

Project Report: Electronic Vendor Database

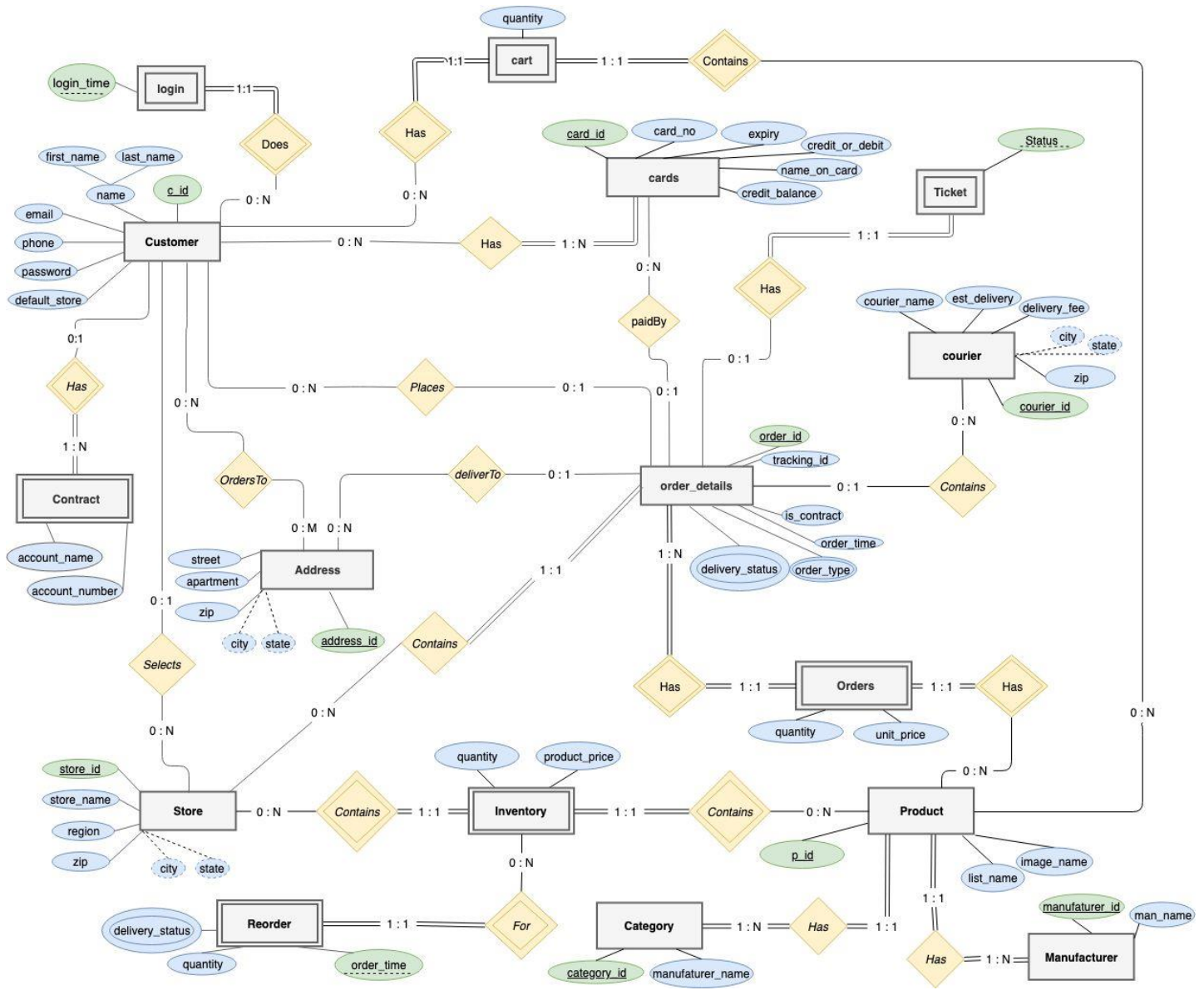
Group Members

Introduction:

The application we developed, named **BBUY** is an electronics vendor that operates both a website and a chain of many physical stores. In our hypothetical company, it has been decided to redesign a major part of the database that underlies company operations. Here are a few points to consider based on which we have prepared the ER Diagram:

- There are many different products, grouped into a variety of categories. Groups can be formed by type of product (cameras, phones, etc.), by manufacturer (Sony, Apple, etc.), or by other means
- Some customers have a contract with the company and bill their purchases to an account number. They are billed monthly. Other customers are infrequent customers and pay with a credit or debit card. Card information may be stored for online customers, but not for in-store customers.
- Online sales must be sent to a shipper. The company needs to store the tracking number for the shipping company so it can respond to customer inquiries.
- Inventory must be accurate both in stores and in warehouses used to replenish stores and to ship to online customers. When inventory is low, a reorder should be sent to the manufacturer and listed in the database. When goods arrive, inventory should be updated, and reorders marked as having been filled.
- Sales data are important for corporate planning. Marketers may want to look at sales data by time period, product, product grouping, season, region (for stores), etc.

ER Diagram:



Relation DB:

The SQL queries related to the application can be found in the attached “sql_scripts.sql” file.

The queries are ordered as below:

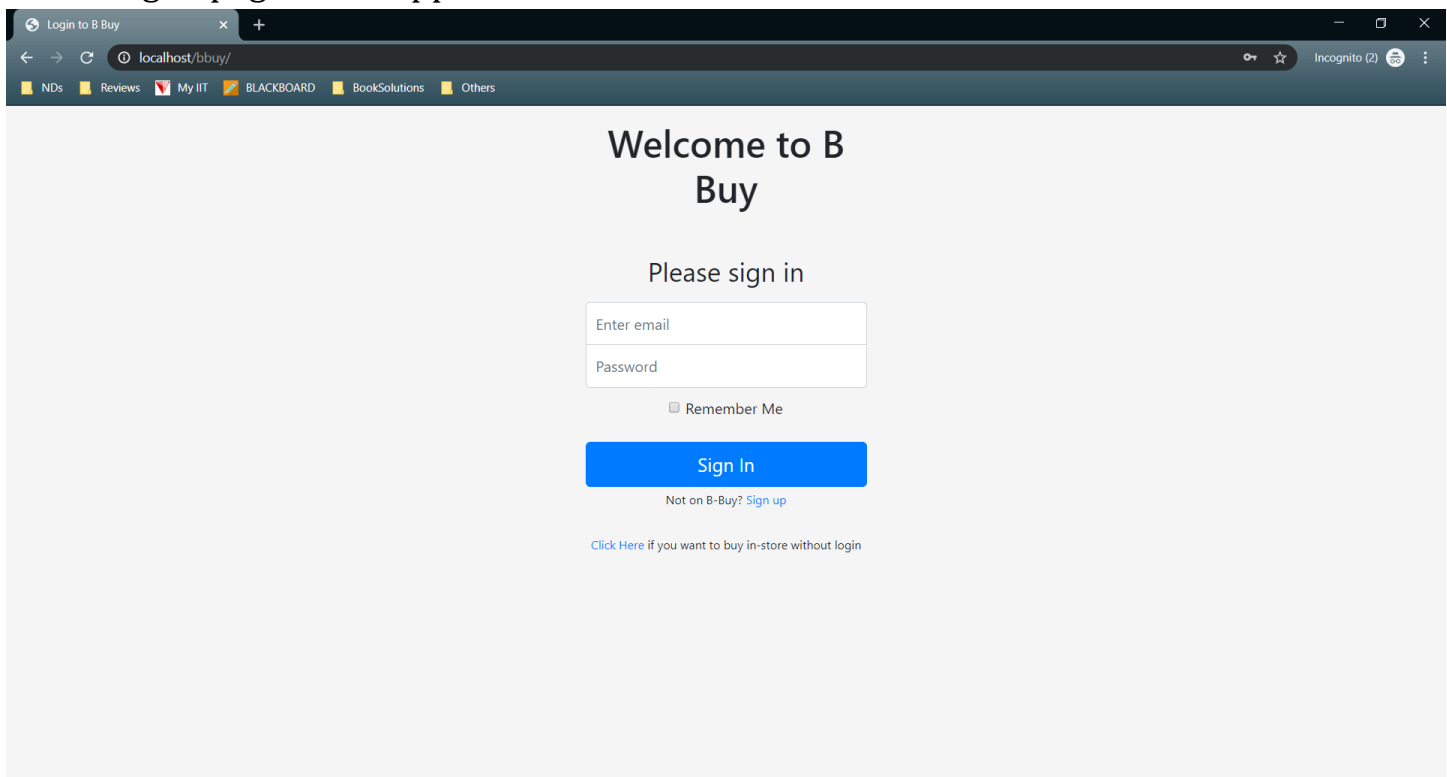
- 1) Create Statements
- 2) Create Sequences
- 3) Create Triggers
- 4) Finally, the Insert statements

Additionally, the queries used for the dynamic loading and storing of data from the web-app are present in “**queries.php**” file in each source folder. Some queries are also directly embedded in the html page.

The server setup steps are present in “**server_steps.txt**”

Application Screenshot:

1. Log In page of the application:



2. Suppose we are visiting the application for the first time and we do not have an account. We now have two options:
 - a. Buy in-store without creating an account:
Click on the “click Here” link as highlighted below:

Welcome to B-Buy

Please sign in

☐ Remember Me


Sign In


Not on B-Buy? [Sign up](#)

[Click Here](#) if you want to buy in-store without login


This will take us to the application home page:

[B-Buy](#) [Products](#) [Brands](#) [Account](#) [Store: Roosevelt Ave, IL, 60616](#) [Shopping Cart 0](#) [Search](#)

[Filter Products](#)




Microsoft - Surface Book 2 - 13.5" Touch-Screen PixelSense - 2-in-1 Laptop - Intel Core i5 - 8GB Memory - 256GB SSD - Platinum




Sony - Cyber-shot RX100 IV 20.1-Megapixel Digital Camera - Black

Items in stock: 99



Nikon - Z7 Mirrorless Camera with NIKKOR Z 24-70mm Lens - Black

Items in stock: 112

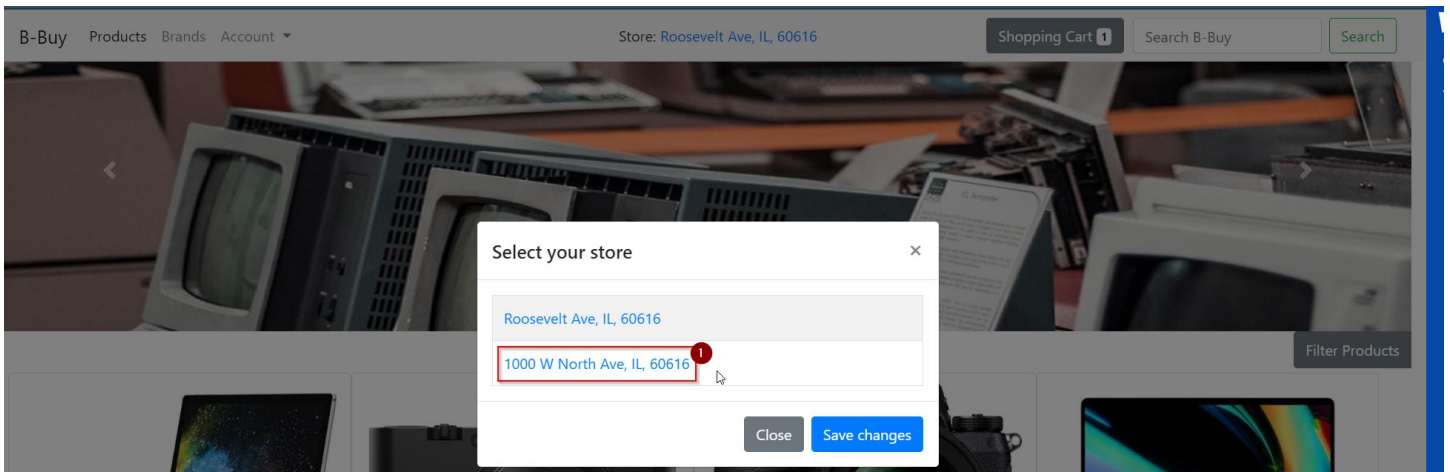


Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray

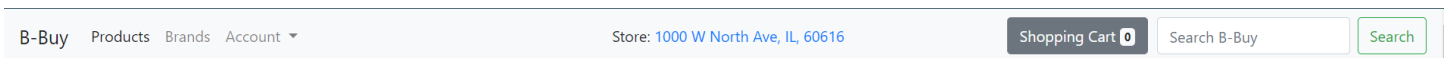
We can select a store from where we wish to Pick up our order. Selecting a store works by clicking on the store:

[B-Buy](#) [Products](#) [Brands](#) [Account](#) [Store: Roosevelt Ave, IL, 60616](#) [Shopping Cart 1](#) [Search](#)

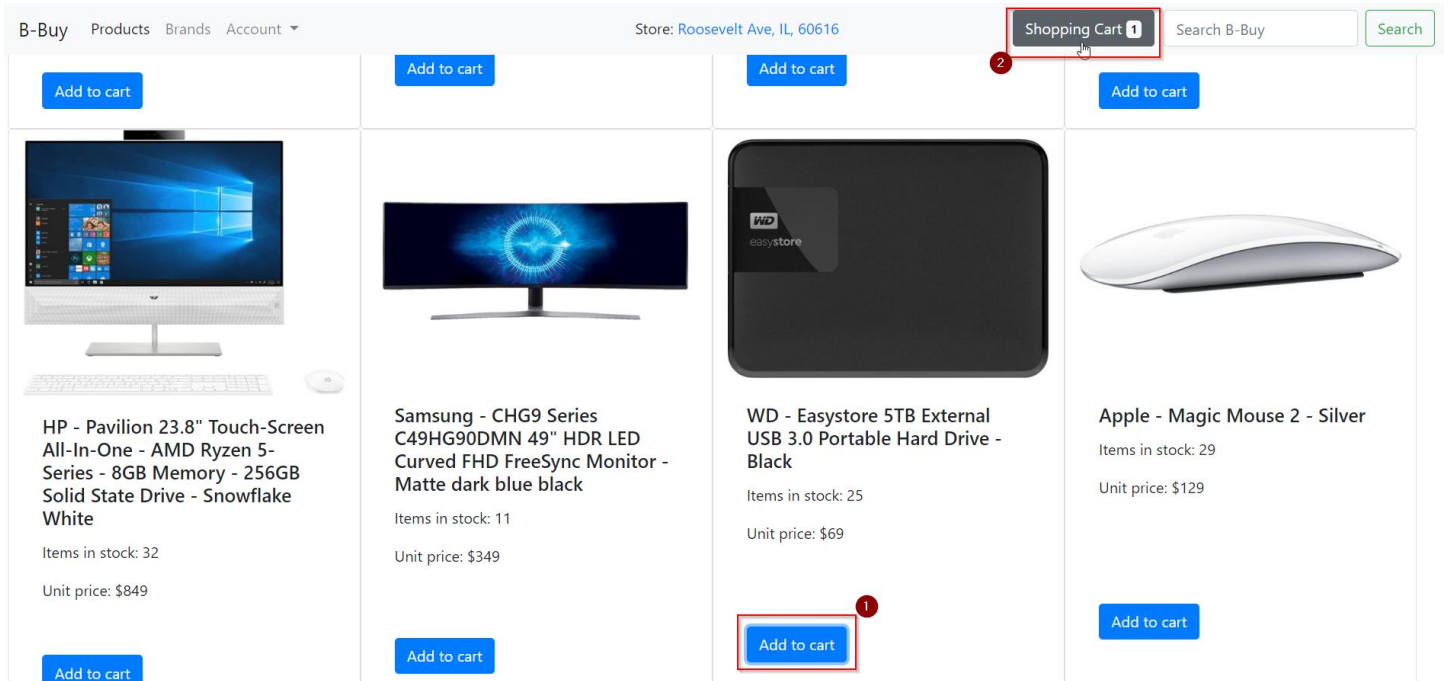
This provides us with options to select other available stores:



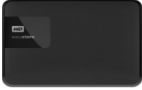
Clicking on a store sets the store as selected store and displays products available at that store:



We can add a product to card by clicking “Add to Cart” button below each product and then click on the Cart icon to move to checkout page:



The checkout page shows us the quantity selected, available items in inventory and total price of items in cart.

	WD - Easystore 5TB External USB 3.0 Portable Hard Drive - Black Unit Price: \$69	Delete Item	Quantity: 1
	Inventory: 25	Total Price: \$69	
Total: \$69			
Proceed to Checkout			

Clicking on proceed to checkout, directly places the order for pickup from selected store

Order Placed..!!

Check your e-mail for order details

-
- b. If we want to register for an account instead of Guest ordering, we can click on Sign Up, which takes us to the following page:

Welcome to B-Buy

Take some time to fill your details correctly so that we can log you in next time

First name	<input type="text" value="john"/>
Middle name	<input type="text" value=""/>
Last name	<input type="text" value="connor"/>
Phone	<input type="text" value="0123456789"/>
Email address	<input type="text" value="name@example.com"/>
Password	<input type="password" value="password"/>
Confirm password	<input type="password" value="password"/>
Sign Up	

Let us register with a new account:

Welcome to B-Buy

Take some time to fill your details correctly so that we can log you in next time

Oops...!! You have some errors

- Last name is empty or not valid
- Passwords don't match

First name
James

Middle name
to

Last name
connor

Phone
3123329871

Email address
jamesarthur@gmail.com

Password

Confirm password
password

Sign Up

We get errors when the requirements are not met. eg: Here we missed the Last name and no value was entered for the 'confirm password' field. Clicking on Sign Up with proper values takes us back to login page and prompts the following message:

Welcome to B
Buy

Please sign in

Enter email

Password

☐ Remember Me

Sign In

Not on B-Buy? [Sign up](#)

[Click Here](#) if you want to buy in-store without login

Account created. You can login now

Now let's check if the user has been created in DB:


```
select * from customer;
```

Output x Query Result x

SQL | All Rows Fetched: 8 in 0.033 seconds

C...	EMAIL	FIRST_NAME	LAST_NAME	PHONE	PASSWORD	DEFAULT_STORE
0	(null)	(null)	(null)	(null)	(null)	(null)
21	asaikia@hawk.iit.edu	Ankur	Saikia	3128262968	\$2y\$10\$QnzuwW1PcxZXcR8btVPuZe9lGufpR9phgkFVUXDZ85pznX27XbxYi	1
41	asaikia1@hawk.iit.edu	Arunabh	saikia	3125397699	\$2y\$10\$4droa6M5iRCvB/AheIV1Q.jex0wzhXjs6xSE.Rn.O0yJEWlvMEEiG	(null)
43	johndoe@gmail.com	John	Doe	9916109457	\$2y\$10\$/nQhPwztlawANp8Cw9sXHuyqPFeYF9b94a/UX3b6vRft0GCUFDj0i	(null)
49	janedoe@gmail.com	Jane	doe	3126541312	\$2y\$10\$4pKtSV8JE7jIrRbKbSI9uJ0tDwbGn9YzxnrdHNdZZ.grJyGZjsO	(null)
51	thenameisbond@gmail.com	James	Bond	9110070911	\$2y\$10\$geD8NtJ.iQlJBAYYQeIcIeminCuEM5/i5UKcHAMRy14DW/cq2P0Ia	(null)
61	jawadohare@gmail.com	Jawad	Hare	9971423312	\$2y\$10\$rcqc1lgTXqtHahBqSOYF7esYwE7hWH21gUbQi8cOMa3yJYFucVIgW	2
62	jamesarthur@gmail.com	James	Arthur	3123329871	\$2y\$10\$b1zUE7Lsb8aiyDwnQXsWOO2sSdCO91EizZK3dIEjTtkswAIiJeEC	(null)

As we can see, a user with c_id 62 has been created. Now let's see if we can login:

Welcome to B
Buy

Please sign in

☐ Remember Me

[Sign In](#)

Not on B-Buy? [Sign up](#)

[Click Here](#) if you want to buy in-store without login

Account created. You can login now

Enter user credentials and click on Sign In:

We have successfully been logged in:

B-Buy Products Brands Account Store: Roosevelt Ave, IL, 60616 Shopping Cart Search B-Buy Search

Filter Products

Microsoft - Surface Book 2 - 13.5" Touch-Screen PixelSense - 2-in-1 Laptop - Intel Core i5 - 8GB Memory - 256GB SSD - Platinum

Sony - Cyber-shot RX100 IV 20.1-Megapixel Digital Camera - Black

Nikon - Z7 Mirrorless Camera with NIKKOR Z 24-70mm Lens - Black

Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray

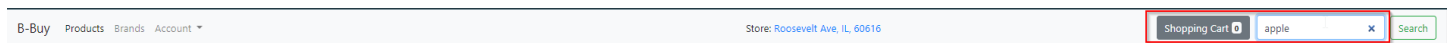
Checking on our DB LOGIN table, we can see the record for this login (for c_id 62):

```
select * from login;
```

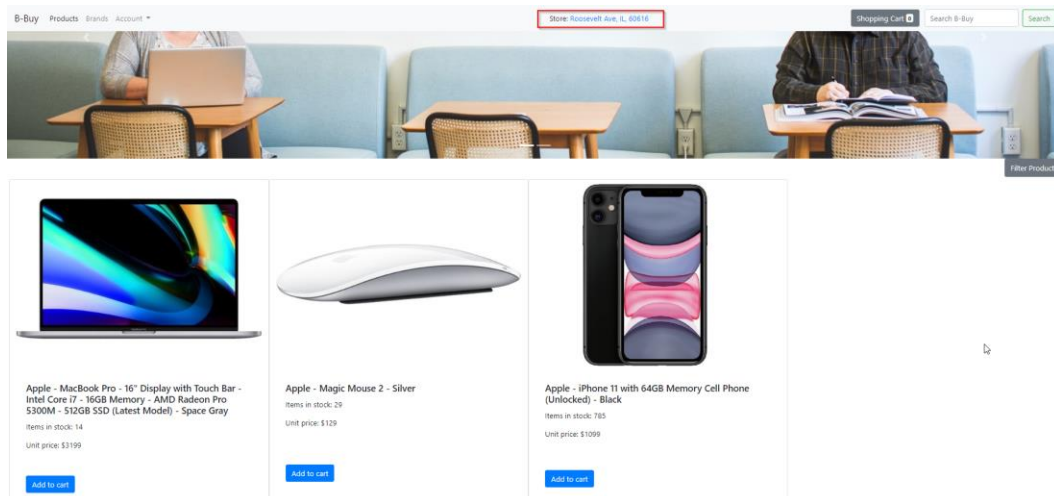
C_ID	LOGIN_TIME
62	05-DEC-19 03.09.25.000000000 AM

Now we will add a few things to cart:

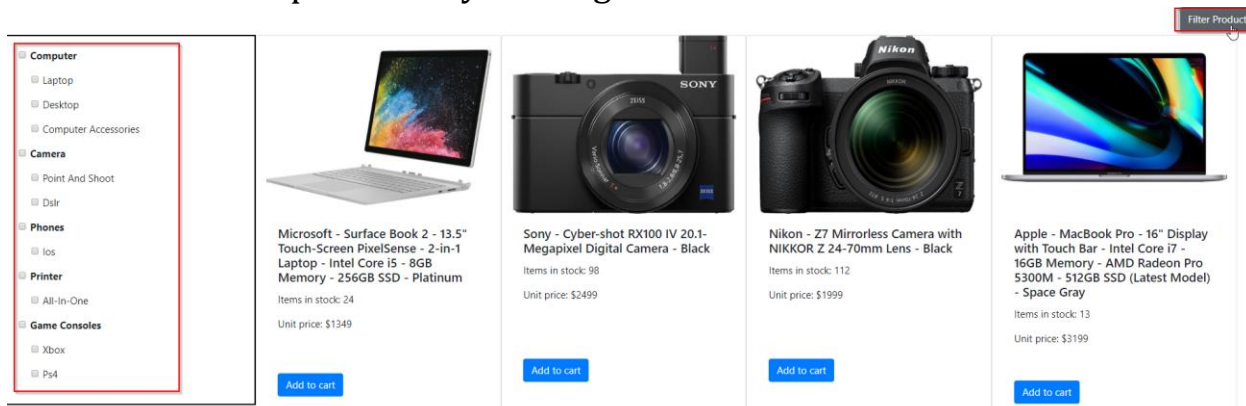
Search for apple products using search bar:



Clicking on search:



We can also filter products by clicking on **Filter Product Button**:



A left pane appears which can be used to filter product by various categories:

Using Subcategory Filter:

☒ Computer

☒ Laptop

☐ Desktop

☐ Computer Accessories

☐ Camera

☐ Point And Shoot

☐ Dslr

☐ Phones

☐ Ios

☐ Printer

☐ All-In-One

☐ Game Consoles

☐ Xbox

☐ Ps4



Microsoft - Surface Book 2 - 13.5" Touch-Screen PixelSense - 2-in-1 Laptop - Intel Core i5 - 8GB Memory - 256GB SSD - Platinum

Items in stock: 24

Unit price: \$1349

Add to cart



Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray

Items in stock: 13

Unit price: \$3199

Add to cart

```
select * from product where category_id = (select category_id from category where category_name = 'laptop');
```

P_ID	LIST_NAME
7	Microsoft - Surface Book 2 - 13.5" Touch-Screen PixelSense - 2-in-1 Laptop - Intel Core i5 - 8GB Memory - 256GB SSD - Platinum
6	Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray

Using Main Category as Filter:

☐ Computer

☐ Laptop

☐ Desktop

☐ Computer Accessories

☐ Camera

☐ Point And Shoot

☐ Dslr

☐ Phones

☐ Android

☐ Ios

☐ Printer

☐ All-In-One

☒ Game Consoles

☐ Xbox

☐ Ps4



Microsoft - Xbox One S 1TB Star Wars Jedi: Fallen Order? Deluxe Edition Console Bundle

Items in stock: 500

Unit price: \$199

Add to cart



Call of Duty: Modern Warfare Standard Edition - Xbox One

Items in stock: 210

Unit price: \$9

Add to cart



Sony - PlayStation 4 1TB Console - Black

Items in stock: 125

Unit price: \$279

Add to cart



God of War - PlayStation Hits Standard Edition - PlayStation 4

Items in stock: 150

Unit price: \$9

Add to cart


```
SELECT
*
FROM
product
WHERE
category_id IN (
SELECT
category_id
FROM
category
WHERE
parent_id = (
SELECT
category_id
FROM
category
WHERE
category_name = 'game consoles'
)
);
```

P_ID	LIST_NAME	MANUFACTURER_ID	CATEGORY_ID	IMAGE_NAME
17	Microsoft - Xbox One S 1TB Star Wars Jedi: Fallen Order™ Deluxe Edition Console Bundle	6	15	16.jpg
18	Call of Duty: Modern Warfare Standard Edition - Xbox One	12	15	17.jpg
19	Sony - PlayStation 4 1TB Console - Black	4	16	18.jpg
20	God of War - PlayStation Hits Standard Edition - PlayStation 4	4	16	19.jpg

We have 4 available products from the selected store:

Add products and click on CART icon to move to checkout page (*CART icon shows count of items added*). We can change the quantity of items in cart or even delete any item from the cart.

[B-Buy](#) [Products](#) [Brands](#) [Account](#) [Store: Roosevelt Ave, IL, 60616](#)



Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray


Unit Price: \$3199

Inventory: 14

Delete Item

Quantity: 1

Total Price: \$3199



Apple - Magic Mouse 2 - Silver

Unit Price: \$129

Inventory: 29

Delete Item

Quantity: 2

Total Price: \$258

Total: \$3457

Proceed to Checkout

Buy In store

We again have two options: Buy from store or Proceed to checkout, lets use proceed to checkout. **Buy in store** option is for store pickup and **Proceed to checkout** is for home delivery

Select an Address

Select a Card

Add a new address

Add a Card

Contract not Available

Select Address for Available Courie

Buy Now

Back To Main

As we have not added any address and payment methods, the Available courier option and BUY NOW option remains unavailable. Also, the customer does not have any available contract

Clicking on Add a new address:

Add a new address
Please check the information entered carefully

Apartment: 1809

Street Address: 2901 S king Dr

City: Chicago State: Illinois Zipcode: 60616

Add this Address

After adding a Valid Address:

Select an Address

James Arthur
APT: 1001
2901 S King Dr Chicago 60616

Select a Card

Add a new address **Add a Card** **Buy Now**

Contract not Available

Select Address for Available Courier

Back To Main

Address is shown for selection. As we have not selected the address, the Courier option is still now shown. Let's see if added address is inserted in DB table:

```
select * from address;
```

ADDRESS_ID	STREET	APARTMENT	ZIP
22	Manyata Tech Park, O...	1001	560045
24	2901 s king dr	1809	60616
23	Arizona	1001	87132
25	2901 S King Dr	2101	60616
41	2901 S King Dr	1001	60616
42	2901 S King Dr	1201	60616
20	1806 S King Dr	2901	60616
43	2901 S King Dr	1001	60616
21	South Michigan Avenue	1291	71902

Now select the address and if courier is available for the ZIP, it will show:

Select an Address

James Arthur
APT: 1001
2901 S King Dr Chicago 60616

Select a Card

Add a new address

Add a Card

Contract not Available

USPS : \$ FREE ! - 10 Days

USPS : \$ FREE ! - 10 Days

FedEx : \$ 126 - 2 Days

DHL : \$ 70 - 5 Days

Buy Now

Verify this with DB: available courier for ZIP: 60616

```
select * from courier where zip = 60616;
```

COURIER_ID	COURIER_NAME	ZIP	ESTIMATED_DELIVERY	DELIVERY_FEE
1	USPS	60616	10	(null)
2	FedEx	60616	2	126
3	DHL	60616	5	70

Now we will add a Card and see if BUY now becomes enabled:

Add a Credit/ Debit Card

Please check the information entered carefully

Name

Arunabh Saikia

Card Number

5555121232325555

Credit/ Debit

c

Valid Till

28-Dec-2019

Add Card

Enter necessary values and click on add card:

The screenshot shows a checkout interface with two main sections: 'Select an Address' and 'Select a Card'. Under 'Select an Address', there is a red box containing the text: 'James Arthur', 'APT: 1001', and '2901 S King Dr Chicago 60616'. Under 'Select a Card', there is a purple box containing the text: 'Arunabh Saikia', '5555121232325555', and 'Card Type: Credit Valid Till: 28-DEC-19'. Below these sections are two blue buttons: 'Add a new address' and 'Add a Card'. At the bottom of the form, there is a green box with the text 'Contract not Available', a dropdown menu showing 'FedEx: \$ 126 - 2 Days', a 'Back To Main' button, and a 'Buy Now' button which is being clicked by a mouse cursor.

Selecting both address and Card enabled the BUY NOW button. Now click the Buy Now button.....

Order Place Failed..!!

Your credit card doesnot have sufficient credit. Please use another card

We get the above message on clicking BUY NOW. This is because the CARD we added does not have enough balance. Let's see from DB:

```
select * from Cards where card_number=5555121232325555;
```

CARD_ID	CARD_NUMBER	EXPIRY	CREDIT_OR_DEBIT	CREDIT_BALANCE	NAME_ON_CARD
26	5555121232325555	28-DEC-19	c	(null)	Arunabh Saikia

Let's use a DEBIT card this time:

Select an Address

James Arthur
APT: 1001
2901 S King Dr Chicago 60616

Add a new address

Select a Card

Arunabh Saikia
5555121232325555
Card Type: Credit Valid Till: 28-DEC-19

Jane Doe
2121121232320909
Card Type: Debit Valid Till: 28-DEC-19

Add a Card

Contract not Available

FedEx : \$ 126 - 2 Days

Buy Now

Back To Main

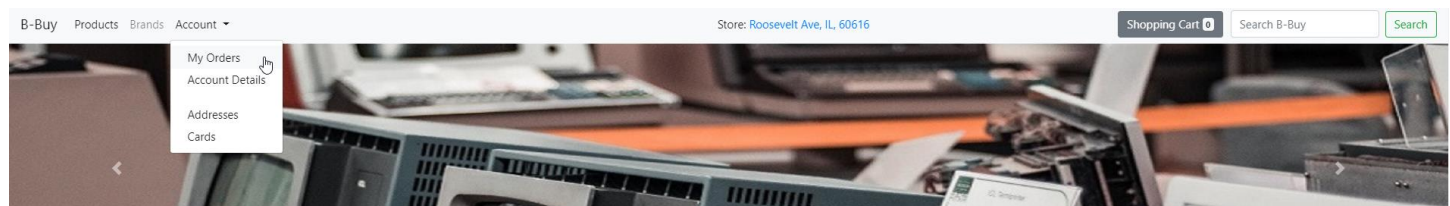
We have selected FedEx USD126 2 Day delivery for this order:

Clicking on buy now gives us the following and redirects us to the Main Page:

Order Place Successfully..!!

Please check your mail for order details

....



We can go to “My Orders” now to see the order details

B-Buy Products Brands Account

Store: Roosevelt Ave, IL, 60616

Shopping Cart 0

Search B-Buy

Search

Order Id: #53
Delivery status: Assigned To Shipping
Store: Roosevelt Ave, IL
Ordered on: 05-DEC-19 03:35:26.000000 AM
Tracking Id: #

OrderType: DELIVERY

Raise a Ticket

We can see that the order was placed successfully.
From DB we can see all details related to our order as shown below.

```
select * from order_details where c_id = 62;
```

ORDER_ID	STORE_ID	ORDER_TYPE	ORDER_TIME	COURIER_ID	C_ID	TRACKING_ID	DELIVERY_STATUS	ADDRESS_ID	CARD	IS_CONTRACT
53	1	2	05-DEC-19 03.35.26.000000000 AM	2	62	(null)	1	43	27	N

```
select * from orders JOIN product on orders.p_id = product.p_id and orders.order_id=53;
```

O_ID	P_ID	QTY	UNIT_PRICE	P_ID_1	LIST_NAME
53	6	1	3199	6	Apple - MacBook Pro - 16" Display with Touch Bar - Intel Core i7 - 16GB Memory - AMD Radeon Pro 5300M - 512GB SSD (Latest Model) - Space Gray
53	12	2	129	12	Apple - Magic Mouse 2 - Silver

We can also validate the products we ordered, Unit price of each product and the quantity we selected.

Back to our application, we can raise tickets relate to our order by clocking on Account-> My Orders tab from the top bar:

B-Buy Products Brands Account Search B-Buy Search

Order Id: #53

Delivery status: Assigned To Shipping

Store: Roosevelt Ave, IL

Ordered on: 05-DEC-19 03:35:26.000000 AM

Tracking Id: #

OrderType: DELIVERY

[Raise a Ticket](#)

We have successfully opened a ticker for our Order#53

```
select * from ticket;
```

ORDER_ID	STATUS
28	close
28	open
45	open
47	open
53	open

Once the ticket is closed, only then we can raise another one related to order#53.

-----X-----