**Asynchronous Apex**

**public class account processor:**

**public class AccountProcessor {**

**@future**

**public static void countContacts(List<Id> accountIds){**  
**List<Account> accounts = [Select Id, Name from Account Where Id IN : accountIds];**  
**List<Account> updatedAccounts = new List<Account>();**  
**for(Account account : accounts){**  
**account.Number\_of\_Contacts\_\_c = [Select count() from Contact Where AccountId =: account.Id];**  
**System.debug('No Of Contacts = ' + account.Number\_of\_Contacts\_\_c);**

**updatedAccounts.add(account);**  
**}**  
**update updatedAccounts;**  
**}**  
**}**

**public account processor test:**

**@isTest**  
**public class AccountProcessorTest {**  
**@isTest**  
**public static void testNoOfContacts(){**  
**Account a = new Account();**  
**[a.Name](https://www.youtube.com/redirect?event=comments&redir_token=QUFFLUhqbnFOMWNwczVfMHVPX0E5bDNaTmFxVk1Wb2poZ3xBQ3Jtc0trQlBXNWtBMzdUa3ZIbXhmRVdQNG9TZlhqLWFmOTNkcmktX0xWVFVzbEJrb3B1N0ZTeDdHRTNLRm54NUwtaEYtWW5Da25IUk5wQ0xEM3pheDJlekpIZnRnUlh6Q3huNmVXZVpreENPdGJhazVVVHUzMA&q=http%3A%2F%2Fa.name%2F&stzid=Ugx8MNGB-3_dfwiKJS94AaABAg) = 'Test Account';**  
**Insert a;**  
**Contact c = new Contact();**  
**c.FirstName = 'Bob';**

**c.LastName =  'Willie';**  
**c.AccountId =** [**a.Id**](https://www.youtube.com/redirect?event=comments&redir_token=QUFFLUhqbU5ETFNveHo1blUyelROMF9yZUZMSUJjbWdNUXxBQ3Jtc0trN0RGbUVWZXhJdlJSWURPWng0bDZjX00xZk1PZHk0WEhzMFB6QS1qOXhhbEpvdVM0MTRBREpOMnZiU2Fjd0ZVMEQzNWJ4MFh3bFN2ZWtEUld2NEdEWEhxMWlaZDh0aU80aGQ1b1NLQW5aTG1zMUkycw&q=http%3A%2F%2Fa.id%2F&stzid=Ugx8MNGB-3_dfwiKJS94AaABAg)**;**

**Contact c2 = new Contact();**  
**c2.FirstName = 'Tom';**  
**c2.LastName = 'Cruise';**  
**c2.AccountId =** [**a.Id**](https://www.youtube.com/redirect?event=comments&redir_token=QUFFLUhqbDh3TGxPeFlZRGxsNC1acFN0NGxpRmNETE1xUXxBQ3Jtc0trRjFYZW94Nk9IVTZEcW5DakltWXBGd1FDQ1lkY04tOEhubzhsQUFtRTFEV20tQllycENlWVVvOE5Hb1V4RndHZGtnX2VmRXdNNl83T1JMYXJVcVM3ODhMc0FLc3BCMnlCOVIzQlVLZGpEQTNoZnNpcw&q=http%3A%2F%2Fa.id%2F&stzid=Ugx8MNGB-3_dfwiKJS94AaABAg)**;**  
**List<Id> acctIds = new List<Id>();**  
**acctIds.add(a.Id);**  
**Test.startTest();**

**AccountProcessor.countContacts(acctIds);**  
**Test.stopTest();**  
**}**  
**}**

**public class lead processor**

**public class LeadProcessor implements Database.Watchable<sObject> {**   
**public Database.QueryLocator start(Database.BatchableContext Be) {**  
**// collect the batches of records or objects to be passed to execute**  
**return Database.getQueryLocator([Select LeadSource From Lead ]);**  
  
**}**

**public void execute(Database.BatchableContext Be, List<Lead> leads){**  
**// process each batch of records**  
**for (Lead Lead : leads) {**

**lead.LeadSource = 'Dreamforce';**

**}**  
**update leads;**

**}**  
**public void finish(Database.BatchableContext be){**  
**}**

**}**

**public class lead processor test:**

**@isTest**  
  
**public class LeadProcessorTest {**  
**@testSetup**

**static void setup() {**  
**List<Lead> leads = new List<Lead>();**  
**for(Integer counter=0 ;counter <200;counter++){**

**Lead lead = new Lead();**  
**lead.FirstName ='FirstName';**  
**lead.LastName ='LastName'+counter;**  
[**lead.Company**](https://www.youtube.com/redirect?event=comments&redir_token=QUFFLUhqbUE1ZWEzc2k0bk5mSTc4OUc2TUEta0pvajcxZ3xBQ3Jtc0tta2xGdk1IdUNfU1lsVENSQUtzZWRSUndSUHYtRDdsTzV2bjlsLXJzSmJ1dkNXa2xOT2NqRTJ0QlJFS2FJZjZwNmJZN3JNazgybmx6ZVlVSVBCSjNSOVV3MWF4YzNfQldyOWgzSllmSGh3c0ZFbjJnTQ&q=http%3A%2F%2Flead.company%2F&stzid=UgwXPVssDCKjJewlL5Z4AaABAg) **='demo'+counter;**  
**leads.add(lead);**

**}**  
**insert leads;**  
  
**}**  
**@isTest static void test() {**  
**Test.startTest();**

**LeadProcessor leadProcessor = new LeadProcessor();**

**Id batchId = Database.executeBatch(leadProcessor);**

**Test.stopTest();**

**}**

**public class primary contact:**

**public class AddPrimaryContact implements Queueable**  
  
**{**  
  
    **private Contact c;**  
  
**private String state;**  
  
**public  AddPrimaryContact(Contact c, String state)**  
  
**{**  
  
**this.c = c;**  
  
**this.state = state;**  
  
**}**  
  
**public void execute(QueueableContext context)**   
  
**{**  
  
         **List<Account> ListAccount = [SELECT ID, Name ,(Select id,FirstName,LastName from contacts ) FROM ACCOUNT WHERE BillingState = :state LIMIT 200];**  
  
**List<Contact> lstContact = new List<Contact>();**  
  
**for (Account a cc:ListAccount)**  
  
**{**  
  
**Contact cont = c.clone(false,false,false,false);**  
  
**cont.AccountId =**[**acc.id**](https://www.youtube.com/redirect?event=comments&redir_token=QUFFLUhqbnV2YlJhYnBORFBhenBmbEkwbUE2aVNmMC1TZ3xBQ3Jtc0tsMS1mUmNRbVhOQVFVTE1kaGJuWlRsQVBtQV9telpoaF9XU2pCTDlXU0llZko4QkFFRnRnWDFaSnkyckRMTW42MU0wN2xidjc3RnlTQmNRRXlQOUY5dVFxQUJHRTV3clc5OGNVQ1JuOTBKTUFqekxTWQ&q=http%3A%2F%2Facc.id%2F&stzid=UgzQWPhHQduLsivzwHF4AaABAg)**;**  
  
**lstContact.add( cont );**  
  
    **}**  
**if(lstContact.size() >0 )**  
  
**{**

**insert lstContact;}}}**

**public class lead processor test:**

**@isTest**  
  
**public class AddPrimaryContactTest{**

**@isTest static void TestList()**  
**{**  
**List<Account> Test = new List <Account>();**  
**for(Integer i=0;i<50;i++)**  
**{**  
**Teste.add(new Account(BillingState = 'CA', name = 'Test'+i));**

**}**  
**for(Integer j=0;j<50;j++)**  
  
         **{**  
**Teste.add(new Account(BillingState = 'NY', name = 'Test'+j));**  
  
**}**  
  
**insert Teste;**  
**Contact co = new Contact();**  
  
**co.FirstName='demo';**  
  
**co.LastName ='demo';**  
  
**insert co;**  
  
         **String state = 'CA';**  
**AddPrimaryContact apc = new AddPrimaryContact(co, state);**  
  
**Test.startTest();**  
  
**System.enqueueJob(apc);**  
  
**Test.stopTest();**  
  
**}}**

**Daily lead processor test:**

**@isTest**

**private class DailyLeadProcessorTest {**

**static testMethod void testDailyLeadProcessor() {**

**String CRON\_EXP = '0 0 1 \* \* ?';**

**List<Lead> lList = new List<Lead>();**

**for (Integer i = 0; i < 200; i++) {**

**lList.add(new Lead(LastName='Dreamforce'+i, Company='Test1 Inc.', Status='Open - Not Contacted'));**

**}**

**insert lList;**

**Test.startTest();**

**String jobId = System.schedule('DailyLeadProcessor', CRON\_EXP, new DailyLeadProcessor());**

**}**

**}**

**Daily lead processor:**

**public class DailyLeadProcessor implements Schedules  {**

**Public void execute(SchedulableContext SC){**

**List<Lead> LeadObj=[SELECT Id from Lead where LeadSource=null limit 200];**

**for(Lead l:LeadObj){**

**l.LeadSource='Dreamforce';**

**update l;**

**}**

**}**

**}**