

APEX SPECIALIST(SUPER BADGE 1)

Apex Triggers

1.GETTING STARTED WITH APEX TRIGGERS

AccountAddressTrigger.apxt

```
trigger AccountAddressTrigger on Account (before insert,before update) {  
    for(Account account: Trigger.new){  
        if(account.Match_Billing_Address__c == true){  
            account.ShippingPostalCode = account.BillingPostalCode;  
        }  
    }  
}
```

EXPLANATION:

I have created a apex trigger with the name AccountAddressTrigger.apxt.The object name is Account and given events are before insert and after insert.The given condition is matching Billing Address should be true.i have written the given condition in if block and inserted a statement i.e shipping postal code = billing postal code, to set the operation.

2.BULK APEX TRIGGERS

ClosedOpportunityTrigger.apxt

```
trigger ClosedOpportunityTrigger(after insert,after update){  
    List<Task> tasklist=new List<Task>();  
    for(Opportunity opp: Trigger.New){  
        if(opp.StageName=='Closed Won'){  
            tasklist.add(new Task(Subject='Follow up Test Task',WhatId=opp.Id));  
        }  
    }  
    if(tasklist.size()>0){  
        insert tasklist;  
    }  
}
```

EXPLANATION:

I have created a apex trigger ClosedOpportunityTrigger.apxt.The object name is Opportunity and events are after insert and update insert.The given condition is Stage is Closed Won.I have written the given condition in if block and created a task with subject given and whatId,to set the

operation.

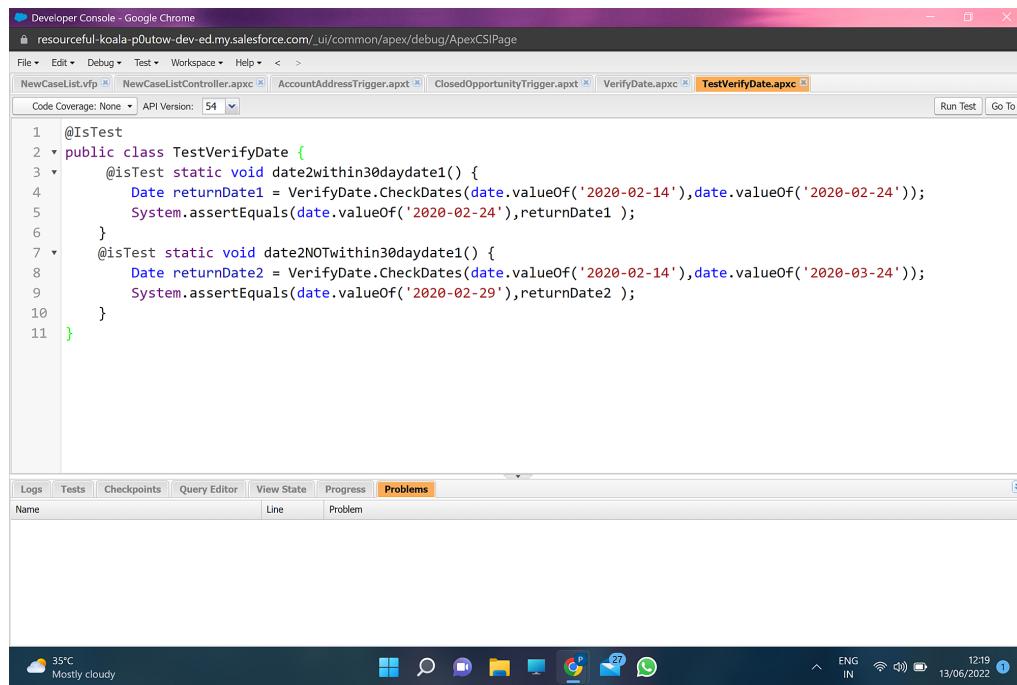
APEX TESTING

1. Get started with apex unit tests

VerifyDate.apxc

<https://github.com/developerforce/trailhead-code-samples/blob/master/VerifyDate.cls>

TestVerifyDate.apxc



```
1  @isTest
2  public class TestVerifyDate {
3      @isTest static void date2within30daydate1() {
4          Date returnDate1 = VerifyDate.CheckDates(date.valueOf('2020-02-14'),date.valueOf('2020-02-24'));
5          System.assertEquals(date.valueOf('2020-02-24'),returnDate1 );
6      }
7      @isTest static void date2NOTwithin30daydate1() {
8          Date returnDate2 = VerifyDate.CheckDates(date.valueOf('2020-02-14'),date.valueOf('2020-03-24'));
9          System.assertEquals(date.valueOf('2020-02-29'),returnDate2 );
10     }
11 }
```

EXPLANATION:

I have created a apex class named VerifyDate.apxc. The code is copied from github link. Now create another class named TestVerifyDate.apxc and write the code accordingly. See that all the test cases are satisfied with 100%.

2.TEXT APEX TRIGGERS

RestrictContactByName.apxt

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is `resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. The tab bar shows `NewCaseList.vfp`, `NewCaseListController.apxc`, `RestrictContactByName.apxt`, and `TestRestrictContactByName.apxc`. The code editor contains the following Apex trigger:

```
1 *|trigger RestrictContactByName on Contact (before insert, before update) {
2
3     //check contacts prior to insert or update for invalid data
4     For (Contact c : Trigger.New) {
5         if(c.LastName == 'INVALIDNAME') { //invalidname is invalid
6             c.AddError('The Last Name "'+c.LastName+'" is not allowed for DML');
7         }
8     }
9 }
10
11
12
13 }
```

The status bar at the bottom shows the weather as 35°C Mostly cloudy, system icons, and the date/time as 13/06/2022 12:27.

TestRestrictClassByName.apxc

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is `resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. The tab bar shows `NewCaseList.vfp`, `NewCaseListController.apxc`, `RestrictContactByName.apxt`, and `TestRestrictContactByName.apxc`. The code editor contains the following Apex test class:

```
1 @isTest
2 public class TestRestrictContactByName {
3
4     @isTest static void Test_insertupdateContact(){
5         Contact cnt=new Contact();
6         cnt.LastName='INVALIDNAME';
7
8         Test.startTest();
9         Database.SaveResult result=Database.insert(cnt,false);
10        Test.stopTest();
11
12        System.assert(!result.isSuccess());
13        System.assert(result.getErrors().size()>0);
14        System.assertEquals('The Last Name "INVALIDNAME" is not allowed for DML',result.getErrors()[0].getMessage());
15    }
16 }
```

The status bar at the bottom shows the weather as 35°C Mostly cloudy, system icons, and the date/time as 13/06/2022 12:29.

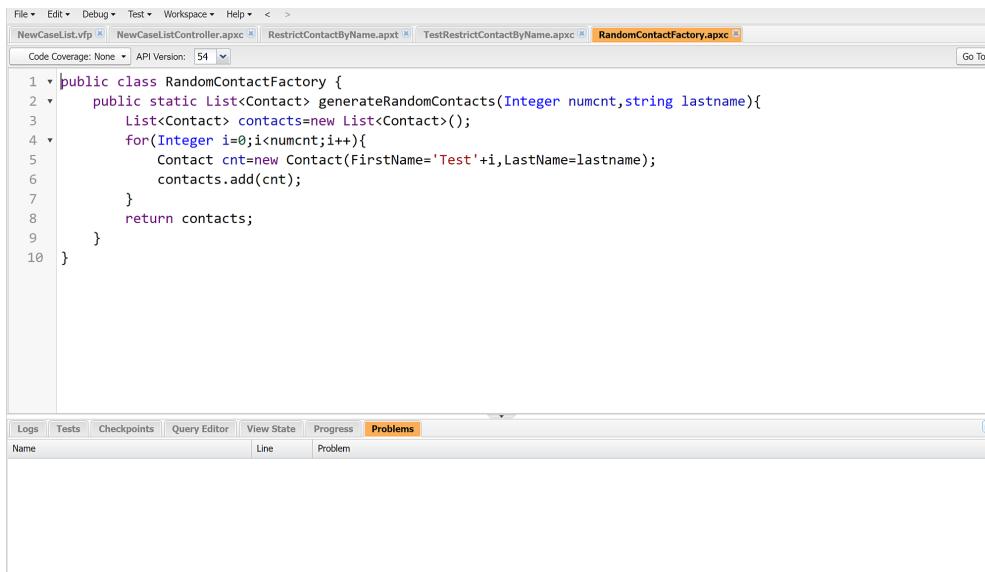
EXPLANATION:

I have created a apex trigger named `RestrictContactByName`.Now create a class named `TestRestrictContactByName` and write the code accordingly.See that the code satisfies

all the tests with 100%.

3.Create Test Data for Apex Tests

RandomContactFactory.apxc



The screenshot shows the Salesforce IDE interface with the RandomContactFactory.apxc file open. The code is as follows:

```
1 public class RandomContactFactory {
2     public static List<Contact> generateRandomContacts(Integer numcnt, string lastname){
3         List<Contact> contacts=new List<Contact>();
4         for(Integer i=0;i<numcnt;i++){
5             Contact cnt=new Contact(FirstName='Test'+i,LastName=lastname);
6             contacts.add(cnt);
7         }
8         return contacts;
9     }
10 }
```

The code defines a public class RandomContactFactory with a static method generateRandomContacts. This method takes two parameters: Integer numcnt and string lastname. It creates a new list of contacts and adds numcnt contacts to it. Each contact has a FirstName of 'Test' followed by a number from 0 to numcnt-1, and a LastName of lastname. Finally, it returns the list of contacts.

EXPLANATION:

I have created a apex class named RandomContactFactory.apxc and wrote the code as per the given conditions.

ASYNCRONOUS APEX

1. USE FUTURE METHODS

AccountProcessor.apxc

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage. The tab bar includes NewCaseList.vfp, NewCaseListController.apxc, RestrictContactByName.apxc, TestRestrictContactByName.apxc, RandomContactFactory.apxc, and AccountProcessor.apxc (which is highlighted). The code editor contains the following Apex class:

```
1 public class AccountProcessor{
2     @future
3     public static void countContacts(List<Id> accountIds) {
4         List<Account> accountsToUpdate = new List<Account>();
5         List<Account> accounts = [Select Id, Name,(Select Id from Contacts) from Account Where Id IN :accountIds];
6         // process account records to do awesome stuff
7         for(Account acc:accounts){
8             List<Contact> contactList = acc.Contacts;
9             acc.Number_of_Contacts__c=contactList.size();
10            accountsToUpdate.add(acc);
11        }
12        update accountsToUpdate;
13    }
14 }
```

The bottom navigation bar has tabs for Logs, Tests, Checkpoints, Query Editor, View State, Progress, and Problems. The Problems tab is selected. The status bar at the bottom shows the date and time as 19/06/2022.

AccountProcessorTest.apxc

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage. The tab bar includes NewCaseList.vfp, AccountProcessor.apxc, and AccountProcessorTest.apxc (which is highlighted). The code editor contains the following Apex test class:

```
2 private class AccountProcessorTest{
3     @IsTest
4     private static void testCountContacts() {
5         Account newAccount = new Account(Name='Test Account');
6         insert newAccount;
7
8         Contact newContact1=new Contact(FirstName='John',
9                                         LastName='Doe',
10                                        AccountId=newAccount.Id);
11         insert newContact1;
12         Contact newContact2=new Contact(FirstName='Jane',
13                                         LastName='Doe',
14                                         AccountId=newAccount.Id);
15         insert newContact2;
16         List<Id> accountIds=new List<Id>();
17         accountIds.add(newAccount.Id);
18         Test.startTest();
19         AccountProcessor.countContacts(accountIds);
```

The bottom navigation bar has tabs for Logs, Tests, Checkpoints, Query Editor, View State, Progress, and Problems. The Problems tab is selected. The status bar at the bottom shows the date and time as 19/06/2022.

EXPLANATION:

I have created apex class named AccountProcessor.apxc and also created a test class named AccountProcessorTest.apxc based on the given conditions.

2.USE BATCH APEX UNIT

LeadProcessor.apxc

Developer Console - Google Chrome

resourceful-kola-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

NewCaseList.vfp AccountProcessor.apxc AccountProcessorTest.apxc LeadProcessor.apxc

Code Coverage: None API Version: 54 Go To

```
1 global class LeadProcessor implements
2 Database.Batchable<sObject>, Database.Stateful {
3
4 // instance member to retain state across transactions
5 global Integer recordsProcessed = 0;
6
7 global Database.QueryLocator start(Database.BatchableContext bc) {
8 return Database.getQueryLocator('SELECT Id, LeadSource FROM Lead');
9 }
10
11 global void execute(Database.BatchableContext bc, List<Lead> scope){
12 // process each batch of records
13 List<Lead> leads = new List<Lead>();
14 for (Lead lead : scope) {
15
16 lead.LeadSource = 'Dreamforce';
17 // increment the instance member counter
18 recordsProcessed = recordsProcessed + 1;
19 }
```

Logs Tests Checkpoints Query Editor ViewState Progress Problems

Name Line Problem

LeadProcessorTest.apxc

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is `resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. The tab bar includes `NewCaseList.vfp`, `AccountProcessor.apxc`, `AccountProcessorTest.apxc`, `LeadProcessor.apxc`, and `LeadProcessorTest.apxc`. The `LeadProcessorTest.apxc` tab is selected. The code editor displays the following Apex test class:

```
2 public class LeadProcessorTest {
3     @testSetup
4     static void setup() {
5         List<Lead> leads = new List<Lead>();
6         // insert 200 leads
7         for (Integer i=0;i<200;i++) {
8             leads.add(new Lead(LastName='Lead '+i,
9                 Company='Lead', Status='Open - Not Contacted'));
10        }
11        insert leads;
12    }
13    static testmethod void test() {
14        Test.startTest();
15        LeadProcessor lp = new LeadProcessor();
16        Id batchId = Database.executeBatch(lp, 200);
17        Test.stopTest();
18        // after the testing stops, assert records were updated properly
19        System.assertEquals(200, [select count() from Lead where LeadSource = 'DreamForce']);
20    }
}
```

The status bar at the bottom shows the weather as "34°C Partly sunny", system icons, and the date/time as "14:03 19/06/2022".

EXPLANATION:

I have created apex class named `LeadProcessor.apxc` and a test class named `LeadProcessorTest.apxc` based on the given conditions.

3.CONTROL PROCESS WITH QUEUEABLE APEX

AddPrimaryContact.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

NewCaseList.vfp AccountProcessor.apxc AccountProcessorTest.apxc LeadProcessor.apxc LeadProcessorTest.apxc AddPrimaryContact.apxc

Code Coverage: None API Version: 54 Go To

```
1 public class AddPrimaryContact implements Queueable {
2     private Contact con;
3     private String state;
4     public AddPrimaryContact(Contact con, String state) {
5         this.con = con;
6         this.state = state;
7     }
8     public void execute(ExecutionContext context) {
9         List<Account> accounts = [Select Id, Name, (Select FirstName, LastName, Id from contacts)
10                                from Account where BillingState=:state Limit 200];
11         List<Contact> primaryContacts = new List<Contact>();
12         for(Account acc:accounts){
13             Contact c=con.clone();
14             c.AccountId=acc.Id;
15             primaryContacts.add(c);
16         }
17         if(primaryContacts.size()>0){
18             insert primaryContacts;
19         }
}
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny ENG IN 14:09 19/06/2022

AddPrimaryConatctTest.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

NewCaseList.vfp AccountProcessor.apxc AccountProcessorTest.apxc LeadProcessor.apxc LeadProcessorTest.apxc AddPrimaryContact.apxc AddPrimaryContactTest.apxc

Code Coverage: None API Version: 54 Run Test Go To

```
2 public class AddPrimaryContactTest {
3     static testmethod void testqueueable(){
4         List<Account> testAccounts = new List<Account>();
5         for(Integer i=0;i<50;i++){
6             testAccounts.add(new Account(Name='Account'+i,BillingState='CA'));
7         }
8         for(Integer j=0;j<50;j++){
9             testAccounts.add(new Account(Name='Account'+j,BillingState='NY'));
10        }
11        insert testAccounts;
12        Contact testContact=new Contact(FirstName='John',LastName='Doe');
13        insert testContact;
14        AddPrimaryContact addit=new AddPrimaryContact(testContact,'CA');
15        Test.startTest();
16        System.enqueueJob(addit);
17        Test.stopTest();
18        System.assertEquals(50,[select count() from Contact where accountId in (Select Id from Account where Billi]);
19    }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny ENG IN 14:09 19/06/2022

The screenshot shows the Salesforce Developer Console interface in Google Chrome. The URL is `resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. The tab bar at the top includes 'File', 'Edit', 'Debug', 'Test', 'Workspace', 'Help', and several open tabs: 'NewCaseList.vfp', 'AccountProcessor.apxc', 'AccountProcessorTest.apxc', 'LeadProcessor.apxc', 'LeadProcessorTest.apxc', 'AddPrimaryContact.apxc', and 'AddPrimaryContactTest.apxc' (which is currently selected). Below the tabs, there are buttons for 'Code Coverage: None', 'API Version: 54', 'Run Test', and 'Go To'. The main area displays the Apex code for the `AddPrimaryContactTest` class:

```
2 public class AddPrimaryContactTest {
3     static testmethod void testqueueable(){
4         List<Account> testAccounts=new List<Account>();
5         for(Integer i=0;i<50;i++){
6             testAccounts.add(new Account(Name='Account'+i,BillingState='CA'));
7         }
8         for(Integer j=0;j<50;j++){
9             testAccounts.add(new Account(Name='Account'+j,BillingState='NY'));
10        }
11        insert testAccounts;
12        Contact testContact=new Contact(FirstName='John',LastName='Doe');
13        insert testContact;
14        AddPrimaryContact addit=new addPrimaryContact(testContact,'CA');
15        Test.startTest();
16        System.enqueueJob(addit);
17        Test.stopTest();
18        System.assertEquals(50,[select count() from Contact where accountId in(Select Id from Account where Billi
19 ])
```

Below the code editor, there are tabs for 'Logs', 'Tests', 'Checkpoints', 'Query Editor', 'View State', 'Progress', and 'Problems' (which is selected). The 'Problems' tab shows a single entry: 'Name'. At the bottom of the screen, there is a Windows taskbar with icons for File Explorer, Task View, Start, Search, Taskbar settings, Mail, Calendar, and WhatsApp. The system tray shows the date and time as '19/06/2022 14:09'.

EXPLANATION:

I have created apex class named `AddPrimaryContact.apxc` and a test class named `AddPrimaryConatctTest.apxc` according to the given conditions.

4.SCHEDULE JOBS USING THE APEX SCHEDULAR:

Daily `LeadProcessor.apxc`

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [] AddPrimaryContactTest.apxc [] DailyLeadProcessor.apxc []

Code Coverage: None ▾ API Version: 54 ▾ Go To

```
1 global class DailyLeadProcessor implements Schedulable {
2     global void execute(SchedulableContext ctx) {
3         List<Lead> leadstoupdate = new List<Lead>();
4         List<Lead> leads = [SELECT Id FROM Lead WHERE LeadSource= NULL Limit 200];
5
6         for(Lead l:leads){
7             l.LeadSource='Dreamforce';
8             leadstoupdate.add(l);
9         }
10        update leadstoupdate;
11    }
12
13 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny 14:16 19/06/2022

DailyLeadProcessorTest.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [] AddPrimaryContactTest.apxc [] DailyLeadProcessor.apxc [] DailyLeadProcessorTest.apxc []

Code Coverage: None ▾ API Version: 54 ▾ Run Test Go To

```
2 private class DailyLeadProcessorTest {
3     // Dummy CRON expression: midnight on March 15.
4     // Because this is a test, job executes
5     // immediately after Test.stopTest().
6     public static String CRON_EXP = '0 0 0 15 6 ? 2022';
7     static testmethod void testScheduledJob() {
8         // Create some out of date Opportunity records
9         List<Lead> leads = new List<Lead>();
10        for (Integer i=0; i<200; i++) {
11            Lead l = new Lead(
12                FirstName = 'First' + i,
13                LastName = 'LastName',
14                Company= 'The Inc'
15            );
16            leads.add(l);
17        }
18        insert leads;
19 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny 14:17 19/06/2022

The screenshot shows the Salesforce Developer Console in Google Chrome. The URL is `resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage`. The tab bar shows several files: AccountProcessor.apxc, AddPrimaryContactTest.apxc, DailyLeadProcessor.apxc, and DailyLeadProcessorTest.apxc (which is currently selected). The code editor displays the following Apex test class:

```
20 Test.startTest();
21 // Schedule the test job
22 String jobId = System.schedule('ScheduledApexTest',
23     CRON_EXP,
24     new DailyLeadProcessor());
25 Test.stopTest();
26 // Now that the scheduled job has executed,
27 // check that we have 200 Leads with dreamforce
28 List<Lead> checkleads = new List<Lead>();
29 checkleads = [SELECT Id
30     FROM Lead
31     WHERE LeadSource='Dreamforce' and Company ='The Inc'];
32 System.assertEquals(200,
33     checkleads.size(),
34     'Leads were not created');
35 }
36 }
```

The status bar at the bottom shows the weather as "Partly sunny" with a temperature of 34°C, system icons, and the date/time as 19/06/2022 14:17.

APEX INTEGRATION SERVICES

1. APEX RESTCALLOUTS

ApexCallouts.apxc

Developer Console - Google Chrome
resourceful-koala-poutow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [x] AddPrimaryContactTest.apxc [x] DailyLeadProcessor.apxc [x] DailyLeadProcessorTest.apxc [x] AnimalsCallouts.apxc [x]

Code Coverage: None API Version: 54 Go To

```
1 public class AnimalsCallouts {
2     public static HttpResponse makeGetCallout() {
3         Http http = new Http();
4         HttpRequest request = new HttpRequest();
5         request.setEndpoint('https://th-apex-http-callout.herokuapp.com/animals');
6         request.setMethod('GET');
7         HttpResponse response = http.send(request);
8         // If the request is successful, parse the JSON response.
9         if(response.getStatusCode() == 200) {
10             // Deserializes the JSON string into collections of primitive data types.
11             Map<String, Object> results = (Map<String, Object>) JSON.deserializeUntyped(response.getBody());
12             // Cast the values in the 'animals' key as a list
13             List<Object> animals = (List<Object>) results.get('animals');
14             System.debug('Received the following animals:');
15             for(Object animal: animals) {
16                 System.debug(animal);
17             }
18         }
19         return response;
20     }
21     public static HttpResponse makePostCallout() {
22         ...
23     }
24 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

Developer Console - Google Chrome
resourceful-koala-poutow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [x] AddPrimaryContactTest.apxc [x] DailyLeadProcessor.apxc [x] DailyLeadProcessorTest.apxc [x] AnimalsCallouts.apxc [x]

Code Coverage: None API Version: 54 Go To

```
18     }
19     return response;
20 }
21 public static HttpResponse makePostCallout() {
22     Http http = new Http();
23     HttpRequest request = new HttpRequest();
24     request.setEndpoint('https://th-apex-http-callout.herokuapp.com/animals');
25     request.setMethod('POST');
26     request.setHeader('Content-Type', 'application/json;charset=UTF-8');
27     request.setBody('{ "name": "mighty moose" }');
28     HttpResponse response = http.send(request);
29     // Parse the JSON response
30     if(response.getStatusCode() != 201) {
31         System.debug('The status code returned was not expected: ' +
32                     response.getStatusCode() + ' ' + response.getStatus());
33     } else {
34         System.debug(response.getBody());
35     }
36     return response;
37 }
38 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

AnimalCallOutsTest.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [x] AddPrimaryContactTest.apxc [x] DailyLeadProcessor.apxc [x] DailyLeadProcessorTest.apxc [x] AnimalsCallouts.apxc [x] AnimalLocatorMock.apxc [x] **AnimalsCalloutsTest.apxc [x]**

Code Coverage: None ▾ API Version: 54 ▾

```
2 ▾ private class AnimalsCalloutsTest {
3 ▾   @isTest static void testGetCallout() {
4     // Create the mock response based on a static resource
5     StaticResourceCalloutMock mock = new StaticResourceCalloutMock();
6     mock.setStaticResource('GetAnimalResource');
7     mock.setStatusCode(200);
8     mock.setHeader('Content-Type', 'application/json;charset=UTF-8');
9     // Associate the callout with a mock response
10    Test.setMock(HttpCalloutMock.class, mock);
11    // Call method to test
12    HttpResponse result = AnimalsCallouts.makeGetCallout();
13    // Verify mock response is not null
14    System.assertNotEquals(null,result, 'The callout returned a null response.');
15    // Verify status code
16    System.assertEquals(200,result.getStatusCode(), 'The status code is not 200.');
17    // Verify content type
18    System.assertEquals('application/json;charset=UTF-8',
19      result.getHeader('Content-Type'),
20      'The content type value is not expected.');
21    // Verify the array contains 3 items
22    Map<String, Object> results = (Map<String, Object>)
```



Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AccountProcessor.apxc [x] AddPrimaryContactTest.apxc [x] DailyLeadProcessor.apxc [x] DailyLeadProcessorTest.apxc [x] AnimalsCallouts.apxc [x] AnimalLocatorMock.apxc [x] **AnimalsCalloutsTest.apxc [x]**

Code Coverage: None ▾ API Version: 54 ▾

```
22 Map<String, Object> results = (Map<String, Object>)
23   JSON.deserializeUntyped(result.getBody());
24   List<Object> animals = (List<Object>) results.get('animals');
25   System.assertEquals(3, animals.size(), 'The array should only contain 3 items.');
26 }
27 ▾ static void testPostCallout() {
28   // Set mock callout class
29   Test.setMock(HttpCalloutMock.class, new AnimalsHttpCalloutMock());
30   // This causes a fake response to be sent
31   // from the class that implements HttpCalloutMock.
32   HttpResponse response = AnimalsCallouts.makePostCallout();
33   // Verify that the response received contains fake values
34   String contentType = response.getHeader('Content-Type');
35   System.assert(contentType == 'application/json');
36   String actualValue = response.getBody();
37   System.debug(response.getBody());
38   String expectedValue = '{"animals": ["majestic badger", "fluffy bunny", "scary bear", "chicken", "mighty moose"]}';
39   System.assertEquals(expectedValue, actualValue);
40   System.assertEquals(200, response.getStatusCode());
41 }
42 }
```



2.APEX SOAP CALLOUTS

ParkLocator.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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

AddPrimaryContactTest.apxc DailyLeadProcessor.apxc DailyLeadProcessorTest.apxc AnimalsCallouts.apxc AnimalLocatorMock.apxc AnimalsCalloutsTest.apxc ParkLocator.apxc

Code Coverage: None API Version: 54 Go To

```
1 public class ParkLocator {  
2     public static List<String> country(String country){  
3         ParkService.ParksImplPort parkservice =  
4             new parkService.ParksImplPort();  
5         return parkservice.byCountry(country);  
6     }  
7 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny 14:52 ENG IN 19/06/2022

ParkLocatorTest.apxc

Developer Console - Google Chrome
resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage

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Lapxc DailyLeadProcessor.apxc DailyLeadProcessorTest.apxc AnimalsCallouts.apxc AnimalLocatorMock.apxc AnimalsCalloutsTest.apxc ParkLocator.apxc ParkLocatorTest.apxc

Code Coverage: None API Version: 54 Run Test Go To

```
1 @isTest  
2 private class ParkLocatorTest {  
3     @isTest static void testCallout() {  
4         // This causes a fake response to be generated  
5         Test.setMock(WebServiceMock.class,new ParkServiceMock());  
6         // Call the method that invokes a callout  
7         String country = 'United States';  
8         List<String> result = ParkLocator.country(country);  
9         List<String> parks = new List<String>();  
10        parks.add('Yosemite');  
11        parks.add('Yellowstone');  
12        parks.add('Another Park');  
13        // Verify that a fake result is returned  
14        System.assertEquals(parks, result);  
15    }  
16 }
```

Logs Tests Checkpoints Query Editor View State Progress Problems

Name Line Problem

34°C Partly sunny 14:52 ENG IN 19/06/2022

3.APEX WEB SERVICES

AccountManager.apxc

The screenshot shows the Salesforce Developer Console interface. The title bar reads "Developer Console - Google Chrome" and the URL is "resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage". The tabs at the top include "sor.apxc", "DailyLeadProcessorTest.apxc", "AnimalsCallouts.apxc", "AnimalLocatorMock.apxc", "AnimalsCalloutsTest.apxc", "ParkLocator.apxc", "ParkLocatorTest.apxc", and "AccountManager.apxc". The main area displays the Apex code for the AccountManager class:

```
1  @RestResource(urlMapping='/Accounts/*/contacts')
2  global with sharing class AccountManager {
3      @HttpGet
4      global static Account getAccount() {
5          RestRequest request = RestContext.request;
6          // grab the caseId from the end of the URL
7          String accountId = request.requestURI.substringBetween('Accounts/','/contacts');
8          Account result = [SELECT Id,Name,(Select Id,Name from Contacts) from Account where Id=:AccountId];
9          return result;
10     }
11 }
```

The bottom navigation bar includes tabs for "Logs", "Tests", "Checkpoints", "Query Editor", "View State", "Progress", and "Problems", with "Problems" being the active tab. The status bar at the bottom shows "34°C Partly sunny", system icons, and the date/time "19/06/2022 14:59".

AccountManagerTest.apxc

The screenshot shows the Salesforce Developer Console interface. The title bar reads "Developer Console - Google Chrome" and the URL is "resourceful-koala-p0utow-dev-ed.my.salesforce.com/_ui/common/apex/debug/ApexCSIPage". The tabs at the top include "sorTest.apxc", "AnimalsCallouts.apxc", "AnimalLocatorMock.apxc", "AnimalsCalloutsTest.apxc", "ParkLocator.apxc", "ParkLocatorTest.apxc", "AccountManager.apxc", and "AccountManagerTest.apxc". The main area displays the Apex test code for the AccountManagerTest class:

```
2  private class AccountManagerTest {
3      @isTest static void testGetContactsByAccountId() {
4          Id recordId = createTestRecord();
5          // Set up a test request
6          RestRequest request = new RestRequest();
7          request.requestUri =
8              'https://yourInstance.salesforce.com/services/apexrest/Accounts/'+recordId+'/contacts';
9          request.httpMethod = 'GET';
10         RestContext.request = request;
11         // Call the method to test
12         Account thisAccount = AccountManager.getAccount();
13         // Verify results
14         System.assert(thisAccount != null);
15         System.assertEquals('Test record', thisAccount.Name);
16     }
17     // Helper method
18     static Id createTestRecord() {
19         // Create test record
20         Account accountTest = new Account(
21             Name='Test record');
22         insert accountTest;
23         Contact contactTest= new Contact(
```

The bottom navigation bar includes tabs for "Logs", "Tests", "Checkpoints", "Query Editor", "View State", "Progress", and "Problems", with "Problems" being the active tab. The status bar at the bottom shows "34°C Partly sunny", system icons, and the date/time "19/06/2022 14:59".