editor window titled 'BreakfastReview' displays the following SQL query:

```
SELECT * FROM HotelSchema.BreakfastReview;
```

The result grid shows one row of data:

ReviewID	BType
NULL	NULL

Below the result grid, a 'BreakfastReview 1' tab is open. At the bottom of the screen, the 'Action Output' pane shows the execution history:

Action	Time	Response	Duration / Fetch Time
SELECT * FROM HotelSchema.BreakfastReview;	22:15:49	36 row(s) returned	0.018 sec / 0.000014...
SELECT * FROM HotelSchema.BreakfastReview;	22:19:38	0 row(s) returned	0.018 sec / 0.000015...
SELECT * FROM HotelSchema.BreakfastReview;	22:23:16	0 row(s) returned	0.018 sec / 0.000010...
SELECT * FROM HotelSchema.BreakfastReview;	22:28:29	0 row(s) returned	0.019 sec / 0.000020...
SELECT * FROM HotelSchema.BreakfastReview;	22:28:32	0 row(s) returned	0.019 sec / 0.000007...

The message 'Query Completed' is at the bottom of the output pane.

Focusing on the service review form

Moving the scroll bar down you will get the service review form.

The screenshot shows a web browser window for 'Hilton Hotels'. The URL is <http://localhost:8080/HiltonHotels/review.html>. The page title is 'Service Review'. The form fields include:

- Username:**
- Hotel Location:**
- Service Type:**
- Rating:** Rating from 0 to 10
- Comments:**

To the right of the browser window, the Eclipse IDE interface is visible, showing the 'Console' view which displays the Tomcat server log:

```
Tomcat v7.0 Server at localhost [Apache Tomcat]/Library/Java/JavaVirtualMachines/jdk1.8.0_45.jdk/Contents/Home/bin/java (Dec 13, 2017, 7:58:29 PM)
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-bio-8080"]
Dec 13, 2017 7:58:30 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-bio-8009"]
Dec 13, 2017 7:58:30 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 598 ms
```

Filling in the necessary information for a service review will prompt a success or fail depending on if you fill in the information correctly. After successfully making a room review it will be stored in the ServiceReview table in MySQL workbench.

The screenshot shows the MySQL Workbench interface with the following details:

- Left Sidebar:** Management, Instance, Performance, Schemas (listing tables like Breakfast, BreakfastReview, buyBreakfast, Credit).
- Central Area:** A query editor window titled "Query 12" containing the SQL command: `SELECT * FROM HotelSchema.ServiceReview;`. Below the query is a "Result Grid" showing the following data:

ReviewID	SType
HULL	HULL

- Bottom Panel:** Action Output showing the execution history of the query:

Action	Time	Response	Duration / Fetch Time
SELECT * FROM HotelSchema...	22:15:49	36 row(s) returned	0.018 sec / 0.000014...
SELECT * FROM HotelSchema...	22:19:38	0 rows(s) returned	0.018 sec / 0.000015...
SELECT * FROM HotelSchema...	22:23:16	0 row(s) returned	0.018 sec / 0.000010...
SELECT * FROM HotelSchema...	22:28:29	0 row(s) returned	0.019 sec / 0.000020...
SELECT * FROM HotelSchema...	22:28:32	0 row(s) returned	0.019 sec / 0.000007...

10. Moving onto the Statistics tab you will be presented with the following page

The screenshot shows a web browser displaying the "Statistics" page of the Hulton Hotels application. The URL is `http://localhost:8080/HultonHotels/stats.jsp`. The page includes the following elements:

- Header:** Hulton Hotels, Home, Account, Hotels, Reviews, Statistics, Logout.
- Form Fields:**
 - Check-In Date:
 - Check-Out Date:
 - Options (radio buttons):
 - Highest rated room type for each hotel!
 - 5 Best Customers
 - Highest rated breakfast type across all hotels
 - Highest rated service type across all hotels
 - submit button
- Console Output:** Shows Tomcat v7.0 Server logs at the bottom of the page.

For some reason our statistics html file was not printing out our results table. Our mySQL can run and process queries. Running these queries in mySQL will give out the output seeked by the hotel manager.

Best service from each hotel

```
Select t.HotelID, t.ServiceType, max(t.Rating/t.n) Rating
FROM (
SELECT r.HotelID,r.ReviewID,r.Rating,r.Typess
ServiceType,count(r.Typess) n
FROM HotelSchema.Review r
WHERE r.RType = "Service" and r.RDate >= 2017-12-12 and r.RDate <=
2017-12-13
) t
GROUP BY t.HotelID and t.ServiceType
;
```

Best Room type for each hotel

```
Select t.HotelID, t.RoomType, max(t.Rating/t.n) Rating
FROM (
SELECT r.HotelID,r.ReviewID,r.Rating,r.Typess
RoomType,count(r.Typess) n
FROM HotelSchema.Review r
WHERE r.RType = "Room" and r.RDate >= 2017-12-12 and r.RDate <=
2017-12-13
) t
GROUP BY t.HotelID and t.RoomType
;
```

Best Breakfast type for each hotel

```
Select t.HotelID, t.BreakfastType, max(t.Rating/t.n) Rating
FROM (
SELECT r.HotelID,r.ReviewID,r.Rating,r.Typess
BreakfastType,count(r.Typess) n
FROM HotelSchema.Review r
WHERE r.RType = "Breakfast" and r.RDate >= 2017-12-12 and r.RDate <=
2017-12-13
) t
GROUP BY t.HotelID and t.BreakfastType
;
```

Top 5 paying customers

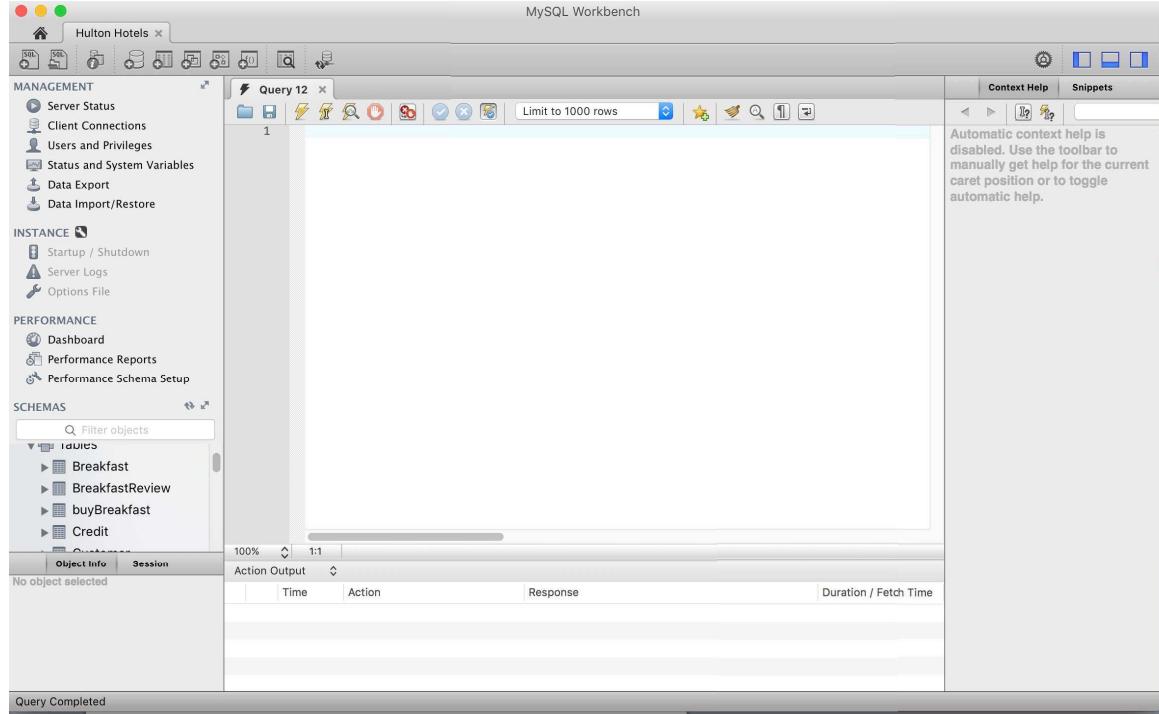
```
SELECT t.CID CID, t.Price Price
FROM
(
SELECT o.CID CID,s.sCost Price
FROM Orders o, Service s
WHERE o.HotelID=s.HotelID and s.SType=o.SType
UNION
SELECT c.CID CID,b.Price Price
FROM Breakfast b, buyBreakfast c
WHERE b.BType=c.BType and b.HotelID=c.HotelID
UNION
SELECT r.CID CID, q.price Price
```

```

FROM HotelSchema.Reservation r, HotelSchema.Room q
WHERE r.Room_no=q.Room_no and r.HotelID=q.HotelID
) t
GROUP BY CID
ORDER BY Price DESC LIMIT 5

```

Running these queries under a query page on MySQL workbench will provide the statistics



11. Last is the logout tab which when pressed will take the user back to the login/registration page!