

# **Shri Ramdeobaba College of Engineering and Management**

## **Nagpur**

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**CSE SEM-6 Section-B**

**Subject-Software Engineering LAB.**

**Under The Guidance of- Heena Agrawal Ma'am.**

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### **Practical no-10 A**

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#### **INTRODUCTION TO JIRA:**

**Aim** – To use JIRA to perform black box testing .

Design agile board in JIRA software to track daily status of the project workflow, track bugs and issues, team performance and record constant productivity.

**Description** – Jira Software is part of a family of products designed to help teams of all types manage work. Originally, Jira was designed as a bug and issue tracker. But today, Jira has evolved into a powerful work management tool for all kinds of use cases, from requirements and test case management to agile software development.

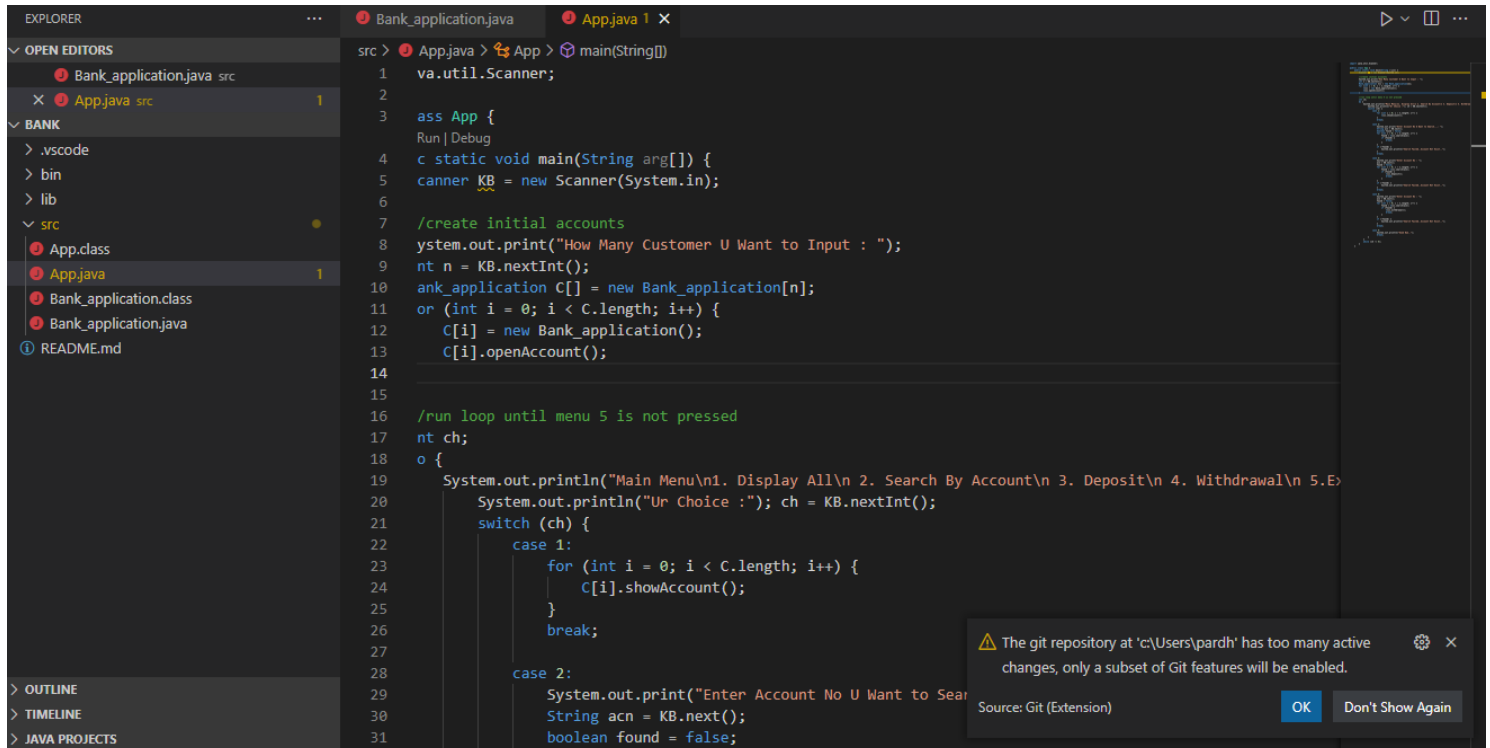
#### **Testing performed :-**

Testing was performed for the bank management system. in this java code, there is menu driven program :

```
Main Menu\n1. Display All\n2. Search By Account\n3. Deposit\n4. Withdrawal\n5.Exit
```

When the code is executed it asks to input details of the user to be added then the given menu appears with option to either search an user or to display information of all users with balance and other details.

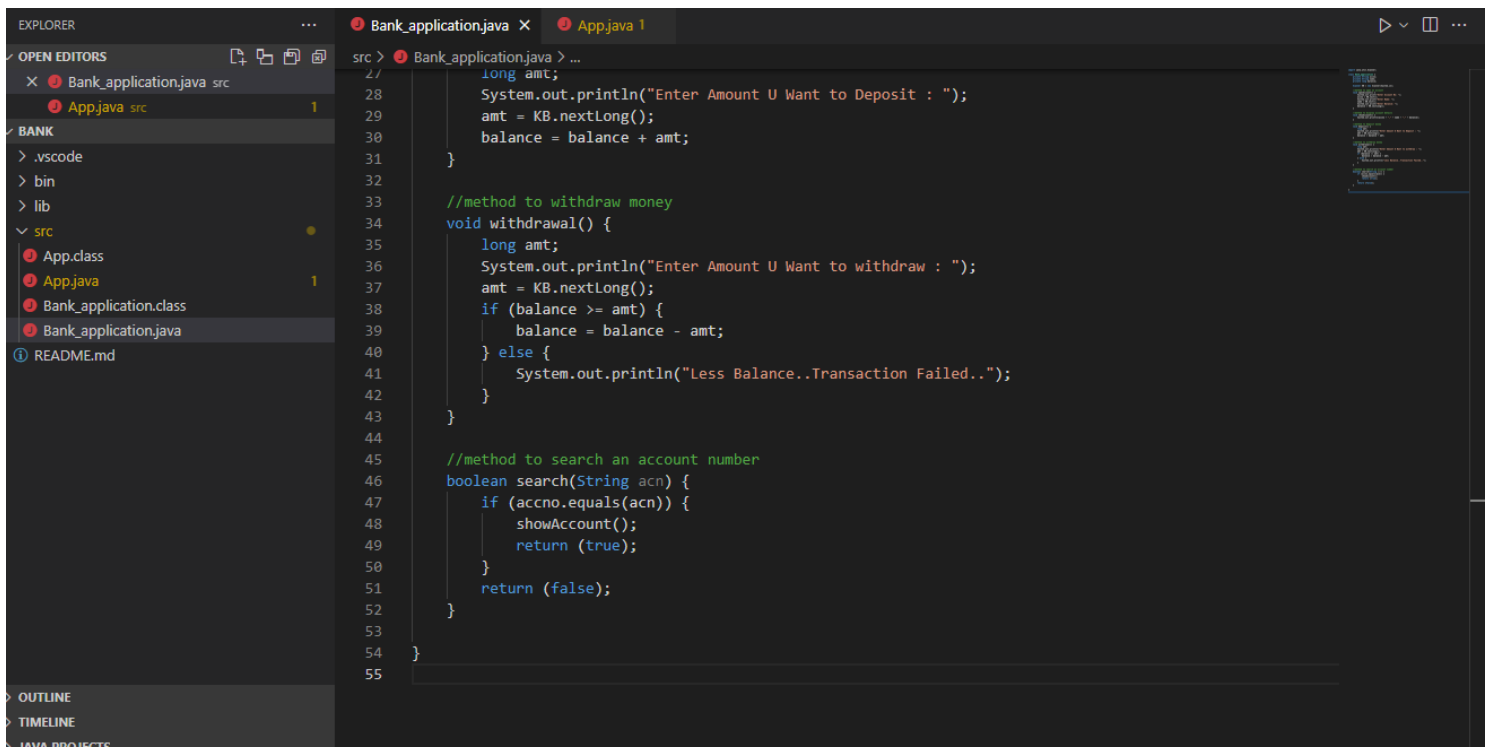
Here testing is to be performed about validating the input to the program. Various test cases were formed to check the same. Those test cases are shown later in the document.



```
src > App.java > App > main(String[])
1  va.util.Scanner;
2
3  ass App {
4      c static void main(String ang[]) {
5          canner KB = new Scanner(System.in);
6
7          /create initial accounts
8          system.out.print("How Many Customer U Want to Input : ");
9          nt n = KB.nextInt();
10         ank_application C[] = new Bank_application[n];
11         or (int i = 0; i < C.length; i++) {
12             C[i] = new Bank_application();
13             C[i].openAccount();
14
15
16         /run loop until menu 5 is not pressed
17         nt ch;
18         o {
19             System.out.println("Main Menu\n1. Display All\n2. Search By Account\n3. Deposit\n4. Withdrawal\n5.Exit\n");
20             System.out.println("Ur Choice :"); ch = KB.nextInt();
21             switch (ch) {
22                 case 1:
23                     for (int i = 0; i < C.length; i++) {
24                         C[i].showAccount();
25                     }
26                     break;
27
28                 case 2:
29                     System.out.print("Enter Account No U Want to Search : ");
30                     String acn = KB.next();
31                     boolean found = false;
```

```
src > App.java > App > main(String[])
24     C[i].showAccount();
25 }
26 break;
27
28 case 2:
29     System.out.print("Enter Account No U Want to Search...: ");
30     String acn = KB.next();
31     boolean found = false;
32     for (int i = 0; i < C.length; i++) {
33         found = C[i].search(acn);
34         if (found) {
35             break;
36         }
37     }
38     if (!found) {
39         System.out.println("Search Failed..Account Not Exist..");
40     }
41     break;
42
43 case 3:
44     System.out.print("Enter Account No : ");
45     acn = KB.next();
46     found = false;
47     for (int i = 0; i < C.length; i++) {
48         found = C[i].search(acn);
49         if (found) {
50             C[i].deposit();
51             break;
52         }
53     }
54     if (!found) {
```

```
src > Bank_application.java > ...
1  import java.util.Scanner;
2
3  class Bank_application {
4      private String accno;
5      private String name;
6      private long balance;
7
8      Scanner KB = new Scanner(System.in);
9
10     //method to open an account
11     void openAccount() {
12         System.out.print("Enter Account No: ");
13         accno = KB.next();
14         System.out.print("Enter Name: ");
15         name = KB.next();
16         System.out.print("Enter Balance: ");
17         balance = KB.nextLong();
18     }
19
20     //method to display account details
21     void showAccount() {
22         System.out.println(accno + "," + name + "," + balance);
23     }
24
25     //method to deposit money
26     void deposit() {
27         long amt;
28         System.out.println("Enter Amount U Want to Deposit : ");
29         amt = KB.nextLong();
30         balance = balance + amt;
31     }
32 }
```



**Methodology** – To use the JIRA software in an agile project, we need to follow a certain workflow.

1. Create a scrum project.  
Scrum is a framework for managing a process/project.
2. Create user stories or tasks.  
User Story describes the type of user, what they want and why. A user story can be considered a starting point to a conversation that establishes the real product requirement.
3. Create a sprint  
Sprint is a one time boxed iteration of a continuous development cycle. Within a sprint, a planned amount of work has to be completed by the team and made ready for review.
4. Add tasks to sprint  
Tasks/user stories created by the team members are then added to the sprint created.
5. Start the sprint.  
Start a sprint and have daily scrum calls/meetings to record the status of the project/process. Members of the team should update the status of work done every day under their user story. They can include any documents made like test case documents, requirements document, design or any other project related document.  
JIRA can also be used for bug tracking, activity status etc.
6. End of Sprint  
As the sprint end date arrives, the assigned task should be completed with updated status and pushed to ready state where it can be reviewed by the project superiors.

Sprint works in three stages –

1. Backlog
2. In Progress
3. Completed

User stories created initially stay in the **backlog stage** when the sprint is started. One user can create multiple user stories depending on the number of tasks assigned to him/her. These user stories are called JIRAs.

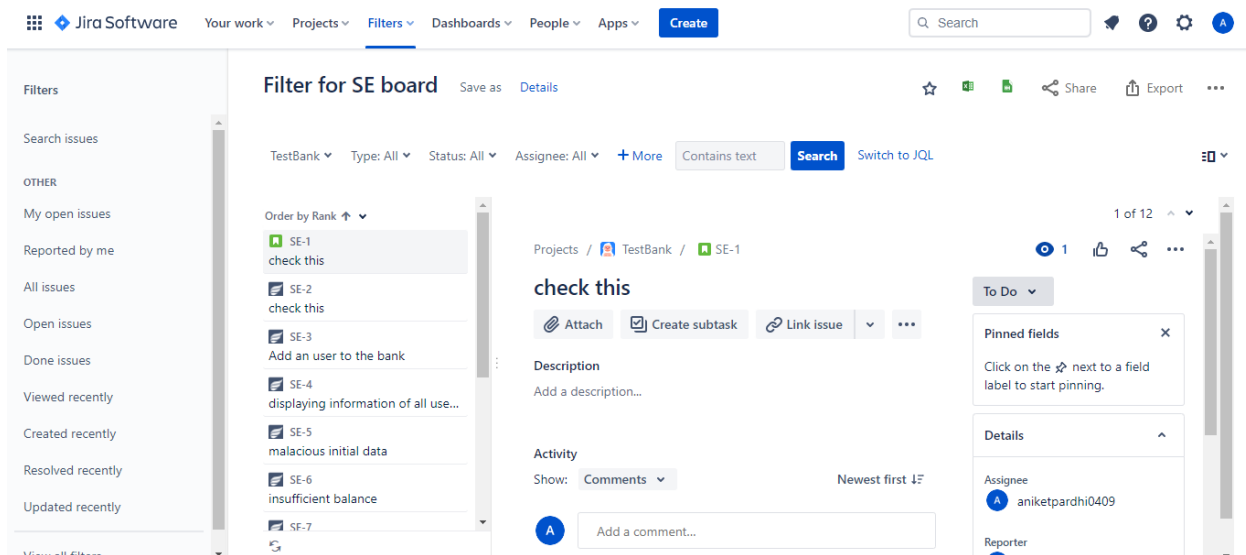
As the user starts working on any task, he/she should move that JIRA to **the progress** stage. In this stage the status of work done each day should be updated/ commented.

After completion of the task, the JIRA should be moved to the completed stage. This can be done before the sprint end date also.

JIRA applications can be used to break the pieces of work into issues/tasks. Issues can be represented as tasks, subtasks, bug, epic, feature requests, or other pieces of work. Each Jira software comes with some default issue types that suit your projects and teams.

There are three types of default Jira issue types that come with the JIRA software:

- Jira Core (business projects) issue types
- Jira Software (software projects) issue types
- Jira Service desk (service desk projects) issue types



## PLUGINS USED:

Jira plugins are also known as Jira apps or Jira add-ons. They are pieces of software that plug into the Jira task management platform and provide new and augmented functionality. The Atlassian Marketplace has nearly 1,700 Jira apps, created by amazing developers and Atlassian partners.

Plugins available can also be broadly divided into following categories-


- Project Management
- Design tools
- Test management
- Monitoring
- Time Tracking

There are two methods to install plugins in our jira application-

- Installing apps directly from Atlassian Marketplace.
- Installing by file upload.

Installing directly from Atlassian Marketplace using the Universal Plugin Manager(UPM) gives a single click installation.

To find and install an app from the Marketplace:



1. **From the top navigation bar in your application, choose  > Add-ons or Manage apps.**
2. Find apps by:
  1. Browsing the list.
  2. Entering a search string in the **Search the Marketplace** box. The search returns apps based on a case-insensitive comparison of the app name.
  3. Using the pull-down menus to filter apps by attributes like top-grossing, recently added, or staff-selected. You can also filter by pricing schemes like free, paid-via-Atlassian, or paid.
3. To install an app, click the **Install** button for free apps or the **Buy now** or **Free trial** buttons for paid apps. A confirmation message and details appear when the app is installed successfully.
4. If prompted, restart your application to have your change take effect.

An individual app may have its own setup and configuration requirements. In these cases, refer to the **Documentation** link in the app's detail view.

## Steps to create a project in jira-

Jira products come with many different project templates created to suit your team's needs and workflow. For example, you can create projects optimized for tracking simple, straightforward tasks for marketing, legal, HR or other business teams

To create a project

1. Choose the Jira icon (  or  ) > **Projects**.
2. Select **Create project** (top right).
3. **Classic project**.
4. Give your project a name.
5. Double check that the project's template matches your team's needs. To view a list and choose from other templates, select **Change**.
6. Select **Create**.  
We automatically generate a project key when the project is created. Whoever created the project is set as the project lead by default.

To change these details



- 1.From your project's sidebar, select **Project settings**.
- 2.Select **Details**.

Projects that share configuration share:

- issue types
- workflows
- screens
- fields
- permissions
- notifications
- and more

If a change is made to one of the projects' configurations, that change affects all the projects that share that configuration.

To create a project with a shared configuration:

1. Choose the Jira icon (  or  ) > **Projects**.
2. Select **Create project** (top right).
3. Choose **Classic project**.
4. Give your project a name.
5. Select **Advanced**.
6. Tick the **Share settings with an existing project** checkbox.

7. Use the **Choose project** dropdown to select the project from which you want your new project to share its configuration..
8. Select **Create**.

Only Jira admins can create projects with a shared configuration.

## ZEPHYR-



Zephyr is the #1 selling testing solutions. 18,000 customers and 5 million users across 100 countries rely on Zephyr's feature-rich solutions every day. Globally, Zephyr's customers benefit from improved productivity, faster time to market, and dramatic cost savings.

Zephyr for JIRA is a native application that exists in JIRA and brings quality test management capabilities to any JIRA project. When Zephyr is used with JIRA, the test can be created, viewed in any JIRA project, and executed immediately or as part of a testing cycle that may be linked to other issues. The detailed testing metrics can be tracked via customizable Zephyr gadgets.

To install zephyr

1. Log into your Jira instance as an admin.
2. Click the admin dropdown and choose **Add-ons**.
3. Locate **Zephyr for Jira - Test Management**.
4. Click **Free trial** to download and install your app.



## Features of Zephyr for JIRA

- Native to JIRA allowing users to test right inside JIRA
  - Testing is integrated into the project cycles and it enables you to track software quality and make empowered go/no-go decisions.
- Create, Plan, and Execute Tests
  - Create, view, and modify test steps and attachments for individual tests. Build test execution cycles, execute the tests, and link defects to specific tests.
- Track Quality Metrics
  - Zephyr provides an easy-to-use dashboard which provides testing metrics on the testing activities throughout every project.

## Creating test cases using zephyr-

To get started and logged into your Zephyr for JIRA instance, you must set up an instance of Zephyr for JIRA. Please use a free trial of Zephyr for JIRA or purchase a Zephyr for JIRA license on the Atlassian Marketplace. Ensure that the Zephyr for JIRA plugin/add-on is enabled as well.

### Steps

1. To create a test case (issue with type '**test**'), simply click on the '**Create**' button located in the top menu navigation.
2. The '**Create Issue**' module will appear with the following fields when creating a test case. The required fields for a test case are the following:
  1. **Project** – The name of the project that the test case is being placed after creation.
  2. **Issue Type** – The issue type for the test case (in this case, we'll select '**Test**').
  3. **Summary** – The name/title for the test case.
  4. **Reporter** – The name of the individual creating the test case.

Once the required fields are filled out, users can scroll to the bottom of the interface and create test steps for the test case which includes the following information for each test step:

- a. **Test Step** – Description of the test step/action that needs to be performed for this individual step.
- b. **Test Data** – Any data that is required for the test step to be performed.
- c. **Expected Result** – The expected result after performing the actions for this individual step.

Create issue

Import issues

Project\*

TestBank (SE)

Issue type\*

Test

Summary\*

Components

None

☐ Create another issue

Cancel

Create

Jira Software

Your work

Projects

Filters

Dashboards

People

Apps

Create

Search

TestBank

Software project

Back to project

DESIGN

Create a Test

Create a BDD Feature

Test Cases

Import Tests

PLANNING AND EXECUTION

Cycle Summary

You're in a company-managed project

Learn more

Search Issues

Assignee

Reporter

Status

StatusCategory

Select All

Columns

Issue Type	Key	Summary	Assignee	Reporter	Priority	Status
<input type="checkbox"/>	SE-12	string account number	HA Harsh Agrawal	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-11	string withdrawal	Unassigned	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-10	string in amount money	Unassigned	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-9	negative number 2	Unassigned	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-8	negative number	A aniketpardhi0409	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-7	user not exist	HA Harsh Agrawal	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-6	insufficient balance	HA Harsh Agrawal	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-5	malicious initial data	HA Harsh Agrawal	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-4	displaying information of all user in database	HA Harsh Agrawal	A aniketpardhi0409		To Do
<input type="checkbox"/>	SE-3	Add an user to the bank	Unassigned	A aniketpardhi0409		To Do

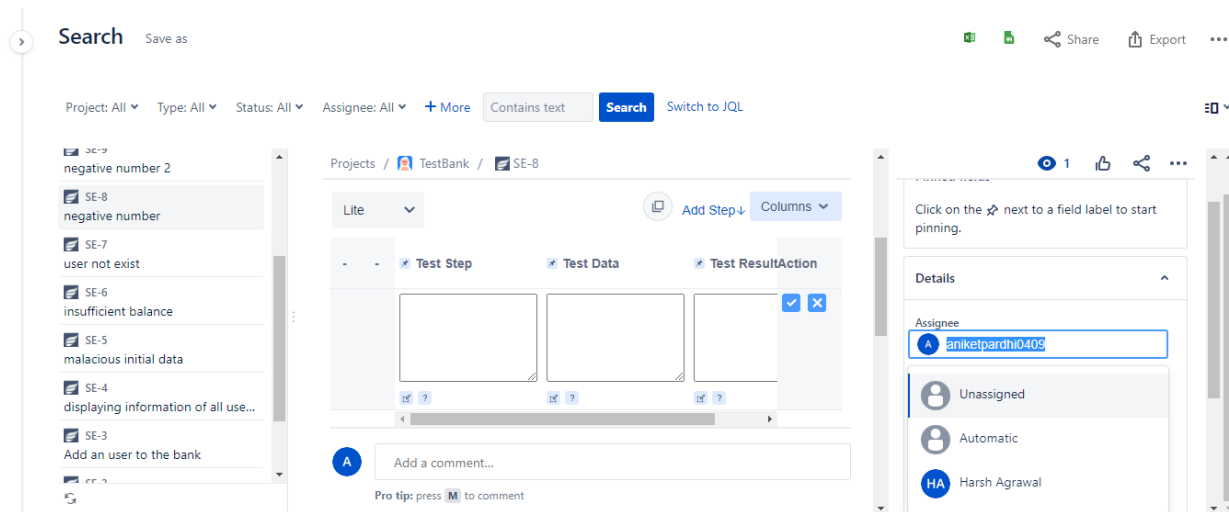
Quickstart

## Assign Test Executions

### Steps

1. On the 'Cycle Summary' page, click on the 'E' button for the individual test case that you want to assign.
2. This displays the test execution for that specific test and you can assign the test execution to a different user if need be. This can be done by using the 'Assigned To' drop-down list and selecting a different user.

After selecting a different user, it will autosave the test execution.



## Execute the Tests Steps

1. Users can quickly execute test cases by using the drop-down list in the '**Status**' column of the test execution table within the testing cycle. Users can also execute their test cases in further detail by clicking on the '**E**' button for the individual test that needs to be executed.
2. After clicking on the '**E**' button, users can execute the entire test case by simply changing and updating the execution status of the test case. This can be done by using the '**Execution Status**' drop-down list and selecting one of the statuses listed. This will execute the test case.
3. Users are also able to execute not only the entire test case but the individual test steps as well. Simply scroll down until you see the Test Details sections and then click on the drop-down list in the '**Status**' column for the individual test step.  
Select and update the status of the test step and this will execute the individual test step.

JIRA (SE-12) string account x Test Execution - Jira x You are signed in as agrawal x internet speed test - Google x WhatsApp x Joint\_B47 x

jiratorianiket.atlassian.net/plugins/servlet/ac/com.thed.zephyr.je/general-search-test-executions?project.id=10000&issue.id=10006&execution.id=8ce4acbc-4b8d-49a9-bec2-2abc9e2713fe&vi...

Jira Software Your work Projects Filters Dashboards People Apps Create Search

TestBank / Unscheduled / Ad hoc / SE-7

Ad hoc Search Executions List Detail

### SE-7

Test Execution

Execution Status : **PASS** Assigned To : Choose Value...

Defects : Select... OR Create New Issue

Comment :

Custom Fields

Attachments (Execution)

Summary

user not exist

Description

try searching for users who are not present in database

Date and time

Executed By : Harsh Agrawal

Executed On : 4/4/2022, 10:33:56 PM

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 10:33:56 PM	status	UNEXECUTED

View in Detail

JIRA aniketpardi0409 assigned x Test Execution - Jira x Test Execution - Jira x You are signed in as agrawal x

jiratorianiket.atlassian.net/plugins/servlet/ac/com.thed.zephyr.je/general-search-test-executions?project.id=10000&issue.id=10005&execution.id=05aa2091-9192-40e5-8831-0cf447240f52&vi...

Jira Software Your work Projects Filters Dashboards People Apps Create Search

Test executions

SE-6 **PASS** insufficient balance

SE-6 **UNEXECUTED** insufficient balance

TestBank / Unscheduled / Ad hoc / SE-6

Ad hoc Search Executions Success List Detail

### SE-6

Test Execution

Execution Status : **PASS** Assigned To : Choose Value...

Defects : Select... OR Create New Issue

Comment :

Custom Fields

Attachments (Execution)

Summary

insufficient balance

Description

try withdrawing more money from an account than what it has

Date and time

Executed By : Harsh Agrawal

Executed On : 4/4/2022, 10:58:34 PM

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 10:58:34 PM	status	UNEXECUTED

View in Detail

JIRA aniketpardi0409 assigned: x Test Execution - Jira x Test Execution - Jira x You are signed in as agrawalh x WhatsApp x

jiratorianiket.atlassian.net/plugins/servlet/ac/com.thed.zephyr.je/general-search-test-executions?project.id=10000&issue.id=10003&execution.id=1c5786b9-81a2-4b1a-9730-2cfe1f2d8c78&vie...

Jira Software Your work Projects Filters Dashboards People Apps Create Search

TestBank / Unscheduled / Ad hoc / SE-4

Ad hoc Search Executions

Success

SE-4

Test Execution

Execution Status: PASS Assigned To: Choose Value...

Defects: Select... OR Create New Issue

Comment:

Custom Fields

Attachments (Execution)

Summary

displaying information of all user in database

Description

Our code should be able to show all data when chosen to do so [Show More](#)

Date and time

Executed By: Harsh Agrawal

Executed On: 4/4/2022, 11:38:54 PM

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 11:38:54 PM	status	UNEXECUTED

[View In Detail](#)

Inbox (2,951) - harshagrawal236 x Test Execution - Jira x You are signed in as agrawalh x WhatsApp x

jiratorianiket.atlassian.net/plugins/servlet/ac/com.thed.zephyr.je/general-search-test-executions?project.id=10000&issue.id=10004&execution.id=6b9c53a0-a6ad-42e2-bbc5-fd5b0d272f58&vie...

Jira Software Your work Projects Filters Dashboards People Apps Create Search

Test executions

SE-5 [FAIL] malicious initial data

Prev | 1 - 1 | Next 10

TestBank / Unscheduled / Ad hoc / SE-5

Ad hoc Search Executions

SE-5

Test Execution

Execution Status: FAIL Assigned To: Choose Value...

Defects: Select... OR Create New Issue

Comment:

Custom Fields

Attachments (Execution)

Summary

malicious initial data

Description

try entering improper account number for a user

Date and time

Executed By: Harsh Agrawal

Executed On: 4/4/2022, 10:56:21 PM

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 10:56:21 PM	status	UNEXECUTED

[View In Detail](#)

Jira Software | Your work | Projects | Filters | Dashboards | People | Apps | Create

Search

Executed On: 4/4/2022, 10:56:21 PM

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 10:56:21 PM	status	UNEXECUTED

[View in Detail](#)

Test Details

Test Step	Test Data	Test Result	Attachments (Test...)	Status	Comment	Attachments (Step...)
1	run the code	-	code should be executed	0 attached	PASS	0 attached
2	while entering data of new user adding alphanumeric data to account number	account number :- "45345yglugl"	account number should be invalid	0 attached	FAIL	0 attached

1 - 2 < ... 1 - 2 > ... 1 - 2

Jira Software | Your work | Projects | Filters | Dashboards | People | Apps | Create

Search

TestBank / Unscheduled / Ad hoc / SE-4

Ad hoc | Search Executions

SE-4

Test Execution

Execution Status: UNEXECUTED

Defects: Select...

Comment:

Custom Fields

Attachments (Execution)

Execute Test: Testcase

All steps are updated to PASS

Do you also want to update the current test status to

PASS

Execute Cancel

Summary

displaying information of all user in database

Description

Our code should be able to show all data when chosen to do so

[Show More](#)

Date and time

Execution History

Change By	Change On	Field Name	Old Value
Harsh Agrawal	4/4/2022, 10:56:21 PM	status	UNEXECUTED

[View in Detail](#)

The screenshot displays the Jira Software interface for test execution. The top navigation bar includes 'Jira Software', 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', 'Apps', and a 'Create' button. A search bar is located to the right of the navigation bar. Below the navigation bar, there are sections for 'Custom Fields', 'Attachments (Execution)', and 'Test Details'. The 'Test Details' section contains a table with the following columns: Test Step, Test Data, Test Result, Attachments (Test S...), Status, Comment, Attachments (Step ...), and Defects. The table lists three test steps, all of which have a 'PASS' status. The bottom of the screen shows a Windows taskbar with various application icons and a system clock indicating 23:38 on 04-04-2022.

Test Step	Test Data	Test Result	Attachments (Test S...)	Status	Comment	Attachments (Step ...)	Defects
1 run the code	-	code should be executed	0 attached	PASS		0 attached +	0 defects
2 enter the users information	add some users to database	user information should be added	0 attached	PASS		0 attached +	0 defects
3 when menu driven program asks for which operation to perform select display All	select display all	information of all users should be visible	0 attached	PASS		0 attached +	0 defects

## Reports-

The test cases which we have run in jira using zephyr can be used to display report and summary. Execution of these test cases can be used to track bugs, evaluate performances and reassign tasks for the failed cases to the team for correction of bugs and issues encountered during testing.

## Test Summary

Total Tests  
**11**

Total Unexecuted  
**6**

Total Executed  
**5**

### TESTS BY VERSIONS

Name ▾	Tests ▾
Unscheduled	11

Showing 1 - 1 of 1    Prev    1 of 1    Next

### TESTS BY COMPONENTS

Name ▾	Tests ▾
No Component	11

Showing 1 - 1 of 1    Prev    1 of 1    Next

### TESTS BY LABELS

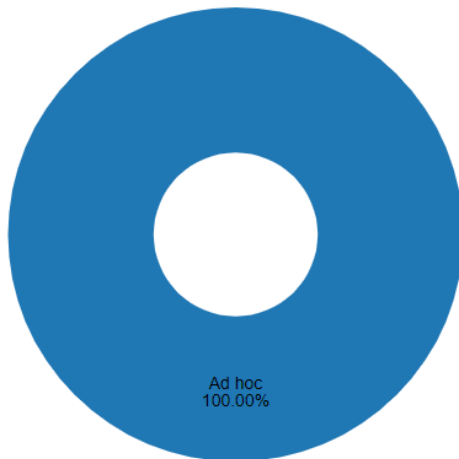
Name ▾	Tests ▾
No Label	11

Showing 1 - 1 of 1    Prev    1 of 1    Next

💡 Quickstart ✕

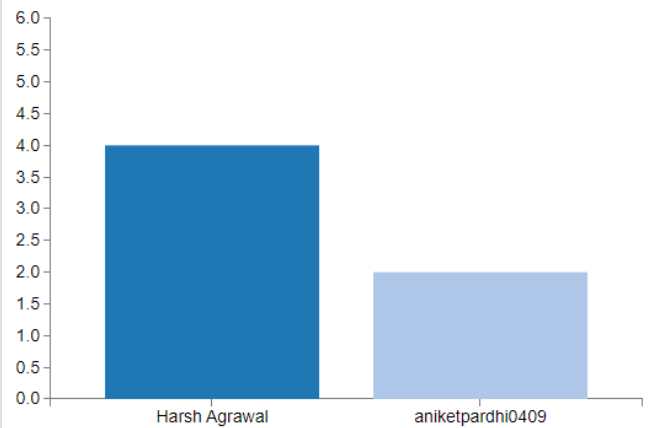
### Test Executions By Test Cycle

● Ad hoc (19)



### Test Executions By Tester

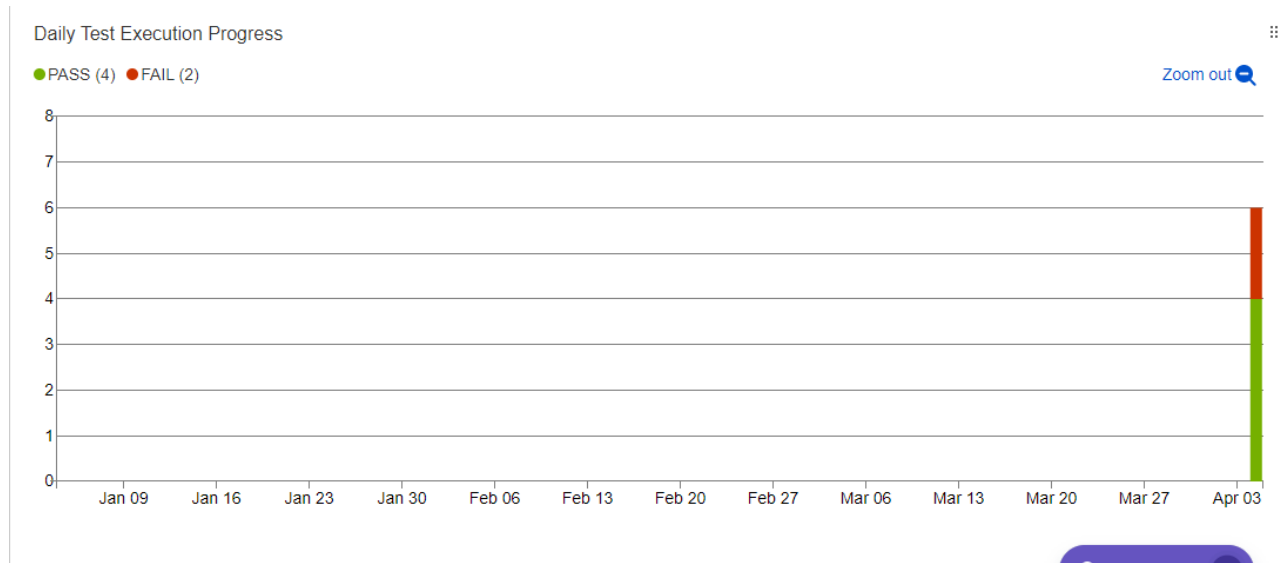
● Harsh Agrawal (4) ● aniketpardhi0409 (2)



### Executions By Date

💡 Quickstart ✕





## CONCLUSION:

The JIRA software proved to be helpful in managing and tracking bugs and solving issues by assigning various tasks to the team members for our shopping app project and successfully helped to complete the tasks thereby achieving the desired results and outcomes.