

CRM Lab 7

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Batch. E1

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Aim: Demonstrate the implementation of Apex triggers in Salesforce to automate processes and enforce business logic.

Theory:

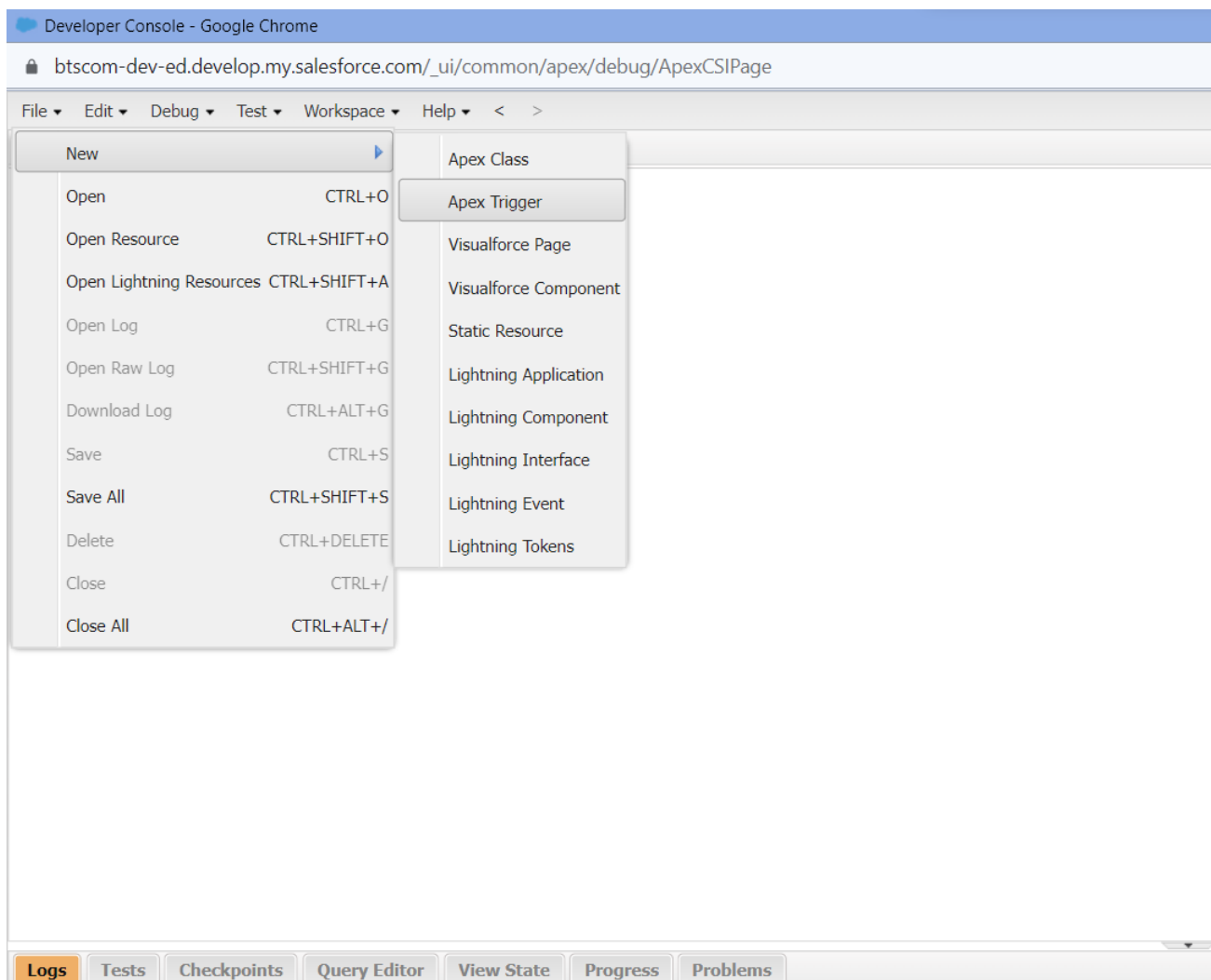
- Trigger: It is a piece of code which executes automatically before or after an event for an operation. A Trigger is a segment of Apex code which executes before or after inserting or modifying a Salesforce record based on the condition provided.
- Events:
 1. before
 2. after
- Operations:
 1. Insert
 2. Update
 3. Delete
 4. Undelete
- Context Variables:
 1. trigger.new → It returns a List of new version of the records (List<Object>).
 2. trigger.newMap → It returns a Map of new version of the records (Map<Id,Object>).
 3. trigger.old → It returns a List of old version of the records (List<Object>).
 4. trigger.oldMap → It returns a Map of Old version of the records (Map<Id,Object>)
 5. trigger.isInsert → It return True, if Operation is of Insert.
 6. Trigger.isUpdate → It returns True, if Operation is of Update.
 7. trigger.isDelete → It returns True, if Operation is of Delete.
 8. trigger.isUndelete → It returns True, if Operation is of Undelete.
 9. trigger.isBefore → It returns True, if Event is of Before operation.
 10. trigger.isAfter → It returns True, if Event is of After operation.

Q1. (Task 1) Create / Update an Account Record. If Type is "Prospect", then the Rating should be "Hot". Otherwise, none.

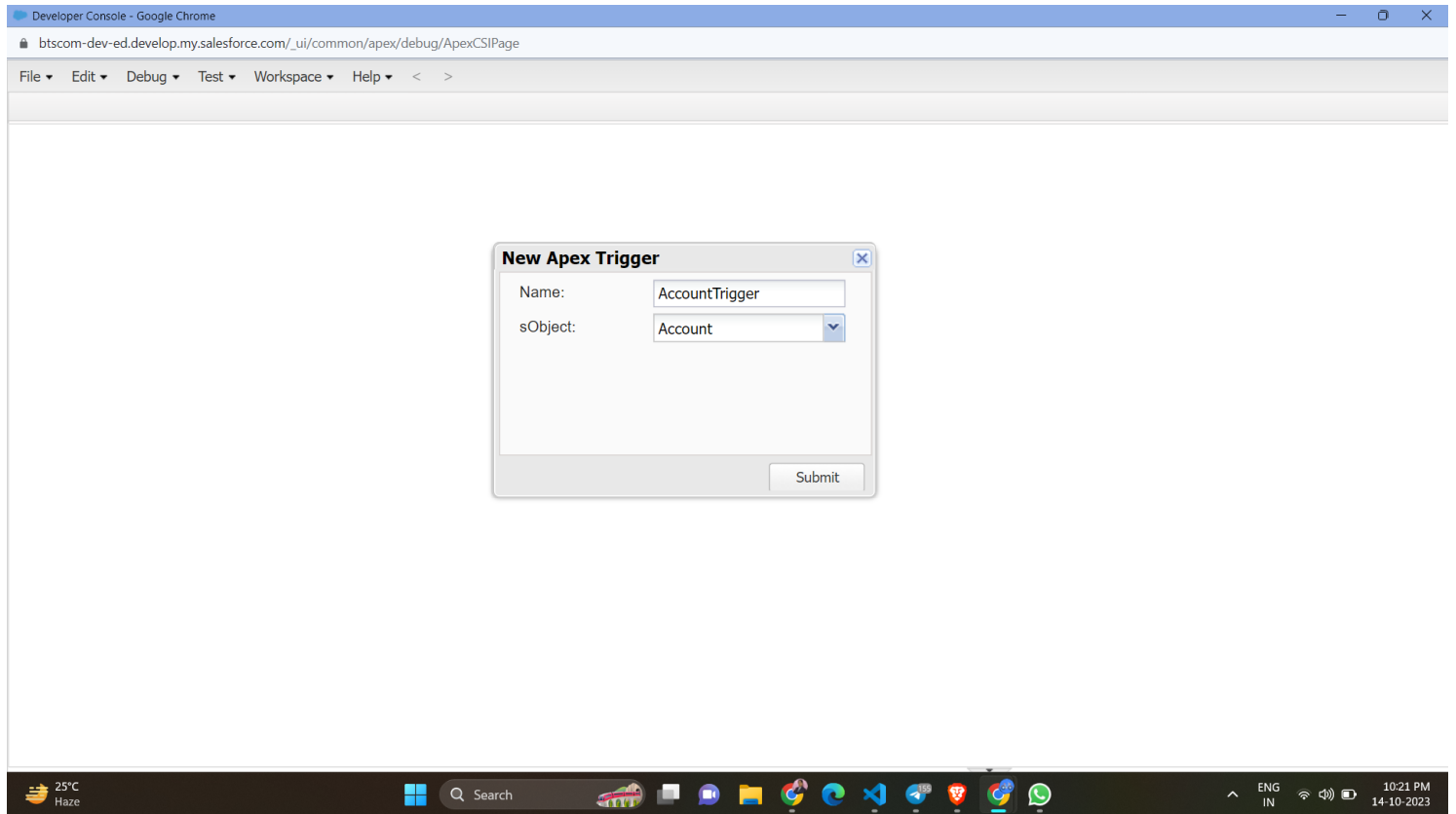
Ans.

EVENT	Before
OPERATIONS	Insert, Update
TRIGGER OBJECT	Account
AFFECTING OBJECT	Account

Step1: Developer Console | File | New | Apex Trigger



Step2: Enter Trigger name and Object name.



Step3: Enter Apex Code in AccountTrigger.apxt


```
trigger AccountTrigger on Account (before insert, before update) {  
    for(Account objAcc : trigger.new){  
        if(String.isNotBlank(objAcc.Type)){  
            if(objAcc.Type == 'Prospect'){  
                objAcc.Rating = 'Hot';  
            }  
            else{  
                objAcc.Rating = null;  
            }  
        }  
    }  
}
```

Output:

* = Required Information

Account Information

Account Owner

 Harsha Hargunani

* Account Name

Demo Account 1

Parent Account

Search Accounts...

Account Number

Account Site

Type

Prospect

Industry

--None--

Rating

Warm

Phone

Fax

Website

Ticker Symbol

Ownership

--None--

Employees

Annual Revenue

SIC CODE

Cancel

Save & New

Save

Account

Demo Account 1

Type

Phone

Website

Account Owner

Account Site

Industry

Prospect

Harsha Hargunani

Related

Details

News

Account Owner

Harsha Hargunani

Rating

Hot

Account Name

Demo Account 1

Phone

Parent Account

Fax

Account Number

Website

Account Site

Ticker Symbol

Type

Ownership

Prospect

Q2. (Task2) Create / Update Account Record.

- A. If Type is "Prospect" and Rating is "Hot", then SLA should be "Gold".
- B. If Type is "Customer - Direct" and Rating is "Cold", then SLA should be "Silver".
- C. SLA should be none, otherwise.

Ans.

EVENT	Before
OPERATIONS	Insert, Update
TRIGGER OBJECT	Account
AFFECTING OBJECT	Account

AccountTrigger.apxt

```
trigger AccountTrigger on Account (before insert, before update) {
    for(Account objAcc : trigger.new){
        if(String.isNotBlank(objAcc.Type) && String.isNotBlank(objAcc.Rating)){
            if(objAcc.Type == 'Prospect' && objAcc.Rating == 'Hot'){
                objAcc.SLA__c = 'Gold';
            }
            else{
                if(objAcc.Type == 'Customer - Direct' && objAcc.Rating == 'Cold'){
                    objAcc.SLA__c = 'Silver';
                }
                else{
                    objAcc.SLA__c = null;
                }
            }
        }
    }
}
```

Output: Before-

Accounts								New	Import	Printabl
All Accounts										
15 items • Sorted by Account Name • Filtered by All accounts • Updated a few seconds ago								Search this list...		
	<input type="checkbox"/> Account Name ↑	<input type="checkbox"/> Owner First Name	<input type="checkbox"/> Billing State/Province	<input type="checkbox"/> Type	<input type="checkbox"/> Rating	<input type="checkbox"/> SLA	<input type="checkbox"/> Account Owner Alias			
1	<input type="checkbox"/> Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg			
2	<input type="checkbox"/> Demo Account 1	Harsha		Prospect	Hot		HHarg			

After Edit and Save without any changes-

Accounts

All Accounts

Account "Demo Account 1" was saved.

NewImportPrint

15 items • Sorted by Account Name • Filtered by All accounts • Updated a few seconds ago

Search this list...

	Account Name	Owner First Name	Billing State/Province	Type	Rating	SLA	Account Owner Alias
1	Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg
2	Demo Account 1	Harsha		Prospect	Hot	Gold	HHarg

Before-

Accounts

All Accounts

NewImportPrint

15 items • Sorted by Account Name • Filtered by All accounts • Updated a few seconds ago

Search this list...

	Account Name	Owner First Name	Billing State/Province	Type	Rating	SLA	Account Owner Alias
1	Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg
2	Demo Account 1	Harsha		Prospect	Hot	Gold	HHarg
3	Demo Account 2	Harsha		Customer - Direct	Hot		HHarg

After Edit and changing Rating to Cold-

Edit Demo Account 2

* = Required Information

Account Owner

Harsha Hargunani

* Account Name

Demo Account 2

Parent Account

Search Accounts...

Account Number

Account Site

Type

Customer - Direct

Rating

Cold

Phone

Fax

Website

Ticker Symbol

Ownership

--None--

Industry

--None--

Cancel

Save & New

Save

Accounts

All Accounts

NewImportPrint

15 items • Sorted by Account Name • Filtered by All accounts • Updated a few seconds ago

Search this list...

	Account Name	Owner First Name	Billing State/Province	Type	Rating	SLA	Account Owner Alias
1	Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg
2	Demo Account 1	Harsha		Prospect	Hot	Gold	HHarg
3	Demo Account 2	Harsha		Customer - Direct	Cold	Silver	HHarg

Q3. (Task3) Prevent Applicant Record if PAN Card is not available.

EVENT	Before
OPERATIONS	Insert, Update
TRIGGER OBJECT	Applicant
AFFECTING OBJECT	Applicant

Ans. ApplicantTrigger.apxt

```
trigger ApplicantTrigger on Applicant__c (before insert, before update) {  
    for(Applicant__c objApp : trigger.new){  
        if(String.isBlank(objApp.Pan_Card__c)){  
            objApp.Pan_Card__c.addError('Pan Card is required');  
        }  
    }  
}
```

Q4. (Task 4) Prefix Mr. or Ms. To the First Name of Applicant as per the Gender. If Gender is Transgender, then show an Error that 'Transgender is currently not allowed.

EVENT	Before
OPERATIONS	Insert, Update
TRIGGER OBJECT	Applicant
AFFECTING OBJECT	Applicant

Ans. ApplicantTrigger.apxt

```
trigger ApplicantTrigger on Applicant__c (before insert, before update) {  
    for(Applicant__c objApp : trigger.new){  
        if(objApp.Gender__c == 'Male' && !objApp.First_Name__c.startsWith('Mr.')){  
            objApp.First_Name__c = 'Mr.'+objApp.First_Name__c;  
        }  
        else{  
            if(objApp.Gender__c == 'Female' && !objApp.First_Name__c.startsWith('Ms.')){  
                objApp.First_Name__c = 'Ms.'+objApp.First_Name__c;  
            }  
            else{  
                if(objApp.Gender__c == 'Transgender'){  
                    objApp.Gender__c.addError('Transgender is currently not allowed');  
                }  
            }  
        }  
    }  
}
```

```
}
}
}
}
```

Q5. (Task 5) Prevent Account from Delete if Rating is 'Hot'.

EVENT	Before
OPERATIONS	Insert, Update
TRIGGER OBJECT	Applicant
AFFECTING OBJECT	Applicant

AccountTrigger.apxt

```
trigger AccountTrigger on Account (before delete) {
    for(Account objAcc: trigger.old){
        if(!String.isBlank(objAcc.Rating)){
            if(objAcc.Rating == 'Hot'){
                objAcc.Rating.addError('Account '+ objAcc.Name + ' with Hot Rating Can not
be deleted');
            }
        }
    }
}
```

Output:

Accounts

All Accounts

15 items • Sorted by Account Name • Filtered by All accounts • Updated 3 minutes ago

Search this list...

New

Import

Printable View

	Account Name	Owner First Name	Billing State/Province	Type	Rating	SLA	Account Owner Alias	
1	<input type="checkbox"/> Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg	
2	<input type="checkbox"/> Demo Account 1	Harsha		Prospect	Hot	Gold	HHarg	
3	<input type="checkbox"/> Demo Account 2	Harsha		Customer - Direct	Cold	Silver	HHarg	
4	<input type="checkbox"/> Dickenson plc	Harsha	KS	Customer - Channel		Bronze	HHarg	
5	<input type="checkbox"/> Edge Communications	Harsha	TX	Customer - Direct	Hot	Silver	HHarg	
6	<input type="checkbox"/> Express Logistics and Transport	Harsha	OR	Customer - Channel	Cold	Platinum	HHarg	

Edit

Delete

Change Owner

Owner First Name
Billing State/Province
Type
Rating

Delete Account

Are you sure you want to delete this account?

Cancel
Delete

Harsha
Prospect
Hot

Account Rating: Account Demo Account 1 with Hot Rating Can not be deleted

Q6. (Task 6) Prevent Account if Rating is updated from “Warm” to “Cold”.

Ans. AccountTrigger.apxt

```

trigger AccountTrigger on Account (before update) {
    if(trigger.isUpdate && trigger.isBefore){
        for(Account objAcc: trigger.new){//Cinemax New Rating = Cold, Old Rating = Warm
            if(objAcc.Rating == 'Cold' && trigger.oldMap.get(objAcc.Id).Rating ==
'Warm'){
                objAcc.Rating.addError('Account cannot be updated from Warm to Cold');
            }
        }
    }
}

```

Output:

Accounts
All Accounts

New
Import
Printable View

15 items • Sorted by Account Name • Filtered by All accounts • Updated a few seconds ago

Search this list...


	Account Name ↑	Owner First Name	Billing State/Province	Type	Rating	SLA	Account Owner Alias	
1	<input type="checkbox"/> Burlington Textiles Corp of America	Harsha	NC	Customer - Direct	Warm	Silver	HHarg	
2	<input type="checkbox"/> Demo Account 1	Harsha		Prospect	Hot	Gold	HHarg	
3	<input type="checkbox"/> Demo Account 2	Harsha		Customer - Direct	Cold	Silver	HHarg	
4	<input type="checkbox"/> Dickenson plc	Harsha	KS	Customer - Channel		Bronze	HHarg	
5	<input type="checkbox"/> Edge Communications	Harsha	TX	Customer - Direct	Hot	Silver	HHarg	

Edit
Delete
Change Owner

Edit Burlington Textiles Corp of America

* = Required Information

Account Owner

 Harsha Hargunani

Rating

Cold

* Account Name

Burlington Textiles Corp of America

Phone

(336) 222-7000

Parent Account

Search Accounts...

Fax

(336) 222-8000

Account Number

CD656092

Website

www.burlington.com

Account Site

Ticker Symbol

BTXT

Type

Customer - Direct

Ownership

Public

Industry

Apparel

Cancel


Save & New

Save

Edit Burlington Textiles Corp of America

* = Required Information

Account Owner

 Harsha Hargunani

Rating

Cold

Account cannot be updated from Warm to Cold

* Account Name

Burlington Textiles Corp of America

Phone

(336) 222-7000

Parent Account

Search Accounts...

Fax

(336) 222-8000

Account Number

CD656092

Website

www.burlington.com

Account Site

Ticker Symbol

BTXT

Type

Customer - Direct

Ownership

Public

Industry

Apparel



Cancel

Save & New

Save

ⓘ We hit a snag.

Review the following fields

- [Account Rating](#)

Q7. (Assignment 1) When

- Account SLA = Gold, then Description = 'it's gold'.
- SLA = Silver, Then Description = 'it's a silver'
- Else Description = Blank

Ans. AccountTrigger.apxt

```
trigger AccountTrigger on Account (before insert, before update) {
    for(Account objAcc: trigger.new) {
        if(String.isNotBlank(objAcc.SLA__c)) {
            if(objAcc.SLA__c == 'Gold'){
                objAcc.Description = 'it\'s gold';
            }
            else{
                if(objAcc.SLA__c == 'Silver'){
                    objAcc.Description = 'it\'s a silver';
                }
                else{
                    objAcc.Description = '';
                }
            }
        }
    }
}
```

Output:

Accounts

All Accounts

New

Import

Printable View

15 items • Sorted by Account Name • Filtered by All accounts • Updated 2 minutes ago

Search this list...

	<div><input type="checkbox"/> Account Name</div>	<div>Owner First Na...</div>	<div>Billing State...</div>	<div>Type</div>	<div>Rating</div>	<div>SLA</div>	<div>Account Owner Alias</div>	
1	<div><input type="checkbox"/> Burlington Textiles Corp of America</div>	Harsha	NC	Customer - Direct	Warm	Silver	HHarg	<div></div>
2	<div><input type="checkbox"/> Demo Account 1</div>	Harsha		Prospect	Hot	Gold	HHarg	<div></div>
3	<div><input type="checkbox"/> Demo Account 2</div>	Harsha		Customer - Direct	Cold	Silver	HHarg	<div>Edit</div>
4	<div><input type="checkbox"/> Dickenson plc</div>	Harsha	KS	Customer - Channel		Bronze	HHarg	<div>Delete</div>
5	<div><input type="checkbox"/> Edge Communications</div>	Harsha	TX	Customer - Direct	Hot	Silver	HHarg	<div>Change Owner</div>
6	<div><input type="checkbox"/> Express Logistics and Transport</div>	Harsha	OR	Customer - Channel	Cold	Platinum	HHarg	



Account

Demo Account 1

Industry	Employees
Annual Revenue	SIC Code
Billing Address	Shipping Address
Customer Priority	SLA Gold
SLA Expiration Date	SLA Serial Number
Number of Locations	Upsell Opportunity
Active	
Created By Harsha Hargunani, 16/10/2023, 7:40 pm	Last Modified By Harsha Hargunani, 16/10/2023, 11:32 pm
Description it's gold	

Q8. (Assignment 2)

- If Case status is "New" and Origin is "Phone" → Product should be "GC1020".
- If Case status is "Working" and Origin is "Web" → Product should be "GC1060".
- If Case status is "Escalated" and Origin is "Email" → Show Error "This case cannot be escalated"

Ans. caseTrigger.apxt

```
trigger caseTrigger on Case (before insert,before update) {  
    for(Case objCase : trigger.new){  
        if(objCase.Status == 'Escalated' && objCase.Origin == 'Email'){  
            objCase.Status.addError('This case cannot be escalated');  
        }  
        else{  
            if(objCase.Status == 'New' && objCase.Origin == 'Phone'){  
                objCase.Product__c = 'GC1020';  
            }  
            else if(objCase.Status == 'Working' && objCase.Origin == 'Web'){  
                objCase.Product__c = 'GC1060';  
            }  
        }  
    }  
}
```

Output:

Q Search...

X

New Case

* = Required Information

Case Information

Case Owner
Harsha Hargunani

Case Number

Contact Name
Search Contacts... Q

Account Name
Search Accounts... Q

Type
--None--

Case Reason
--None--

* Status
Working

Priority
Medium

* Case Origin
Web

☐ Send notification email to contact

Cancel Save & New Save

mern-social-media/server/index x | Deploy your database | Cloud: I x | Admin Intermediate | Salesforce x | Install Apps and Packages in Yo x | 00001026 | Case | Salesforce x +

curious-fox-3mnty-dev-ed.trailblaze.lightning.force.com/lightning/r/Case/5005g00000lm09tAAA/view

Q Search...

Service Home Chatter Accounts v Contacts v Cases v Reports v Dashboards v

Case

+ Follow Edit Delete Change Owner v

Post Poll

Share an update... Share

Most Recent Activity v

Q Search this feed... I C

All Updates Call Logs Text Posts Status Changes

Harsha Hargunani Case created Just now v

Subject: Priority: Medium Status: Working Case Number: 00001026

Comment

Case Owner Harsha Hargunani Status Working

Case Number 00001026 Priority Medium

Contact Name Contact Phone

Account Name Contact Email

Type Case Origin Web

Case Reason


Web Email Web Company


Web Name Web Phone

Date/Time Opened 16/10/2023, 11:42 pm Date/Time Closed

Product GC1060 Engineering Req Number







27°C Mostly clear Search 11:42 PM 16-10-2023




Cases
My Cases



[New](#)
[Change Owner](#)
[Printable View](#)

27 items • Sorted by Contact Name • Filtered by My cases • Updated a few seconds ago

	<input type="checkbox"/> Contact Name ↑	<input type="checkbox"/> Status	<input type="checkbox"/> Case Origin	<input type="checkbox"/> Product	<input type="checkbox"/> Date/Time Opened	<input type="checkbox"/> Case Owner Alias	
1	<input type="checkbox"/>	Working	Web	GC1060	16/10/2023, 11:42 pm	HHarg	
2	<input type="checkbox"/> Ashley James	Closed	Phone	GC3040	16/10/2023, 6:24 pm	HHarg	<div> Edit Delete Change Owner </div>
3	<input type="checkbox"/> Avi Green	Closed	Phone	GC1060	16/10/2023, 6:24 pm	HHarg	
4	<input type="checkbox"/> Babara Levy	Closed	Web	GC1020	16/10/2023, 6:24 pm	HHarg	
5	<input type="checkbox"/> Babara Levy	Closed	Phone	GC5020	16/10/2023, 6:24 pm	HHarg	

Case Owner

 Harsha Hargunani

Case Number

00001026

Contact Name

Account Name

Type

--None--

Case Reason

--None--

☐ Send notification email to contact

* Status

Escalated

This case cannot be escalated

Priority


Medium

Contact Phone

Contact Email

* Case Origin

Email

 Cancel

Save & New

Save

Q9. (Assignment 3) Prevent Applicant Record if EMAIL ID is not available.

Ans. ApplicantTrigger.apxt

```
trigger ApplicantTrigger on Applicants__c (before insert, before update) {
    for(Applicants__c objApp : trigger.new){
        if(String.isBlank(objApp.Email__c)){
            objApp.Email__c.addError('Email ID is required');
        }
    }
}
```

Q10. (Assignment 4) Create / Update Opportunity.

- A. If Amount is less than 5000, then Delivery/Installation Status should be "Yet to Begin" and Description should be "olala".
- B. If Amount is Greater or equals to 5000 BUT less than 15000, then Delivery/Installation Status should be "In Progress" and Description should be "Yahooooo".
- C. Delivery/Installation Status should be None and Description should be none, otherwise.

Ans. OpportunityTrigger.apxt

```
trigger OpportunityTrigger on Opportunity (before insert, before update) {  
    for(Opportunity objOpp : trigger.new){  
        if(objOpp.Amount < 5000){  
            objOpp.DeliveryInstallationStatus__c = 'Yet to Begin';  
            objOpp.Description = 'olala';  
        }  
        else if(objOpp.Amount >= 5000 && objOpp.Amount < 15000){  
            objOpp.DeliveryInstallationStatus__c = 'In Progress';  
            objOpp.Description = 'Yahooooo';  
        }  
    }  
}
```

Output:

Search...

New Opportunity

* = Required Information

Opportunity Information

Opportunity Owner
Harsha Hargunani

Private
☐

* Opportunity Name
Demo Opportunity by Harsha

Account Name
Search Accounts...

Type
--None--

Lead Source
--None--

Amount
₹3,000.00

* Close Date
18/10/2023

Next Step


* Stage
Needs Analysis



Probability (%)
20%

Primary Campaign Source
Search Campaigns...

Cancel Save & New Save

Additional Information


Opportunity
Demo Opportunity by Harsha

Demo Opportunity by Harsha	18/10/2023
Account Name	Next Step
Type	Stage
Lead Source	Needs Analysis
	Probability (%)
	20%
	Primary Campaign Source
Order Number	Main Competitor(s)
Current Generator(s)	Delivery/Installation Status
Tracking Number	Yet to begin
Created By	Last Modified By
 Harsha Hargunani , 16/10/2023, 11:52 pm	 Harsha Hargunani , 16/10/2023, 11:52 pm
Description	
olala	

Q11. (Task 7) Insert an Account. If this Account Name already exists in the Account object, then prevent it.

Ans. Steps:

1. Create a SET of Duplicate Finding Field.
2. Add a new Record field in this Set.
3. Create a Map (Key (Duplicate Field),Value (Object)), SOQL over object and Put the Existing Records in the Map for Above SET.
4. Iterate Trigger once again and Check contains Key of the Fields.

AccountTrigger.apxt

```

trigger AccountTrigger on Account (before insert) {
    SET<String> accNameSet = new SET<String>();
    if(trigger.isInsert && trigger.isBefore){
        for(Account objAcc: trigger.new){
            if(!String.isBlank(objAcc.Name))
                accNameSet.add(objAcc.Name);
        }
    }
    Map<String,Account> accMap = new Map<String,Account>();
    for(Account objAcc: [select Id, Name from Account where Name IN: accNameSet]){//Chunk
= 200 Records
        accMap.put(objAcc.Name, objAcc);
    }
}

```



```

if(trigger.isInsert && trigger.isBefore){
    for(Account objAcc: trigger.new){
        if(accMap.containsKey(objAcc.Name)){
            objAcc.addError(objAcc.Name + ' This Account is already exists');
        }
    }
}
}
}
}

```

Output:

