



# Capstone Project Report On “Travel App”

Submitted by:

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**Date:** 26/02/2023

**GitHub Link:** <https://github.com/webdeveloperforever/ManiPalCapstoneProject-Salesforce.git>

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## **Abstract**

Salesforce, Inc. is an American cloud-based software company headquartered in San Francisco, California. It provides customer relationship management (CRM) software and applications focused on sales, customer service, marketing automation, analytics, and application development.

Salesforce's main technologies are tools for customer management. Other products enable customers to create apps, integrate data from other systems, visualize data, and offer training courses.

Force.com applications are built using declarative tools, backed by Lightning and Apex, a proprietary Java-like programming language for Force.com, as well as Visualforce, a framework including an XML syntax typically used to generate HTML. The Force.com platform typically receives three complete releases a year. As the platform is provided as a service to its developers, every single development instance also receives all these updates.

In this Project we work on Creation of Travel App, with custom Objects and fields and flows to automate the process of records, Creation of Approval process, modifying the user interface, creating reports and dashboards for analytics purposes.

In this Project we also develop the code playground app through a coding approach, by using apex classes and triggers we extend the functional capabilities of the App.

## Introduction

Salesforce is a cloud-based software company that provides its customers with a platform to develop their own applications without following the tough steps that they used to follow in the legacy system. The software or application once created can be uploaded onto the cloud allowing the end-users to view them.

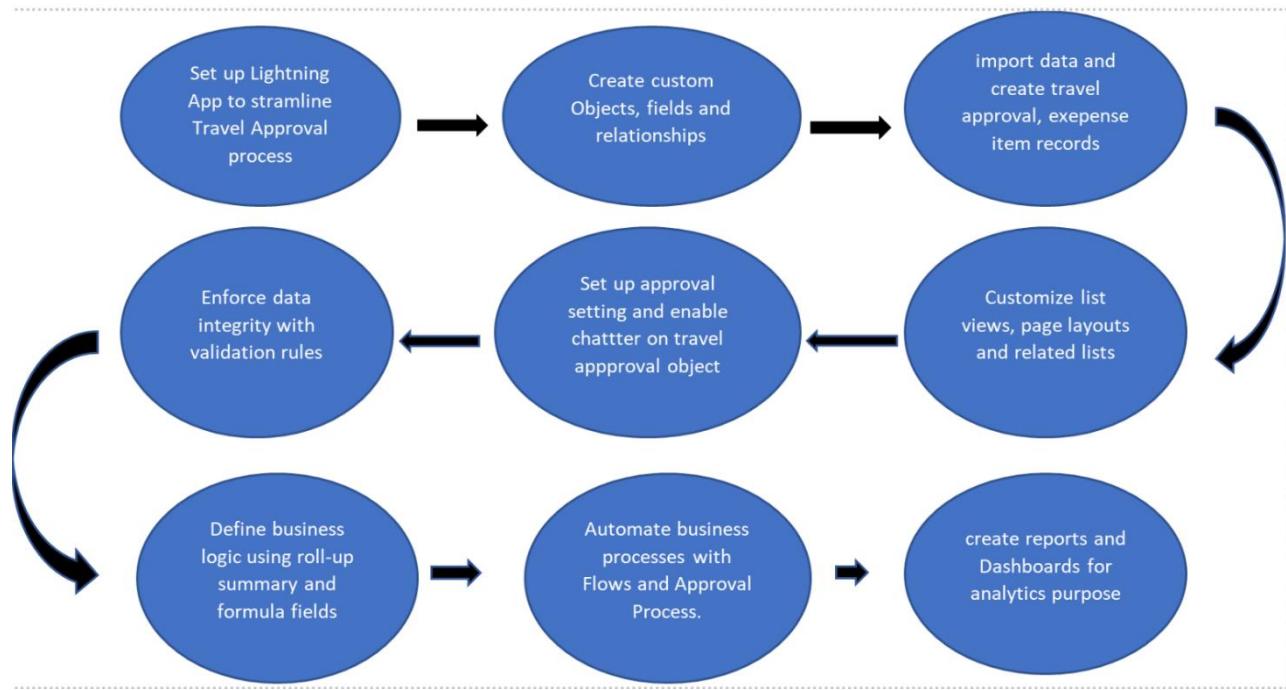
Salesforce is currently providing various software solutions and platforms for developers to create and distribute custom software/applications. Tech giants like Google, Twitter, Amazon, and Facebook are using Salesforce either in the form of SaaS or PaaS.



*Salesforce developers can make an application on the cloud and share it with multiple companies across multiple domains by using Salesforce.*

Talking about HR systems, every company across the globe has an HR team. Each HR team would require an HR application to store employee records. Almost all specifications for such an application would be common for all companies. So, as a developer, it would be very easy to create a Salesforce application for such specifications, post it onto the cloud, and provide it as a service to multiple clients at the same time. Maintenance of the same can be done altogether too. So basically, the problem of scalability gets eliminated

## Flow of the Project



# Software Requirements

For the fastest and most stable experience, we recommend:

- An Octane 2.0 score of 30,000 or greater
- Network latency of 150 ms or less
- Download speed of 3 Mbps or greater
- At least 8 GB of RAM, with 3 GB available for Salesforce browser tabs

Minimum requirements are:

- An Octane 2.0 score of 20,000 or greater
- Network latency of 200 ms or less
- Download speed of 1 Mbps or greater
- At least 5 GB of RAM, with 2 GB available for Salesforce browser tabs

**OR**

Requirements	
Windows	
Operating system	<a href="#">Windows 8.1</a> 64-bit, <a href="#">Windows 8</a> 64-bit, Windows 7 Service Pack 1 64-bit, Windows Vista Service Pack 2 64-bit
CPU	<a href="#">Core 2 Quad</a> Q6600 at 2.4 GHz or <a href="#">AMD Phenom</a> 9850 at 2.5 GHz
Memory	4 GB <a href="#">RAM</a>
Free space	65 GB of free space
Graphics hardware	DirectX 10-compatible <a href="#">GPU: GeForce 9800GT</a> 1GB or <a href="#">ATI Radeon HD 4870</a> 1GB
Sound hardware	<a href="#">DirectX</a> 10 compatible <a href="#">sound card</a>

# Screen Shots

## Module-1:

### Exercise -1

Step - 1

The screenshot shows the Salesforce Chatter feed for the 'Travel App' community. The feed displays various posts, comments, and interactions. A context menu is open over a post by 'Yemula Sai Satya'.

**Chatter Feed Content:**

- Post by Yemula Sai Satya:** TA-00001 – Yemula Sai Satya, February 14, 2023 at 11:24 PM. Comment: @Eric Executive Which department should I associate this travel request with? (Eric Executive commented: Technology is the correct department.)
- Post by Yemula Sai Satya:** Inventory Announcements — Yemula Sai Satya, February 10, 2023 at 4:53 AM. Comment: Test Beverage Has a low inventory.

**Context Menu (Open over Yemula Sai Satya's post):**

- DISPLAY DENSITY:** Comfy (selected), Compact.
- OPTIONS:** Switch to Salesforce Classic, Add Username.
- Joined in the last month.

## Step-2

The screenshot shows the Salesforce Setup interface with the URL [d2w00000qsgjeab-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01l2w000002tTRK/Details/view](https://d2w00000qsgjeab-dev-ed.lightning.force.com/lightning/setup/ObjectManager/01l2w000002tTRK/Details/view). The page title is "SETUP > OBJECT MANAGER Department". On the left, there's a sidebar with links like Details, Fields & Relationships, Page Layouts, etc. The main area shows the "Details" tab for the Department object. The API Name is "Department\_\_c". Under "Singular Label", it says "Department". Under "Plural Label", it says "Departments". On the right, there's a "DISPLAY DENSITY" sidebar with "Comfy" selected. Other options include "Compact", "OPTIONS", "Switch to Salesforce Classic", and "Add Username".

## Created new custom object tab

The screenshot shows the Salesforce Setup interface with the URL [d2w00000qsgjeab-dev-ed.lightning.force.com/lightning/setup/CustomTabs/page?address=%2F01r2w00000BewO%3Fsetupid%3DCustomTabs](https://d2w00000qsgjeab-dev-ed.lightning.force.com/lightning/setup/CustomTabs/page?address=%2F01r2w00000BewO%3Fsetupid%3DCustomTabs). The page title is "SETUP > CUSTOM TABS Tabs". The sidebar shows "User Interface" and "Tabs" selected. The main area shows a "Custom Object Tab" for "Departments". It says "Below is the information for the custom tab. Click Edit to change the custom tab." A "Custom Tab Definition Detail" table is shown:

Tab Label	Object	Description	Tab Style
Departments	Department	Yemula Sai Satya, 2/14/2023, 8:43 PM	Splash Page Custom Link Books
			Modified By Yemula Sai Satya, 2/14/2023, 8:43 PM

## Step-3

### Created all the required Custom Fields

The screenshot shows the Salesforce Object Manager for the 'Department' object. The left sidebar lists various setup categories like Page Layouts, Lightning Record Pages, etc. The main area displays the 'Fields & Relationships' section with 7 items. The table shows the following fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLER
Created By	CreatedById	Lookup(User)	
Department Code	Department_Code__c	Text(10) (Unique Case Sensitive)	
Department Name	Name	Text(80)	
Department Type	Department_Type__c	Picklist	Location
Last Modified By	LastModifiedById	Lookup(User)	
Location	Location__c	Picklist	
Owner	OwnerId	Lookup(User,Group)	

The right sidebar shows the user profile of Yemula Sai Satya and options for display density (Comfy, Compact) and switching to Salesforce Classic.

### Created Field Dependency

The screenshot shows the creation of a field dependency for the 'Department' object. The left sidebar lists various setup categories. The main area shows the 'Fields & Relationships' section with a new dependency being created. The 'Controlling Field' is set to 'Location' and the 'Dependent Field' is set to 'Department Type'. The 'Instructions' section provides guidance on using the dependency feature.

**Instructions**

- Double click on a cell to toggle its visibility for the Controlling Field value shown in the column heading.
- To change multiple cells at once, select multiple cells and then click the **Include Values** or **Exclude Values** button to change the visibility of all selected cells at once.
- Use SHIFT + click to select a range of adjacent cells. Use CTRL + click to select multiple cells that are not adjacent.
- Use the **Preview** button to test the results.

The 'Dependent Picklist' table shows the relationship between 'Location' and 'Department Type'. The 'Location' column has rows for 'Kolkata', 'Banking', 'Finance', 'Education', 'Energy', and 'It'. The 'Department Type' column has rows for 'Delhi', 'Banking', 'Finance', 'Education', 'Energy', and 'It'. Buttons for 'Include Values' and 'Exclude Values' are available for each row.

## Step-4

### Created the required Travel Approval Object

The screenshot shows the Salesforce Object Manager interface. On the left, a sidebar lists various object configuration options: Fields & Relationships, Page Layouts, Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Triggers. The main panel displays the 'Details' section for the 'Travel Approval' object. It includes fields for Description, API Name (Travel\_Approval\_\_c), Singular Label (Travel Approval), and Plural Label (Travel Approvals). On the right, a vertical sidebar shows user information (Yemula Sai Satya) and settings for display density (Comfy, Compact), options (Enable Reports, Track Activities, Track Field History, Deployment Status, Help Settings), and links to Salesforce Classic and Add Username.

### Created the required Fields

The screenshot shows the 'Fields & Relationships' section of the Object Manager for the 'Travel Approval' object. It lists 13 items, sorted by Field Label. The table includes columns for FIELD LABEL, FIELD NAME, DATA TYPE, and CON. The fields listed are: Created By (CreatedBy, Lookup(User)), Department (Department\_\_c, Lookup(Department)), Destination State (Destination\_State\_\_c, Text(2)), Last Modified By (LastModifiedBy, Lookup(User)), Out-of-State (Out\_of\_State\_\_c, Checkbox), Owner (OwnerId, Lookup(User,Group)), Purpose of Trip (Purpose\_of\_Trip\_\_c, Text Area(255)), Status (Status\_\_c, Picklist), Status Indicator (Status\_Indicator\_\_c, Formula (Text)), Total Expenses (Total\_Expenses\_\_c, Roll-Up Summary (SUM Expense Item)), and Travel Approval # (Name, Auto Number). The right sidebar is identical to the one in the previous screenshot, showing user information and settings for display density, options, and links to Salesforce Classic and Add Username.

## After testing the App

The screenshot shows a Salesforce interface for a Travel Approval record. The record ID is TA-00001. The status is set to 'Rejected'. The total expenses are \$1,320.00. The trip info section indicates the purpose of the trip, start date (2/14/2023), end date (2/14/2023), and destination state (CA). The record was created by Yemula Sai Satya on 2/14/2023 at 9:00 PM and last modified by her on 2/15/2023 at 1:06 AM. The owner is also Yemula Sai Satya, and the department is Technology. A sidebar on the right shows the user's profile (Yemula Sai Satya), settings, and log out options. The activity sidebar is open, showing the 'Activity' tab selected under 'DISPLAY DENSITY' (Comfy). It displays a message indicating no upcoming or overdue activities.

Travel Approval  
TA-00001

Related Details

Travel Approval #  
TA-00001

Status  
Rejected

Total Expenses  
\$1,320.00

Status Indicator  
Rejected

Trip Info

Purpose of Trip

Trip Start Date  
2/14/2023

Trip End Date  
2/14/2023

Created By  
Yemula Sai Satya, 2/14/2023, 9:00 PM

Owner  
Yemula Sai Satya

Department  
Technology

Out-of-State

Destination State  
CA

Last Modified By  
Yemula Sai Satya, 2/15/2023, 1:06 AM

Activity

DISPLAY DENSITY

✓ Comfy

Compact

OPTIONS

Switch to Salesforce Classic ⓘ

Add Username

Upcoming & Overdue

No activities to show.  
Get started by sending an email, scheduling a task, and more.

No past activity. Past meetings and tasks marked as done show up here.

## Step – 5

### Imported Departments.CSV file using Data ImportWizard

The screenshot shows a Salesforce application window titled "Travel App". The top navigation bar includes links for Chatter, Reports, Dashboards, Departments, and Travel Approvals. A search bar is located at the top right. On the left, there's a sidebar with icons for Home, Departments, All, and a search function. The main content area displays a list of 16 items under the heading "Departments All". The list is sorted by Department Name (A-Z). Each item is a row with a checkbox and a link to the department details page. The right side of the screen features a user profile for "Yemula Sai Satya" and a sidebar with options for "DISPLAY DENSITY" (set to "Comfy"), "OPTIONS" (with "Switch to Salesforce Classic" and "Add Username" buttons), and a list of dropdown menus.

Rank	Department Name
1	Audit Services
2	Contract Management
3	Disability Determination Bureau
4	Division of Aging
5	Division of Disability and Rehabilitative Services
6	Division of Family Resources
7	Division of Finance
8	Division of Mental Health and Addiction
9	Human Resources
10	Legislative Services
11	Office of Communications and Media
12	Office of Early Childhood and Out-of-School Learning
13	Office of General Counsel
14	Office of Medicaid Policy and Planning
15	Quality and Compliance Office
16	Technology

## Exercise – 2

### Step – 1

#### Created Travel Approval record

The screenshot shows a Salesforce interface for a 'Travel Approval' record with ID TA-00642. The record details include:

- Travel Approval #: TA-00642
- Status: Draft
- Total Expenses: \$0.00
- Status Indicator: In-Process
- Trip Info:
  - Purpose of Trip: Attended Dreamforce
  - Trip Start Date: 2/28/2023
  - Trip End Date: 3/1/2023
  - Created By: Yemula Sai Satya (Last Modified By: Yemula Sai Satya, 2/24/2023, 1:33 AM)
  - Out-of-State: checked
  - Destination State: CA

The right sidebar displays the user profile of Yemula Sai Satya and various account settings.

### Step -2

#### Created Expense Item Custom Object

The screenshot shows the 'Expense Item' object setup page under 'Object Manager'. The 'Details' tab is selected, showing the following configuration:

- Description: (empty)
- API Name: Expense\_Item\_\_c
- Custom: checked
- Singular Label: Expense Item
- Plural Label: Expense Items
- Enable Reports: checked
- Track Activities: checked
- Track Field History: checked
- Deployment Status: Deployed
- Help Settings: Standard Salesforce.com Help Window

The left sidebar lists various setup categories such as Fields & Relationships, Page Layouts, Lightning Record Pages, etc.

## Step-3

### Created Custom fields

The screenshot shows the Salesforce Object Manager interface for the 'Expense Item' object. On the left, a sidebar lists various setup options like Details, Fields & Relationships, Page Layouts, etc. The main area displays a table titled 'Fields & Relationships' with six items. The columns are FIELD LABEL, FIELD NAME, DATA TYPE, and CONTROL. The fields listed are:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROL
Amount	Amount__c	Currency(16, 2)	
Created By	CreatedById	Lookup(User)	
Expense Item Number	Name	Auto Number	▼
Expense Type	Expense_Type__c	Picklist	▼
Last Modified By	LastModifiedById	Lookup(User)	▼
Travel Approval	Travel_Approval__c	Master-Detail(Travel Approval)	▼

A right-hand sidebar shows user information (Yemula Sai Satya) and display density settings (Comfy). A tooltip indicates the current display mode is 'Comfy'.

## Step-4

### Created Records

The screenshot shows a custom application named 'Travel App'. The navigation bar includes links for Chatter, Reports, Dashboards, Departments, Travel Approvals, and Expense Items. The main view shows a record for 'Expense Item E-00001'. The 'Details' tab is selected, displaying the following data:

Field	Value
Expense Item Number	E-00001
Amount	\$450.00
Expense Type	Airfare
Travel Approval	TA-00001
Created By	Yemula Sai Satya, 2/14/2023, 9:01 PM
Last Modified By	Yemula Sai Satya, 2/14/2023, 9:01 PM

A right-hand sidebar shows user information (Yemula Sai Satya) and display density settings (Comfy). A tooltip indicates the current display mode is 'Comfy'. The status bar at the bottom shows the URL as d2w00000qsgjeab-dev-ed.develop.lightning.force.com/lightning/r/Expense\_Item\_\_c/a022w00000la9fwAAA/view.

## Created User Eric

The screenshot shows the Salesforce Setup interface under the 'Users' tab. A search bar at the top left contains 'user'. The left sidebar has 'user' selected under 'User Management Settings'. The main area displays a user record for 'Eric Executive' with the following details:

User Detail	
Name	Eric Executive
Alias	eexec
Email	yemulasaisatya291@gmail.com
Username	yemula12@company.com
Nickname	eric.exec
Title	
Company	
Department	
Division	
Address	
Time Zone	(GMT-08:00) Pacific Standard Time (America/Los_Angeles)
Locale	English (United States)
Language	English
Delegated Approver	
Manager	
Receive Approval Request Emails	Only if I am an approver
Federation ID	
App Registration: One-Time Password Authenticator	
App Registration: Salesforce	

To the right of the user detail, there is a sidebar titled 'DISPLAY DENSITY' with 'Comfy' selected. Under 'OPTIONS', 'Switch to Salesforce Classic' is checked. Other options like 'Compact' and 'Add Username' are also listed.

## Step -6

Added eric Executive as an manager to System Administrator

The screenshot shows the Salesforce Setup interface under the 'Users' tab. The left sidebar has 'user' selected under 'User Management Settings'. The main area displays a user record for 'Eric Executive' with the following details:

Mailing Address	
Street	
City	
State/Province	
Zip/Postal Code	
Country	IN

**Single Sign On Information**: Federation ID is empty.

**Locale Settings**: Time Zone is '(GMT-08:00) Pacific Standard Time (America/Los\_Angeles)', Locale is 'English (United States)', Language is 'English'.

**Approver Settings**: Delegated Approver is empty, Manager is 'Eric Executive', Receive Approval Request Emails is 'Only if I am an approver'.

At the bottom right, there are buttons for 'Save', 'Save & New', and 'Cancel'.

## Step-7

### Customized the Travel Approval Default Search

The screenshot shows the Salesforce Setup interface under the 'Search Layouts' section. The title is 'Travel Approval Search Results'. It displays two columns: 'Available Fields' and 'Selected Fields'. Under 'Available Fields', there are fields like Record ID, Out-of-State, Status Indicator, Total Expenses, Owner Alias, Owner First Name, Owner Last Name, Created By Alias, Created By, Created Date, and Last Modified By Alias. Under 'Selected Fields', the fields 'Travel Approval #', 'Purpose of Trip', 'Department', 'Status', 'Destination State', 'Trip End Date', and 'Trip Start Date' are listed. There are 'Add' and 'Remove' buttons between the columns, and 'Up' and 'Down' buttons for reordering the selected fields. A checkbox at the bottom left says 'Override the search result column customizations for all users'. Below the fields, sections for 'Standard Buttons' and 'Custom Buttons' are shown, both containing no customizable options. At the bottom right are 'Save' and 'Cancel' buttons.

## Step-8

### Selected all the fields to display

The screenshot shows the Travel App interface with a modal dialog titled 'Select Fields to Display'. The dialog has two main sections: 'Available Fields' and 'Visible Fields'. In the 'Available Fields' section, there are fields like 'Created By Alias', 'Created Date', 'Destination State', 'Last Activity Date', 'Last Modified By', and 'Last Modified By Alias'. In the 'Visible Fields' section, the fields 'Travel Approval #', 'Department', 'Created By', 'Status', 'Trip Start Date', and 'Trip End Date' are listed. To the right of the dialog is a table of travel approvals with columns for 'Trip Start Date', 'Trip End Date', 'Status', and 'Last Modified By'. The status column shows 'Approved' for most entries. At the bottom of the dialog are 'Cancel' and 'Save' buttons.

## Step-9

Created Travel approval custom List view Open Outof State Travel Requests

Travel Approvals  
Open Out of State Travel Requests

1 item • Sorted by Travel Approval # - Filtered by My travel approvals - Status, Out-of-State - Updated a few seconds ago

Travel Approval #	Department	Created By	Status	Destination State	Trip Start Date	Trip End Date
TA-00642	Technology	Yemula Sai Satya	Draft	CA	2/28/2023	3/1/2023

Filters

- Filter by Owner: My travel approvals
- Matching all of these filters:
  - Out-of-State equals True
  - Status not equal to Approved, Rejected

Add Filter Remove All Add Filter Logic

## Step-10

Selected fields to display in the Travel ApprovalOpen Out of State Travel Requests

Select Fields to Display

Available Fields

- Created By Alias
- Created Date
- Last Activity Date
- Last Modified By
- Last Modified By Alias
- Last Modified Date

Visible Fields

- Travel Approval #
- Department
- Created By
- Status
- Destination State
- Trip Start Date

Cancel Save

## Step -11

### Customized Travel Approval Page Layout

The screenshot shows the Lightning App Builder interface. At the top, the navigation bar includes 'Lightning App Builder', 'Pages', 'Travel Approval Record Page', and 'Help'. Below the navigation is a toolbar with icons for back, forward, search, and other functions. The main area is divided into two sections: 'Components' on the left and 'Fields' on the right. The 'Components' section contains a search bar and a list of standard components like Accordion, Action Launcher, etc. The 'Fields' section displays a preview of the 'Travel Approval TA-00001' record. The record details include: Total Expenses (\$1,320.00), Status Indicator (Rejected), and Trip Info (Out-of-State checked). To the right of the preview is a configuration panel for the 'Page' object. It includes fields for 'Label' (Travel Approval Record Page), 'Developer Name' (Travel\_Approval\_Record\_Page1), 'Page Type' (Record Page), 'Object' (Travel Approval), and 'Template' (Header and Right Sidebar). A 'Description' field is also present. At the bottom right of the configuration panel is a 'Tips' button.

The screenshot shows the Salesforce Setup interface under 'Object Manager' for the 'Travel Approval' object. The left sidebar lists various setup categories: Details, Fields & Relationships, Page Layouts (selected), Lightning Record Pages, Buttons, Links, and Actions, Compact Layouts, Field Sets, Object Limits, Record Types, Related Lookup Filters, Search Layouts, List View Button Layout, Restriction Rules, Scoping Rules, and Triggers. The main content area is titled 'Page Layouts' and shows a table with one item: 'Travel Approval Layout' created by 'Yemula Sai Satya' on 2/14/2023 at 8:46 PM. The 'MODIFIED BY' column shows the same information. On the right side of the page, there is a user profile for 'Yemula Sai Satya' and a 'DISPLAY DENSITY' dropdown set to 'Comfy'. A sidebar on the right provides options to 'Switch to Salesforce Classic' and 'Add Username'.

The screenshot shows the Salesforce Setup interface with the path **SETUP > OBJECT MANAGER** and the object **Travel Approval**. On the left, the **Page Layouts** section is selected. The main area displays the **Travel Approval Layout** configuration. It includes a **Fields** section with a table showing fields like **Section**, **Destination State**, **Purpose of Trip**, **Travel Approval #**, **Created By**, **Last Modified By**, **Status**, **Trip End Date**, **Department**, **Out-of-State**, **Status Indicator**, **Trip Start Date**, and **Owner**, **Total Expenses**. Below this is a **Travel Approval Sample** section with a **Highlights Panel** and a **Quick Actions in the Salesforce Classic Publisher** section. Further down are sections for **Salesforce Mobile and Lightning Experience Actions** and **Travel Approval Detail**. A right sidebar shows the user profile of **Yemula Sai Satya** and options for **DISPLAY DENSITY** (Comfy, Compact), **OPTIONS** (Switch to Salesforce Classic, Add Username), and a **Custom Console Components** section.

## Step-12

### Customized the Expense Item Related list UnderTravel Approval page layout

The screenshot shows the **Travel App** page with the **Travel Approvals** tab selected. The main content area displays the **Expense Items** related list for the travel approval **TA-00001**. It includes a **Notes & Attachments (0)** section with a file upload area and a **Expense Items (2)** section listing two items: **E-00001** (Airfare, \$450.00) and **E-00002** (Hotel, \$870.00). Below this is a **View All** link. At the bottom is an **Approval History (3)** section showing a single entry: **Travel Coordinator Approval** on **2/15/2023, 1:05 AM** with status **Approved** assigned to **Yemula Sai Satya**. A right sidebar shows the user profile of **Yemula Sai Satya** and options for **DISPLAY DENSITY** (Comfy, Compact), **OPTIONS** (Switch to Salesforce Classic, Add Username), and a **Upcoming & Overdue** section indicating no activities.

# Step-13

## Enable Feed Tracking

The screenshot shows the Salesforce Setup interface for 'Feed Tracking'. The left sidebar has a search bar and navigation sections for Feature Settings (Chatter, Feed Item, Feed Tracking, Triggers, Service), and a note about global search. The main content area is titled 'Feed Tracking' and describes enabling feed tracking for objects so users can follow records of that object type. It shows a list of objects with their field counts: Service Territory Work Type (0 Fields), Session Hijacking Event Store, Shift, Shift Engagement Channel, Shift Work Topic, Site (0 Fields), Skill Requirement, Solution, Task, Threat Detection Feedback, Topic (1 Field), Travel Approval (2 Fields, selected), User (6 Fields), Voice Call, Web Cart Document, Work Order, Work Order Line Item, Work Plan, Work Plan Template, Work Plan Template Entry, Work Step, Work Step Template, and Work Type. A modal window titled 'Fields in travel approvals' is open, showing fields like Department, Out-of-State, Purpose of Trip, Travel Approval #, Trip Start Date, Destination State, Owner, Status, and Trip End Date, with 'Enable Feed Tracking' checked. The top right shows user information (Yemula Sai Satya) and a sidebar with display density (Comfy), options (Switch to Salesforce Classic, Add Username), and a notification count of 16.

## Module-2:

### Exercise – 1:

#### Step – 1

Created Trip end date after start date Validation Rule

The screenshot shows the Salesforce Setup interface for creating a Validation Rule. The left sidebar lists various setup categories like Details, Fields & Relationships, Page Layouts, etc. The main area is titled "Travel Approval Validation Rule". It defines a validation rule by specifying an error condition and a corresponding error message. The error condition is written as a Boolean formula that returns true, the save will be aborted and the error message will be displayed. The user can correct the error and try again.

**Validation Rule Edit**

- Rule Name: Trip\_end\_date\_after\_start\_date
- Active:
- Description: (empty)

**Error Condition Formula**

Example: Discount\_Percent\_c>0.30 More Examples...  
Display an error if Discount is more than 30%  
If this formula expression is true, display the text defined in the Error Message area

Trip\_End\_Date\_c < Trip\_Start\_Date\_c

**Functions**

- ABS
- ACOS
- ADDMONTHS
- AND
- ASCII
- ASIN

Insert Selected Function  
Help on this function

## Step – 2

### Created a Roll Up summary field Total Expenses

The screenshot shows the Salesforce Setup interface for creating a custom field. The left sidebar lists various setup categories like Page Layouts, Lightning Record Pages, and Buttons. The main area shows the 'Travel Approval' object's custom field 'Total Expenses'. The 'Field Information' section details the field label as 'Total Expenses', field name as 'Total\_Expenses', and API name as 'Total\_Expenses\_\_c'. It also shows the field is a 'Roll-Up Summary' type, summarized by 'Expense Item' and aggregated by 'Expense Item: Amount'. The 'Roll-Up Summary Options' section specifies a 'SUM' summary type. The right sidebar shows the user profile of Yemula Sai Satya and various display density and options settings.

## Step – 3

### Created a Status Images Static Resource

The screenshot shows the Salesforce Setup interface for creating a static resource. The left sidebar shows 'Static Resources' selected. The main area displays the 'StatusImages' static resource detail page. The 'Static Resource Detail' section shows the name 'StatusImages', namespace prefix, MIME type 'application/zip', public cache control, and a size of 57,029 bytes. The right sidebar shows the user profile of Yemula Sai Satya and various display density and options settings.

## Step – 4

### Created a formula field Status Indicator

The screenshot shows the Salesforce Setup interface for creating a custom field. The left sidebar lists various setup categories like Details, Fields & Relationships, Page Layouts, etc. The main content area is titled 'Travel Approval Custom Field Status Indicator'. It shows the 'Custom Field Definition Detail' page with the following details:

Field Label	Status Indicator	Object Name	Travel Approval
Field Name	Status_Indicator		
API Name	Status_Indicator_c		
Description			
Help Text			
Data Owner			
Field Usage			
Data Sensitivity Level			
Compliance Categorization			
Created By	Yemula Sai Satya, 2/15/2023, 12:42 AM	Modified By	Yemula Sai Satya, 2/15/2023, 12:42 AM

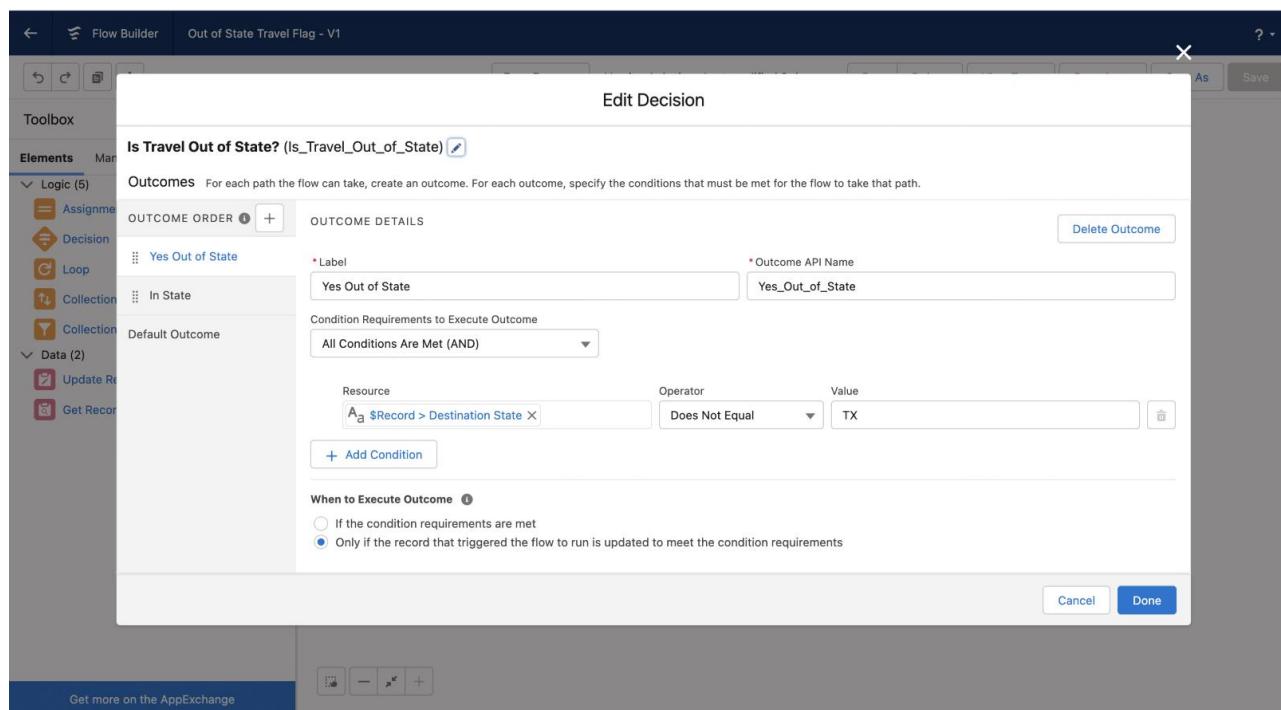
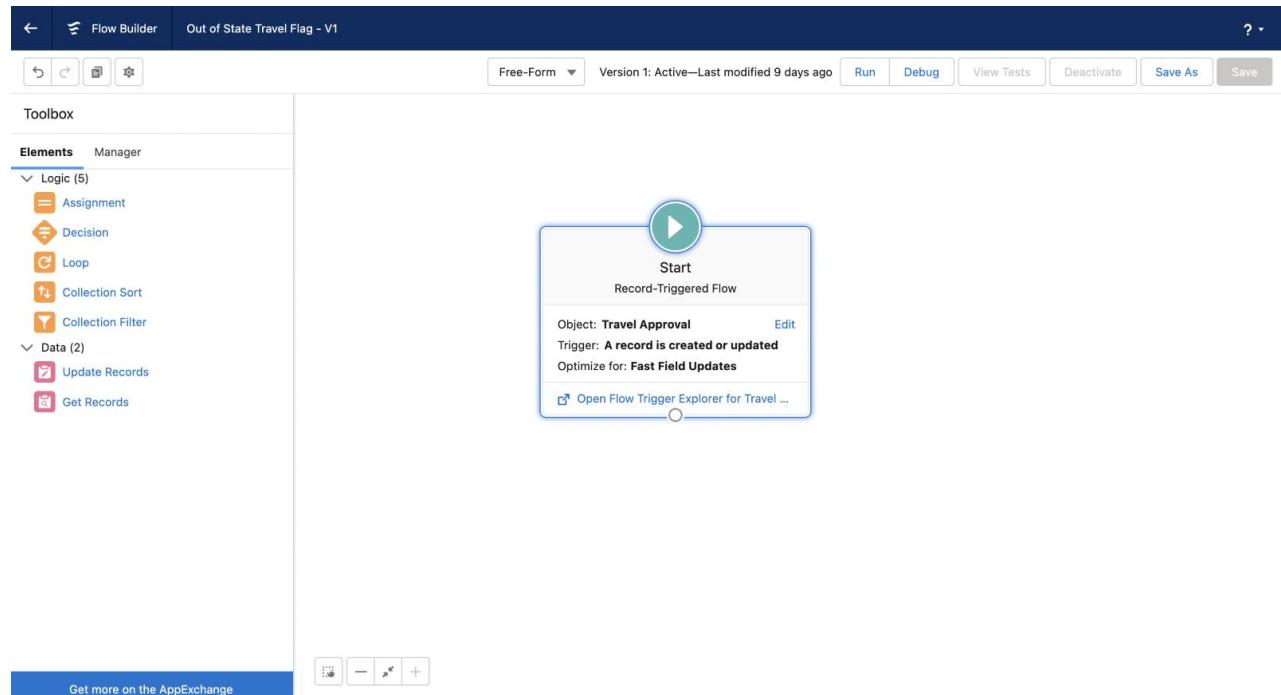
In the 'Formula Options' section, the Data Type is set to 'Formula' with the following formula:

```
IF( ISPICKVAL( Status__c , 'Approved') , IMAGE("resource/StatusImages/thumbs-up.png", "Accepted", 20, 20), IF( ISPICKVAL( Status__c , 'Rejected') , IMAGE("resource/StatusImages/thumbs-down.png", "Rejected", 20, 20), IMAGE("resource/StatusImages/draft.png", "In-Process", 20, 20)))
```

A context menu is open on the right side of the screen, showing options like 'DISPLAY DENSITY' (set to 'Comfy'), 'OPTIONS', and links to 'Switch to Salesforce Classic' and 'Add Username'.

## Step – 5

Created a Record – Triggered flowDecision block



## Updated Travel Approval Record (Yes out of State)

The screenshot shows the Salesforce Flow Builder interface. The flow is titled "Out of State Travel Flag - V1". A modal window titled "Edit Update Records" is open, specifically for the step "Update Travel Approval Record (Update\_Travel\_Approval\_Record)".

**How to Find Records to Update and Set Their Values:**

- Use the travel approval record that triggered the flow
- Update records related to the travel approval record that triggered the flow
- Use the IDs and all field values from a record or record collection
- Specify conditions to identify records, and set fields individually

A note states: "Because this flow runs before a record is saved, you can only update the record that triggered the flow to run. To update other records, configure the trigger to run the flow after the record is saved."

**Set Filter Conditions:**

Condition Requirements to Update Record: None—Always Update Record

**Set Field Values for the Travel Approval Record:**

Field	Value
Out_of_State__c	True

**Buttons:** Cancel, Done

## Updated Travel Approval Record (In State)

The screenshot shows the Salesforce Flow Builder interface. The flow is titled "Out of State Travel Flag - V1". A modal window titled "Edit Update Records" is open, specifically for the step "Update Travel Approval Record (Update\_Travel\_Approval\_Record\_0)".

**How to Find Records to Update and Set Their Values:**

- Use the travel approval record that triggered the flow
- Update records related to the travel approval record that triggered the flow
- Use the IDs and all field values from a record or record collection
- Specify conditions to identify records, and set fields individually

A note states: "Because this flow runs before a record is saved, you can only update the record that triggered the flow to run. To update other records, configure the trigger to run the flow after the record is saved."

**Set Filter Conditions:**

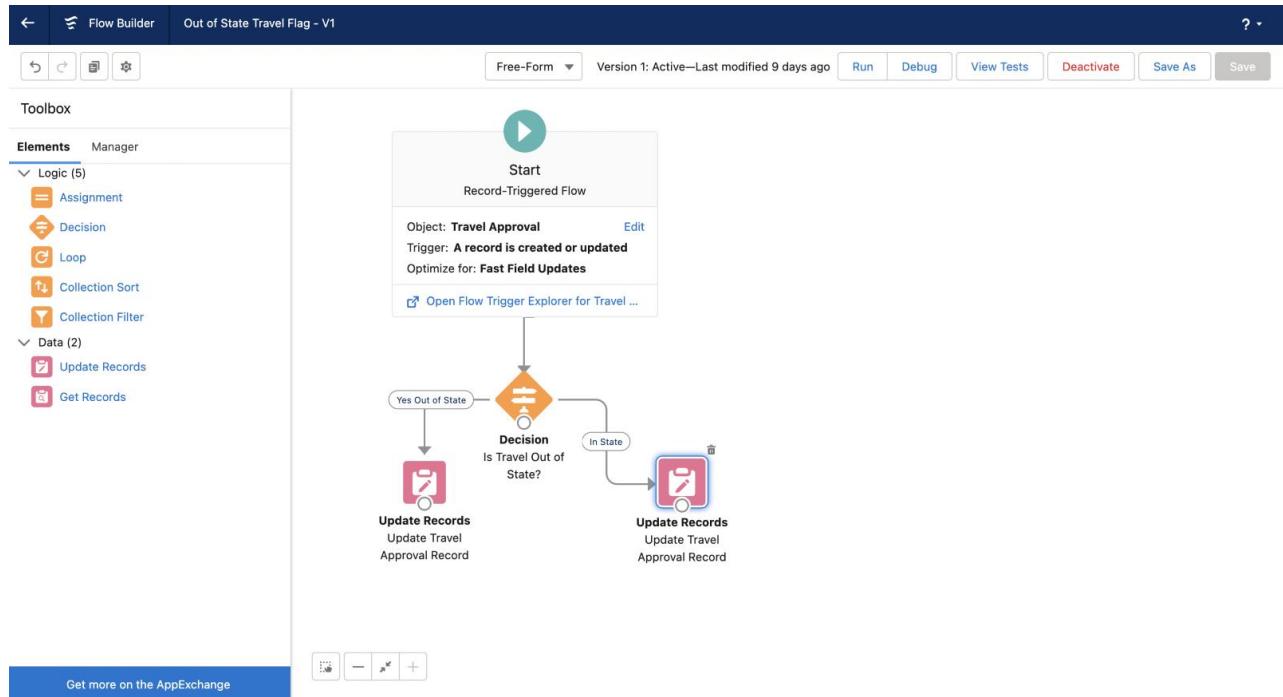
Condition Requirements to Update Record: None—Always Update Record

**Set Field Values for the Travel Approval Record:**

Field	Value
Out_of_State__c	False

**Buttons:** Cancel, Done

## Entire Flow :



## Step – 6

### Created an approval process Travel ApprovalRequest

The screenshot shows the Salesforce Setup interface with the 'Approval Processes' page open. The process name is 'Travel Approval: Travel Approval Request'. Key details include:

- Process Definition Detail:**
  - Process Name: Travel Approval Request
  - Unique Name: Travel\_Approval\_Request
  - Description: Travel Approval: Total Expenses GREATER THAN 0
  - Record Editability: Administrator ONLY
  - Approval Assignment Email Template: Initial Submitters
  - Initial Submitters: Travel Approval Owner
  - Created By: Yemula Sai Satya, 2/15/2023, 12:53 AM
  - Modified By: Yemula Sai Satya, 2/15/2023, 12:56 AM
- Initial Submission Actions:**
  - Action Type: Record Lock
  - Description: Lock the record from being edited
- Approval Steps:**

Action	Step Number	Name	Description	Criteria	Assigned Approver	Reject Behavior
Show Actions   Edit	1	Step 1			Manager	Final Rejection
Show Actions   Edit	2	Travel Coordinator Approval	Travel Approval: Out-of-State EQUALS True		User:Yemula Sai Satya	Final Rejection

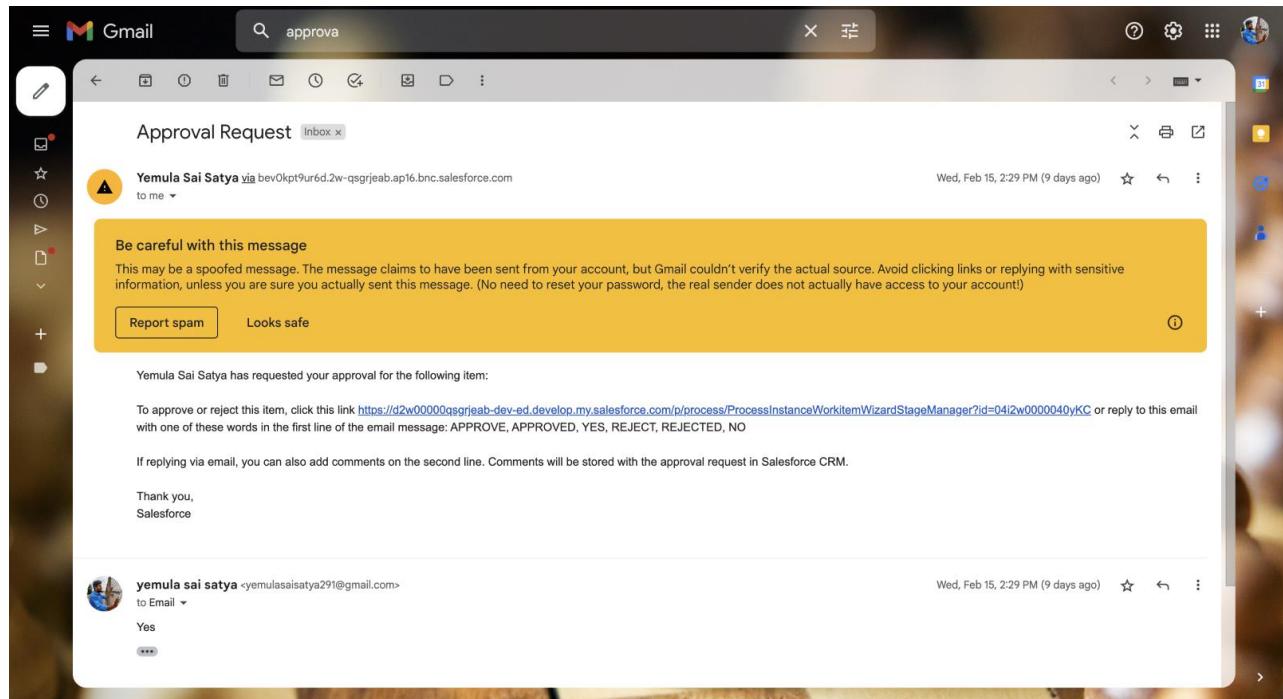
### Final Approval and Rejection Actions

The screenshot shows the same Approval Processes page for 'Travel Approval: Travel Approval Request' with additional sections:

- Final Approval Actions:**
  - Action: Record Lock
  - Type: Description: Lock the record from being edited
  - Action: Field Update
  - Type: Description: Set Status to Approved
- Final Rejection Actions:**
  - Action: Record Lock
  - Type: Description: Unlock the record for editing
  - Action: Field Update
  - Type: Description: Set Status to Rejected
- Recall Actions:**
  - Action: Add Existing | Add New

# Testing the Approval Process

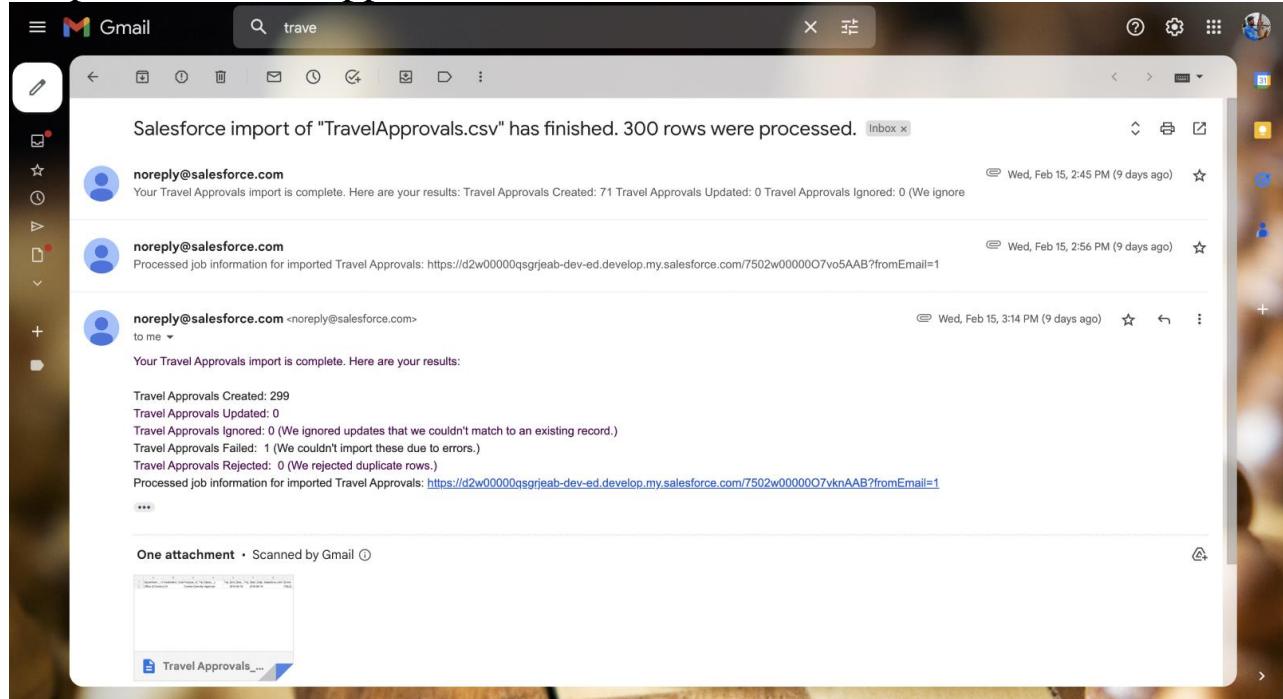
Received an Email



## Exercise – 2

### Step – 1

#### Imported Travel Approval Records



## Step – 2

### Created a Report on Travel Requests by Department

The screenshot shows the Salesforce report builder interface. The report title is "Travel Requests by Department". The left sidebar contains sections for "Fields" (Groups, Department) and "Columns" (Travel Approval, Status, # Out-of-State, Destination State, Trip Start Date, Trip End Date). The main area displays a table of travel requests grouped by department. The table includes columns for Department, Travel Approval, Status, Out-of-State, and various dates. A sidebar on the right shows user details (Yemula Sai Satya) and report settings (DISPLAY DENSITY: Comfy, OPTIONS: Switch to Salesforce Classic).

Department	Travel Approval	Status	Out-of-State	Date
Contract Management (2)	TA-00066 TA-00067	Approved Approved	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	TX CA
Division of Aging (1)	TA-00068	Rejected	<input type="checkbox"/>	TX
Division of Family Resources (3)	TA-00061 TA-00062 TA-00065	Rejected Approved Rejected	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	GA FL FL
Division of Finance (2)	TA-00051 TA-00055	Rejected Rejected	<input type="checkbox"/> <input checked="" type="checkbox"/>	TX CA
Division of Mental Health and Addiction (1)	TA-00064	Approved	<input type="checkbox"/>	TX
Legislative Services (1)	TA-00059	Approved	<input checked="" type="checkbox"/>	OK
Office of Communications and Media (1)	TA-00060	Approved	<input checked="" type="checkbox"/>	GA
				4/11/2019 5/11/2019

### After Testing

The screenshot shows the final report titled "Report: Travel Approvals" for "Travel Requests by Department". The top section displays summary statistics: Total Records (443) and Total Out-of-State (340). Below this is a bar chart showing the record count for each department. The chart has "Record Count" on the y-axis (0 to 60) and "Department" on the x-axis. The departments listed are Audit Services, Contract Managem..., Disability Determina..., Division of Aging, Division of Disability..., Division of Family R..., Division of Finance, Division of Mental H..., Human Resources, Legislative Services, Office of Communic..., Office of Early Child..., Office of General Co..., Office of Medicaid R..., Quality and Complia..., and Technology. The bottom section is a detailed table of travel requests, showing columns for Department, Travel Approval, Status, Out-of-State, Destination State, Trip Start Date, and Trip End Date. The table includes rows for Audit Services (26) with travel approvals TA-00095, TA-00103, and TA-00111.

Department	Travel Approval	Status	Out-of-State	Destination State	Trip Start Date	Trip End Date
Audit Services (26)	TA-00095 TA-00103 TA-00111	Approved Approved Approved	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	OK OK FL	9/3/2019 7/8/2019 8/7/2019	9/3/2019 7/9/2019 8/7/2019

## Step – 3

### Created a Travel Requests by Monthly Report

The screenshot shows the Salesforce report builder interface for creating a travel request report. The report is titled "Travel Requests by Month". The left sidebar contains fields for grouping and filtering, including "Trip End Date", "Out-of-State", and "Travel Approval: Travel Approval #". The main area displays a table of travel requests categorized by month (February, March, April, May) and their respective details like approval status and destination state.

Trip End Date	Out-of-State	Travel Approval: Travel Approval #	Department	Status	Destination State	Approved	TX	Date
February 2019 (1)	<input checked="" type="checkbox"/>	TA-00062	Division of Family Resources			Approved	TX	4/7/2019
		Subtotal						
March 2019 (1)	<input type="checkbox"/>	TA-00063	Office of Medicaid Policy and Planning			Rejected	OK	4/1/2019
		Subtotal						
April 2019 (3)	<input type="checkbox"/>	TA-00066	Contract Management			Approved	GA	4/11/2019
		Subtotal						
	<input checked="" type="checkbox"/>	TA-00053	Office of Early Childhood and Out-of-School Learning	Rejected		OK		
		TA-00060	Office of Communications and Media			Approved		
		Subtotal						
May 2019 (4)	<input type="checkbox"/>	TA-00064	Division of Mental Health and Addiction			Approved	TX	5/8/2019
		Subtotal						
	<input checked="" type="checkbox"/>	TA-00057	Office of Early Childhood and Out-of-School Learning	Approved		GA		3/3/2019
		TA-00059	Legislative Services			Approved	OK	4/10/2019
		TA-00065	Division of Family Resources			Rejected	FL	3/11/2019
		Subtotal						

Row Counts:  Detail Rows:  Subtotals:  Grand Total:

The screenshot shows the final generated report titled "Report: Travel Approvals - Travel Requests by Month". The report title is displayed at the top. The main content area shows a table of travel requests grouped by month (January 2019) and detailed by trip end date, out-of-state indicator, travel approval number, department, status, and destination state. The report includes a header with "Total Records: 443" and footer buttons for "Row Counts", "Detail Rows", "Subtotals", and "Grand Total".

Trip End Date	Out-of-State	Travel Approval: Travel Approval #	Department	Status	Destination State
January 2019 (23)	<input type="checkbox"/>	TA-00072	Office of General Counsel	Approved	TX
		TA-00013	Division of Family Resources	Approved	TX
		TA-00039	Division of Finance	Approved	TX
		TA-00444	Disability Determination Bureau	Approved	TX
		TA-00578	Division of Aging	Approved	TX
		TA-00590	Quality and Compliance Office	Approved	TX
		TA-00599	Contract Management	Approved	TX
		TA-00408	Legislative Services	Approved	TX
		TA-00431	Office of General Counsel	Rejected	TX
		Subtotal			
	<input checked="" type="checkbox"/>	TA-00101	Division of Aging	Approved	FL
		TA-00124	Office of Early Childhood and Out-of-School Learning	Rejected	OK
		TA-00002	Disability Determination Bureau	Approved	OK
		TA-00446	Division of Aging	Approved	FL
		TA-00456	Division of Mental Health and Addiction	Approved	OK
		TA-00457	Contract Management	Approved	GA

Row Counts:  Detail Rows:  Subtotals:  Grand Total:

## Step – 4

### Created a Report and Dashboard for TravelApprovals

Screenshot of the Salesforce Lightning Experience showing the "Travel Requests Dashboard".

The dashboard displays two main charts:

- Travel Requests by Department**: A horizontal bar chart showing the record count for various departments. The data is as follows:

Department	Record Count
Audit Services	28
Contract Management	30
Disability Determination Bu...	29
Division of Aging	30
Division of Disability and R...	29
Division of Family Resources	28
Division of Finance	31
Division of Mental Health a...	25
Human Resources	22
Legislative Services	25
Office of Communications	29
Office of Early Childhood a...	31

[View Report \(Travel Requests by Department\)](#)

- Travel Requests by Month**: A bar chart showing the record count by trip end date. The data is as follows:

Trip End Date	Record Count
January 2...	~10
February ...	~15
March 2019	~30
April 2019	~55
May 2019	~30
June 2019	~25
July 2019	~55
August 2019	~30
September ...	~55
October 2...	~30
November ...	~55
December ...	~30
January 2...	~10
February ...	~15
March 2023	~10

[View Report \(Travel Requests by Month\)](#)

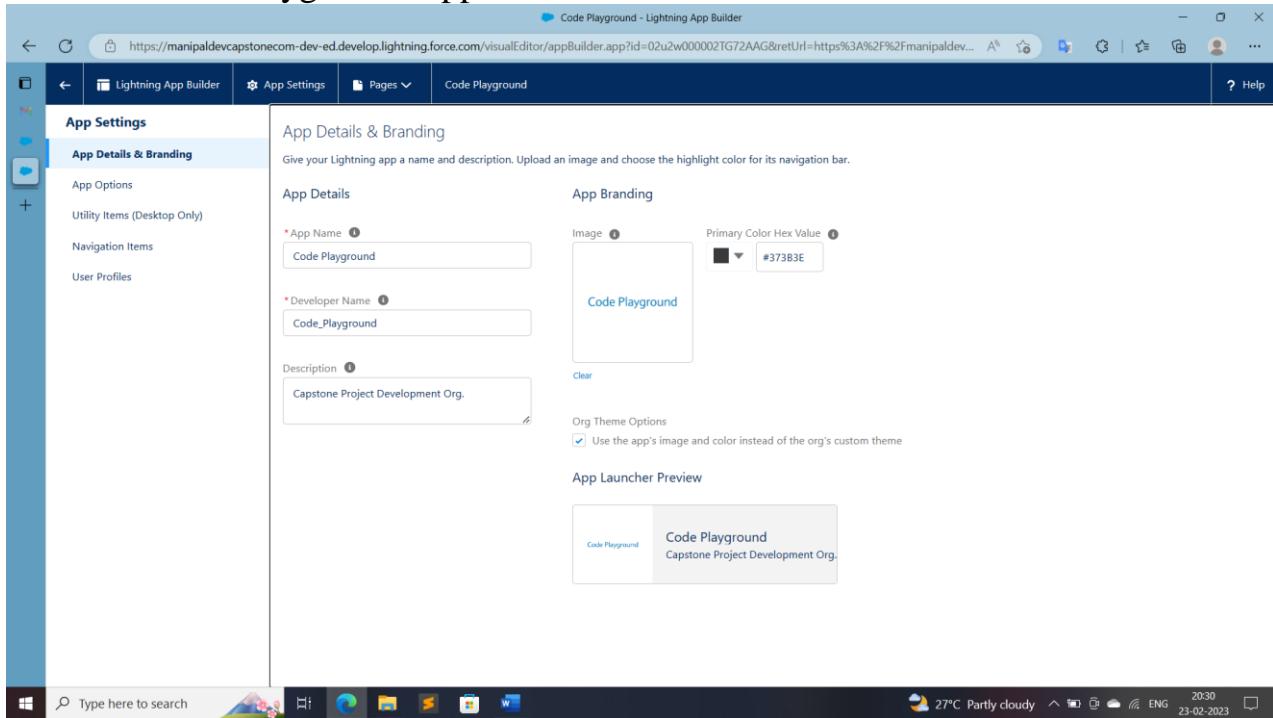
On the right side of the dashboard, there is a user profile for "Yemula Sai Satya" and a sidebar with options for "DISPLAY DENSITY" (Comfy selected), "OPTIONS" (Compact selected), and links to "Switch to Salesforce Classic" and "Add Username".

At the bottom of the screen, there is a Windows taskbar with a search bar, icons for File Explorer, Edge, Task View, and others, and system status indicators including weather (34°C Sunny), time (15:12), and date (27-02-2023).

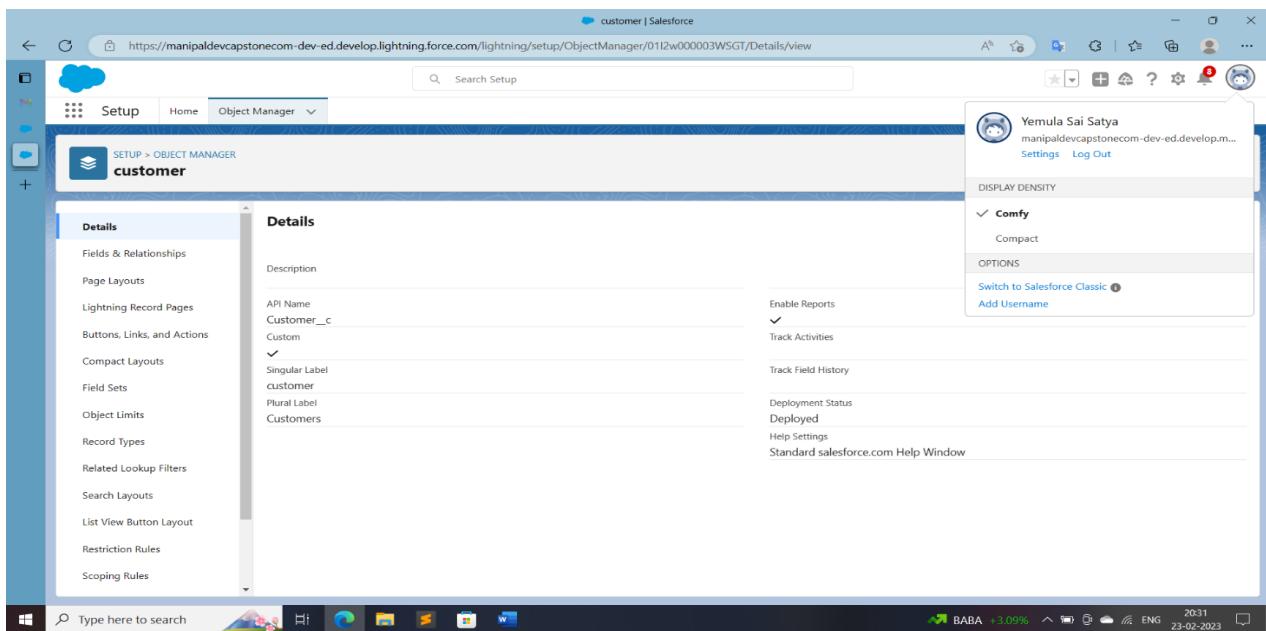
## Module 3:

### Exercise – 1

#### Created Code Playground App



Created the Custom Object Customer as (customer) as there is already a Standard Object named Customer:



## Created all the Custom Fields

The screenshot shows the Salesforce Setup interface with the URL <https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01I2w000003WSGT/FieldsAndRelationships/view>. The page title is "customer | Salesforce". The left sidebar shows "SETUP > OBJECT MANAGER" and "customer". The main content area is titled "Fields & Relationships" with 7 items. The table columns are "FIELD LABEL", "FIELD NAME", "DATA TYPE", and "CONTROLLING FIELD". The fields listed are:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD
Active	Active__c	Checkbox	
Created By	CreatedBy	Lookup(User)	
Customer Name	Name	Text(80)	
Customer Type	Customer_Type__c	Picklist	
Description	Description_c	Text Area(255)	
Last Modified By	LastModifiedBy	Lookup(User)	
Owner	OwnerId	Lookup(User,Group)	

The top right corner shows the user profile of Yemula Sai Satya and the display density setting is set to "Comfy".

## Created a Custom Object named Billing

The screenshot shows the Salesforce Setup interface with the URL <https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01I2w000003WSGY/Details/view>. The page title is "Billing | Salesforce". The left sidebar shows "SETUP > OBJECT MANAGER" and "Billing". The main content area is titled "Details". The left sidebar under "Billing" includes "Fields & Relationships", "Page Layouts", "Lightning Record Pages", "Buttons, Links, and Actions", "Compact Layouts", "Field Sets", "Object Limits", "Record Types", "Related Lookup Filters", "Search Layouts", "List View Button Layout", "Restriction Rules", and "Scoping Rules". The right side of the screen shows the "Details" section with fields like "Description", "API Name" (set to "Billing\_c"), "Custom" (set to "Custom"), "Singular Label" (set to "Billing"), and "Plural Label" (set to "Billings"). The top right corner shows the user profile of Yemula Sai Satya and the display density setting is set to "Comfy".

## Created Custom fields for billing object

The screenshot shows the Salesforce Setup interface for the Billing object. The left sidebar lists various setup categories like Page Layouts, Lightning Record Pages, and Field Sets. The main area displays a table titled 'Fields & Relationships' with the following data:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD
Amount Paid	Amount_Paid__c	Currency(18, 0)	
Bill Number	Name	Auto Number	
Created By	CreatedById	Lookup(User)	
Customer	customer__c	Master-Detail(customer)	
Customer Type	Customer_Type__c	Picklist	
Last Modified By	LastModifiedById	Lookup(User)	
Status	Status__c	Picklist	

A context menu on the right is open, showing options like 'Comfy' (selected), 'Compact', 'OPTIONS', 'Switch to Salesforce Classic', and 'Add Username'. The URL in the browser is <https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/setup/ObjectManager/01Iw000003WSGY/FieldsAndRelationships/view>.

## Code Playground App

The screenshot shows the Salesforce Lightning interface for the Code Playground app. The top navigation bar includes Leads, Accounts, Contacts, Opportunities, Cases, Customers, and Billings. The main area displays a table titled 'All Accounts' with the following data:

	Account Name	Account Site	Billing State/Province	Phone	Type	
1	Burlington Textiles Corp of America		NC	(336) 222-7000	Customer - Direct	
2	Dickenson plc		KS	(785) 241-6200	Customer - Channel	
3	Edge Communications		TX	(512) 757-6000	Customer - Direct	
4	Express Logistics and Transport		OR	(503) 421-7800	Customer - Channel	
5	GenePoint		CA	(650) 867-3450	Customer - Channel	YSai
6	Grand Hotels & Resorts Ltd		IL	(312) 596-1000	Customer - Direct	YSai
7	Pyramid Construction Inc.			(014) 427-4427	Customer - Channel	YSai
8	Sample Account for Entitlements					autopro
9	sForce		CA	(415) 901-7000		YSai
10	United Oil & Gas Corp.		NY	(212) 842-5500	Customer - Direct	YSai
11	United Oil & Gas, Singapore		Singapore	(650) 450-8810	Customer - Direct	YSai
12	United Oil & Gas, UK		UK	+44 191 4956203	Customer - Direct	YSai
13	University of Arizona		AZ	(520) 773-9050	Customer - Direct	YSai

A context menu on the right is open, showing options like 'Comfy' (selected), 'Compact', 'OPTIONS', 'Switch to Salesforce Classic', and 'Add Username'. The URL in the browser is <https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/o/Account/list?filterName=00B2w00000ZDPF1EAP>.

## Exercise – 2

### String Variable using endsWith() method

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The title bar says "Developer Console - Personal - Microsoft Edge". The main area shows an "Enter Apex Code" window with the following code:

```
1 String test='Sai Satya';
2 System.debug(test.endsWith('a'));
```

Below the code editor is an "Execution Log" table:

Timestamp	Event	Details
19:52:24:007	USER_DEBUG	[2] DEBUG[true]

At the bottom of the developer console, there is a "Logs" tab in the navigation bar, followed by a log table:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	20/2/2023, 7:52:24 pm	Success		2.13 KB

The system tray at the bottom right shows the date as 20-02-2023.

### Used Date Method and displayed the date

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The title bar says "Developer Console - Personal - Microsoft Edge". The main area shows an "Enter Apex Code" window with the following code:

```
1 date date1=Date.today();
2 System.debug(date1);
3 date date2=date1.addDays(30);
4 System.debug(date2);
```

Below the code editor is an "Execution Log" table:

Timestamp	Event	Details
19:55:48:003	USER_DEBUG	[2] DEBUG[2023-02-20 00:00:00]
19:55:48:003	USER_DEBUG	[4] DEBUG[2023-03-22 00:00:00]

At the bottom of the developer console, there is a "Logs" tab in the navigation bar, followed by a log table:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	20/2/2023, 7:55:48 pm	Success		2.52 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	20/2/2023, 7:52:24 pm	Success		2.13 KB

The system tray at the bottom right shows the date as 20-02-2023.

## Converted the string to integer and added 20 to it

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The top navigation bar includes File, Edit, Debug, Test, Workspace, Help, and tabs for Log executeAnonymous, Log executeAnonymous, Log executeAnonymous, and Log executeAnonymous.

The main area displays an "Execution Log" table:

Timestamp	Event	Details
20:00:03:003	USER_DEBUG	[3]DEBUG 10
20:00:03:003	USER_DEBUG	[4]DEBUG 30

An "Enter Apex Code" dialog box is open, containing the following Apex code:

```
1 String a='10';
2 Integer b=Integer.valueOf(a);
3 System.debug(b);
4 System.debug(b+20);
```

Below the code editor are buttons: Open Log, Execute, and Execute Highlighted.

The bottom section shows the "Logs" tab of the log viewer, which lists several log entries from the same user:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 8:00:03 pm	Success		2.42 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:59:21 pm	Success		2.3 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:55:48 pm	Success		2.52 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:52:24 pm	Success		2.13 KB

The system tray at the bottom right shows the date as 20-02-2023.

## Used Length method to display String length

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The top navigation bar includes File, Edit, Debug, Test, Workspace, Help, and tabs for Log executeAnonymous, Log executeAnonymous, Log executeAnonymous, and Log executeAnonymous.

The main area displays an "Execution Log" table:

Timestamp	Event	Details
20:01:21:002	USER_DEBUG	[3]DEBUG 16

An "Enter Apex Code" dialog box is open, containing the following Apex code:

```
1 String a='Yemula Sai Satya';
2 Integer b=a.length();
3 System.debug(b);
```

Below the code editor are buttons: Open Log, Execute, and Execute Highlighted.

The bottom section shows the "Logs" tab of the log viewer, which lists several log entries from the same user:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 8:01:21 pm	Success		2.31 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 8:00:03 pm	Success		2.42 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:59:21 pm	Success		2.3 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:55:48 pm	Success		2.52 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAnon...	20/2/2023, 7:52:24 pm	Success		2.13 KB

The system tray at the bottom right shows the date as 20-02-2023.

## Defined a list and displayed the outputs using different methods

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The top navigation bar includes File, Edit, Debug, Test, Workspace, Help, and tabs for executeAnonymous logs from 2023-02-02 at various times.

**Execution Log:**

Timestamp	Event	Details
20:06:52:022	USER_DEBUG	[5]DEBUG List After Adding elements[10, 20, 30]
20:06:52:022	USER_DEBUG	[6]DEBUG List Using Get Method[0]
20:06:52:023	USER_DEBUG	[8]DEBUG List after set method[10, 40, 30]
20:06:52:023	USER_DEBUG	[10]DEBUG List after clear method()

**Enter Apex Code:**

```
1 List<Integer> li=new List<Integer>();
2 li.add(10);
3 li.add(20);
4 li.add(30);
5 System.debug('List After Adding elements'+li);
6 System.debug('List Using Get Method'+li.get(2));
7 li.set(1,40);
8 System.debug('List after set method'+li);
9 li.clear();
10 System.debug('List after clear method'+li);
```

**Logs:**

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:06:52 pm	Success		4.08 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:04:22 pm	Success		2.86 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:01:21 pm	Success		2.31 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:00:03 pm	Success		2.42 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 7:59:21 pm	Success		2.3 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 7:55:48 pm	Success		2.52 KB

System tray icons include a search bar, taskbar, and system status.

## Printed numbers between 0 to 9

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The top navigation bar includes File, Edit, Debug, Test, Workspace, Help, and tabs for CustomerTrigger.apx:Customer\_\_C logs from 2023-02-23 at 7:43:05 pm.

**Execution Log:**

Timestamp	Event	Details
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:0
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:1
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:2
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:3
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:4
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:5
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:6
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:7
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:8
19:43:05:003	USER_DEBUG	[2]DEBUG the value of x is:9

**Enter Apex Code:**

```
1 * for(integer x=0;x<10;x++){
2     System.debug('the value of x is:'|+x);
3 }
```

**Logs:**

Name	Line	Problem

System tray icons include a search bar, taskbar, and system status.

# Exercise – 3

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). A modal window titled "Enter Apex Code" contains the following code:

```
1 Integer myLuckyNumber=15;
2 Integer myUnluckyNumber=7;
3 System.debug(myLuckyNumber!=myUnluckyNumber+8);
```

The "Execution Log" table below shows the execution results:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:23:46 pm	Success		2.38 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:19:30 pm	Success		5.64 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:17:26 pm	Success		31.85 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:16:10 pm	Apex CPU time limit exceeded		18.71 MB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:14:33 pm	Apex CPU time limit exceeded	Unread	18.02 MB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:12:16 pm	Apex CPU time limit exceeded	Unread	17.51 MB

# Exercise – 4

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). A modal window titled "Enter Apex Code" contains the following code:

```
1 Boolean isTrue=True;
2 Boolean isFalse=false;
3 System.debug(isTrue||isFalse);
```

The "Execution Log" table below shows the execution results:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:25:52 pm	Success		2.33 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:23:46 pm	Success		2.38 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:19:30 pm	Success		5.64 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:17:26 pm	Success		31.85 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:16:10 pm	Apex CPU time limit exceeded		18.71 MB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:14:33 pm	Apex CPU time limit exceeded	Unread	18.02 MB

# Exercise – 5

The screenshot shows the Salesforce Developer Console interface in Microsoft Edge. At the top, the URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The main area displays an 'Enter Apex Code' window containing the following code:

```
1 Date today=Date.today();
2 Date tomorrow=Date.today().addDays(1);
3 System.debug(today!=tomorrow);
```

Below this, the 'Execution Log' pane shows the following log entries:

Timestamp	Event	Details
20:27:52:004	USER_DEBUG	[3][DEBUG]true
		Log executeAnonymous @20/2/2023, 8:23:46 pm
		Log executeAnonymous @20/2/2023, 8:25:52 pm
		Log executeAnonymous @20/2/2023, 8:27:52 pm

At the bottom of the developer console, there is a system tray showing the date (20-02-2023), time (20:28), weather (28°C Partly cloudy), and other system icons.

## Exercise – 6

### Program for Finding the Grade based on Score

The screenshot shows the Microsoft Edge Developer Console interface. At the top, the title bar reads "Developer Console - Personal - Microsoft Edge" and the address bar shows the URL "https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage". Below the address bar, the menu bar includes "File", "Edit", "Debug", "Test", "Workspace", "Help", and "Go To". The main content area displays an Apex class named "StudentGrade" with the following code:

```
1 public class StudentGrade {
2     public void getStuGrades(){
3         Integer Score=85;
4         if(Score==100){
5             System.debug('Grade:A+');
6         }
7         else if(Score>=90){
8             System.debug('Grade:A');
9         }
10        else if(Score>=80){
11            System.debug('Grade:B');
12        }
13        else{
14            System.debug('Grade:Failed');
15        }
16    }
17 }
```

Below the code, there is a "Logs" tab selected, showing a table of log entries. The table has columns for User, Application, Operation, Time, Status, Read, and Size. The logs show multiple entries from "Yemula Sai Satya" at different times, all marked as "Success". The logs also include a timestamp of "20:44:57 016" and an event type of "USER\_DEBUG" with the message "[11][DEBUG]Grade:B".

At the bottom of the screen, the Windows taskbar is visible with icons for Start, Search, Task View, Edge, File Explorer, File History, and Task Scheduler. The system tray shows the date and time as "20-02-2023" and "20:46".

This screenshot shows the Microsoft Edge Developer Console with the "Execution Log" tab selected. The interface is similar to the previous one, with the title bar "Developer Console - Personal - Microsoft Edge" and the URL "https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage". The "Logs" tab is currently active, displaying the same log entries as the previous screenshot. The logs show multiple entries from "Yemula Sai Satya" at different times, all marked as "Success". The logs also include a timestamp of "20:44:57 016" and an event type of "USER\_DEBUG" with the message "[11][DEBUG]Grade:B".

At the bottom of the screen, the Windows taskbar is visible with icons for Start, Search, Task View, Edge, File Explorer, File History, and Task Scheduler. The system tray shows the date and time as "20-02-2023" and "20:46".

## Exercise – 7

### Program to execute Apex – for loop

The screenshot shows the Microsoft Edge browser window with the developer console open. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The code editor contains the following Apex class:

```
1 public class BillingClass {
2     public void insertBillingRecords(){
3         Billing__c rc1=new Billing__c();
4         rc1.Amount_Paid__c=8000;
5         rc1.Status__c='Paid';
6         Billing__c rc2=new Billing__c();
7         rc2.Amount_Paid__c=16000;
8         rc2.Status__c='Paid';
9         Billing__c rc3=new Billing__c();
10        rc3.Amount_Paid__c=20000;
11        rc3.Status__c='Paid';
12        Billing__c rc4=new Billing__c();
13        rc4.Amount_Paid__c=22000;
14        rc4.Status__c='Unpaid';
15        List<Billing__c> b_list=new List<Billing__c>();
16        b_list.add(rc1);
17        b_list.add(rc2);
18        b_list.add(rc3);
19        b_list.add(rc4);
20    }
21 }
```

The developer console also displays a log of the execution results:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:17:46 pm	Success		11.13 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:15:47 pm	Success		9.14 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:44:57 pm	Success		3.78 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:43:43 pm	Success		3.84 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:27:52 pm	Success		2.44 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:25:52 pm	Success		2.33 KB

The screenshot shows the Microsoft Edge browser window with the developer console open. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The code editor contains the following modified Apex class:

```
17     b_list.add(rc2);
18     b_list.add(rc3);
19     b_list.add(rc4);
20 }
21
22 try{
23     insert b_list;
24 }catch(Exception e){
25     System.debug('Insertion Failed');
26 }
27
28 List<Billing__c> Bill_Records=new List<Billing__c>();
29 Bill_Records=[select ID,Name,Status__c from Billing__c where createdDate=today];
30 List<String> Billing_List=new List<String>();
31 for(Billing__c b_c:Bill_Records){
32     if(b_c.Status__c=='Paid'){
33         System.debug('Value of Current Record on Which Loop id iterating is'+b_c);
34         Billing_List.add(b_c.Name);
35     }
36 }
37
38 System.debug('Billing Records are:'+Billing_List);
39 }
```

The developer console also displays a log of the execution results:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:17:46 pm	Success		11.13 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:15:47 pm	Success		9.14 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:44:57 pm	Success		3.78 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:43:43 pm	Success		3.84 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:27:52 pm	Success		2.44 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:25:52 pm	Success		2.33 KB

Developer Console - Personal - Microsoft Edge  
https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < ▾

StudentGrade.apxc Log executeAnonymous @20/2/2023, 8:43:43 pm BillingClass.apxc Billing\_\_c.obj Log executeAnonymous @20/2/2023, 9:15:47 pm Log executeAnonymous @20/2/2023, 9:17:46 pm

**Execution Log**

Timestamp	Event	Details
21:17:46:089	USER_DEBUG	[30][DEBUG]Value of Current Record on Which Loop id Iterating isBilling__c:{Id=a012v0000017drFaAI, Name=B-0001, Status__c=Paid}
21:17:46:090	USER_DEBUG	[30][DEBUG]Value of Current Record on Which Loop id Iterating isBilling__c:{Id=a012v0000017drFaAI, Name=B-0002, Status__c=Paid}
21:17:46:090	USER_DEBUG	[30][DEBUG]Value of Current Record on Which Loop id Iterating isBilling__c:{Id=a012v0000017drFcAAJ, Name=B-0003, Status__c=Paid}
21:17:46:090	USER_DEBUG	[34][DEBUG]Billing Records are:(B-0001, B-0002, B-0003)

This Frame Executable Debug Only Filter Click here to filter the log

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:17:46 pm	Success		11.13 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 9:15:47 pm	Success		9.14 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:44:57 pm	Success		3.78 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:43:43 pm	Success		3.84 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:27:52 pm	Success		2.44 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeA...	20/2/2023, 8:25:52 pm	Success		2.33 KB

Filter Click here to filter the log list

25°C Partly cloudy 21:18 20-02-2023

## Exercise – 8

Created a Class to demonstrate constants in Apex

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The tabs at the top are CustomTrigger.apxt, Customer\_c, and DiscountClass.apxc. The code editor contains the following Apex class:

```
1 public class DiscountClass {
2     final decimal regularDiscount=0.8;
3     decimal finalPrice;
4     public decimal calculateDiscount(Integer price){
5         finalPrice=price-price*regularDiscount;
6         System.debug('The final price after discount is:'+finalPrice);
7         return finalPrice;
8     }
9 }
```

Below the code editor is a modal window titled "Enter Apex Code" containing the following code:

```
1 DiscountClass dc=new DiscountClass();
2 dc.calculateDiscount(400);
```

At the bottom of the modal are three buttons: "Open Log", "Execute", and "Execute Highlighted". The "Execute" button is highlighted.

Below the code editor is a "Logs" tab. The log table has columns: User, Application, Operation, Time, Status, Read, and Size. The log entries are:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:43:05 pm	Success		5.37 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:42:46 pm	Success		5.36 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:42:06 pm	Success		4.2 KB

At the bottom of the screen is a Windows taskbar with icons for File Explorer, Edge, Task View, Task Manager, and Start. The system tray shows the date and time as 23-02-2023, 19:52, with a weather icon indicating 29°C Partly cloudy.

The screenshot shows the Salesforce Developer Console in Microsoft Edge. The URL is [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The tabs at the top are CustomTrigger.apxt, Customer\_c, and DiscountClass.apxc. The title bar shows "Log executeAnonymous @23/2/2023, 7:52:42 pm".

The "Execution Log" section shows a single entry:

Timestamp	Event	Details
19:52:42:017	USER_DEBUG	[6][DEBUG]The final price after discount is:80

Below the execution log is a "Logs" tab. The log table has columns: This Frame, Executable, Debug Only, Filter, Click here to filter the log, User, Application, Operation, Time, Status, Read, and Size. The log entries are:

This Frame	Executable	Debug Only	Filter	Click here to filter the log	User	Application	Operation	Time	Status	Read	Size
					Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:52:42 pm	Success		4.46 KB
					Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:43:05 pm	Success		5.37 KB
					Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:42:46 pm	Success		5.36 KB
					Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeAn...	23/2/2023, 7:42:06 pm	Success		4.2 KB

At the bottom of the screen is a Windows taskbar with icons for File Explorer, Edge, Task View, Task Manager, and Start. The system tray shows the date and time as 23-02-2023, 19:52, with a weather icon indicating 29°C Partly cloudy.

## Exercise – 9

The screenshot shows the Salesforce Apex code editor with the file `InterfaceExample.apxc` open. The code defines a public interface with a single method `percentageDiscountToBeApplied()`.

```
1 public interface InterfaceExample {
2     double percentageDiscountToBeApplied();
3 }
```

The screenshot shows the Salesforce logs page with several entries from the user `Yemula Sai Satya`. All entries are successful API calls to the `/services/data/v57.0/tooling/execut...` endpoint.

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:15:21	Success		3.6 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:01:35	Success		4.93 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:53:11	Success		4.4 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:48:54	Success		4.46 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:46:58	Success		4.15 KB

The screenshot shows the Salesforce Apex code editor with the file `PremiumCustomer.apxc` open. The code implements the `InterfaceExample` interface and returns a fixed discount value of 30.0.

```
1 public class PremiumCustomer implements InterfaceExample{
2     public double percentageDiscountToBeApplied(){
3         return 30.0;
4     }
5 }
```

An execute anonymous window is open, containing the following Apex code:

```
1 PremiumCustomer pc=new premiumCustomer();
2 Double test=pc.percentageDiscountToBeApplied();
3 System.debug(test);
```

Buttons at the bottom of the window include `Open Log`, `Execute`, and `Execute Highlighted`.

The screenshot shows the Salesforce logs page with several entries from the user `Yemula Sai Satya`. All entries are successful API calls to the `/services/data/v57.0/tooling/execut...` endpoint.

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:19:08	Success		3.81 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:15:21	Success		3.6 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:01:35	Success		4.93 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:53:11	Success		4.4 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:48:54	Success		4.46 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:46:58	Success		4.15 KB

Screenshot of the Salesforce Debug Console showing the Execution Log and Logs tabs.

**Execution Log**

Timestamp	Event	Details
10:19:08:006	USER_DEBUG	[3]  DEBUG 30.0

**Logs**

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:19:08	Success		3.81 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:15:21	Success		3.6 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:01:35	Success		4.93 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:53:11	Success		4.4 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:48:54	Success		4.46 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:46:58	Success		4.15 KB

Screenshot of the Salesforce Debug Console showing the NormalCustomer.apxc code editor and the Logs tab.

```

1 ▼ public class NormalCustomer implements InterfaceExample{
2   ▼   public double percentageDiscountTobeApplied(){
3     return 10.0;
4   }
5 }

```

**Enter Apex Code**

```

1 NormalCustomer nc=new NormalCustomer();
2 Double test=nc.percentageDiscountTobeApplied();
3 System.debug(test);

```

**Logs**

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:24:39	Success		3.85 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:19:08	Success		3.81 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:15:21	Success		3.6 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:01:35	Success		4.93 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:53:11	Success		4.4 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:48:54	Success		4.46 KB

manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage

G Gmail YouTube Maps Wipro Learning Po... Sign in to Outlook Learn Salesforce... Homepage - mani... Manipal 10 am to... Manipal Morning... Home | myWipro

File Edit Debug Test Workspace Help < >

PremiumCustomer.apxc NormalCustomer.apxc Log executeAnonymous @21/02/2023, 10:15:21 StudentGrade.apxc Log executeAnonymous @21/02/2023, 10:19:08 Log executeAnonymous @21/02/2023, 10:24:39

**Execution Log**

Timestamp	Event	Details
10:24:39:014	USER_DEBUG	[3] DEBUG 10.0

This Frame Executable Debug Only Filter Click here to filter the log

Logs Tests Checkpoints Query Editor View State Progress Problems

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:24:39	Success		3.85 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:19:08	Success		3.81 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:15:21	Success		3.6 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 10:01:35	Success		4.93 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:53:11	Success		4.4 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/execut...	21/02/2023, 09:48:54	Success		4.46 KB

## Exercise – 10

### Demo on DML Insert Operation Using DatabaseMethods

The screenshot shows the Salesforce Dev Console interface. The top navigation bar includes links for Gmail, YouTube, Maps, Wipro Learning Po..., Sign in to Outlook, Learn Salesforce..., Homepage - mani..., Manipal 10 am to..., Manipal Morning..., Home | myWipro, and a user icon. Below the navigation is a toolbar with File, Edit, Debug, Test, Workspace, Help, and Go To buttons. The main area displays the code for `DmlDataBaseMethods.apxc`. The code creates a `Customer__c` record named 'Wipro' with type 'Premium', and a `Billing__c` record named 'Paid' with amount 5000000. Both records are inserted into the database. An 'Enter Apex Code' dialog box is open, showing the same code snippet. At the bottom, there are tabs for Logs, Tests, Checkpoints, Query Editor, View State, Progress, and Problems. The Logs tab shows a single log entry for a successful execution.

```
1 public class DmlDataBaseMethods {  
2     public void insertRecord(){  
3         Customer__c cus=new Customer__c();  
4         cus.Name='Wipro';  
5         cus.Customer_Type__c='Premium';  
6         insert cus;  
7         Id customer_id=cus.Id;  
8         Billing__c[] bill_collection=new List<Billing__c>{new  
9             Billing__c(Status__c='Paid',Amount_Paid__c=5000000,customer__c=customer_id)};  
10        Database.SaveResult[] sv=Database.Insert(bill_collection,false);  
11        for(Database.SaveResult sr : sv){  
12            if(sr.isSuccess()){  
13                system.debug('Id of Record Inserted:' +sr.getId());  
14            }else{  
15                for( Database.Error sr_error:sr.getErrors()){  
16                    system.debug(sr_error.getStatusCode()+' : '+sr_error.getMessage());  
17                    system.debug('Fields which have error:' +sr_error.getFields());  
18                }  
19            }  
20        }  
21    }  
}
```

Logs	Tests	Checkpoints	Query Editor	View State	Progress	Problems
User Yemula Sai Satya	Application Unknown	/services/data/v57.0/tooling/execut... /services/data/v57.0/tooling/execut...	Time 21/02/2023, 11:51:24	Status Success	Read	Size 6.5 KB

The screenshot shows the Salesforce Dev Console interface. The top navigation bar and toolbar are identical to the previous screenshot. The main area displays the code for `DmlDataBaseMethods.apxc`. Below the code, the 'Execution Log' section shows a single log entry for a successful execution at 11:51:24.090. The 'Logs' section at the bottom shows a single log entry for a successful execution at 21/02/2023, 11:51:24.

Logs	Tests	Checkpoints	Query Editor	View State	Progress	Problems
User Yemula Sai Satya	Application Unknown	/services/data/v57.0/tooling/execut... /services/data/v57.0/tooling/execut...	Time 21/02/2023, 11:51:24	Status Success	Read	Size 6.5 KB

## Code Playground

Search...



Code Playground

Leads ▾ Accounts ▾ Contacts ▾ Opportunities ▾ Cases ▾ Customers ▾ Billings ▾



Billing  
B-0005

New Contact Edit New Opportunity

Related Details

Bill Number

B-0005

Amount Paid

₹50,00,000

Customer Type

Status

Paid

Customer

Wipro

Created By

Yemula Sai Satya, 21/02/2023, 11:51 am

Last Modified By

Yemula Sai Satya, 21/02/2023, 11:51 am

## Code Playground

Search...



Code Playground

Leads ▾ Accounts ▾ Contacts ▾ Opportunities ▾ Cases ▾ Customers ▾ Billings ▾



customer  
Wipro

New Contact Edit New Opportunity

Related Details

Customer Name

Wipro

Owner

Yemula Sai Satya

Active



Customer Type

Premium

Description

Created By

Yemula Sai Satya, 21/02/2023, 11:51 am

Last Modified By

Yemula Sai Satya, 21/02/2023, 11:51 am

## Exercise – 11

Displaying Records According to the required conditions

The screenshot shows the Salesforce Apex CS Page interface. At the top, there's a navigation bar with links like Gmail, YouTube, Maps, Wipro Learning Po..., Sign in to Outlook, Learn Salesforce..., Homepage - mani..., Manipal 10 am to..., Manipal Morning..., Home | myWipro. Below the navigation is a toolbar with File, Edit, Debug, Test, Workspace, Help, and other icons.

The main area displays a query result grid titled "Query Results - Total Rows: 10". The columns are AccountId, Amount, StageName, Name, Account.Industry, and Account.Website. The data rows are as follows:

AccountId	Amount	StageName	Name	Account.Industry	Account.Website
0012w000001LSLNvAAN	125000	Negotiation/Review	United Oil Office Portable Generators	Energy	http://www.uos.com
0012w000001LSLNvAAN	270000	Proposal/Price Quote	United Oil Refinery Generators	Energy	http://www.uos.com
0012w000001LSLNvAAN	120000	Closed Won	United Oil SLA	Energy	http://www.uos.com
0012w0000001LSLNvAAN	270000	Negotiation/Review	United Oil Installations	Energy	http://www.uos.com
0012w000001LSLNvAAN	270000	Closed Won	United Oil Installations	Energy	http://www.uos.com
0012w000001LSLNvAAN	915000	Closed Won	United Oil Refinery Generators	Energy	http://www.uos.com
0012w000001LSLNvAAN	235000	Closed Won	United Oil Installations	Energy	http://www.uos.com
0012w000001LSLNvAAN	440000	Closed Won	United Oil Emergency Generators	Energy	http://www.uos.com
0012w000001LSLNvAAN	120000	Closed Won	United Oil Standby Generators	Energy	http://www.uos.com
0012w000001LSLNvAAN	675000	Needs Analysis	United Oil Plant Standby Generators	Energy	http://www.uos.com

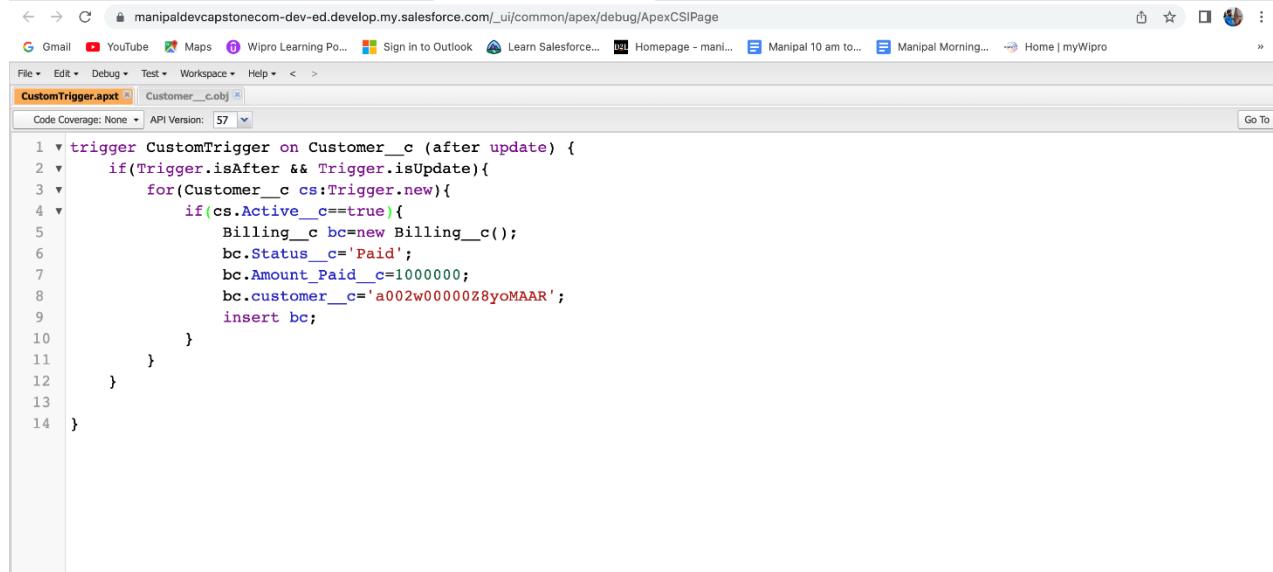
Below the grid, there's a "Logs" tab, a "Query Editor" tab (which is selected), a "View State" tab, a "Progress" tab, and a "Problems" tab. The "Logs" tab shows the query: "Select AccountId,Amount,StageName,Name,Account.Industry,Account.Website from Opportunity where Account.Industry='Energy' and Account.AnnualRevenue>5000". The "Query Editor" tab shows the same query. The "View State" and "Progress" tabs are empty. The "Problems" tab also shows no problems.

On the right side, there's a "History" section with a "Executed" entry. The entry shows the query: "Select id,name,rating,industry,annualrevenue,(select id,firstname,las...)" and "Select AccountId,Amount,StageName,Name,Account.Industry,Accou...".

At the bottom left, there are "Execute" and "Use Tooling API" buttons. On the bottom right, there are "Access in Salesforce", "Create New", "Open Detail Page", and "Edit Page" buttons.

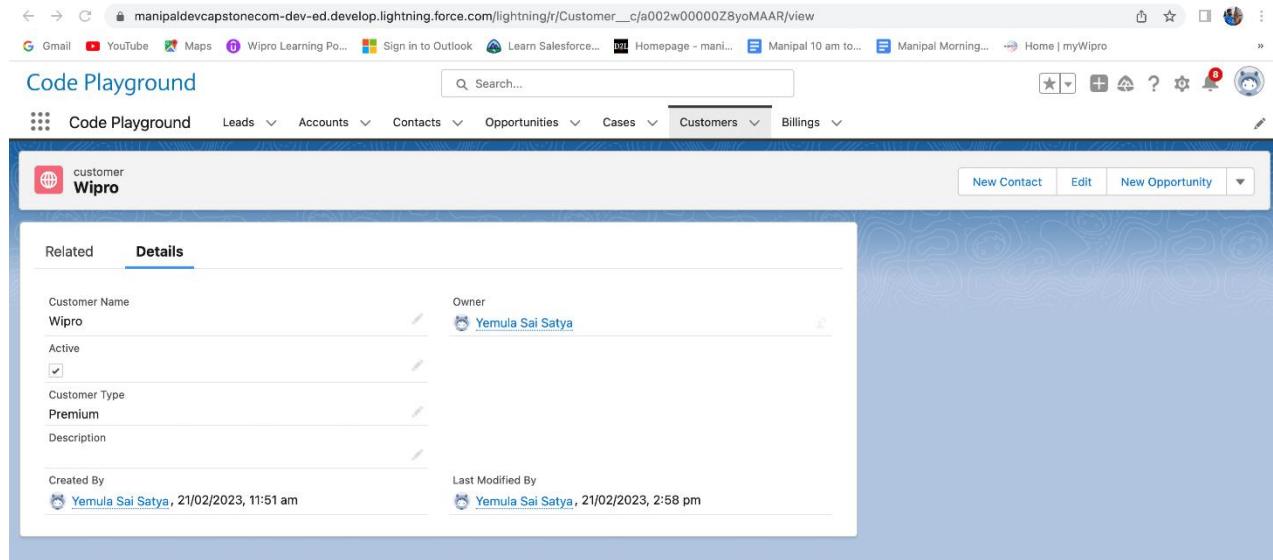
## Exercise – 12

Created a Trigger for Billing NamedCustomerTrigger



```
trigger CustomTrigger on Customer__c (after update) {
    if(Trigger.isAfter && Trigger.isUpdate){
        for(Customer__c cs:Trigger.new){
            if(cs.Active__c==true){
                Billing__c bc=new Billing__c();
                bc.Status__c='Paid';
                bc.Amount_Paid__c=1000000;
                bc.customer__c='a002w00000ZByoMAAR';
                insert bc;
            }
        }
    }
}
```

Updated Wipro Customer from in active to active



The screenshot shows the Salesforce Lightning Experience. At the top, there's a navigation bar with links like Gmail, YouTube, Maps, Wipro Learning Po..., Sign in to Outlook, Learn Salesforce..., Homepage - mani..., Manipal 10 am to..., Manipal Morning..., Home | myWipro. Below the navigation is a header with "Code Playground" and a search bar. The main area displays a customer record for "Wipro". The "Details" tab is selected. The record shows the following fields:

- Customer Name: Wipro
- Active:
- Customer Type: Premium
- Description: (empty)
- Created By: Yemula Sai Satya, 21/02/2023, 11:51 am
- Last Modified By: Yemula Sai Satya, 21/02/2023, 2:58 pm

## New Record Created in Billing Object with Wipro as Customer

The screenshot shows a Salesforce Lightning interface for a Billing object. The URL in the browser is [manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/r/Billing\\_\\_c/a012w000017e2OCAAY/view](https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/r/Billing__c/a012w000017e2OCAAY/view). The page title is "Code Playground". The top navigation bar includes links for Leads, Accounts, Contacts, Opportunities, Cases, Customers, and Billings. The main content area displays a Billing record with the following details:

- Bill Number:** B-0009
- Amount Paid:** ₹10,00,000
- Customer Type:** Wipro
- Status:** Paid
- Created By:** Yemula Sai Satya, 21/02/2023, 2:58 pm
- Last Modified By:** Yemula Sai Satya, 21/02/2023, 2:58 pm

Buttons for New Contact, Edit, and New Opportunity are visible in the top right corner of the record view.

## Exercise – 13

Created a Test class for CustomTrigger

The screenshot shows the Salesforce IDE interface. At the top, the URL is `manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. Below the URL, there's a navigation bar with links like Gmail, YouTube, Maps, Wipro Learning Po..., Sign in to Outlook, Learn Salesforce..., Homepage - mani..., Manipal 10 am to..., Manipal Morning..., Home | myWipro. The main workspace shows two tabs open: `CustomTrigger.apxt` and `Customer_c`. The `Customer_c` tab is active, displaying a class definition:

```
1  @isTest
2  * public class CustomTriggerTest {
3      @isTest
4      static void testCustomer(){
5          Customer__c c = new Customer__c();
6          c.Active__c =False;
7          c.Name='Test';
8          c.Customer_Type__c='Standard';
9          insert c;
10
11         Test.startTest();
12         c.Active__c=True;
13         update c;
14         System.assertEquals(c.Active__c,true);
15         System.assertEquals(c.Customer_Type__c,'Standard');
16         System.assertEquals(c.Name, 'Test');
17         Test.stopTest();
18     }
19 }
20 }
```

Below the code editor, there's a toolbar with buttons for Run Test and Go To. The status bar indicates "Code Coverage: None" and "API Version 57".

At the bottom, there's a "Tests" tab selected in the navigation bar. The "Logs" section shows four successful test runs:

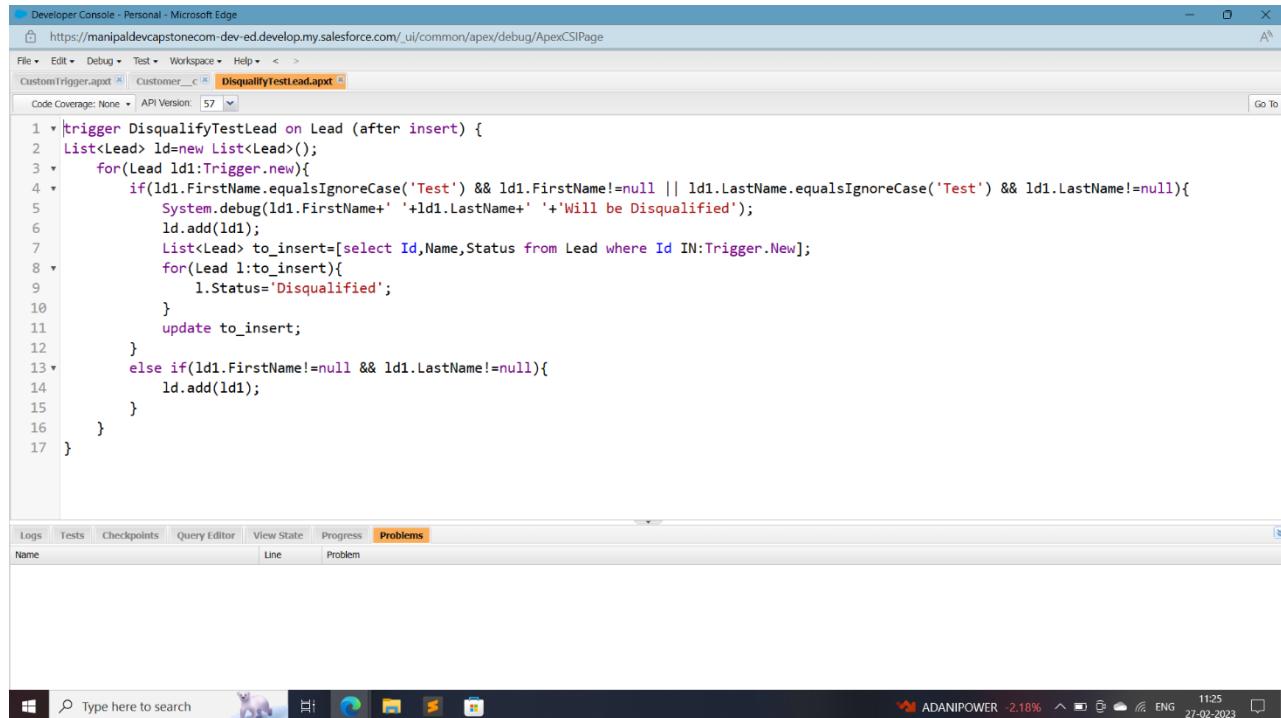
Status	Test Run	Enqueued Time	Duration	Failures	Total
✓	TestRun @ 3:33:48 pm			0	1
✓	TestRun @ 3:36:14 pm			0	1
✓	TestRun @ 4:11:36 pm			0	1
✓	TestRun @ 4:46:34 pm			0	1

The "Overall Code Coverage" table shows the following data:

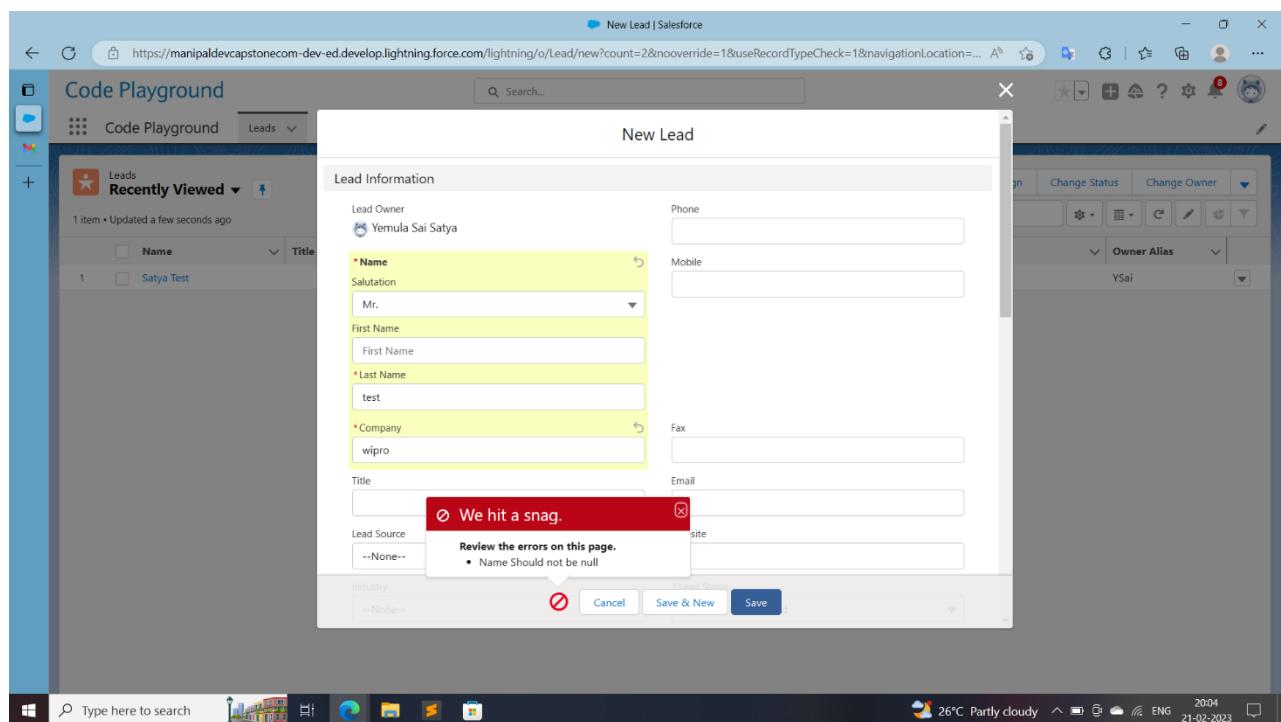
Class	Percent	Lines
Overall	13%	
BillingClass	0%	0/27
CustomTrigger	100%	8/8
DiscountClass	0%	0/4
DmlDataBaseMethods	0%	0/12
NormalCustomer	0%	0/2

## Exercise – 14

Created a Trigger for Leads Named DisqualifyTestLeads



```
trigger DisqualifyTestLead on Lead (after insert) {
    List<Lead> ld=new List<Lead>();
    for(Lead ld1:Trigger.new){
        if(ld1.FirstName.equalsIgnoreCase('Test') && ld1.FirstName!=null || ld1.LastName.equalsIgnoreCase('Test') && ld1.LastName!=null){
            System.debug(ld1.FirstName+' '+ld1.LastName+' '+'Will be Disqualified');
            ld.add(ld1);
            List<Lead> to_insert=[select Id,Name,Status from Lead where Id IN:Trigger.New];
            for(Lead l1:to_insert){
                l1.Status='Disqualified';
            }
            update to_insert;
        }
        else if(ld1.FirstName!=null && ld1.LastName!=null){
            ld.add(ld1);
        }
    }
}
```



test test | Salesforce

https://manipaldevcapstonecom-dev-ed.develop.lightning.force.com/lightning/r/Lead/00Q2w00000RtMSgEAN/view

### Code Playground

Code Playground Leads Accounts Contacts Opportunities Cases Customers Billings

Lead Mr. test test

Company test	Fax
Title	Email
Lead Source	Website
Industry	Lead Status Disqualified
Annual Revenue	Rating
	No. of Employees
Address	
Product Interest	Current Generator(s)
SIC Code	Primary
Number of Locations	
Created By  Yemula Sai Satya, 23/02/2023, 10:48 am	Last Modified By  Yemula Sai Satya, 23/02/2023, 10:48 am
Description	

Follow New Case New Note Submit for Approval

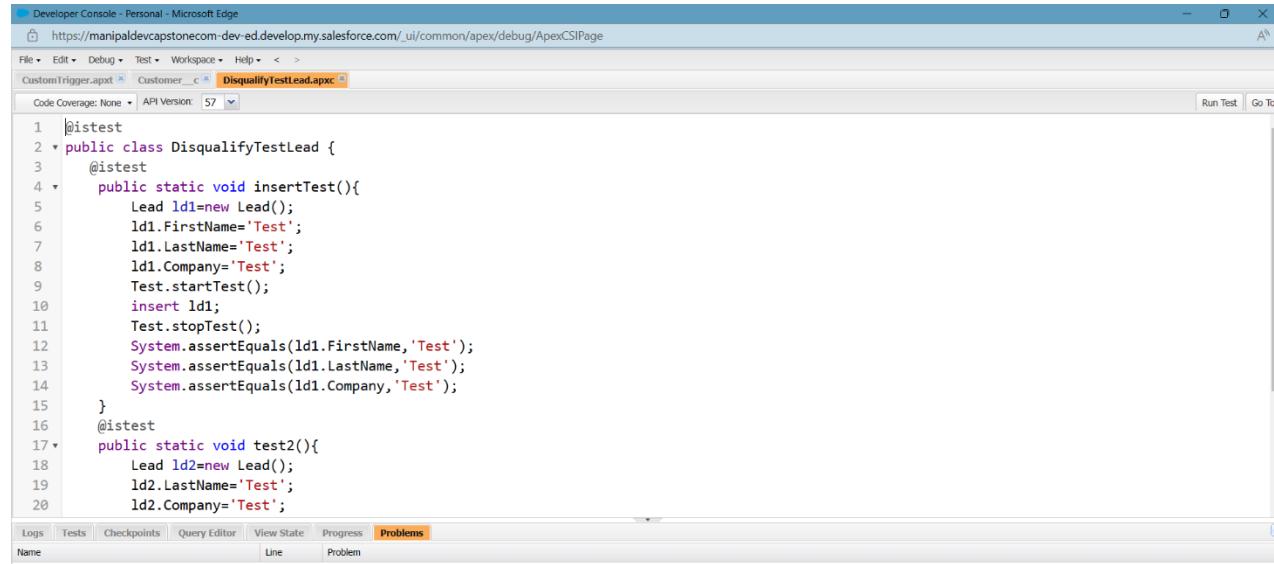
Try Out the Compact Setting

28°C Partly cloudy 20:15 ENG 23-02-2023

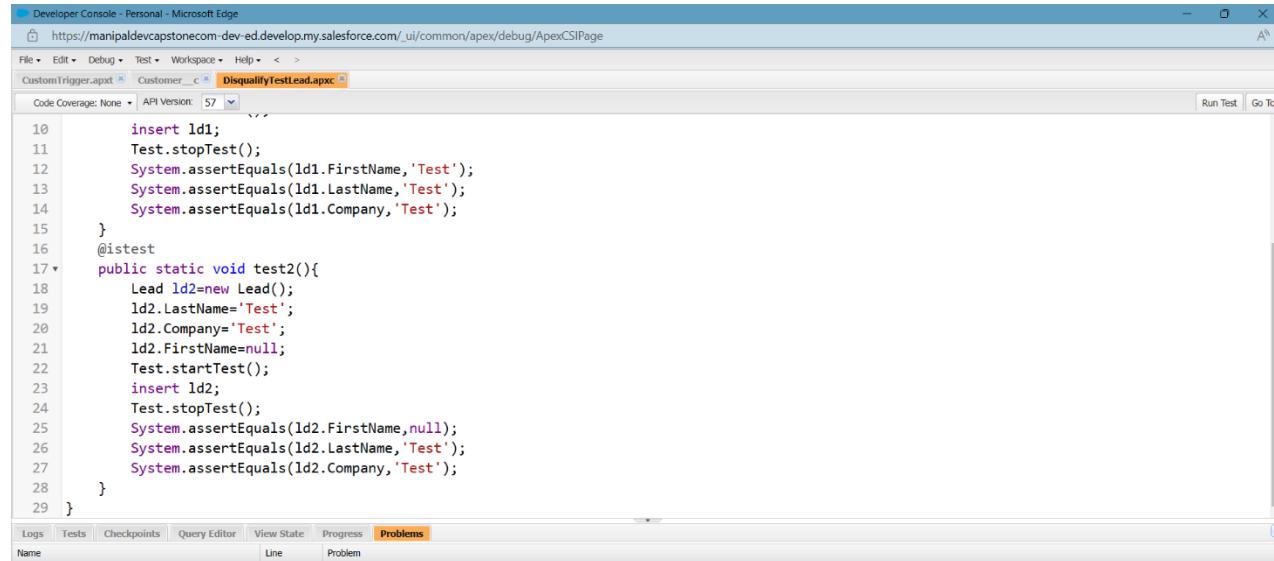
Type here to search

## Exercise – 15

Created a test class for DisqualifyTestLeads trigger



```
1  @istest
2  public class DisqualifyTestLead {
3      @istest
4      public static void insertTest(){
5          Lead ld1=new Lead();
6          ld1.FirstName='Test';
7          ld1.LastName='Test';
8          ld1.Company='Test';
9          Test.startTest();
10         insert ld1;
11         Test.stopTest();
12         System.assertEquals(ld1.FirstName,'Test');
13         System.assertEquals(ld1.LastName,'Test');
14         System.assertEquals(ld1.Company,'Test');
15     }
16     @istest
17     public static void test2(){
18         Lead ld2=new Lead();
19         ld2.LastName='Test';
20         ld2.Company='Test';
21     }
22 }
```



```
10     insert ld1;
11     Test.stopTest();
12     System.assertEquals(ld1.FirstName,'Test');
13     System.assertEquals(ld1.LastName,'Test');
14     System.assertEquals(ld1.Company,'Test');
15 }
16 @istest
17 public static void test2(){
18     Lead ld2=new Lead();
19     ld2.LastName='Test';
20     ld2.Company='Test';
21     ld2.FirstName=null;
22     Test.startTest();
23     insert ld2;
24     Test.stopTest();
25     System.assertEquals(ld2.FirstName,null);
26     System.assertEquals(ld2.LastName,'Test');
27     System.assertEquals(ld2.Company,'Test');
28 }
29 }
```



Developer Console - Personal - Microsoft Edge

https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage

File ▾ Edit ▾ Debug ▾ Test ▾ Workspace ▾ Help ▾ < ▾ >

CustomTrigger.apxt Customer\_c DisqualifyTestLead.apxc DisqualifyTestLead.apxc

Code Coverage: None API Version: 57 Run Test Go To

```
1 @istest
2 public class DisqualifyTestLead {
3     @istest
4     public static void insertTest(){
5         Lead ld1=new Lead();
6         ld1.FirstName='Test';
7         ld1.LastName='Test';
8         ld1.Company='Test';
9         Test.startTest();
10        insert ld1;
11        Test.stopTest();
12        System.assertEquals(ld1.FirstName,'Test');
13        System.assertEquals(ld1.LastName,'Test');
14        System.assertEquals(ld1.Company,'Test');
15    }
16    @istest
17    public static void test2(){
18        List<Lead> l1=new List<Lead>();
19        Lead ld2=new Lead();
20        ld2.LastName='Yemula';
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Status	Test Run	Enqueued Time	Duration	Failures	Total
✓	TestRun	11:25:17 am		0	3

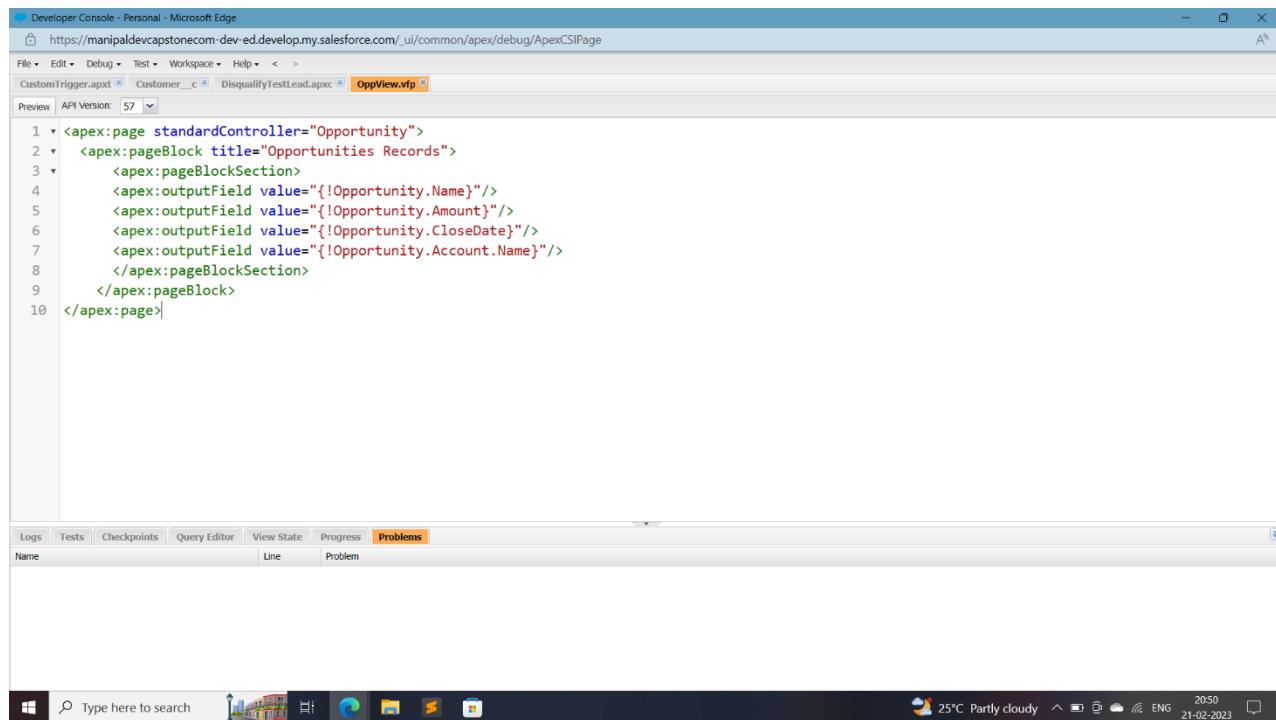
Overall Code Coverage

Class	Percent	Lines
DiscountClass	0%	0/4
DisqualifyTestLead	100%	10/10
DmlDatabaseMethods	0%	0/12
NewCaseListController	0%	0/4
NormalCustomer	0%	0/2
PremiumCustomer	0%	0/2

Type here to search 30°C. Sunny 11:25 27-02-2023

## Exercise – 16

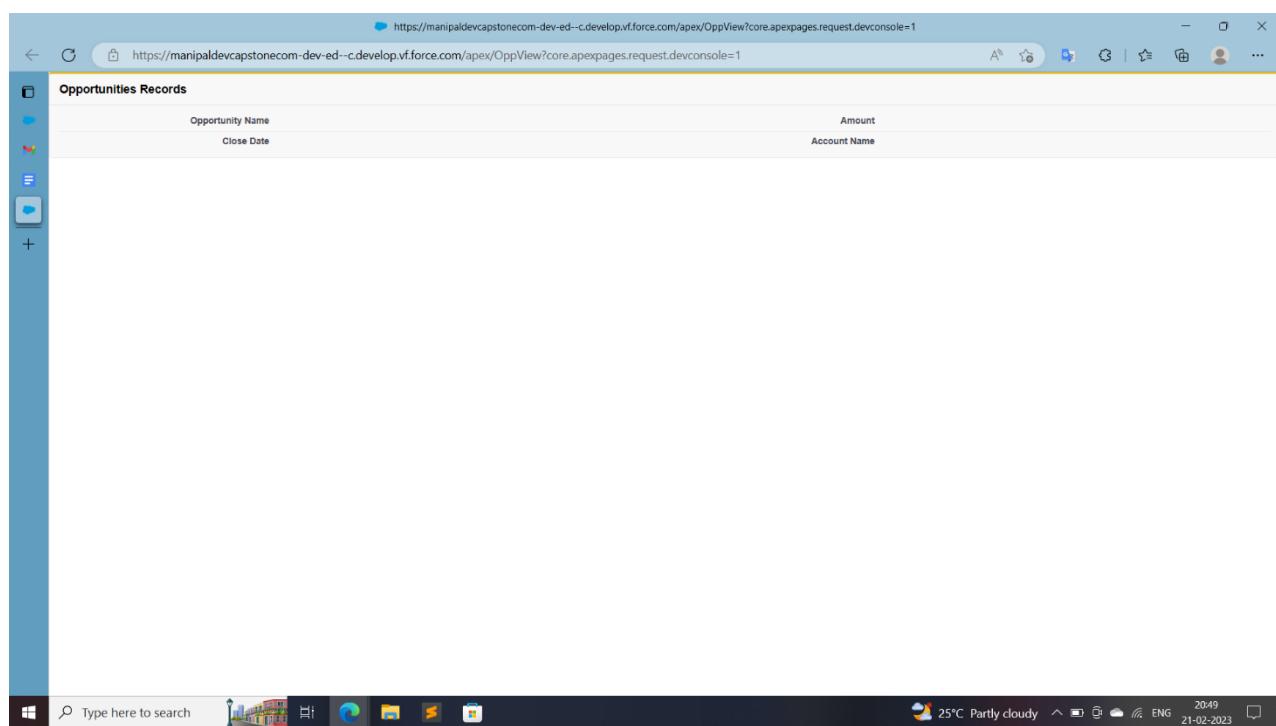
Created a Visualforce Page OppView and displayed four apex: outputfields



The screenshot shows the Microsoft Edge Developer Console interface. The title bar reads "Developer Console - Personal - Microsoft Edge". The address bar shows the URL "https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage". The tabs at the top include "CustomTrigger.apxt", "Customer\_c", "DisqualificationTestLead.apxc", and "OppView.vfp" (which is highlighted). Below the tabs, there's a dropdown for "Preview" and "API Version" set to "57". The main area displays the following Apex code:

```
1 <apex:page standardController="Opportunity">
2   <apex:pageBlock title="Opportunities Records">
3     <apex:pageBlockSection>
4       <apex:outputField value="{!Opportunity.Name}" />
5       <apex:outputField value="{!Opportunity.Amount}" />
6       <apex:outputField value="{!Opportunity.CloseDate}" />
7       <apex:outputField value="{!Opportunity.Account.Name}" />
8     </apex:pageBlockSection>
9   </apex:pageBlock>
10 </apex:page>
```

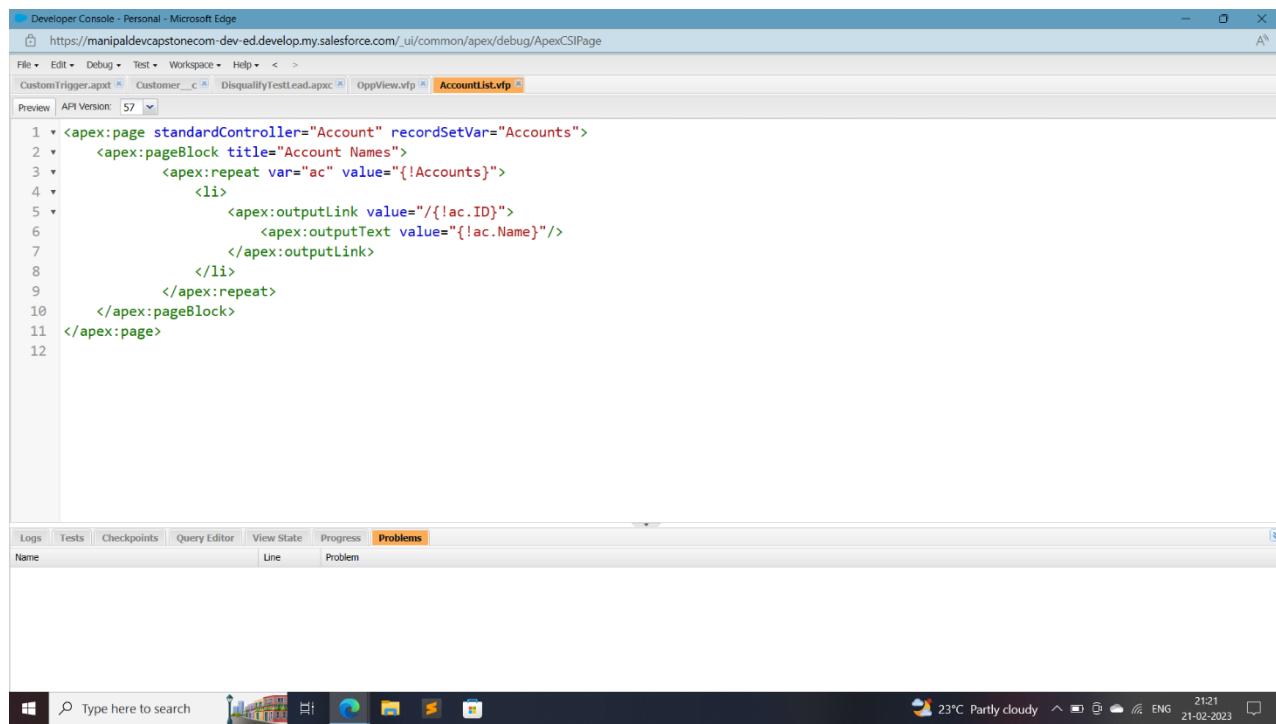
Below the code editor, there are tabs for "Logs", "Tests", "Checkpoints", "Query Editor", "View State", "Progress", and "Problems". The "Problems" tab is selected, showing a table with columns "Name", "Line", and "Problem". The status bar at the bottom indicates "25°C Partly cloudy" and the date "21-02-2023".



The screenshot shows the Microsoft Edge browser window displaying the "OppView" page. The title bar reads "Opportunities Records". The page content includes a table with columns "Opportunity Name", "Close Date", "Amount", and "Account Name". On the left side, there is a sidebar with icons for "New", "Edit", "Delete", and "List". The status bar at the bottom indicates "25°C Partly cloudy" and the date "21-02-2023".

## Exercise – 17

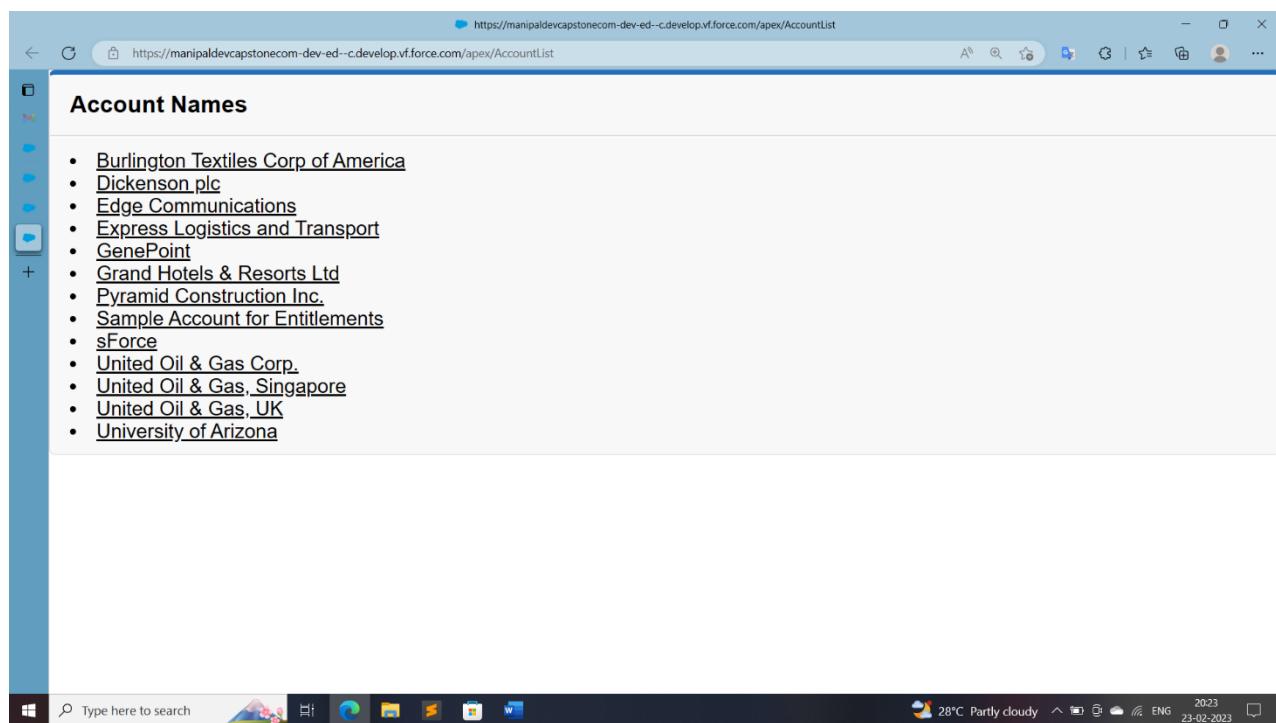
Created a Visualforce page that shows a list of Accounts linked to their record pages



The screenshot shows the Microsoft Edge Developer Console interface. The title bar reads "Developer Console - Personal - Microsoft Edge". The address bar shows the URL [https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\\_ui/common/apex/debug/ApexCSIPage](https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage). The tabs at the top include "CustomTrigger.apxt", "Customer\_c", "DisqualifyTestLead.apxc", "OppView.vfp", and "AccountList.vfp" (which is selected). The "Preview" tab is active, showing the following Apex code:

```
1 <apex:page standardController="Account" recordSetVar="Accounts">
2     <apex:pageBlock title="Account Names">
3         <apex:repeat var="ac" value="{!Accounts}">
4             <li>
5                 <apex:outputLink value="/{!ac.ID}">
6                     <apex:outputText value="{!ac.Name}" />
7                 </apex:outputLink>
8             </li>
9         </apex:repeat>
10    </apex:pageBlock>
11 </apex:page>
```

Below the code, there are tabs for "Logs", "Tests", "Checkpoints", "Query Editor", "View State", "Progress", and "Problems". The "Problems" tab is selected, showing a table with columns "Name", "Line", and "Problem". The status bar at the bottom indicates "21:21" and the date "21-02-2023".



The screenshot shows the Microsoft Edge browser window displaying the rendered Visualforce page. The title bar reads "https://manipaldevcapstonecom-dev-ed--c.develop.vf.force.com/apex/AccountList". The main content area has a header "Account Names" and a list of account names, each with a blue link underneath:

- [Burlington Textiles Corp of America](#)
- [Dickenson plc](#)
- [Edge Communications](#)
- [Express Logistics and Transport](#)
- [GenePoint](#)
- [Grand Hotels & Resorts Ltd](#)
- [Pyramid Construction Inc.](#)
- [Sample Account for Entitlements](#)
- [sForce](#)
- [United Oil & Gas Corp.](#)
- [United Oil & Gas, Singapore](#)
- [United Oil & Gas, UK](#)
- [University of Arizona](#)

The status bar at the bottom indicates "20:23" and the date "23-02-2023".

## Exercise – 18

Created a Vf page that uses an Apex class to display a list of cases with the status of 'New'.

The screenshot shows the Salesforce Developer Console interface. At the top, the URL is https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage. The code editor contains the following Apex class:

```
1 public class NewCaseListController {
2     List<Case> ls=new List<Case>();
3     public List<Case> getNewCases(){
4         ls=[select Id,CaseNumber from Case where Status='New'];
5         return ls;
6     }
7 }
```

Below the code editor is a log table:

User	Application	Operation	Time	Status	Read	Size
Yemula Sai Satya	Browser	/apex/AccountList	23/2/2023, 8:23:33 pm	Success	Unread	1.18 KB
Yemula Sai Satya	Browser	/aura	23/2/2023, 8:14:51 pm	Success	Unread	1.28 KB
Yemula Sai Satya	Unknown	/services/data/v57.0/tooling/executeF...	23/2/2023, 8:13:53 pm	Success		4.4 KB

At the bottom, there is a search bar and a system status bar showing 28°C Partly cloudy, 20:25, ENG, 23-02-2023.

The screenshot shows the Salesforce Developer Console interface. At the top, the URL is https://manipaldevcapstonecom-dev-ed.develop.my.salesforce.com/\_ui/common/apex/debug/ApexCSIPage. The code editor contains the following Visualforce page code:

```
1 <apex:page Controller="NewCaseListController">
2     <apex:pageBlock title="New Case Record Ids With Their Case Numbers">
3         <apex:repeat var="cases" value="{!NewCases}">
4             <li>
5                 <apex:outputLink value="/{!cases.Id}">
6                     {!cases.id} |
7                 </apex:outputLink>
8                 {!cases.CaseNumber}
9             </li>
10            </apex:repeat>
11        </apex:pageBlock>
12    </apex:page>
13
```

Below the code editor is a log table:

Name	Line	Problem

At the bottom, there is a search bar and a system status bar showing 23°C Partly cloudy, 21:36, ENG, 21-02-2023.

https://manipaldevcapstonecom-dev-ed--c.develop.vf.force.com/apex/NewCaseList

### New Case Record Ids With Their Case Numbers

- [5002w00000fiPqGAAU](#) 00001002
- [5002w00000fiPqJAAU](#) 00001016
- [5002w00000fiPqcAAE](#) 00001024

Type here to search

27°C Partly cloudy 2027 23-02-2023

## **References**

1. [Manage sales - Salesforce IN](#)
2. [Salesforce - ADX201 Administrative Essentials for New Admins in Lightning Experience \(SFADX201\) \(qa.com\)](#)
3. [Understand the Salesforce Architecture Unit | Salesforce Trailhead](#)