Ecommerce Application using Amazon Dynamo DB

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Application: I built an E-Commerce website which enables users to login and buy items online.

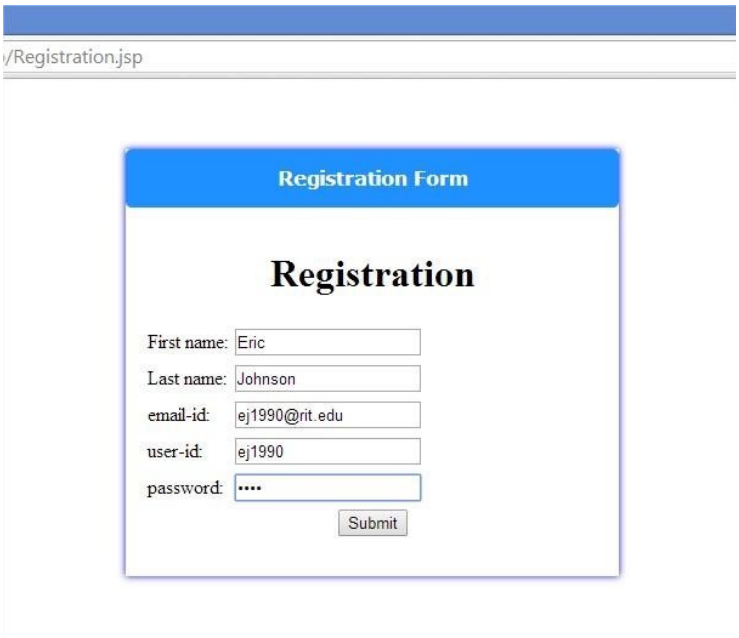
This applications allows the users to purchase various items which are stored in an Online NoSQL Database. Namely I use the Amazon DynamoDB to hold the data. I use Java as the platform to accesss the data available online by means of the jar files that are provided by the DynamoDatabase. These jar files hold the web service calls that are3 needed to access the data stored online. I ensure that only the registered user has access to the database. JSP along with HTML/CSS were used as front end tools and Eclipse was used as IDE.

Why No-SQL over SQL?

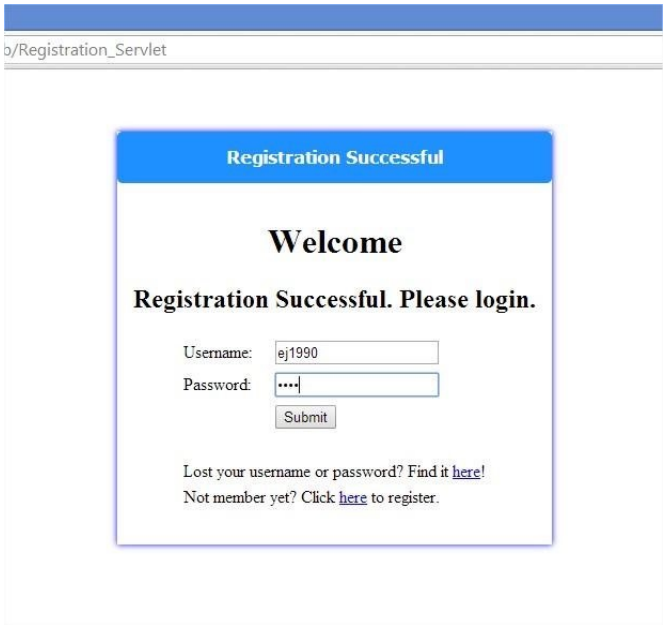
In this application, I store the data in two tables. The first table is a user table which contains information about the user and the second table is a product table that contains information about the product. Since each product has different properties, storing it using No-SQL would be easier and efficient in terms of space utilization. For example, consider the products MacBook Pro and a T-Shirt. The MacBook Pro will have properties like weight, colour, disk capacity, RAM, brand etc. whereas the t-shirt will have properties like size, colour and brand. Hence it is better to use No-SQL database in such cases.

Front End:

A login page was created to enable users to login using their username and password. A new user can register on the web site by providing details like username, password, email-Id, first name and last name.

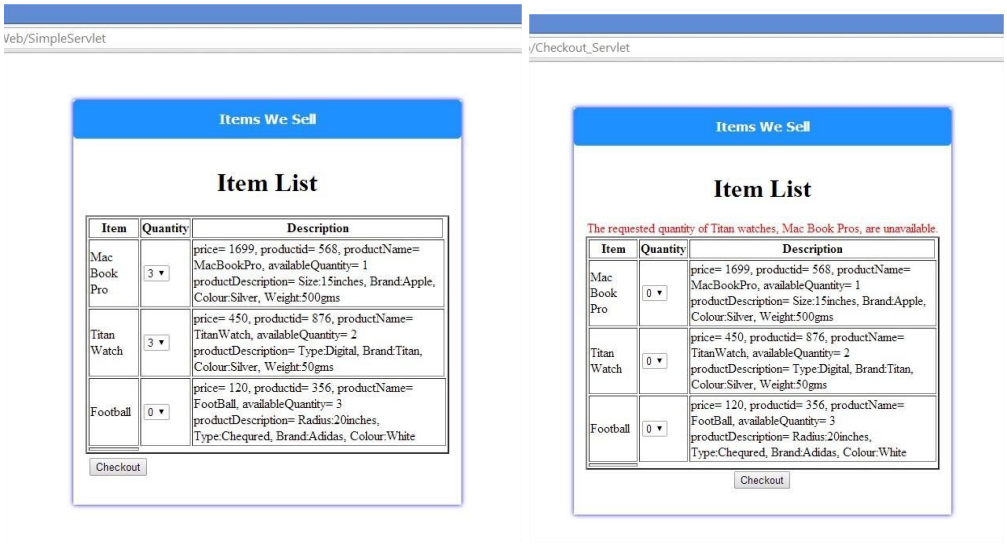


If the registration is successful, then the user is added to the database. Following screen is displayed showing that the registration is successful.

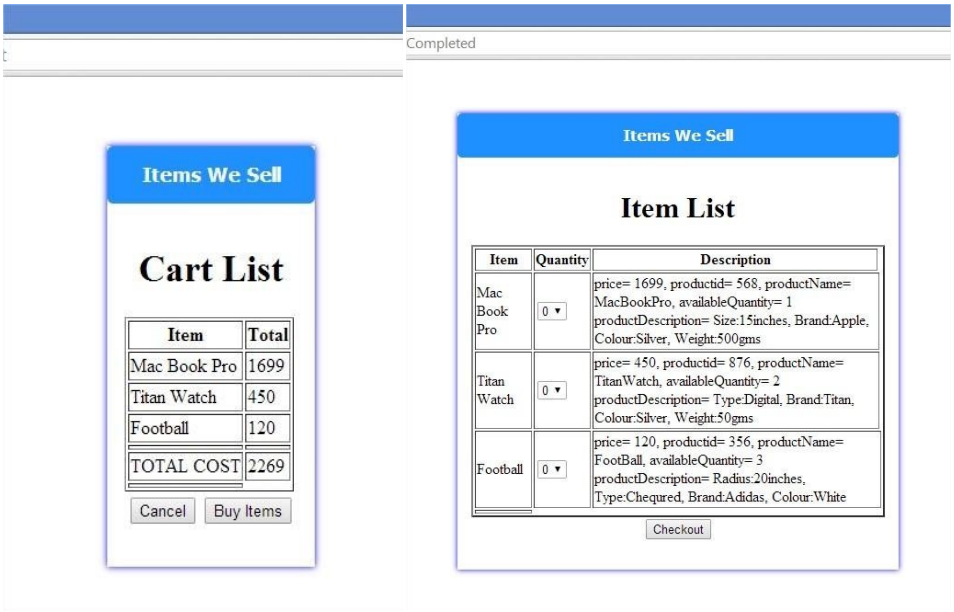


If the existing user provides invalid login/password, then a new screen is displayed showing that the login is unsuccessful.

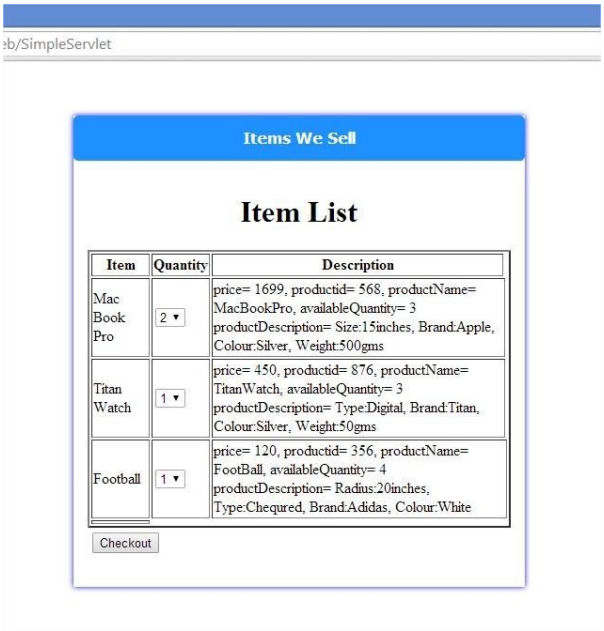
Once the valid login credentials are provided, user can check in the items to the shopping cart. If the selected items are less than the available items then a new screen is displayed showing that the specific items are unavailable.

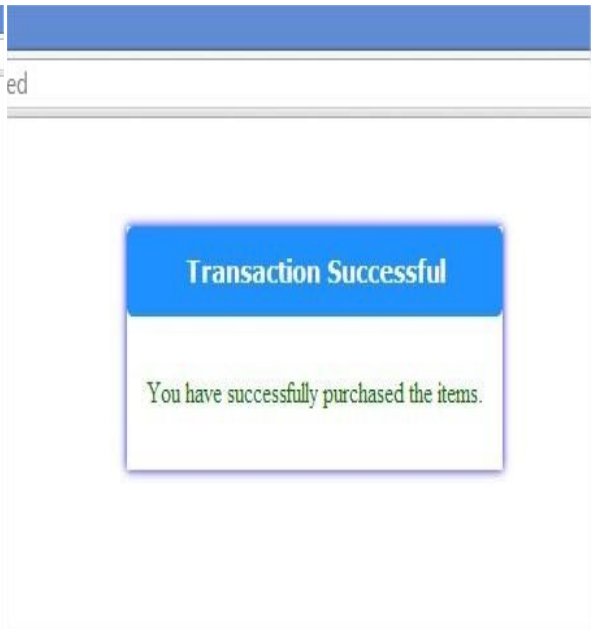


After adding items to the cart, user has the option to cancel the order or buy items.



Following is the complete successful application flow:

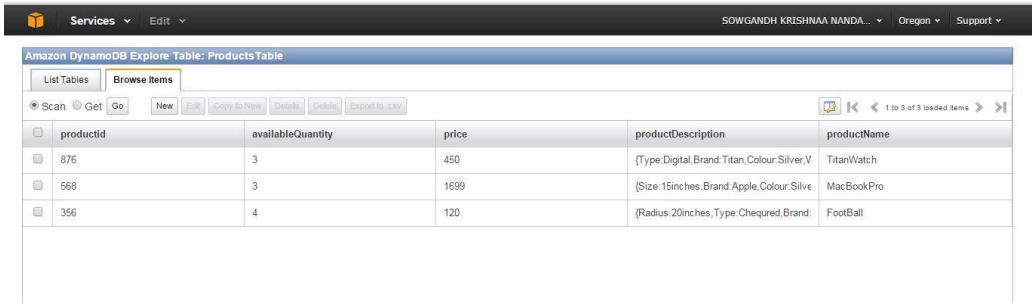




DynamoDB:

Once users purchases the items, the corresponding quantity of the items will be decremented in the product table accordingly.

The screenshots for the data stored in the dynamo database are given below.



After successful purchase, the itemsPurchased field in the Users table will have the updated quantity.