Get Started with Apex

StringArrayTest

```
public class StringArrayTest {

    public static List<string> generateStringArray(Integer n)
    {
        List<String> myArray = new List<String>();

        for(Integer i=0;i<n;i++)
        {
            myArray.add('Test'+i);
            System.debug(myArray[i]);
        }
        return myArray;

    }
```

Bulk Apex Trigger

ClosedOpportunityTrigger

```
trigger ClosedOpportunityTrigger on Opportunity (after insert, after update) {
List taskList = new List();
for(Opportunity o: Trigger.New){
if(o.StageName == 'closed won'){
taskList.add(new Task(Subject='Follow Up Test Task', whatId=o.Id));
}
}

if(taskList.size() > 0){
insert tasklist;
}
}
```

Get Started with Apex Tests Unit

TestVerifyDate

```
@isTest
private class TestVerifyDate {

    //testing that if date2 is within 30 days of date1, should return date 2
    @isTest static void testDate2within30daysofDate1() {
        Date date1 = date.newInstance(2018, 03, 20);
        Date date2 = date.newInstance(2018, 04, 11);
        Date resultDate = VerifyDate.CheckDates(date1,date2);
        Date testDate = Date.newInstance(2018, 04, 11);
        System.assertEquals(testDate,resultDate);
    }

    //testing that date2 is before date1. Should return "false"
    @isTest static void testDate2beforeDate1() {
        Date date1 = date.newInstance(2018, 03, 20);
        Date date2 = date.newInstance(2018, 02, 11);
        Date resultDate = VerifyDate.CheckDates(date1,date2);
        Date testDate = Date.newInstance(2018, 02, 11);
```

```
        System.assertNotEquals(testDate, resultDate);
    }

    //Test date2 is outside 30 days of date1. Should return end of month.
    @isTest static void testDate2outside30daysofDate1() {
        Date date1 = date.newInstance(2018, 03, 20);
        Date date2 = date.newInstance(2018, 04, 25);
        Date resultDate = VerifyDate.CheckDates(date1,date2);
        Date testDate = Date.newInstance(2018, 03, 31);
        System.assertEquals(testDate,resultDate);
    }
}
```

TestRestrictContactByName

```
trigger RestrictContactByName on Contact (before insert, before update) {

      //check contacts prior to insert or update for invalid data
      For (Contact c : Trigger.New) {
            if(c.LastName == 'INVALIDNAME') {   //invalidname is invalid
                  c.AddError('The Last Name "'+c.LastName+'" is not allowed for
DML');
            }

      }



}
```

```
isTest
private class TestRestrictContactByName {

    @isTest static void testInvalidName() {
        //try inserting a Contact with INVALIDNAME
        Contact myConact = new Contact(LastName='INVALIDNAME');
        insert myConact;

        // Perform test
        Test.startTest();
        Database.SaveResult result = Database.insert(myConact, false);
        Test.stopTest();
        // Verify
        // In this case the creation should have been stopped by the trigger,
        // so verify that we got back an error.
        System.assert(!result.isSuccess());
        System.assert(result.getErrors().size() > 0);
        System.assertEquals('Cannot create contact with invalid last name.',
                             result.getErrors()[0].getMessage());

    }
}
```

Create Test Data for Apex Tests

RandomContactFactory

```
//@isTest
public class RandomContactFactory {
```

```
    public static List<Contact> generateRandomContacts(Integer
numContactsToGenerate, String FName) {
        List<Contact> contactList = new List<Contact>();

        for(Integer i=0;i<numContactsToGenerate;i++) {
            Contact c = new Contact(FirstName=FName + ' ' + i, LastName = 'Contact
'+i);
            contactList.add(c);
            System.debug(c);
        }
        //insert contactList;
        System.debug(contactList.size());
        return contactList;
    }
```

Asynchronous Apex

Use Future Apex

AccountProcessor.cls

```
public class AccountProcessor {

    @future
    public static void countContacts(List<Id> accountId_lst) {

        Map<Id,Integer> account_cno = new Map<Id,Integer>();
        List<account> account_lst_all = new List<account>([select id, (select id
from contacts) from account]);
        for(account a:account_lst_all) {
            account_cno.put(a.id,a.contacts.size()); //populate the map

        }

        List<account> account_lst = new List<account>(); // list of account that we
will upsert

        for(Id accountId : accountId_lst) {
            if(account_cno.containsKey(accountId)) {
                account acc = new account();
                acc.Id = accountId;
                acc.Number_of_Contacts__c = account_cno.get(accountId);
                account_lst.add(acc);
            }

        }
        upsert account_lst;
    }
```

AccountProcessorTest.cls

```
@isTest
public class AccountProcessorTest {

    @isTest
    public static void testFunc() {
        account acc = new account();
        acc.name = 'MATW INC';
        insert acc;
```

```
        contact con = new contact();
        con.lastname = 'Mann1';
        con.AccountId = acc.Id;
        insert con;
        contact con1 = new contact();
        con1.lastname = 'Mann2';
        con1.AccountId = acc.Id;
        insert con1;


        List<Id> acc_list = new List<Id>();
        acc_list.add(acc.Id);
        Test.startTest();
            AccountProcessor.countContacts(acc_list);
        Test.stopTest();
        List<account> acc1 = new List<account>([select Number_of_Contacts__c from
account where id = :acc.id]);
        system.assertEquals(2,acc1[0].Number_of_Contacts__c);
    }
```

Use Batch Apex

LeadProcessor

```
global class LeadProcessor implements
    Database.Batchable<Leads>, Database.Stateful {
//     Database.Batchable<Sobject>, Database.Stateful {


    // instance member to retain state across transactions
    global Integer recordsProcessed = 0;

    global Database.QueryLocator start(Database.BatchableContext bc) {
        return Database.getQueryLocator([Select LastName From Leads ]);

     }

    }

    global void execute(Database.BatchableContext bc, List<Leads> scope){
        // process each batch of records
        List<Leads> leads = new List<Leads>();
            for (Leads:leads) {
                Leads.LeadSource = Dreamforce;
                // add Leads to the list to be updated
                leads.add(leads);
                // increment the instance member counter
                recordsProcessed = recordsProcessed + 1;
            }
        }
        update leads;
    }

    global void finish(Database.BatchableContext bc){
        System.debug(recordsProcessed + ' records processed. Shazam!');
        AsyncApexJob job = [SELECT Id, Status, NumberOfErrors,
            JobItemsProcessed,
            TotalJobItems, CreatedBy.Email
```

```
            FROM AsyncApexJob
            WHERE Id = :bc.getJobId()];
        // call some utility to send email
        EmailUtils.sendMessage(a, recordsProcessed);
    }

}
```

Control Processes with Queueable Apex

AddPrimaryContact.cls

```
public class AddPrimaryContact implements Queueable {
    public contact c;
    public String state;

    public AddPrimaryContact(Contact c, String state) {
        this.c = c;
        this.state = state;
    }

    public void execute(QueueableContext qc) {
        system.debug('this.c = '+this.c+' this.state = '+this.state);
        List<Account> acc_lst = new List<account>([select id, name, BillingState
from account where account.BillingState = :this.state limit 200]);
        List<contact> c_lst = new List<contact>();
        for(account a: acc_lst) {
            contact c = new contact();
            c = this.c.clone(false, false, false, false);
            c.AccountId = a.Id;
            c_lst.add(c);
        }
        insert c_lst;
    }
```

AddPrimaryContacTest.cls

```
@IsTest
public class AddPrimaryContactTest {

    @IsTest
    public static void testing() {
        List<account> acc_lst = new List<account>();
        for (Integer i=0; i<50;i++) {
            account a = new account(name=string.valueOf(i),billingstate='NY');
            system.debug('account a = '+a);
            acc_lst.add(a);
        }
        for (Integer i=0; i<50;i++) {
            account a = new account(name=string.valueOf(50+i),billingstate='CA');
            system.debug('account a = '+a);
            acc_lst.add(a);
        }
        insert acc_lst;
        Test.startTest();
        contact c = new contact(lastname='alex');
        AddPrimaryContact apc = new AddPrimaryContact(c,'CA');
        system.debug('apc = '+apc);
        System.enqueueJob(apc);
```

```
        Test.stopTest();
        List<contact> c_lst = new List<contact>([select id from contact]);
        Integer size = c_lst.size();
        system.assertEquals(50, size);
    }
```

Schedule Jobs Using the Apex Scheduler

DailyProcessorProcessor.cls

```
public class DailyLeadProcessor implements schedulable{

    public void execute(schedulableContext sc) {
        List<lead> l_lst_new = new List<lead>();
        List<lead> l_lst = new List<lead>([select id, leadsource from lead where
leadsource = null]);
        for(lead l : l_lst) {
            l.leadsource = 'Dreamforce';
            l_lst_new.add(l);
        }
        update l_lst_new;
    }
```

DailyProcessorProcessorTest

```
@isTest
public class DailyLeadProcessorTest {

    @isTest
    public static void testing() {

        List<lead> l_lst = new List<lead>();
        for(Integer i=0;i<200;i++) {
            lead l = new lead();
            l.lastname = 'lastname'+i;
            l.Company = 'company'+i;
            l_lst.add(l);
        }
        insert l_lst;

        Test.startTest();
        DailyLeadProcessor dlp = new DailyLeadProcessor ();
        String jobId = System.Schedule('dailyleadprocessing','0 0 0 1 12 ?
2016',dlp);
        Test.stopTest();

        List<lead> l_lst_chk = new List<lead>([select id,leadsource from lead where
leadsource != 'Dreamforce']);
        System.assertequals(0,l_lst_chk.size());
    }
```

APEX SPECIALIST
SUPERBADGE

Challenge 1
Automated Record Creation
MaintenanceRequestHelper.apxc

```
public with sharing class MaintenanceRequestHelper {
```

```
    public static void updateworkOrders(List<Case> updWorkOrders, Map<Id,Case>
nonUpdCaseMap) {
        Set<Id> validIds = new Set<Id>();


        For (Case c : updWorkOrders){
            if (nonUpdCaseMap.get(c.Id).Status != 'Closed' && c.Status == 'Closed')
{
                if (c.Type == 'Repair' || c.Type == 'Routine Maintenance'){
                    validIds.add(c.Id);


                }
            }
        }

        if (!validIds.isEmpty()){
            List<Case> newCases = new List<Case>();
            Map<Id,Case> closedCasesM = new Map<Id,Case>([SELECT Id, Vehicle__c,
Equipment__c, Equipment__r.Maintenance_Cycle__c,(SELECT Id,Equipment__c,Quantity__c
FROM Equipment_Maintenance_Items__r)
                                                          FROM Case WHERE Id
IN :validIds]);
            Map<Id,Decimal> maintenanceCycles = new Map<ID,Decimal>();
            AggregateResult[] results = [SELECT Maintenance_Request__c,
MIN(Equipment__r.Maintenance_Cycle__c)cycle FROM Equipment_Maintenance_Item__c
WHERE Maintenance_Request__c IN :ValidIds GROUP BY Maintenance_Request__c];

        for (AggregateResult ar : results){
            maintenanceCycles.put((Id) ar.get('Maintenance_Request__c'), (Decimal)
ar.get('cycle'));
        }

            for(Case cc : closedCasesM.values()){
                Case nc = new Case (
                    ParentId = cc.Id,
                Status = 'New',
                    Subject = 'Routine Maintenance',
                    Type = 'Routine Maintenance',
                    Vehicle__c = cc.Vehicle__c,
                    Equipment__c =cc.Equipment__c,
                    Origin = 'Web',
                    Date_Reported__c = Date.Today()

                );

                If (maintenanceCycles.containskey(cc.Id)){
                    nc.Date_Due__c = Date.today().addDays((Integer)
maintenanceCycles.get(cc.Id));
                } else {
                    nc.Date_Due__c = Date.today().addDays((Integer)
cc.Equipment__r.maintenance_Cycle__c);
                }

                newCases.add(nc);
            }

           insert newCases;
```

```
            List<Equipment_Maintenance_Item__c> clonedWPs = new
List<Equipment_Maintenance_Item__c>();
            for (Case nc : newCases){
                 for (Equipment_Maintenance_Item__c wp :
closedCasesM.get(nc.ParentId).Equipment_Maintenance_Items__r){
                     Equipment_Maintenance_Item__c wpClone = wp.clone();
                     wpClone.Maintenance_Request__c = nc.Id;
                     ClonedWPs.add(wpClone);

                 }
             }
             insert ClonedWPs;
         }
     }
}
MaitenanceRequest.apxt
 trigger MaintenanceRequest on Case (before update, after update) {
    if(Trigger.isUpdate && Trigger.isAfter){
        MaintenanceRequestHelper.updateWorkOrders(Trigger.New, Trigger.OldMap);
    }
}
Challenge 2
Synchronize Salesforce data with an external system
      WarehouseCalloutService.apxc :-
public with sharing class WarehouseCalloutService implements Queueable {
    private static final String WAREHOUSE_URL = 'https://th-superbadge-
apex.herokuapp.com/equipment';

    //class that makes a REST callout to an external warehouse system to get a list
of equipment that needs to be updated.
    //The callout’s JSON response returns the equipment records that you upsert in
Salesforce.

    @future(callout=true)
    public static void runWarehouseEquipmentSync(){
        Http http = new Http();
        HttpRequest request = new HttpRequest();

        request.setEndpoint(WAREHOUSE_URL);
        request.setMethod('GET');
        HttpResponse response = http.send(request);

        List<Product2> warehouseEq = new List<Product2>();

        if (response.getStatusCode() == 200){
            List<Object> jsonResponse =
(List<Object>)JSON.deserializeUntyped(response.getBody());
            System.debug(response.getBody());

            //class maps the following fields: replacement part (always true),
cost, current inventory, lifespan, maintenance cycle, and warehouse SKU
            //warehouse SKU will be external ID for identifying which equipment
records to update within Salesforce
            for (Object eq : jsonResponse){
                Map<String,Object> mapJson = (Map<String,Object>)eq;
                Product2 myEq = new Product2();
                myEq.Replacement_Part__c = (Boolean) mapJson.get('replacement');
                myEq.Name = (String) mapJson.get('name');
                myEq.Maintenance_Cycle__c = (Integer)
```

```
mapJson.get('maintenanceperiod');
                myEq.Lifespan_Months__c = (Integer) mapJson.get('lifespan');
                myEq.Cost__c = (Integer) mapJson.get('cost');
                myEq.Warehouse_SKU__c = (String) mapJson.get('sku');
                myEq.Current_Inventory__c = (Double) mapJson.get('quantity');
                myEq.ProductCode = (String) mapJson.get('_id');
                warehouseEq.add(myEq);
            }

            if (warehouseEq.size() > 0){
                upsert warehouseEq;
                System.debug('Your equipment was synced with the warehouse one');
            }
        }
    }

    public static void execute (QueueableContext context){
        runWarehouseEquipmentSync();
    }

}
```

Challenge 3

Schedule synchronization using Apex code

WarehouseSyncShedule.apxc :-

```
global with sharing class WarehouseSyncSchedule implements Schedulable{
    global void execute(SchedulableContext ctx){
        System.enqueueJob(new WarehouseCalloutService());
    }
}
```

Challenge 4

Test automation logic

MaintenanceRequestHelperTest.apxc :-

```
@istest
public with sharing class MaintenanceRequestHelperTest {

    private static final string STATUS_NEW = 'New';
    private static final string WORKING = 'Working';
    private static final string CLOSED = 'Closed';
    private static final string REPAIR = 'Repair';
    private static final string REQUEST_ORIGIN = 'Web';
    private static final string REQUEST_TYPE = 'Routine Maintenance';
    private static final string REQUEST_SUBJECT = 'Testing subject';

    PRIVATE STATIC Vehicle__c createVehicle(){
        Vehicle__c Vehicle = new Vehicle__C(name = 'SuperTruck');
        return Vehicle;
    }

    PRIVATE STATIC Product2 createEq(){
        product2 equipment = new product2(name = 'SuperEquipment',
                                          lifespan_months__C = 10,
                                          maintenance_cycle__C = 10,
                                          replacement_part__c = true);
        return equipment;
    }

    PRIVATE STATIC Case createMaintenanceRequest(id vehicleId, id equipmentId){
```

```
        case cs = new case(Type=REPAIR,
                           Status=STATUS_NEW,
                           Origin=REQUEST_ORIGIN,
                           Subject=REQUEST_SUBJECT,
                           Equipment__c=equipmentId,
                           Vehicle__c=vehicleId);
        return cs;
    }

    PRIVATE STATIC Equipment_Maintenance_Item__c createWorkPart(id equipmentId,id
requestId){
        Equipment_Maintenance_Item__c wp = new
Equipment_Maintenance_Item__c(Equipment__c = equipmentId,

Maintenance_Request__c = requestId);
        return wp;
    }


    @istest
    private static void testMaintenanceRequestPositive(){
        Vehicle__c vehicle = createVehicle();
        insert vehicle;
        id vehicleId = vehicle.Id;

        Product2 equipment = createEq();
        insert equipment;
        id equipmentId = equipment.Id;

        case somethingToUpdate = createMaintenanceRequest(vehicleId,equipmentId);
        insert somethingToUpdate;

        Equipment_Maintenance_Item__c workP =
createWorkPart(equipmentId,somethingToUpdate.id);
        insert workP;

        test.startTest();
        somethingToUpdate.status = CLOSED;
        update somethingToUpdate;
        test.stopTest();

        Case newReq = [Select id, subject, type, Equipment__c, Date_Reported__c,
Vehicle__c, Date_Due__c
                       from case
                       where status =:STATUS_NEW];

        Equipment_Maintenance_Item__c workPart = [select id
                                                  from Equipment_Maintenance_Item__c
                                                  where Maintenance_Request__c
=:newReq.Id];

        system.assert(workPart != null);
        system.assert(newReq.Subject != null);
        system.assertEquals(newReq.Type, REQUEST_TYPE);
        SYSTEM.assertEquals(newReq.Equipment__c, equipmentId);
        SYSTEM.assertEquals(newReq.Vehicle__c, vehicleId);
        SYSTEM.assertEquals(newReq.Date_Reported__c, system.today());
    }
```

```
    @istest
    private static void testMaintenanceRequestNegative(){
        Vehicle__C vehicle = createVehicle();
        insert vehicle;
        id vehicleId = vehicle.Id;

        product2 equipment = createEq();
        insert equipment;
        id equipmentId = equipment.Id;

        case emptyReq = createMaintenanceRequest(vehicleId,equipmentId);
        insert emptyReq;

        Equipment_Maintenance_Item__c workP = createWorkPart(equipmentId,
emptyReq.Id);
        insert workP;

        test.startTest();
        emptyReq.Status = WORKING;
        update emptyReq;
        test.stopTest();

        list<case> allRequest = [select id
                                 from case];

        Equipment_Maintenance_Item__c workPart = [select id
                                                  from
Equipment_Maintenance_Item__c
                                                  where Maintenance_Request__c
= :emptyReq.Id];

        system.assert(workPart != null);
        system.assert(allRequest.size() == 1);
    }

    @istest
    private static void testMaintenanceRequestBulk(){
        list<Vehicle__C> vehicleList = new list<Vehicle__C>();
        list<Product2> equipmentList = new list<Product2>();
        list<Equipment_Maintenance_Item__c> workPartList = new
list<Equipment_Maintenance_Item__c>();
        list<case> requestList = new list<case>();
        list<id> oldRequestIds = new list<id>();

        for(integer i = 0; i < 300; i++){
           vehicleList.add(createVehicle());
            equipmentList.add(createEq());
        }
        insert vehicleList;
        insert equipmentList;

        for(integer i = 0; i < 300; i++){
            requestList.add(createMaintenanceRequest(vehicleList.get(i).id,
equipmentList.get(i).id));
        }
        insert requestList;

        for(integer i = 0; i < 300; i++){
            workPartList.add(createWorkPart(equipmentList.get(i).id,
```

```
requestList.get(i).id));
        }
        insert workPartList;

        test.startTest();
        for(case req : requestList){
            req.Status = CLOSED;
            oldRequestIds.add(req.Id);
        }
        update requestList;
        test.stopTest();

        list<case> allRequests = [select id
                                  from case
                                  where status =: STATUS_NEW];

        list<Equipment_Maintenance_Item__c> workParts = [select id
                                                         from
Equipment_Maintenance_Item__c
                                                         where
Maintenance_Request__c in: oldRequestIds];

        system.assert(allRequests.size() == 300);
    }
}
```

MaintenanceRequestHelper.apxc :-

```
public with sharing class MaintenanceRequestHelper {
    public static void updateworkOrders(List<Case> updWorkOrders, Map<Id,Case>
nonUpdCaseMap) {
        Set<Id> validIds = new Set<Id>();


        For (Case c : updWorkOrders){
            if (nonUpdCaseMap.get(c.Id).Status != 'Closed' && c.Status == 'Closed')
{
                if (c.Type == 'Repair' || c.Type == 'Routine Maintenance'){
                    validIds.add(c.Id);


                }
            }
        }

        if (!validIds.isEmpty()){
            List<Case> newCases = new List<Case>();
            Map<Id,Case> closedCasesM = new Map<Id,Case>([SELECT Id, Vehicle__c,
Equipment__c, Equipment__r.Maintenance_Cycle__c,(SELECT Id,Equipment__c,Quantity__c
FROM Equipment_Maintenance_Items__r)
                                                          FROM Case WHERE Id
IN :validIds]);
            Map<Id,Decimal> maintenanceCycles = new Map<ID,Decimal>();
            AggregateResult[] results = [SELECT Maintenance_Request__c,
MIN(Equipment__r.Maintenance_Cycle__c)cycle FROM Equipment_Maintenance_Item__c
WHERE Maintenance_Request__c IN :ValidIds GROUP BY Maintenance_Request__c];

        for (AggregateResult ar : results){
            maintenanceCycles.put((Id) ar.get('Maintenance_Request__c'), (Decimal)
```

```
ar.get('cycle'));
        }

            for(Case cc : closedCasesM.values()){
                Case nc = new Case (
                    ParentId = cc.Id,
                Status = 'New',
                    Subject = 'Routine Maintenance',
                    Type = 'Routine Maintenance',
                    Vehicle__c = cc.Vehicle__c,
                    Equipment__c =cc.Equipment__c,
                    Origin = 'Web',
                    Date_Reported__c = Date.Today()

                );

                If (maintenanceCycles.containskey(cc.Id)){
                    nc.Date_Due__c = Date.today().addDays((Integer)
maintenanceCycles.get(cc.Id));
                }

                newCases.add(nc);
            }

           insert newCases;

           List<Equipment_Maintenance_Item__c> clonedWPs = new
List<Equipment_Maintenance_Item__c>();
           for (Case nc : newCases){
                for (Equipment_Maintenance_Item__c wp :
closedCasesM.get(nc.ParentId).Equipment_Maintenance_Items__r){
                    Equipment_Maintenance_Item__c wpClone = wp.clone();
                    wpClone.Maintenance_Request__c = nc.Id;
                    ClonedWPs.add(wpClone);

                }
            }
            insert ClonedWPs;
        }
    }
}
MaintenanceRequest.apxt :-
trigger MaintenanceRequest on Case (before update, after update) {
    if(Trigger.isUpdate && Trigger.isAfter){
        MaintenanceRequestHelper.updateWorkOrders(Trigger.New, Trigger.OldMap);
    }
}

Challenge 5
Test callout logic

WarehouseCalloutService.apxc :-
public with sharing class WarehouseCalloutService {
    private static final String WAREHOUSE_URL = 'https://th-superbadge-
apex.herokuapp.com/equipment';

    //@future(callout=true)
    public static void runWarehouseEquipmentSync(){
```

```
        Http http = new Http();
        HttpRequest request = new HttpRequest();

        request.setEndpoint(WAREHOUSE_URL);
        request.setMethod('GET');
        HttpResponse response = http.send(request);


        List<Product2> warehouseEq = new List<Product2>();

        if (response.getStatusCode() == 200){
            List<Object> jsonResponse =
(List<Object>)JSON.deserializeUntyped(response.getBody());
            System.debug(response.getBody());

            for (Object eq : jsonResponse){
                Map<String,Object> mapJson = (Map<String,Object>)eq;
                Product2 myEq = new Product2();
                myEq.Replacement_Part__c = (Boolean) mapJson.get('replacement');
                myEq.Name = (String) mapJson.get('name');
                myEq.Maintenance_Cycle__c = (Integer)
mapJson.get('maintenanceperiod');
                myEq.Lifespan_Months__c = (Integer) mapJson.get('lifespan');
                myEq.Cost__c = (Decimal) mapJson.get('lifespan');
                myEq.Warehouse_SKU__c = (String) mapJson.get('sku');
                myEq.Current_Inventory__c = (Double) mapJson.get('quantity');
                warehouseEq.add(myEq);
            }

            if (warehouseEq.size() > 0){
                upsert warehouseEq;
                System.debug('Your equipment was synced with the warehouse one');
                System.debug(warehouseEq);
            }

        }
    }
}
```

WarehouseCalloutServiceTest.apxc :-

```
@isTest
private class WarehouseCalloutServiceTest {
    @isTest
    static void testWareHouseCallout(){
        Test.startTest();
        // implement mock callout test here
        Test.setMock(HTTPCalloutMock.class, new WarehouseCalloutServiceMock());
        WarehouseCalloutService.runWarehouseEquipmentSync();
        Test.stopTest();
        System.assertEquals(1, [SELECT count() FROM Product2]);
    }
}
```

WarehouseCalloutServiceMock.apxc :-

```
@isTest
global class WarehouseCalloutServiceMock implements HttpCalloutMock {
    // implement http mock callout
    global static HttpResponse respond(HttpRequest request){
```

```
        System.assertEquals('https://th-superbadge-apex.herokuapp.com/equipment',
request.getEndpoint());
        System.assertEquals('GET', request.getMethod());

        // Create a fake response
        HttpResponse response = new HttpResponse();
        response.setHeader('Content-Type', 'application/json');

response.setBody('[{"_id":"55d66226726b611100aaf741","replacement":false,"quantity"
:5,"name":"Generator 1000
kW","maintenanceperiod":365,"lifespan":120,"cost":5000,"sku":"100003"}]');
        response.setStatusCode(200);
        return response;
    }
}
```

Challenge 6
Test scheduling logic

WarehouseSyncSchedule.apxc :-

```
global class WarehouseSyncSchedule implements Schedulable {
    global void execute(SchedulableContext ctx) {

        WarehouseCalloutService.runWarehouseEquipmentSync();
    }
}
```

WarehouseSyncScheduleTest.apxc :-

```
@isTest
public class WarehouseSyncScheduleTest {

    @isTest static void WarehousescheduleTest(){
        String scheduleTime = '00 00 01 * * ?';
        Test.startTest();
        Test.setMock(HttpCalloutMock.class, new WarehouseCalloutServiceMock());
        String jobID=System.schedule('Warehouse Time To Schedule to Test',
scheduleTime, new WarehouseSyncSchedule());
        Test.stopTest();
        //Contains schedule information for a scheduled job. CronTrigger is similar
to a cron job on UNIX systems.
        // This object is available in API version 17.0 and later.
        CronTrigger a=[SELECT Id FROM CronTrigger where NextFireTime > today];
        System.assertEquals(jobID, a.Id,'Schedule ');


    }
}
```