

Ecommerce Application using Amazon Dynamo DB

Sowgandh Krishnaa Nandamuri

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

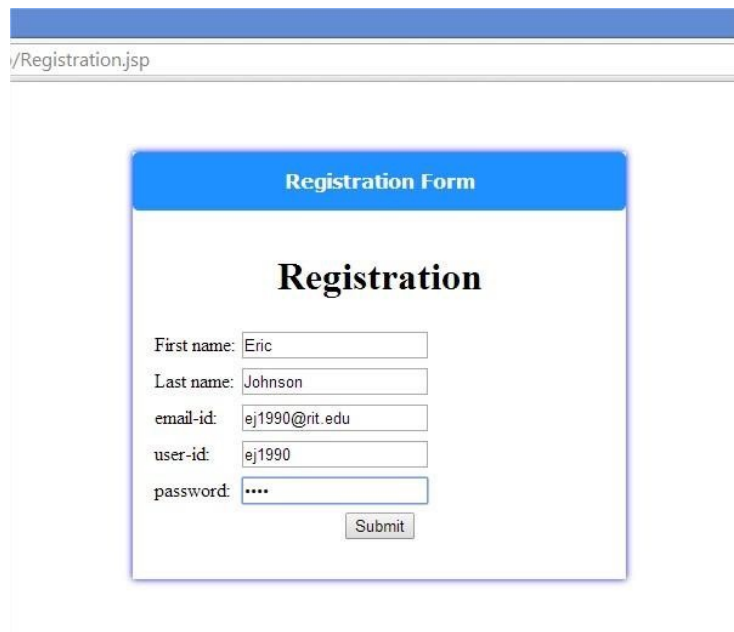
This applications allows the users to purchase various items which are stored in an Online NoSQL Database. Namely I use the Amazon DynamoDB to hold the data. I use Java as the platform to accesss the data available online by means of the jar files that are provided by the DynamoDatabase. These jar files 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.



The screenshot shows a web browser window with the address bar displaying "/Registration.jsp". The main content area features a registration form with a blue header bar labeled "Registration Form". Below the header, the title "Registration" is centered. The form contains five input fields: "First name:" with the value "Eric", "Last name:" with the value "Johnson", "email-id:" with the value "ej1990@nit.edu", "user-id:" with the value "ej1990", and "password:" with the value "****". A "Submit" button is located at the bottom right of the form.

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

b/Registration_Servlet

Registration Successful

Welcome

Registration Successful. Please login.

Username:

Password:

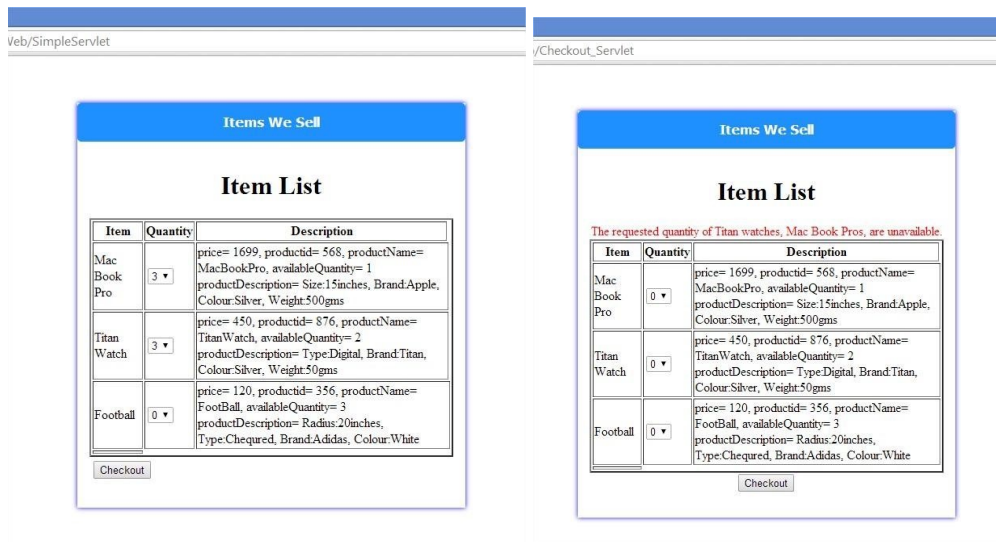
Lost your username or password? Find it [here!](#)

Not member yet? Click [here](#) to register.

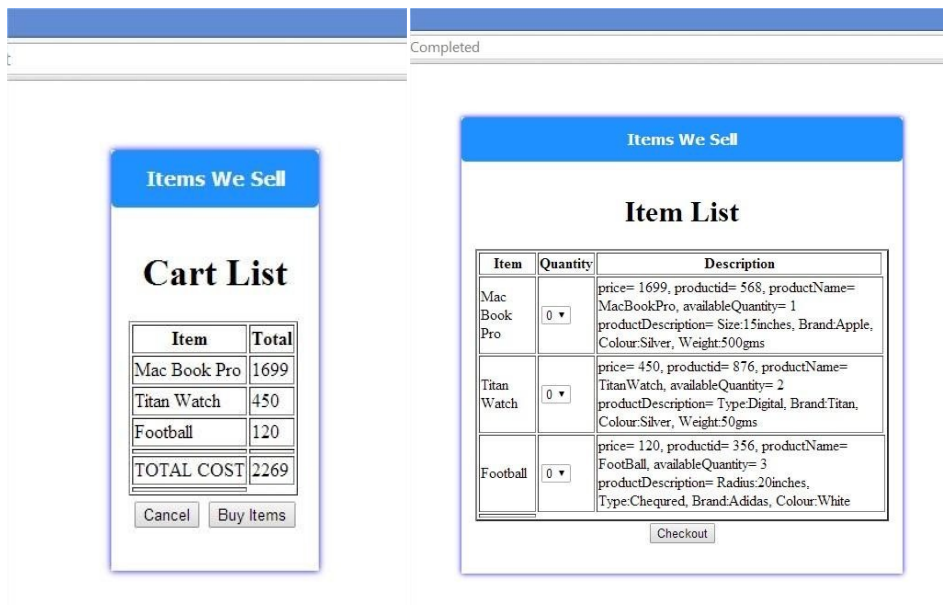
If the existing user provides invalid login/password, then a new screen is displayed showing that the login is unsuccessful.

<p>rvlet</p>	
<div>Enter your Login and Password</div> <div>Welcome</div> <p>Username: <input type="text" value="ud1896"/></p> <p>Password: <input type="password" value="....."/></p> <p><input type="button" value="Submit"/></p> <p>Not a member yet? Click here to register.</p>	<div>Enter your Login and Password</div> <div>Welcome</div> <p>Login unsuccessful.</p> <p>Username: <input type="text"/></p> <p>Password: <input type="password"/></p> <p><input type="button" value="Submit"/></p> <p>Not member yet? Click here to register.</p>

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:

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Amazon DynamoDB Explore Table: ProductsTable

List Tables

Browse Items

ScanGetGoNewEditCopy to NewDetailsDeleteExport to .csv

<<1 to 3 of 3 loaded items>>

	productid	availableQuantity	price	productDescription	productName
	876	3	450	{Type: Digital, Brand: Titan, Colour: Silver, V	TitanWatch
	568	3	1699	{Size: 15inches, Brand: Apple, Colour: Silve	MacBookPro
	356	4	120	{Radius: 20inches, Type: Chequered, Brand:	FootBall

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1 to 3 of 3 loaded items

productid	availableQuantity	price	productDescription	productName
876	2	450	{Type: Digital, Brand: Titan, Colour: Silver, V	TitanWatch
568	1	1699	{Size: 15inches, Brand: Apple, Colour: Silve	MacBookPro
356	3	120	{Radius: 20inches, Type: Chequered, Brand:	FootBall

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

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Amazon DynamoDB Explore Table: UserTable

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Get

Go

New

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Copy to New

Details

Delete

Export to .csv

1 to 6 of 6 loaded items

userid	emailID	firstname	ItemsPurchased	lastname	password
<input type="checkbox"/> tj1829	tj1289@nit.edu	Thomas	{568 0,876 0,356 0}	John	abcd
<input type="checkbox"/> ej1990	ej1990@nit.edu	Eric	{568 0,876 0,356 0}	Johnson	abcd
<input checked="" type="checkbox"/> ss3168	ss3168@g.nit.edu	Shyam	{568 0,876 0,356 0}	Sangaraju	abcd
<input type="checkbox"/> sr2067	sr2067@nit.edu	Sandeep	{568 1,876 1,356 0}	Ragla	abcd
<input type="checkbox"/> pd3698	pd3698@g.nit.edu	pradeep	{568 2,876 1,356 0}	Duvvur	pqrs
<input type="checkbox"/> sn2638	sn2638@g.nit.edu	Sowgandh	{568 0,876 4,356 2}	Krishna	wxyz

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Amazon DynamoDB Explore Table: UserTable

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1 to 6 of 6 loaded items

userid	emailID	firstname	ItemsPurchased	lastname	password
<input type="checkbox"/> tj1829	tj1289@nit.edu	Thomas	{568 0.876 0.356 0}	John	abcd
<input type="checkbox"/> ej1990	ej1990@nit.edu	Eric	{568 0.876 0.356 0}	Johnson	abcd
<input checked="" type="checkbox"/> ss3168	ss3168@g.nit.edu	Shyam	{568 2.876 1.356 1}	Sangaraju	abcd
<input type="checkbox"/> sr2067	sr2067@nit.edu	Sandeep	{568 1.876 1.356 0}	Ragla	abcd
<input type="checkbox"/> pd3698	pd3698@g.nit.edu	pradeep	{568 2.876 1.356 0}	Duvvur	pqrs
<input type="checkbox"/> sn2638	sn2638@g.nit.edu	Sowgandh	{568 0.876 4.356 2}	Krishna	wxyz