Manual Testing Notes By SURESH

Mr. Suresh – Profile

- Currently working as a Consultant with one of the Top MNC and has 15 + years of genuine experience in Software Testing.
- Hands-on experience with Selenium since 2009 and has 13+ years of in-house Corporate Training experience.
- Successfully trained multipul batches on Selenium
- Expert in Selenium Automation using Selenium RC and WebDriver. Heavy Programming using Java, TestNG and worked with QTP and Ruby with Watir as well.
- Proficient in Planning, Designing, Building and maintaining complex automation frameworks (Keyword, Modular, Hybrid and POM).
- Pro-active Team Leader and Manager with strong focus on documentation and process.
- Rich industry experience as worked with **SymphonyServices, Accenture, IGATE and Capgemini.**

Specializations:

- Expertise in creating Test Automation Frameworks for open source automation tools.
- Competence in open source automation APIs like Selenium RC and Web Driver.
- Proficiency in conducting Classroom, Corporate and Online Training on Selenium.

What is Software Testing

"Software testing is a process of executing the application with the intent of finding the defects by
comparing the output behavior of the application with expected behavior (requirement)."

In other words it's comparing the actual behavior of an application with expected behavior.

Why Software Testing

Humans make mistakes all the time!!

"Software testing is really required to point out the defects and errors that were made during
the development phases".

We humans can't identify our mistakes in a work done by us. We should get someone else to check our
work because another person may identify the mistakes done by us. In the same way software
developers may not identify the mismatches in a program or application implemented by them which
can be identify by the another department called Software Test Engineer.

Benefits of Software Testing

"Software testing helps in finalizing the software application against business requirements."

Software testing makes sure that the testing is being done properly and hence the system is ready for
the customers to use.

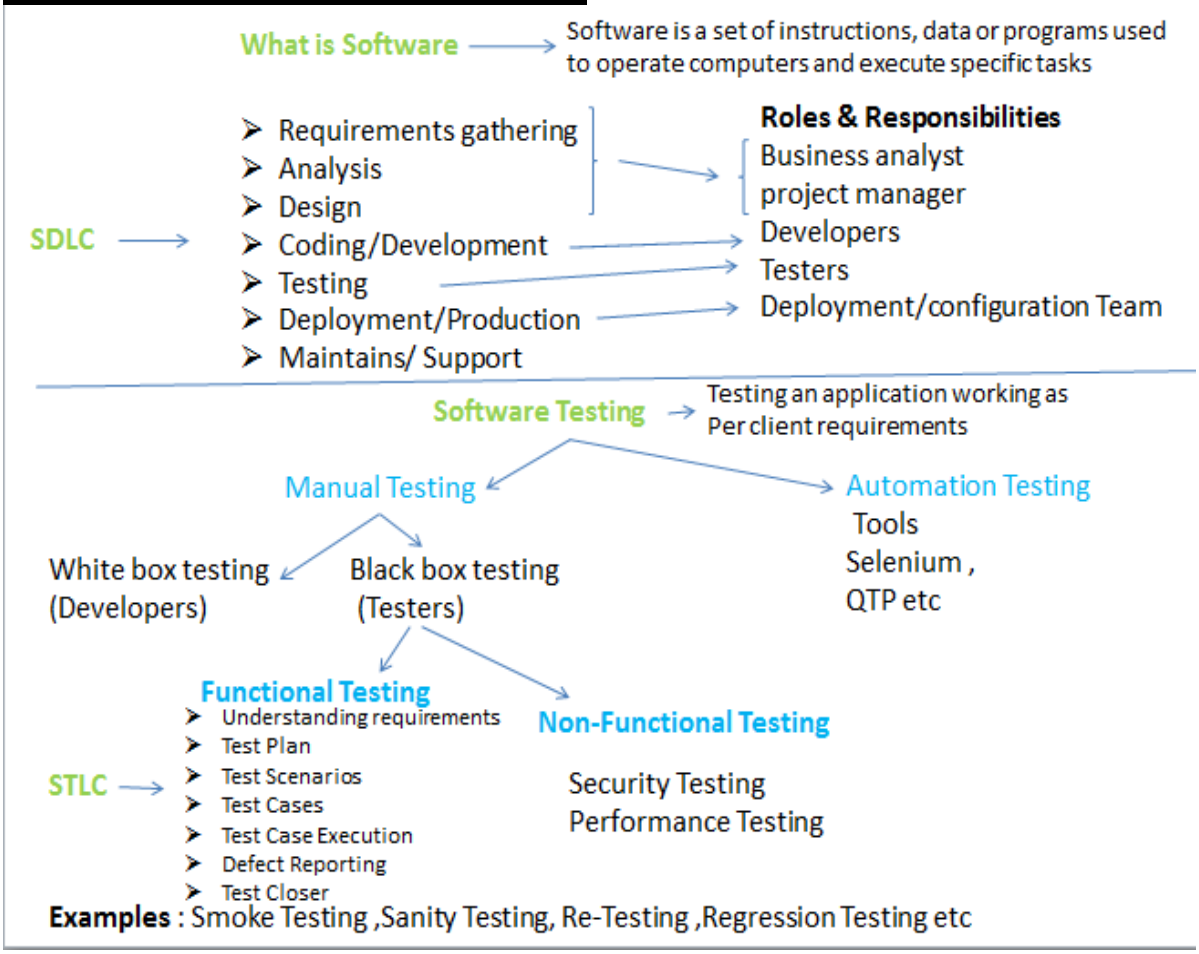
Below are few benefits of software testing.

- Finding the defects before delivery
- Gaines the confidence about quality
- To Prevent defects
- Ensure the requirements are delivered to client

What is Quality

"Software quality is nothing but delivering a bug free application and delivered on time withall requirements."

Overview of Software Testing



Why Testing Required

- To identify the defects in development phases
- To ensure Quality of the product
- Saves Money as defect identified in earlier stages
- To build customer confidence and business

Why Testing Job

- Software Testers Are Made for Challenging Work Environments
- You Can Enjoy Every Day of Work
- Flexible and Fun Work Environment
- It's Creative
- It Is a Secure Career Path
- There Is Attractive Remuneration and Room for Growth
- An Academic Background Isn't a Necessity

Testing Roles & Responsibilities

- Software Test Engineer(STE) – (0-4yrs)
- Sr.Software Test Engineer(SSTE) – (4-6yrs)
- Test Lead (TL) – (6-8yrs)
- Test Manager(TM) – (8-10yrs)
- Sr.Test Manager(STM) – (10+yrs)
- Assoc.Dir. – Software Testing
- VP – Software Testing

Software Test Engineer Responsibilities

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
- Defect Report and Tracking
- Retest fixed defects of previous builds
- Performed various Types of testing assigned by Test Lead(Sanity ,Functionality , Usability, Compatibility , etc)
- Preparing and Sending of status Reports to Lead on assigned tasks
- Participated in regular meetings , team meetings by lead & Manager
- Creating automation scripts for Regression testing

Sr. Software Test Engineer Responsibilities

- Same as test engineer responsibilities

+

- Participates in Review of Test Scenarios ,Test cases and defects
- Some Times involved in Test Plan preparation also.
- If required Leading the team when Team Lead is on Vacation

Test Lead Responsibilities

- Task Preparation and allocation to Team members
- Training Team members
- Team Management
- Test Scenarios & Test Cases Reviews
- Bug Reviews
- Preparation of Build summary report
- Conducting meetings with Team members
- MOM Preparation
- Test Plan preparation

Test Manager Responsibilities

- Project plan and Review of Test Plan
- Effort estimates
- Project Management
- Training Plan – Identify training need based on Resource skills
- Preparing monthly reports
- Client Communications
- MOM
- Provide regular status updates to core team
- Scheduling meetings with Development and Testing Team

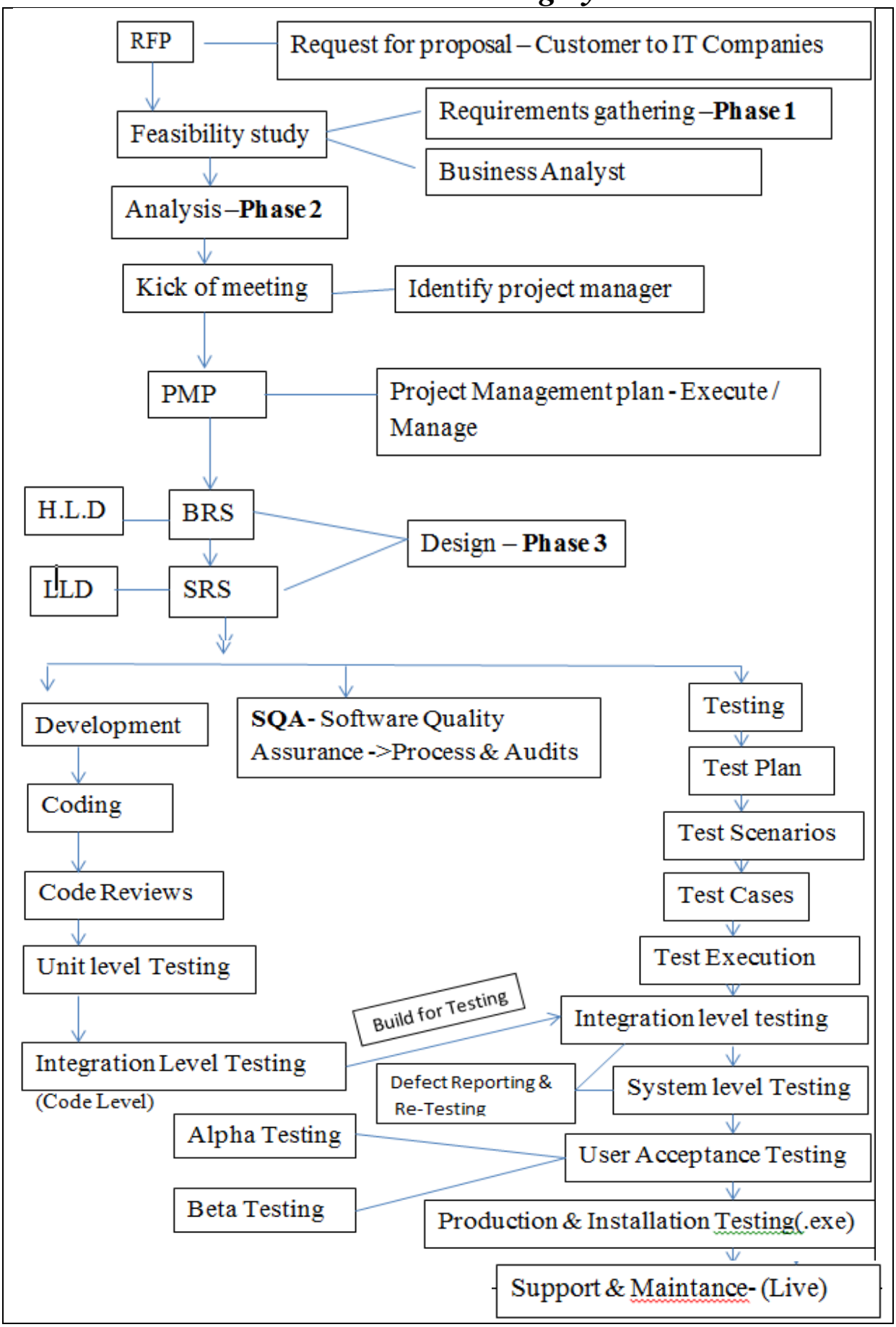
SDLC–Software Development Life Cycle

SDLC is a process followed for a software project, within a software organization. It consists of adetailed plan describing how to develop, maintain, replace and alter or enhance specific software.

Phases in SDLC :

- Requirements gathering
- Analysis
- Design
- Coding/Development
- Testing
- Deployment/Production
- Maintains/Support

SDLC Real Time Process Implementation :

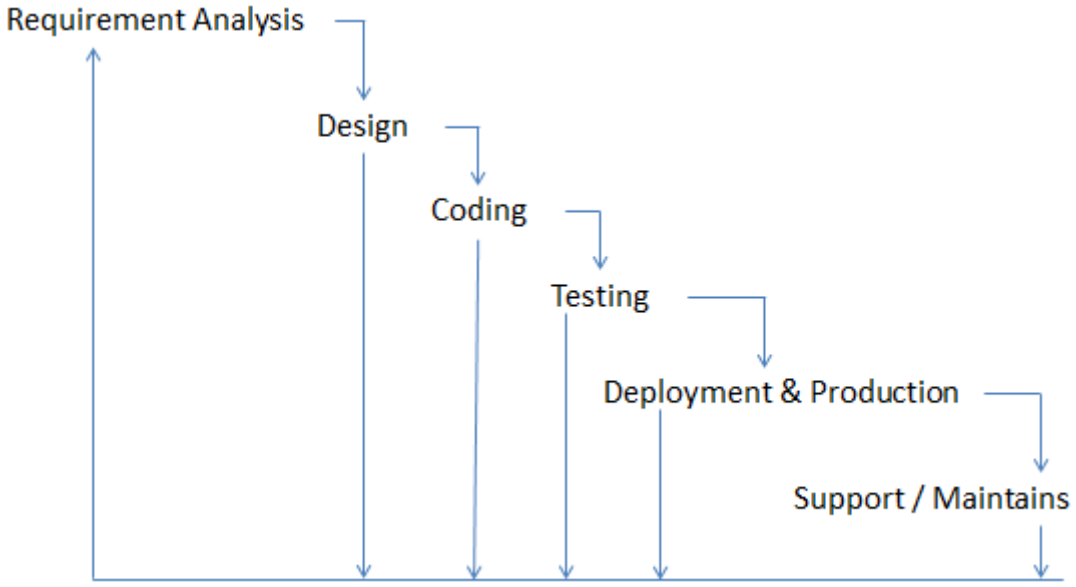

RFP
Request for proposal – Customer to IT Companies
Feasibility study
Requirements gathering –Phase 1
Business Analyst
Analysis –Phase 2
Kick of meeting
Identify project manager
PMP
Project Management plan - Execute / Manage
H.L.D
BRS
Design – Phase 3
LLD
SRS
Development
SQA- Software Quality Assurance ->Process & Audits
Testing
Test Plan
Coding
Test Scenarios
Code Reviews
Test Cases
Unit level Testing
Test Execution
Build for Testing
Integration level testing
Integration Level Testing
(Code Level)
Defect Reporting & Re-Testing
System level Testing
Alpha Testing
User Acceptance Testing
Beta Testing
Production & Installation Testing(.exe)
Support & Maintance- (Live)

Types of SDLC Models

- Waterfall model **or** Life Cycle Model **or** Linear Sequential Model
- V- Model **or** Verification & Validation Model
- Agile …etc

Waterfall model

- This model suggests a systematic and sequential approach to software development that begins at requirements analysis and progress through all life cycle phases sequentially
- Suitable for projects where requirements are clearly defined
- Small and medium term duration
- Having Domain knowledge



Advantages :

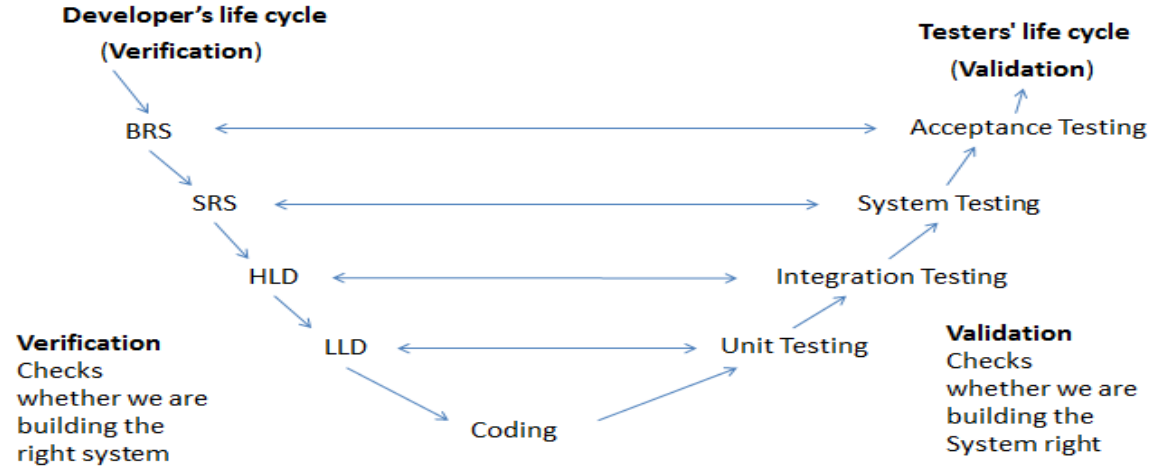
- Project under Control
- Pre-defined outputs at every phase
- Tracking changes is easy

Disadvantages:

- Not suitable for requirements changes
- Does not support going back to previous phase
- If any defect found need to go back to the originating phase

V - model

- V model means verification and validation model, the V shaped life cycle is a sequential path of execution process.



Advantages :

- Simple and easy to use
- Testing activities like planning and test design will be done before coding
- Testing planned parallel to development
- Bug detection in early phases

Disadvantages:

- If any changes happen in midway, then the test document along with requirements documents has to be updated.
- Not Suitable for large and complex projects
- The client sees the only final project ,not intermediate modules

Difference between Verification &Validation :

Verification	Validation
check whether we are developing the right product or not.	check whether the developed product is right.
Verification includes different methods like Inspections, Reviews, and Walkthroughs	In the validation testing, we can find those bugs, which are not caught in the verification process.
In verification testing, we can find the bugs early in the development phase of the product.	Validation includes testing like functional testing, system testing, integration, and User acceptance testing.
The goal of verification is application and software architecture and specification.	The goal of validation is an actual product.

Agile - Process

Overview of Agile Process

- Customer satisfaction by rapid delivery of useful software.
- Welcome changes in requirements ,even late in development
- Working software is delivered frequently (weeks rather than months)
- Close ,daily cooperation between business professionals and developers
- Continuous attention to technical excellence and good design

Project Name : ONLINE BANKING

***Product Backlog 1– LOGIN** : High Level Requirement
Epic1 - Login into application : Requirement
User Story1 - login into application as **employer** : Low Level Requirement

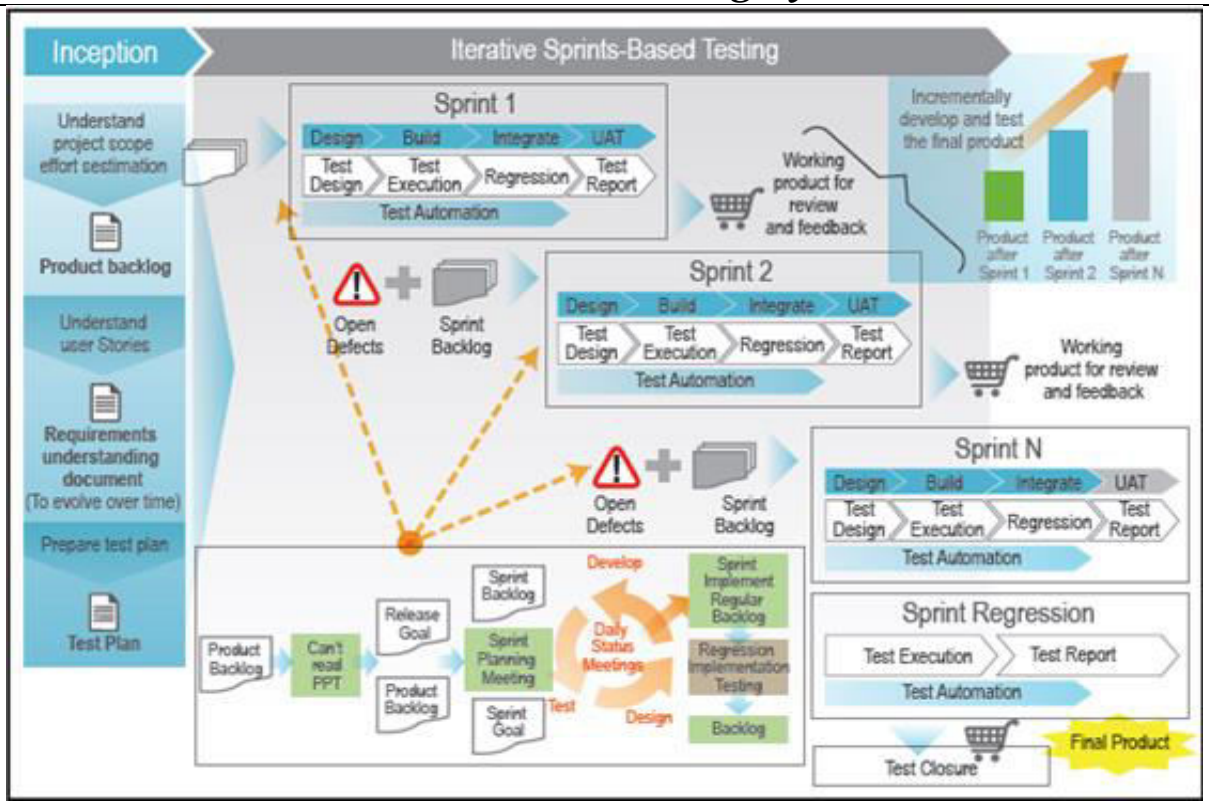
- Enter empid
- Enter password
- Click on login button
- Emp home page should be displayed

User Story2 - Login into application as **customer**

- Enter user id
- Enter password
- Click on login button
- Customer home page should be displayed

***Product backlog 2- Profile**
Epic2 - Profile Management
User Story3- Create new profile
User Story4- Update existing profile
***Product Backlog 3 - Transfer**
Epic3 - Same bank transfer
User Story5 - enter customer account details and transfer amount
Epic4 -Other bank transfer
User Story5 - Add beneficiary account details
User Story6 -Approve beneficiary details
User Story7 Transfer amount

Typical QA Approach for Agile Projects



Agile - Terms

- **User Story** – A shorthand requirements document.
- **Product Backlog** -- A prioritized list of stories that are waiting to be worked on.
- **Product Owner** -- person whom holds the vision for the product.
- **Scrum Master Role**The Scrum Master is a facilitator for the team and product owner.
- **Sprint** -- A development process
- **Stand-up Meeting**– a short (15 minutes or less) daily meeting during which team members report on what they have accomplished since the last meeting, what they plan to accomplish today and report any impediments or blockers to making progress.
- **Scrum Meeting** – To discuss on Sprint planning, development and Review.

Software Testing Methodologies

- Block Box Testing
- White box testing

Black Box Testing:

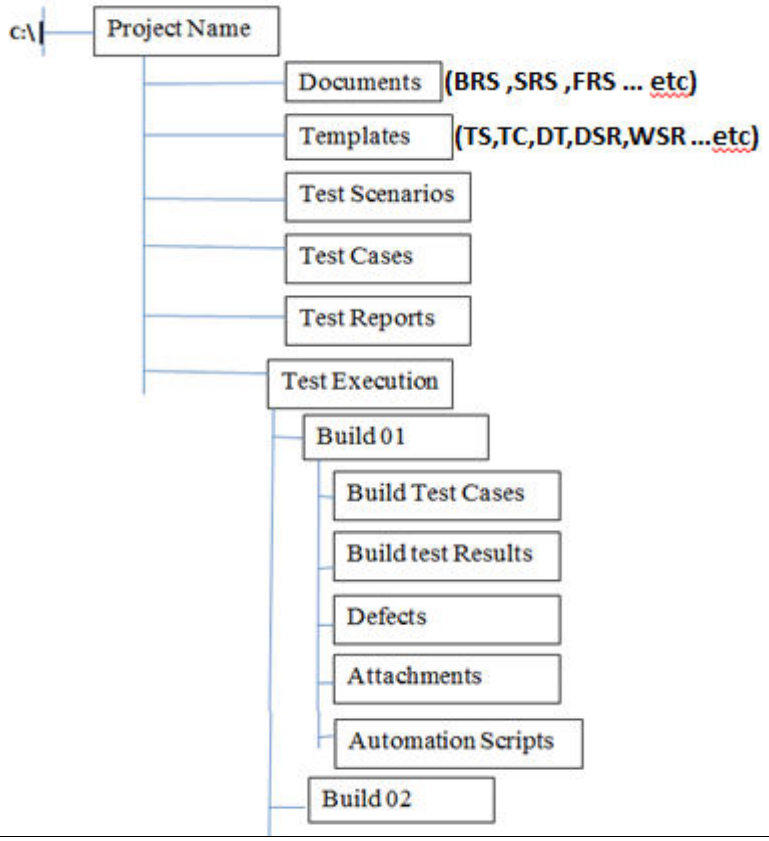
Black box testing involves testing a system with no prior knowledge of its internal workings. A tester provides an input, and observes the output generated by the system under test. This makes it possible to identify how the system responds to expected and unexpected user actions, its response time, usability issues and reliability issues.

Black box testing is a powerful testing technique because it exercises a system end-to-end. Just like end-users "don't care" how a system is coded or architected, and expect to receive an appropriate response to their requests, a tester can simulate user activity and see if the system delivers on its promises. Along the way, a black box test evaluates all relevant subsystems, including UI/UX, web server or application server, database, dependencies, and integrated systems.

White Box Testing

White box testing involves testing an application with detailed inside information of its source code, architecture and configuration. It can expose issues like security vulnerabilities, broken paths or data flow issues, which black box testing cannot test comprehensively or at all.

Real Time Folder Structure To implement STLC



STLC – Software Testing Life Cycle

Software Testing Life Cycle (STLC) is a process used to test software and ensure that quality standards are met. Tests are carried out systematically over several phases. During product development, phases of the STLC may be performed multiple times until a product is deemed suitable for release.

- STLC is an part of Software Development Life Cycle (SDLC).STLC

deals only with the testing phases.

- STLC starts as soon as requirements are defined.
- STLC provides a step-by-step process to ensure quality software.

STLC Phases

STLC has the following different phases but it is not mandatory to follow all phases. Phases are dependent on the software or the product, time and resources allocated for the testing and the model of SDLC that is to be followed.

- Requirements understanding(BRS, SRS, FRS, Mock-ups)
- Test Plan
- Test Scenarios
- Test Cases
- Test Execution
- Bug Reporting & Re-Testing
- Test Closer

Note:

BRS – Business Requirement Specification
SRS – Software Requirement Specification
FRS – Functional Requirement Specification
Mock-Ups : Screenshots

Requirements understanding:

When the requirement docs are ready and shared with testing team,then testers starts understanding the requirements to design testscenarios & testcases.

Test Plan:

Test Lead plans the test strategy & approach which is outlined in a test plan document. This strategy includes tools needed, testing steps, and roles and responsibilities. Part of determining this strategy is a risk and cost analysis and an estimated timeline for testing.

Test Scenarios:

(What need to tested)-Design the test scenarios based on scope and criteria's.

Test Cases:

(How to be tested)test cases are created. Each case defines test inputs, procedures, execution conditions, and anticipated results. Test cases should be transparent, efficient, and adaptable. Once all test cases are created, test coverage should be 100%.

Test Execution:

features are tested in the deployed environment, using the established test cases. Expected test results are compared to actual and results are gathered to report back to development teams.

Bug Reporting & Re-Testing : Reporting the bugs using bug template

Test Closer:

This is the last phase of the STLC, during which a test result report is prepared. This report should summarize the entire testing process and provide comparisons between expected results and actual. These comparisons include objectives met, time taken, total costs, test coverage, and any defects found.

Test Plan

Test Plan – A document describing the scope, approach, resources & schedule of testing activities. It identifies test items ,the features to be tested, the testing tasks who will be doing and any risks …etc

Entry Criteria to prepare Test Plan :

- Approved PMP
- Approved SRS
- Test Plan guidelines
- Test Plan template

Exit Criteria of preparing Test Plan :

- Test Plan should be reviewed and approved.

Contents in Test Plan

1. Introduction
  1.1 Test plan objectives
2.Scope of this document
3.Test Strategy
  3.1 Smoke Testing
  3.2 Sanity Testing
  3.3 Functional Testing
  3.4 Database Testing
  3.5 Cross browser Testing
  3.6 Automation Testing
4.Environment Requirements
5.Test Schedule
6.Control Procedures
  6.1 Reviews
  6.2 Bug Reviews
7.Functions To be tested
8.Functions not to be tested
9. Resources & Responsibilities
10. Deliverables and mile stones
11. Defect Management
12. Dependencies
    12.1 personal dependencies

12.2 Software dependencies
12.3 Hardware dependencies
12.4 Test Data & Database
13. Risks
14. Tools
15. Documentation
16. Approvals
17. Entry / Exit for each Testing activity
18. Test Suspension
19. Test Resumption
20. Test completion

Test Scenarios :

Identify all possible areas to be tested **or** What is to be tested.

A Test Scenario is a statement describing the functionality of the application to be tested. It is used for end-to-end testing of a feature and is generally derived from the requirement document. Test scenarios can serve as the basis for lower-level test case creation. A single test scenario can cover one or more test cases. Therefore a test scenario has a one-to-many relationship with the test cases.

How to create a Test Scenario

- Carefully study the Requirement Document – Business Requirement Specification (BRS), Software Requirement Specification (SRS), Functional Requirement Specification (FRS) pertaining to the System Under Test (SUT).
- Isolate every requirement, and identify what possible user actions need to be tested for it. Figure out the technical issues associated with the requirement. Also, remember to analyze and frame possible system abuse scenarios by evaluating the software with a hacker's eyes.
- Enumerate test scenarios that cover every possible feature of the software. Ensure that these scenarios cover every user flow and business flow involved in the operation of the website or app.
- After listing the test scenarios,Get the scenarios reviewed by a team.

Entry Criteria to Identify Test Scenarios :

- Approved Test plan
- Approved SRS
- Test Scenarios Guidelines
- Test Scenario template

Exit Criteria for Test Scenarios :

- Test Scenarios should be reviewed &approved(mapping test scenarios with requirements)

Test Scenarios Template

Company Logo			Proiect ID		Reviewed By	
			Project Name		Date Reviewed	
			Identified by		Approved By	
			Date Identified		Date Approved	
TS#	Req#	Main Functionality	TestScenario Description	Test Case Name/TC ID	Document ID/Reference	Comments

Sample Example :
Company Logo : Logo of the company
Project ID : ID of the Project
Project Name : Name of the Project
Identified by : Name of the tester
Date Identified : Day of the started writing the Test Scenarios
Reviewed By : Test Lead Name
Date Reviewed : Future Date
Approved By : Test Lead Name
Date Approved : Future Date
TS# : TestScenario ID
Req:# : Requirement ID
Main Functionality : PageName
TestScenario Description : What need to be Tested
Testcasename /ID : TestCase ID for corresponding TestScenario
Document ID / Reference : Which document we are refering to design the Scenarios
Comments : In case of any speficdescription need to be mention.

TS#	Req#	Main Functionality	TestScenario Description	Test Case Name/TC ID	Document ID/Reference	Comments
TS_001	3.2	Login Page	Verify Login functionality		SRS	
TS_002	3.2	Login Page	Verify forget password functionality		SRS	
TS_003	3.2	Login Page	Verify new user register functionality		SRS	

Test Case

What is Test case?
A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

Test Case acts as the starting point for the test execution, and after applying a set of input values, the application has a definitive outcome and leaves the system at some end point or also known as execution postcondition.

It is an in-details document that contains all possible inputs (positive as well as negative) and the navigation steps, which are used for the test execution process. Writing of test cases is a one-time attempt that can be used in the future at the time of regression testing.

Test case gives detailed information about testing strategy, testing process, preconditions, and expected output. These are executed during the testing process to check whether the software application is performing the task for that it was developed or not.

Test case helps the tester in defect reporting by linking defect with test case ID. Detailed test case documentation works as a full proof guard for the testing team because if developer missed something, then it can be caught during execution of these full-proof test cases.

The benefits of an effective test case include:

- Guaranteed good test coverage.
- Reduced maintenance and software support costs.
- Reusable test cases.
- Confirmation that the software satisfies end-user requirements.
- Improved quality of software and user experience.
- Higher quality products lead to more satisfied customers.
- More satisfied customers will increase company profits.

Entry Criteria to Identify Test Cases :

- Approved Test plan
- Approved SRS
- Approved FRS
- Approved Test Scenarios
- Test Case Guidelines
- Test Case Template

Exit Criteria for Test Cases :

- Test Cases should be reviewed &approved(mapping test scenarios with requirements)

Test Case Template

Company Logo		Project History				Test Cases				
		Project ID				Total No. of TCs				
		Project Name				Passed				
						Failed				
		Test Case History				Not Executable				
		Created By		Date Created		Defects Reported				
		Reviewed By		Date Reviewed						
		Approved By		Date Approved						
		Test Information								
		Test Executed By		Date Executed						
		Version		Build						
TC #	TS#	Test Design/ Steps	Input Data	Expected Result	Actual Result	Pass	Fail	Not Executable	Comments	Defect Id

--Sample Example :
Company Logo : Logo of the company
Project ID :ID of the project
ProjectName : Name of the Project
Created By : Tester name
Review By : TestLead name
Approved By : TestLead name
Date Created : Day of the Started writing TestCases
Date Reviewed : Future Date
Date Approved : Future Date
Test Executed By : Tester name
Version : Version of the TestCase Document
Date Executed : Form Which Date TestCase Execution need to start
Build :build number
Total No of TestCases : The Total number of TestCases Created for whole application.
Passed: Total number of TestCases passed
Failed: Total number of TestCase Failed
Not Executable: not executed test case count
Defects Reported: Bugs reports for the Whole application.
TC# : Test Case ID
TS# : Test Scenario ID mentions in Test Scenario Document
Test Design Steps : Steps To be Followed for Testing particular Functionality
Input Date : Test Data need to be used to test particular Functionality
Expected Result : Result Excepting Based on Requirement Document
Actual Result : Result displayed in Application
PASS : Expected Result & Actual Result both are matching consider as PASS
FAIL : Expected Result&Actual Result both are not matching consider as FAIL
Not Executable : Test Case Which are not executed for that current Release
Comments : In case of any speficdescription need to be mention.

Defect ID : Bug ID for failed test Cases

TC #	TS#	Test Design/ Steps	Input Data	Expected Result	Actual Result	Pass	Fail	Not Executable	Comments	Defect Id
TC_001	TS_001	1.Launch browser 2.Enter URL 3.Enter Valid UserName 4.Enter Valid Password 5.Click on Login button	URL : Username : Password :	1.Login should be successful 2.Search hotel page need to display						
TC_002	TS_001	1.Launch browser 2.Enter URL 3.Enter Invalid UserName 4.Enter Valid Password 5.Click on Login button	URL : Username : Password :	Error message need to displayed as "Invalid UserName"						

Test Case Design Techniques

Test Case: Design techniques can broadly split in to 2 categories.

Black box techniques

White box techniques

Black box techniques

- Equivalence Class Partitioning(ECP)
- Boundary Value Analysis(BVA)
- State Transition
- Decision Table / Cause Effect Table

White box techniques

- Statement Testing
- Branch/Decision testing
- Data flow Testing
- Branch condition testing

Equivalence Class Partitioning(ECP) :

Divide a set of test conditions into groups which is having similar behavior to reduce number of test cases.

Age [ ] (accepts 1 to 60)

Invalid	Valid	Invalid
0	1 to 60	>=61

Boundary Value Analysis(BVA):

BVA is based on testing the boundaries of condition

Formula : Minimum ,maximum ,Min-1 ,Max+1

Valid Boundaries : Minimum , Maximum

Invalid Boundaries : Min-1 ,Max-1

Name [ ] (accepts 5 to 10 characters)

Invalid (Min-1)	Valid (Min,Max)	Invalid (Min+1)
4	5 , 10	11

State Transition Table:

Application provides different output for same input based on previous stage

Username	Password	Result
Correct	Wrong	Invalid Password
Correct	Wrong	Invalid Password
Correct	Wrong	Invalid Password
Correct	Wrong	Account Locked

Decision Table :

Testing with different combination of inputs which produce different results.

Username	Password	Result
Correct	Correct	Login Successful
Correct	Wrong	Invalid Password
Wrong	Correct	Invalid Username
Wrong	Wrong	Invalid Username

Test Execution - Bug or Defect Management

Bug / Defect Template

Defect ID		Assigned To				
Status		Browser				
Severity		Found in Version				
Priority		Found in Build				
Module		Fixed in version				
Reported By		Fixed in build				
Title						

Description

Steps To Re-Produce :

1.

2.

3.

Expected Result :

Actual Result :

Sample Example :
Defect ID :ID of the new Defect
Status : Status of the Bug
Severity : Need to provide based on Functionality
Priority : Need to provide based on Client Expectation
Module : Page Name
Reported By : Tester Name
Assigned to : Developer or Test Lead Name
Browser Name : Name of the Browser
Found in Build: in which build bug had found
Found in Version: number of the version
Fixed in Version : Developer will provide this
Fixed in Build : Developer will provide this

Bug / Defect Template			
Defect ID	DEF_001	**Assigned To**	DEV
Status	NEW	**Browser**	Chrome
Severity		**Found in Version**	1
Priority		**Found in Build**	1
Module	Search Hotel Page	**Fixed in version**	
Reported By		**Fixed in build**	
Title	Validation is not working for check in date (accepting previous date)		

Description : Steps To Re-Produce :
1.Launch Browser .2.Enter URL
3.Enter valid Username
4.Enter valid password
5.Click on login
6.Select all required feilds
7.Enter check in date as previous date
8.Click on search
Expected Result :
Error message should be displayed as "check in date should be current date or feature date"
Actual Result :
Search hotel page is displayed

Defect Status : New ,Open ,Fixed ,closed ,Re-Open ,Not a bug, Duplicate ,Need More information, Can't reproduce .
Severity : Importance of defect with respective to functional point of view…means criticalness of defect with respective to application.
Severity classification could be : S1-Urgent ,S2-High ,S3-Medium ,S4-Low , CRITICAL , HIGH ,MEDIUM ,LOW
Priority : Importance of defect with respective to client point of view … means how soon it should be fix.
Priority Classification could be : P1-Urgent ,P2-High ,P3-Medium ,P4-Low, CRITICAL , HIGH ,MEDIUM ,LOW

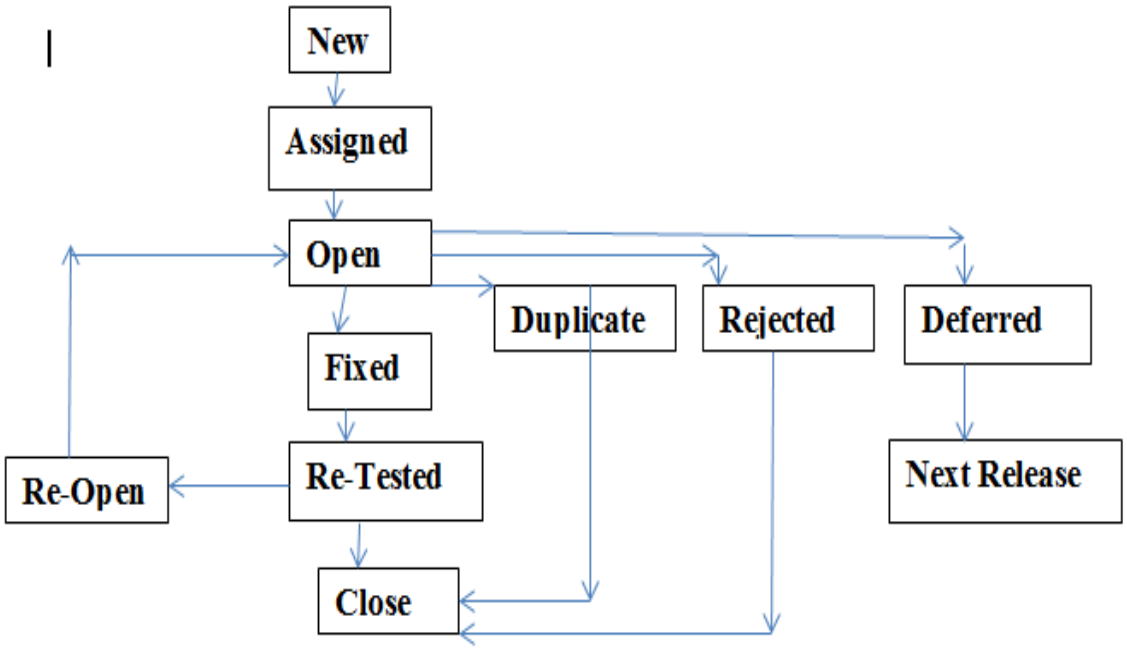
Sample Examples :
High Priority & High Severity: An error which occurs on the basic functionality of the application and will not allow the user to use the system. (Eg. A site maintaining the student details, on saving record if it, doesn't allow to save the record then this is high priority and high severity bug.)
High Priority & Low Severity: The spelling mistakes that happens on the cover page or heading or title of an application.
High Severity & Low Priority: An error which occurs on the functionality of the application (for which there is no workaround) and will not allow the user to use the system but on click of link which is rarely used by the end user.
Low Priority and Low Severity: Any cosmetic or spelling issues which is within a paragraph or in the report (Not on cover page, heading, title).

Bug or Defect Life Cycle

What is a defect/bug lifecycle in software testing?

A defect lifecycle, or bug lifecycle, is a specific set of states that a software bug goes through from discovery to fixation.

The lifecycle may vary from organization to organization depending on factors like company policy, software developmental model (e.g., Agile, Waterfall, etc.), and project timeline. However, the actual extensive defect lifecycle is as below:



New: When a defect is logged and posted for the first time, its state is set as "new".

Assigned: After the defect has been posted and verified as a bug by the testing team, it is assigned to the corresponding developer team.

Open: At this stage, the developer team has begun work on fixing the defect.

Fixed: After the necessary code changes are completed by the developers, the defect's state is set to "fixed".

Retest: At this stage, the testing team retests the code given to them by the developers.

Closed: Once the bug has been verified as fixed, the testing team closes the issue.

Reopened: If the bug still exists, its state is set back to Open and the lifecycle restarts.

Duplicate: If the defect is repeated twice or if the defect corresponds to the same concept as the bug, the status is changed to "duplicate."

Rejected: If the developer team feels that the defect is not a genuine defect, they will change the defect's state to "rejected."

Deferred: If the defect is not of a high priority and is expected to get fixed in the next release, then the defect is deferred.

Difference between Defect /Bug/Error/Failure

Defect : Problem which is identified on Developer machine at development phase
Bug : Problem which is identified on Testers machine at testing phase
Error: Problem which is related to coding.
Failure : Problem which is identified By end users at production phase

JIRA Tool

Jira installation Steps [OR] Jira SetUp

1. Open Jira URL -https://id.atlassian.com/login
2. Complete all the setup using gmail id
3. Install **zephyr** tool in JIRA for documenting Test Cases & Doing Test Execution

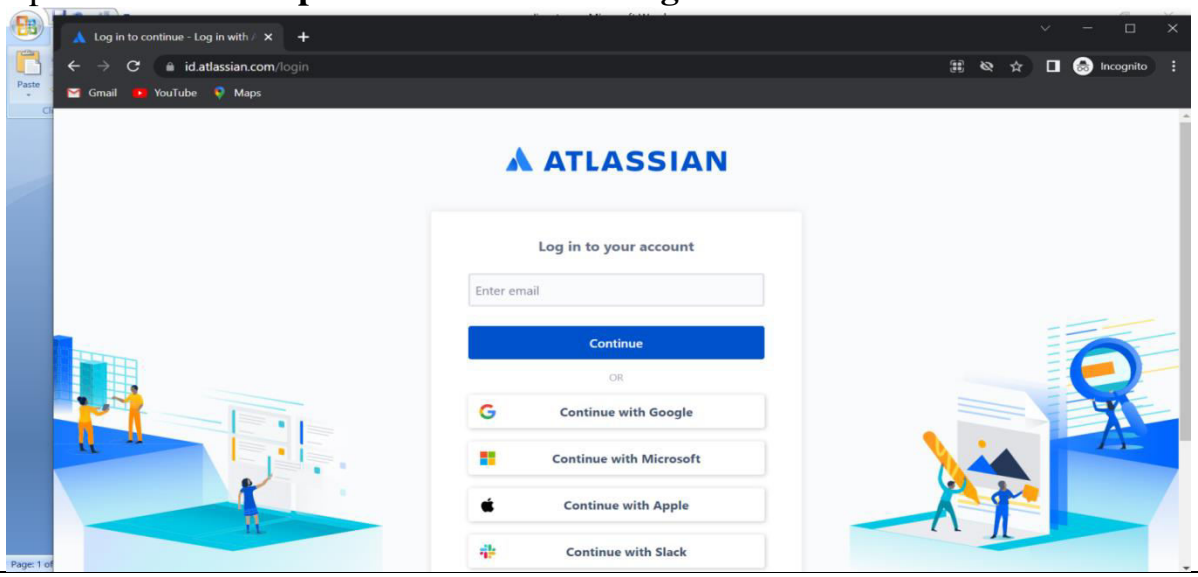
Steps to Implement Agile Process in JIRA

1. Create new project
2. Create epic
3. Create User Stories
4. Add Created User Stories to Sprint by doing drag and Drop
5. Add Created User Stories to epic
6. Click on Start Sprint and Select Sprint duration
7. Continue in documenting Test Cases & Test Execution

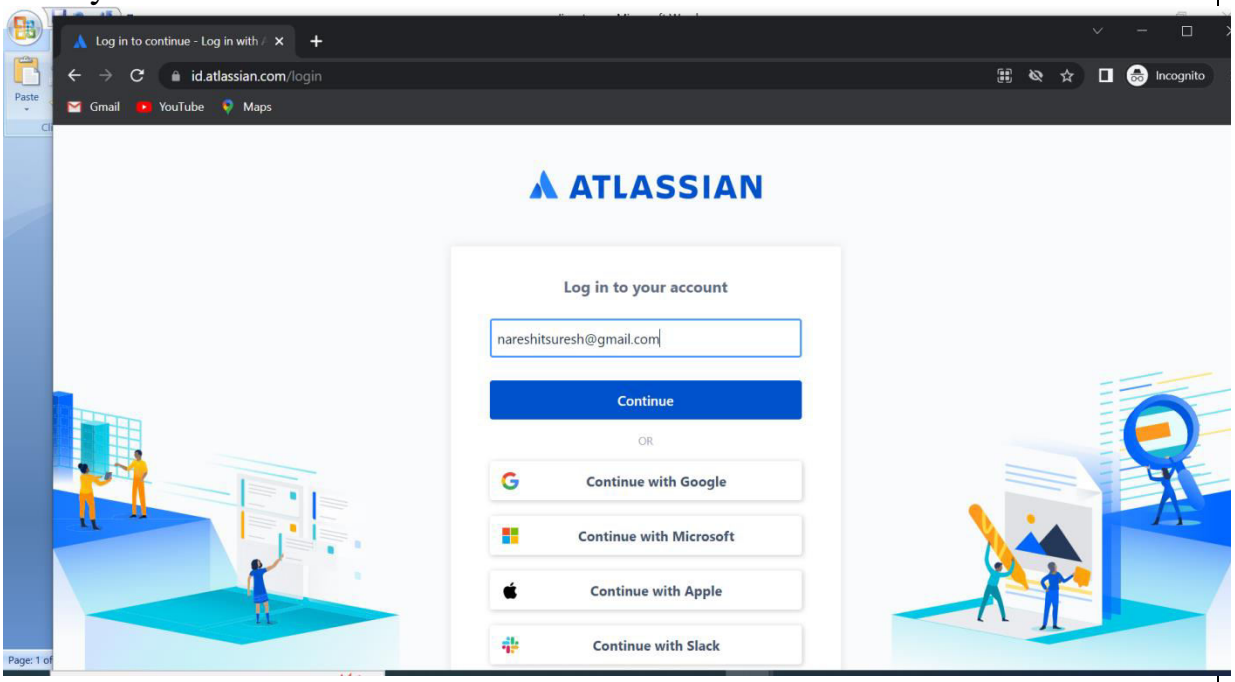
Note: Make sure all the permissions enabel in **Zephyr** tool

JIRA Setup

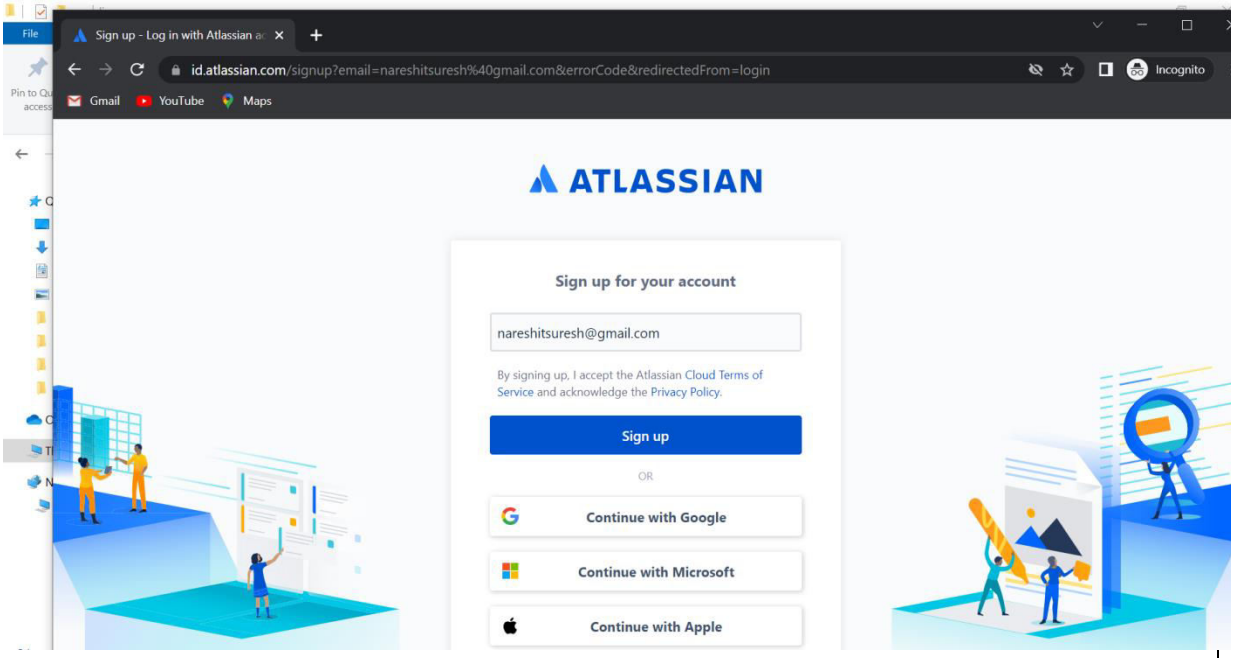
Open Jira URL -**https://id.atlassian.com/login**



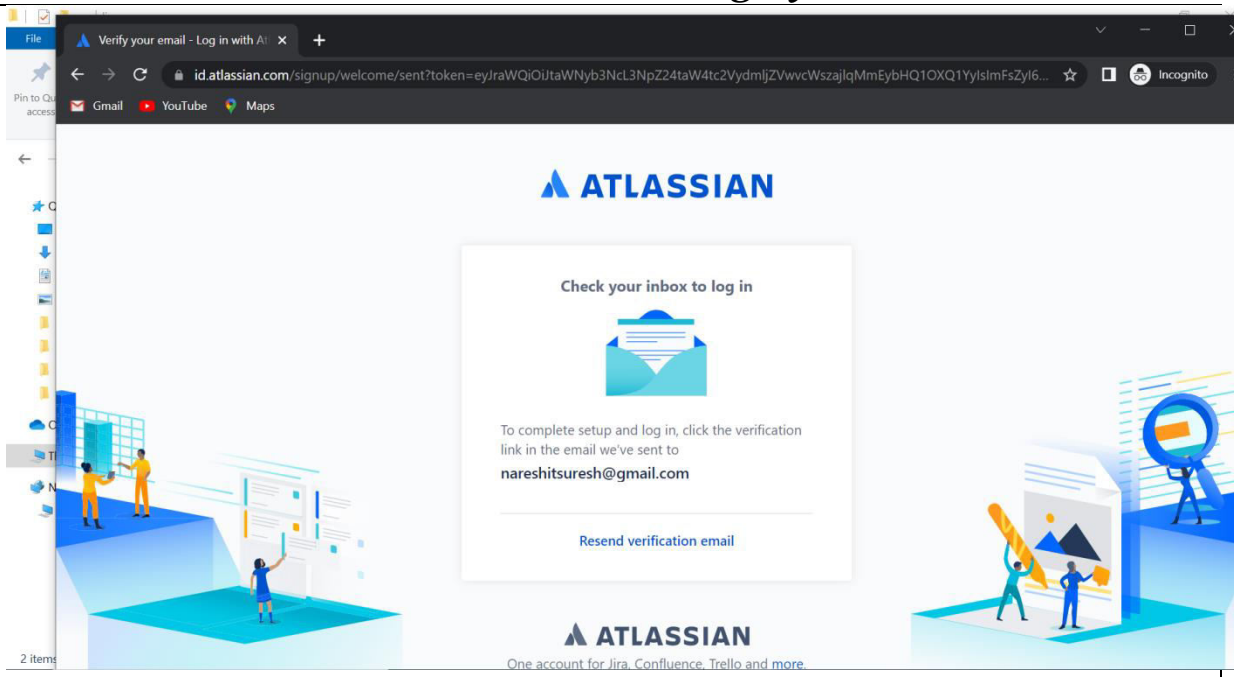
Enter your Gmail id & Click on Continue button



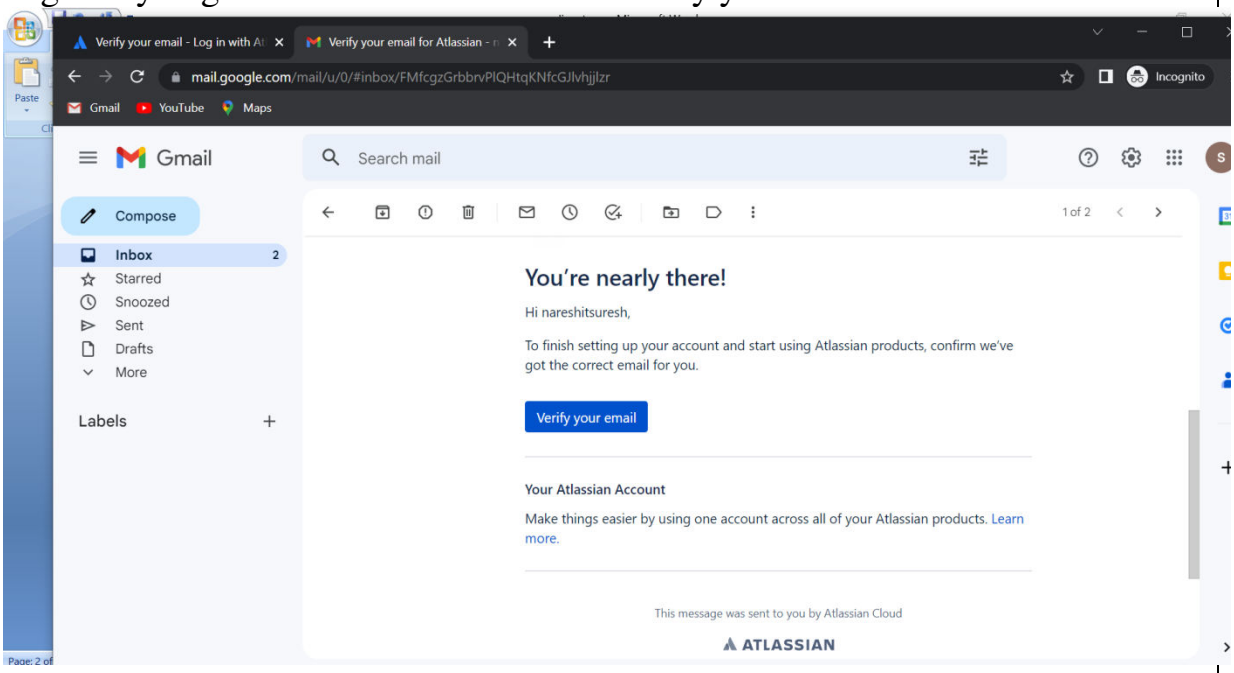
Click on **Sign Up** button



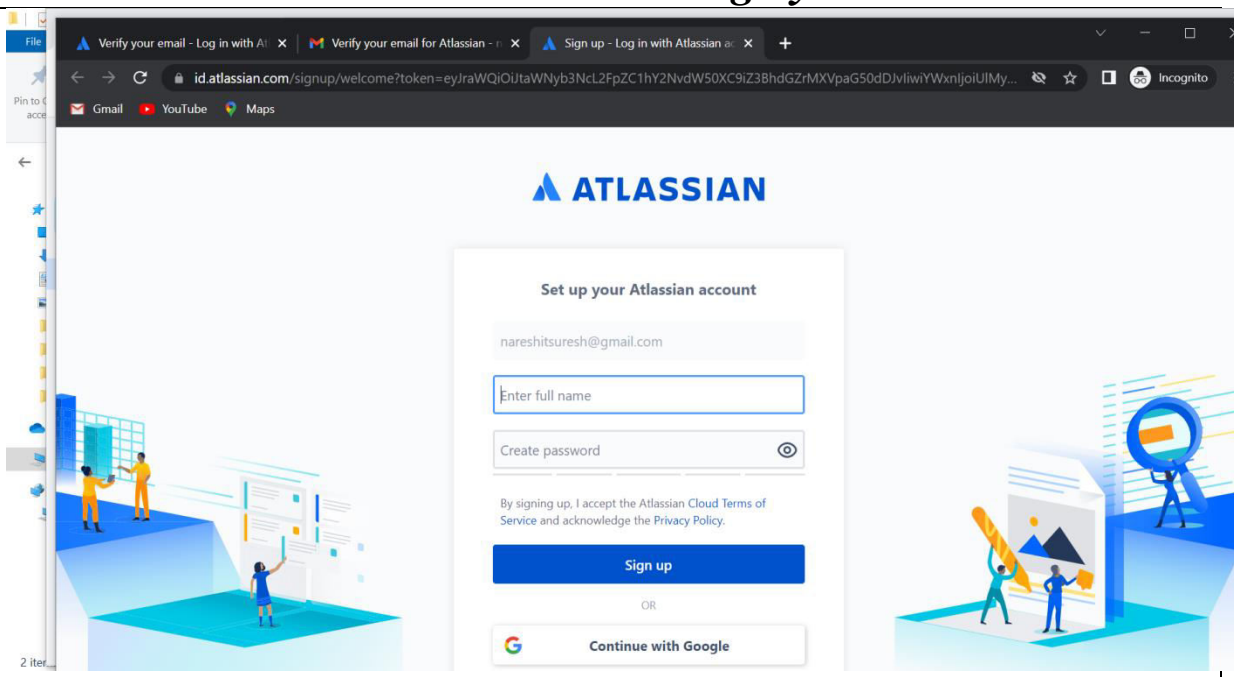
Complete the sign up and check your email for activation of Jira account



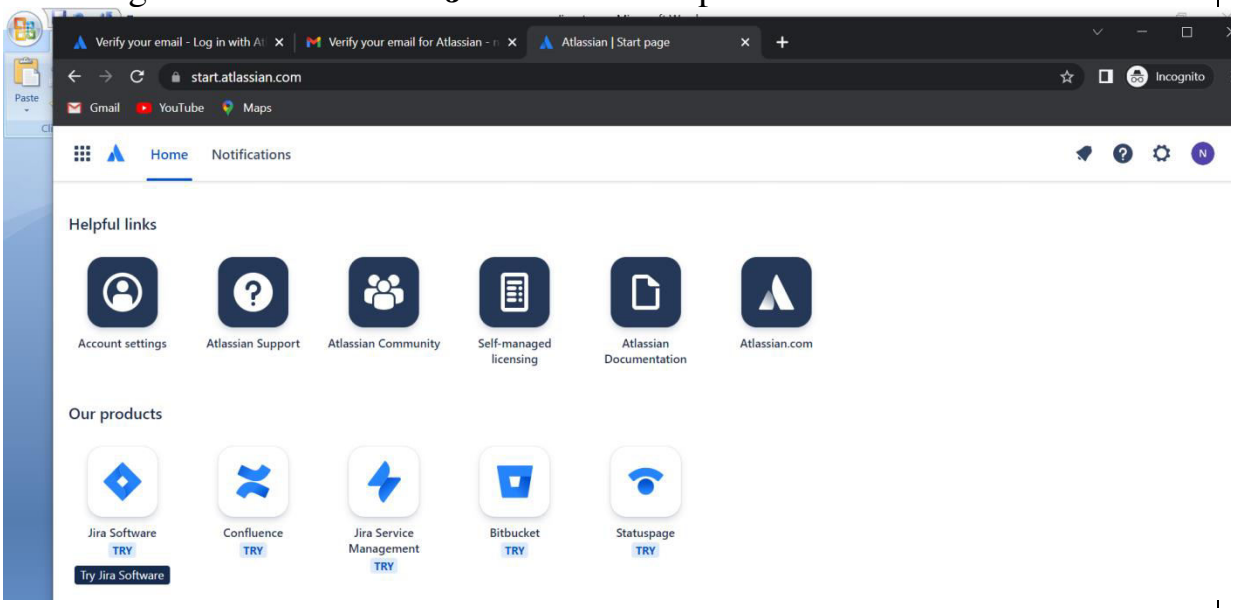
Login to you gmail account and click on Verify your email button



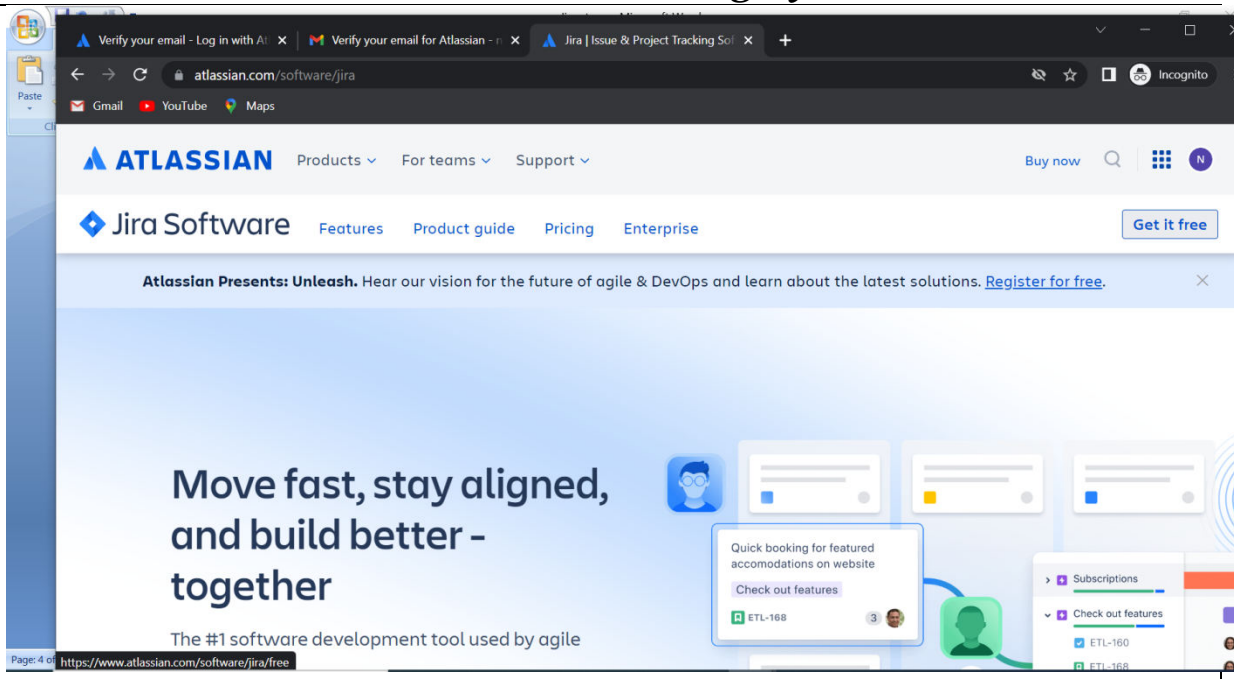
Now Create new password for jira account and click on Singn Up button



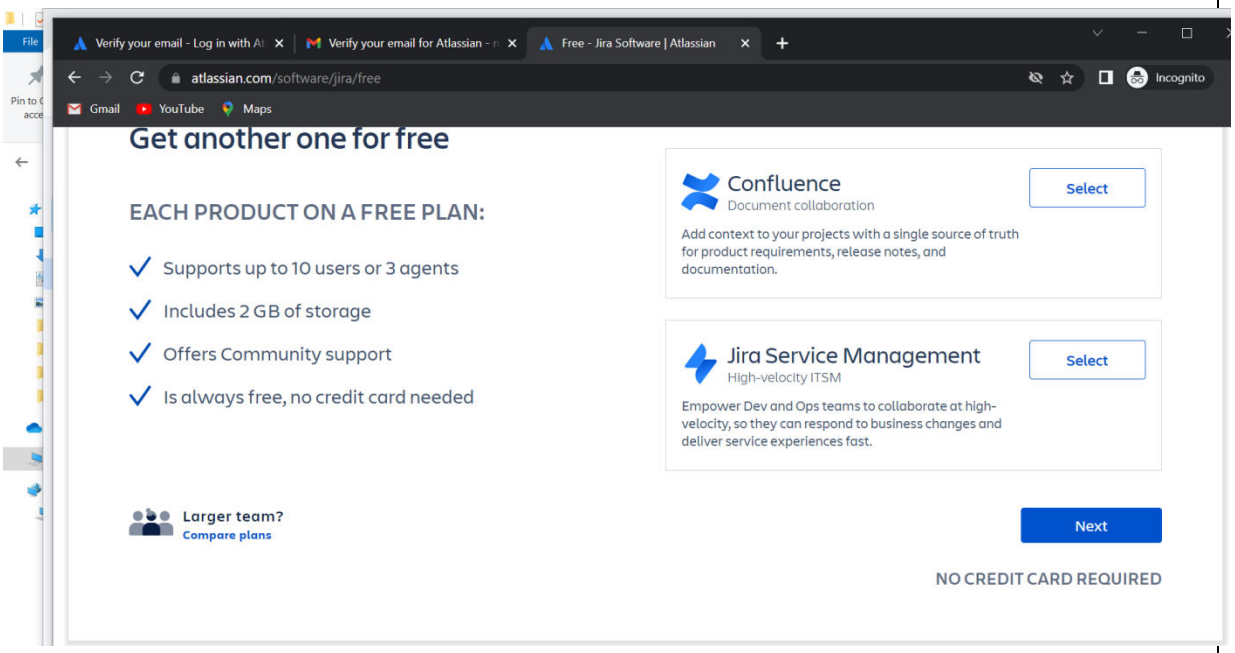
After Login into Jira click on **Jira Software** Option



Click on **Get It Free** button



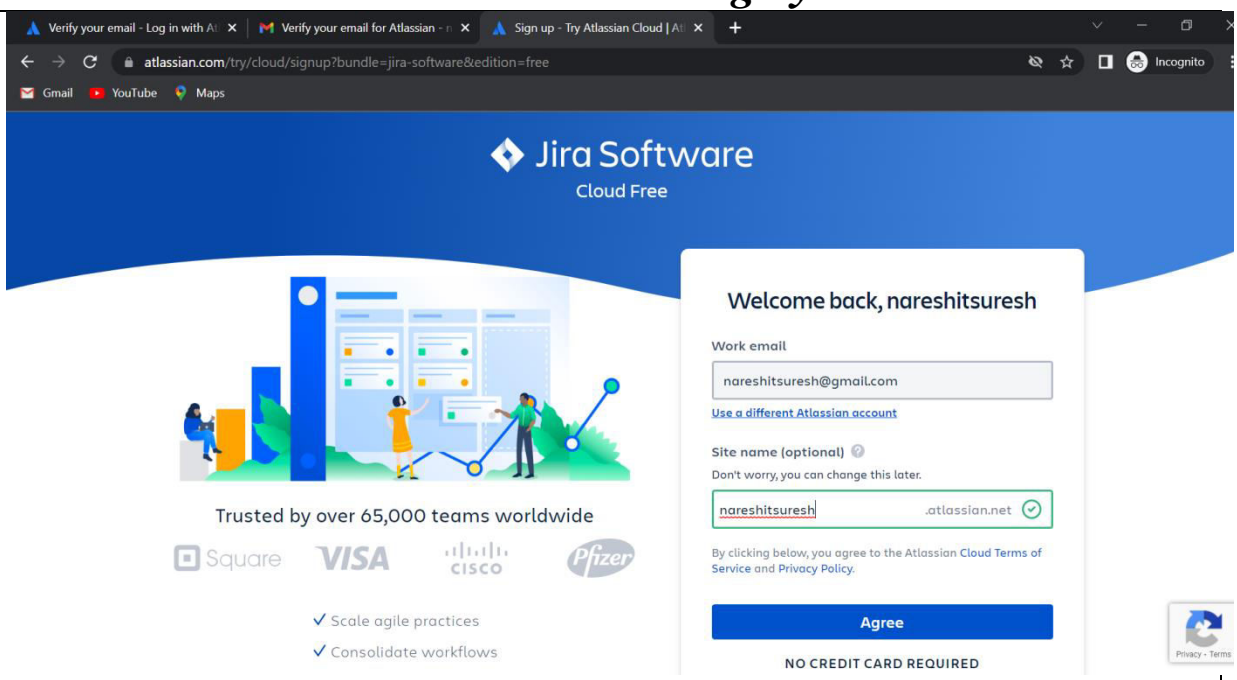
Click on **Next** button



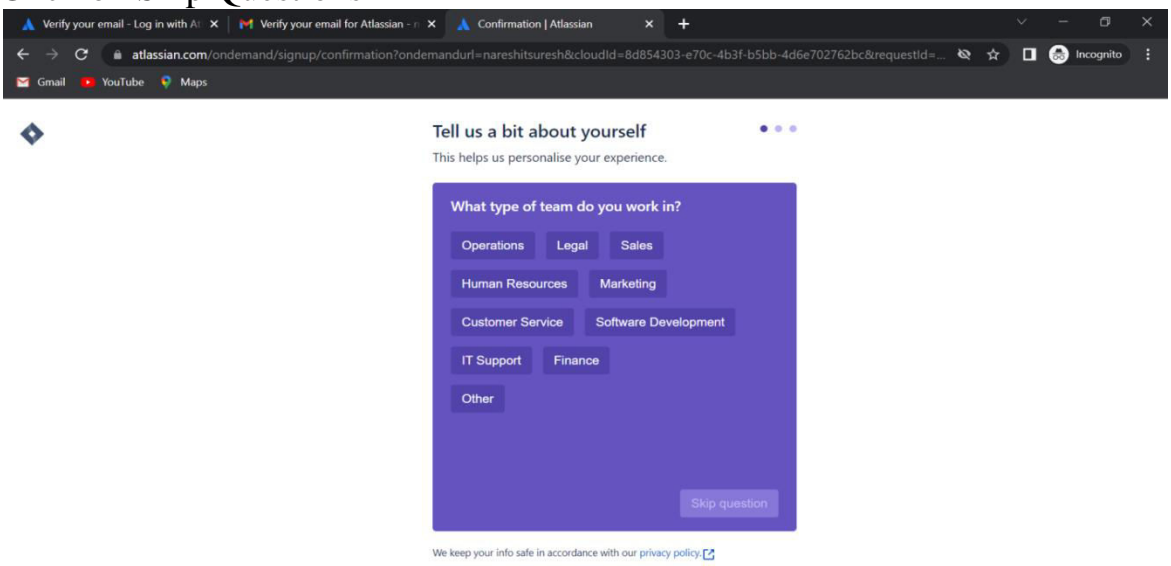
Enter any site name (consider as your **Jira website url** for next time login) and click on Agree button

Note : The site you entered will be your JIRA url , use same site name for next time login of jira

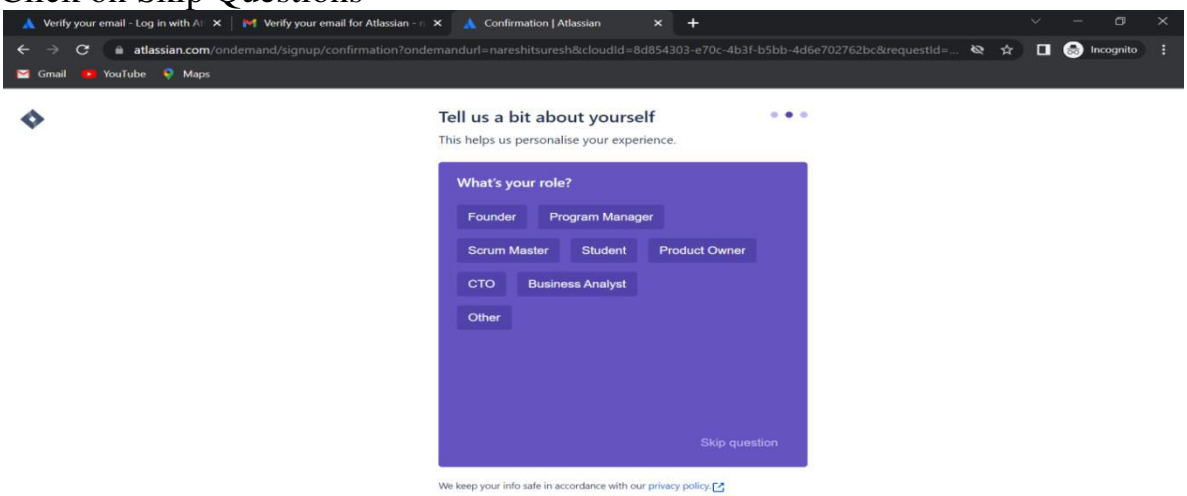
As example my jira site name is - https://nareshitsuresh.atlassian.net/



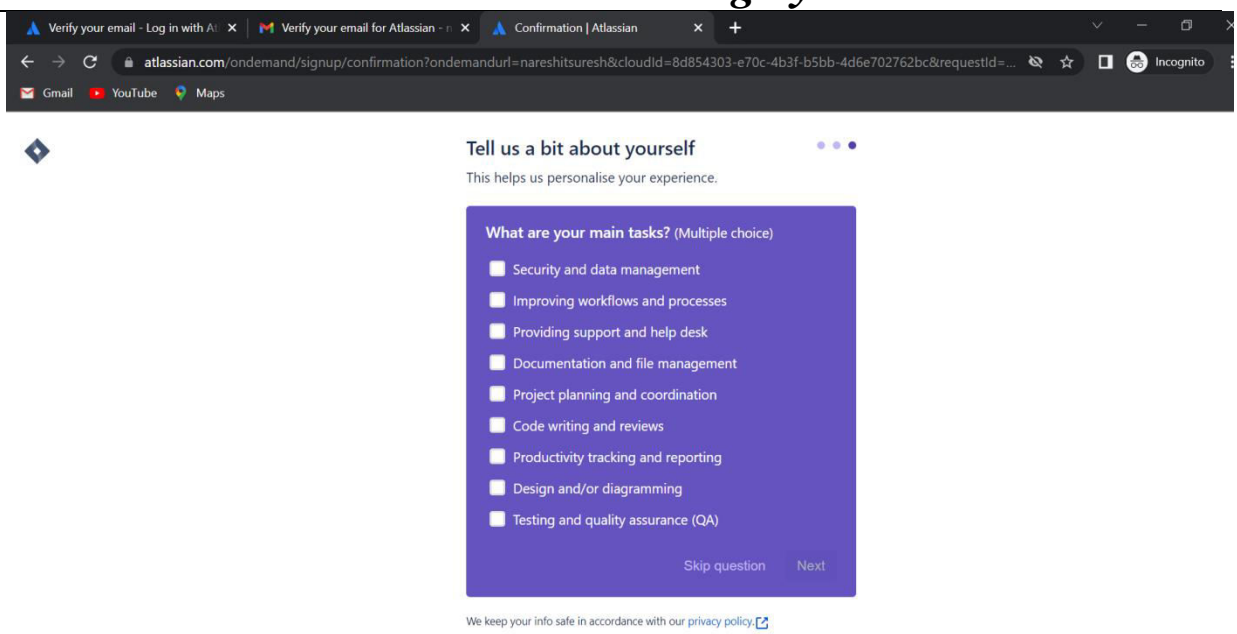
Click on Skip Questions



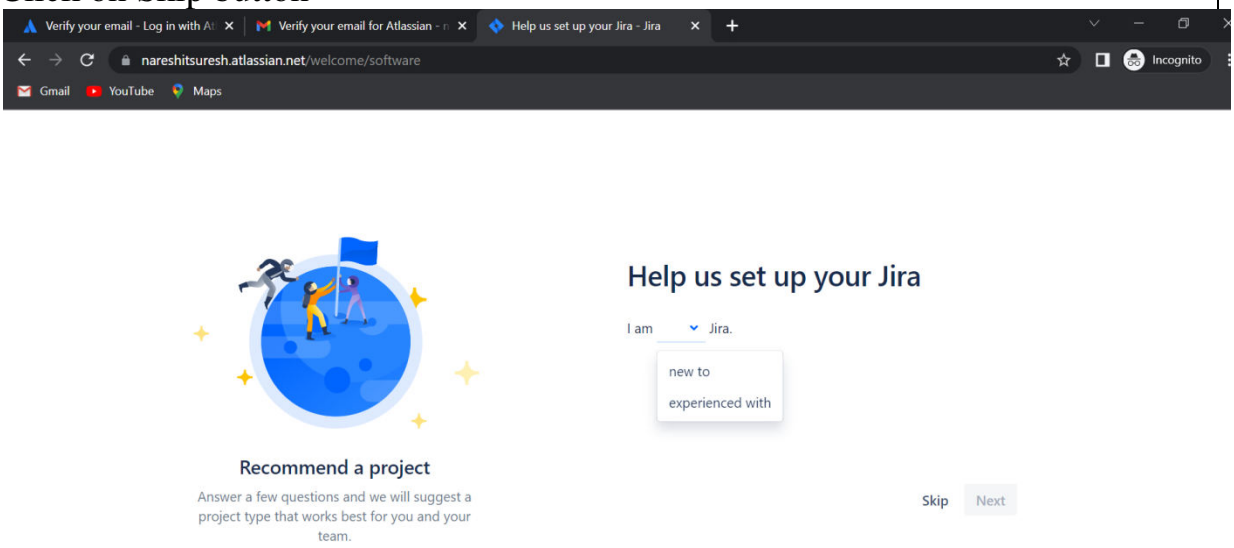
Click on Skip Questions



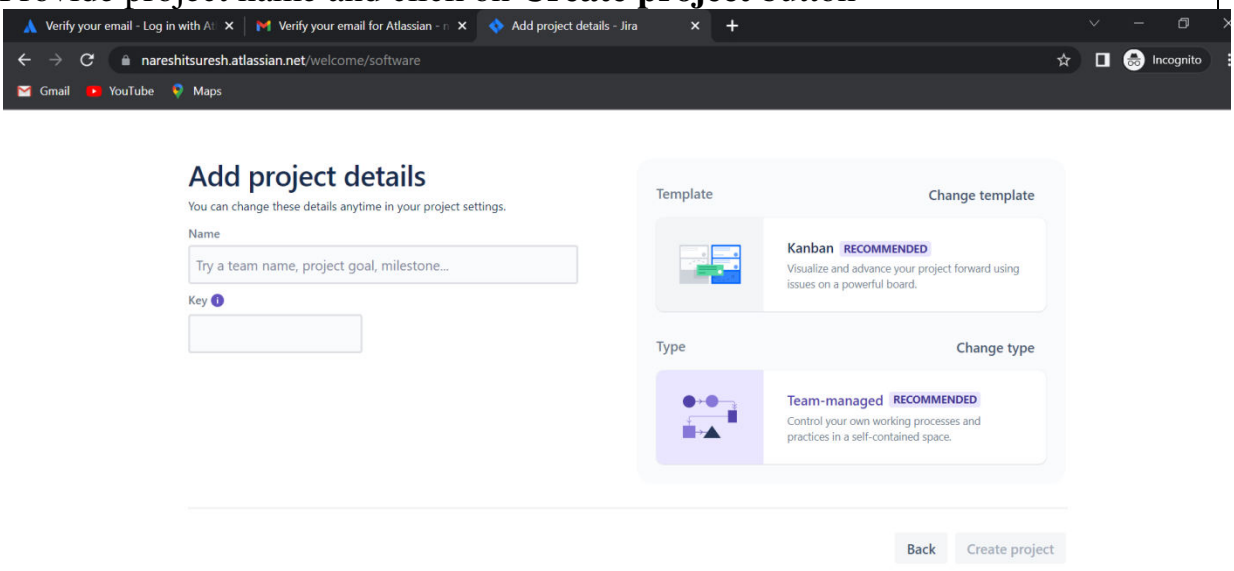
Click on Skip Questions



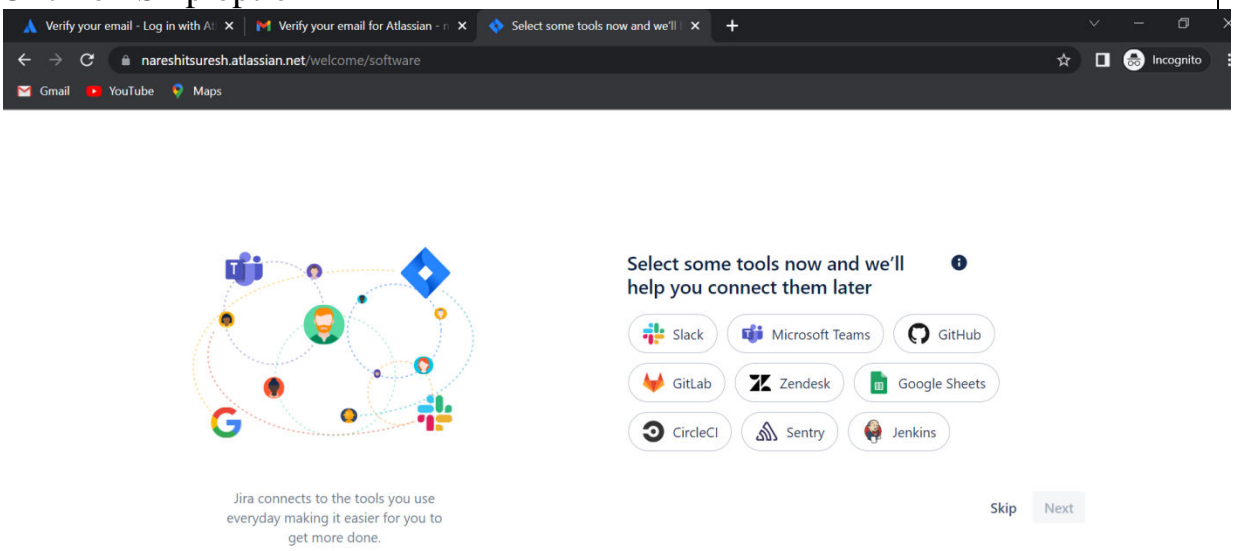
Click on Skip button



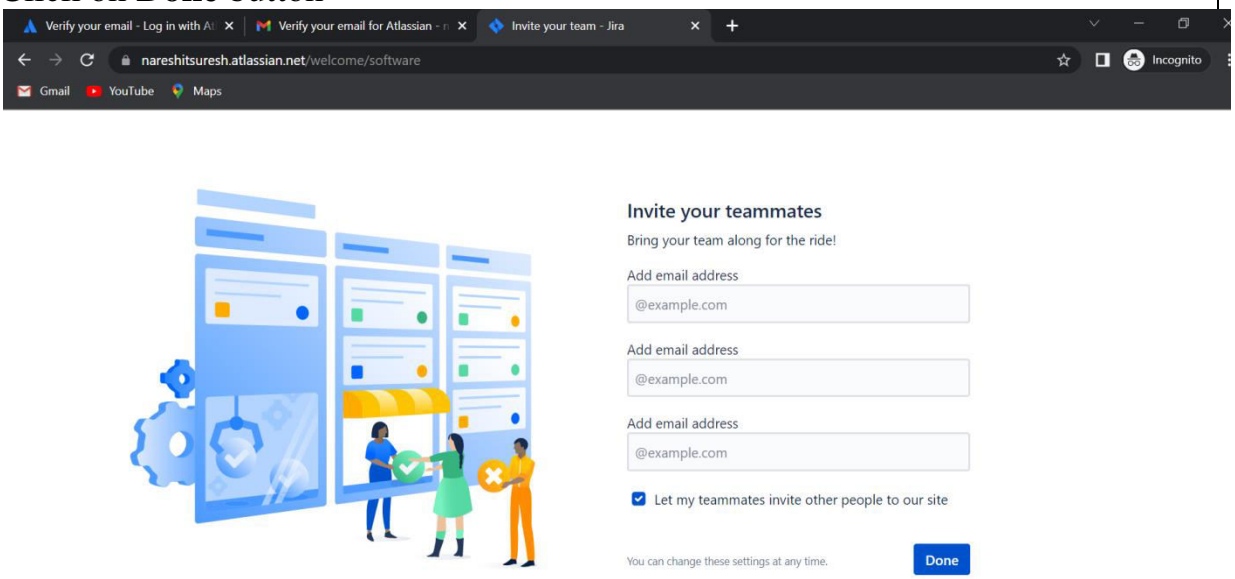
Provide project name and click on **Create project** button



Click on Skip option



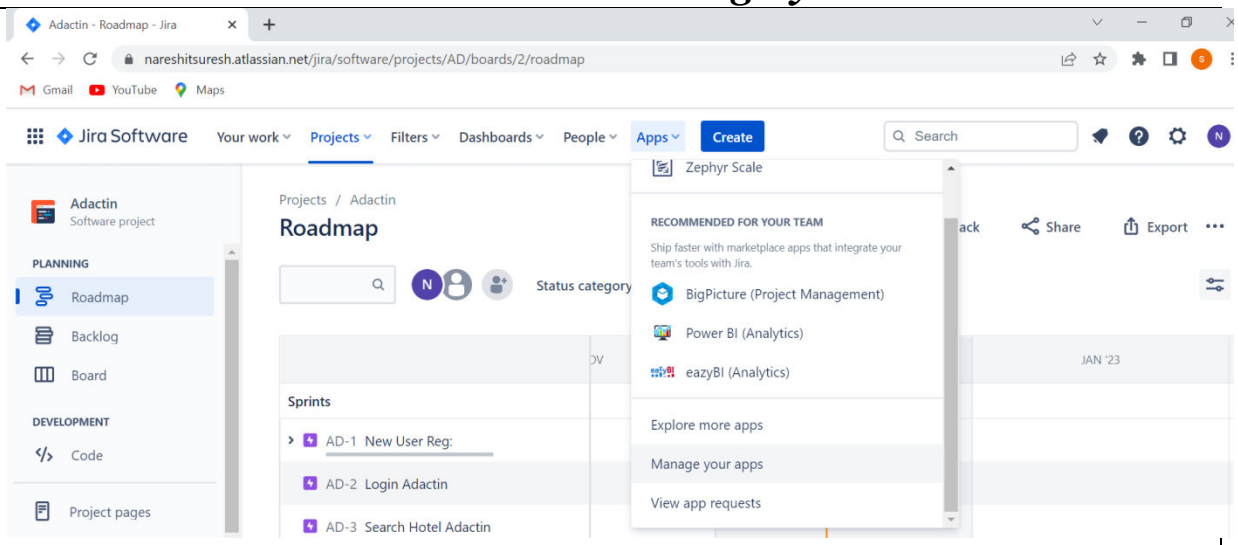
Click on **Done** button



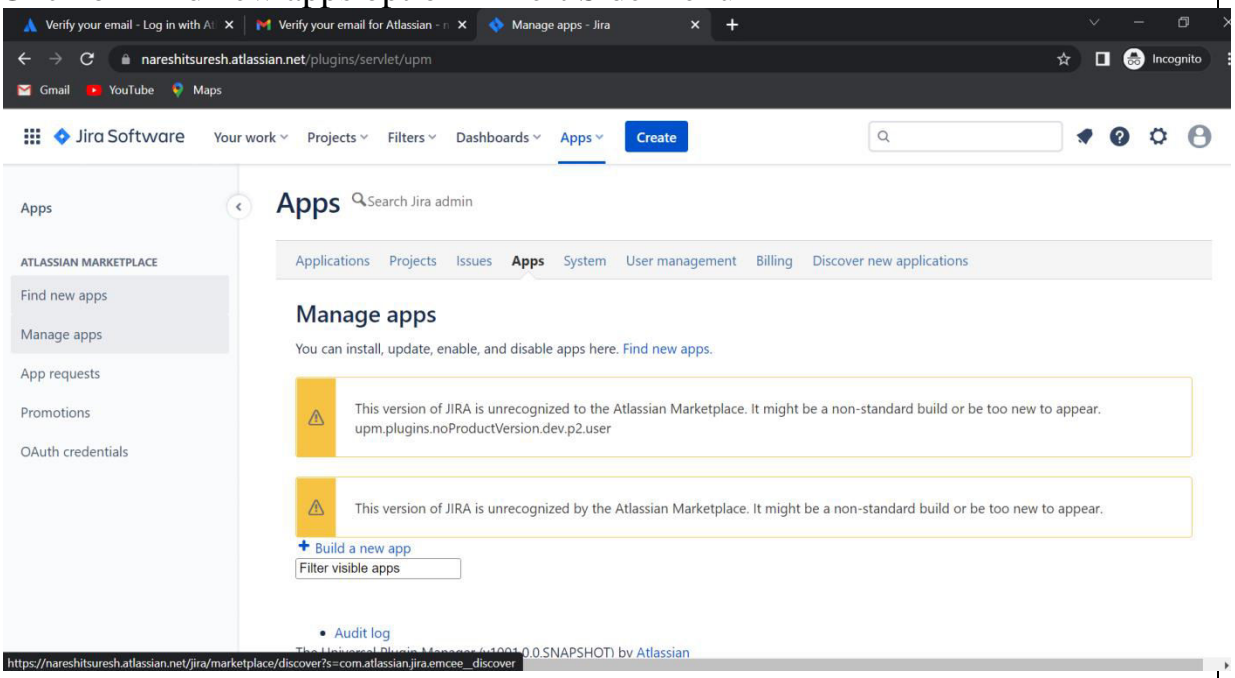
Now install Zephyr Scale Tool in JIRA to write and execute test cases.

Steps to install Zephyr Scale

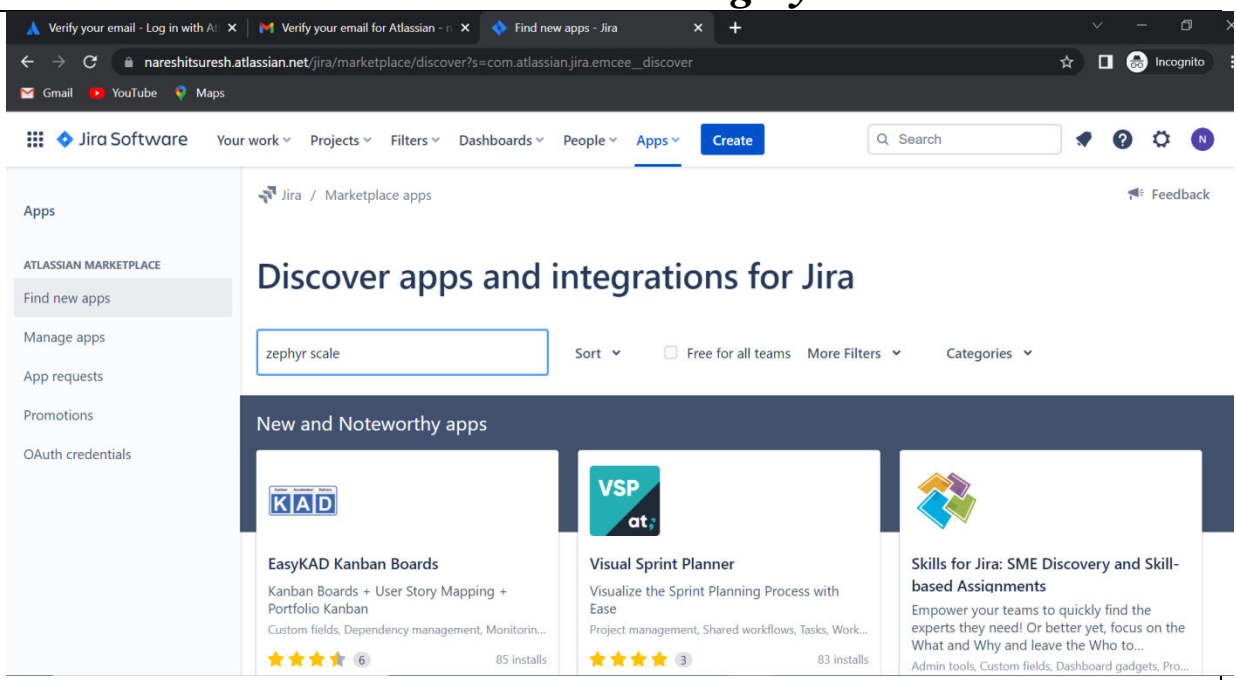
Navigate Apps main menu and click on Manage your Apps option



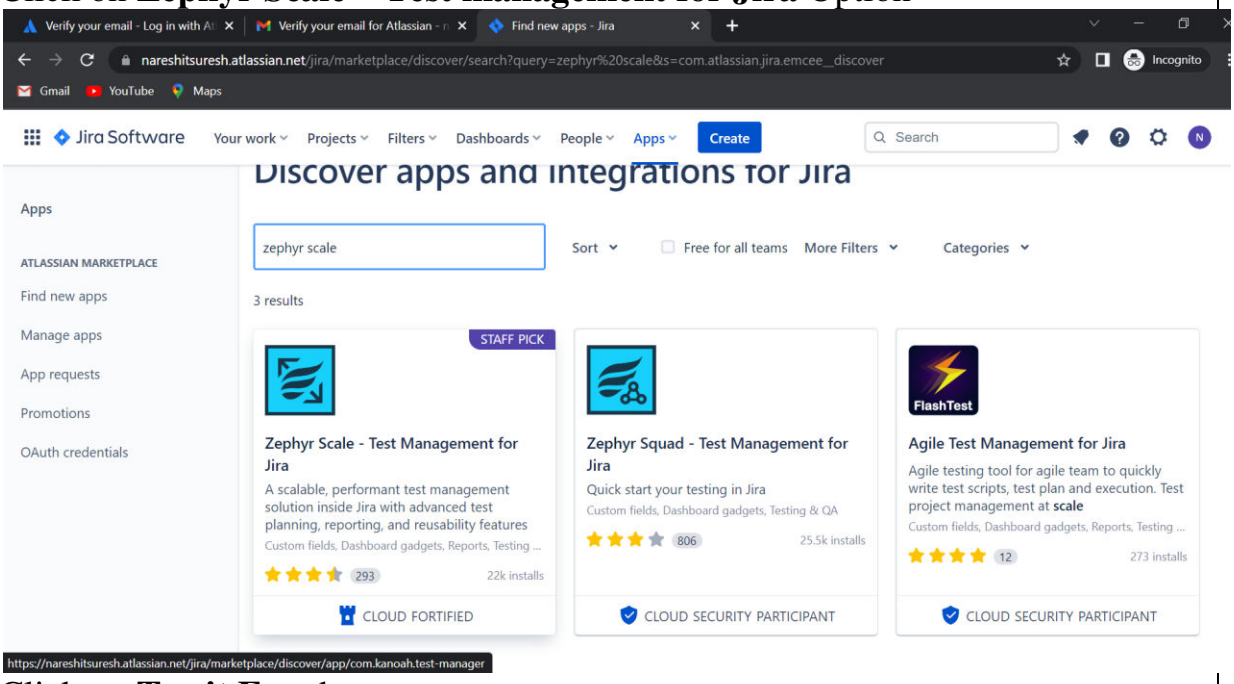
Click on Find new apps option in Left Side menu



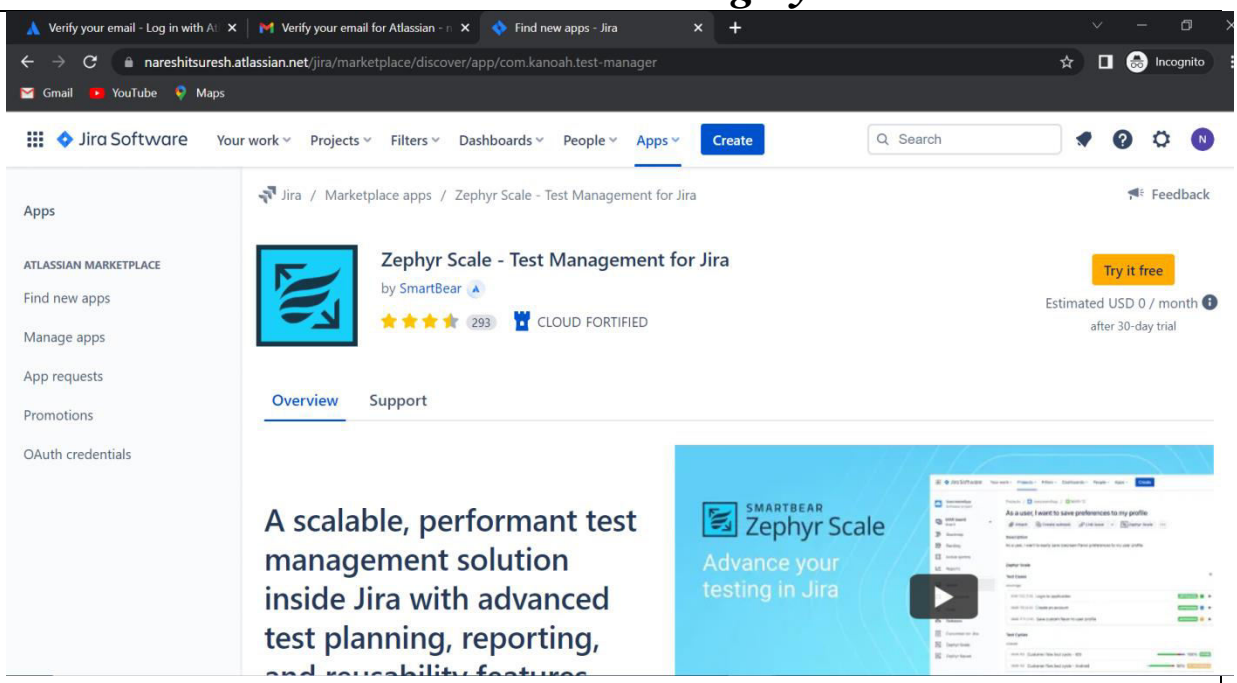
Enter Zephyr scale in textbox and click on **ENTER** button from keyboard



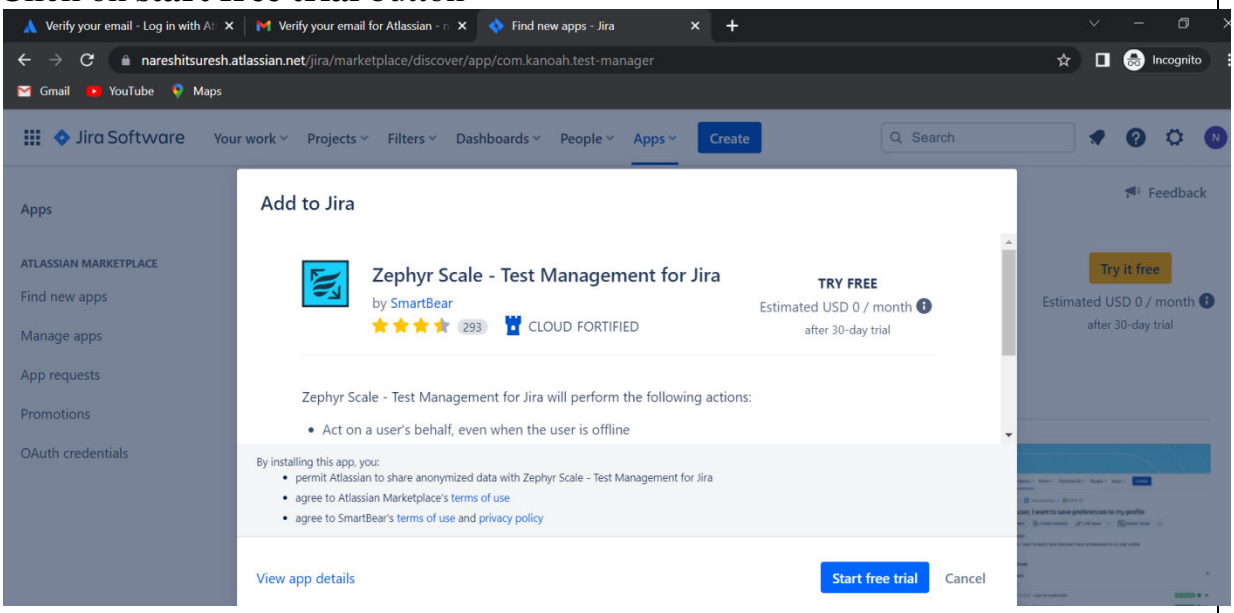
Click on **Zephyr Scale – Test management for Jira** Option



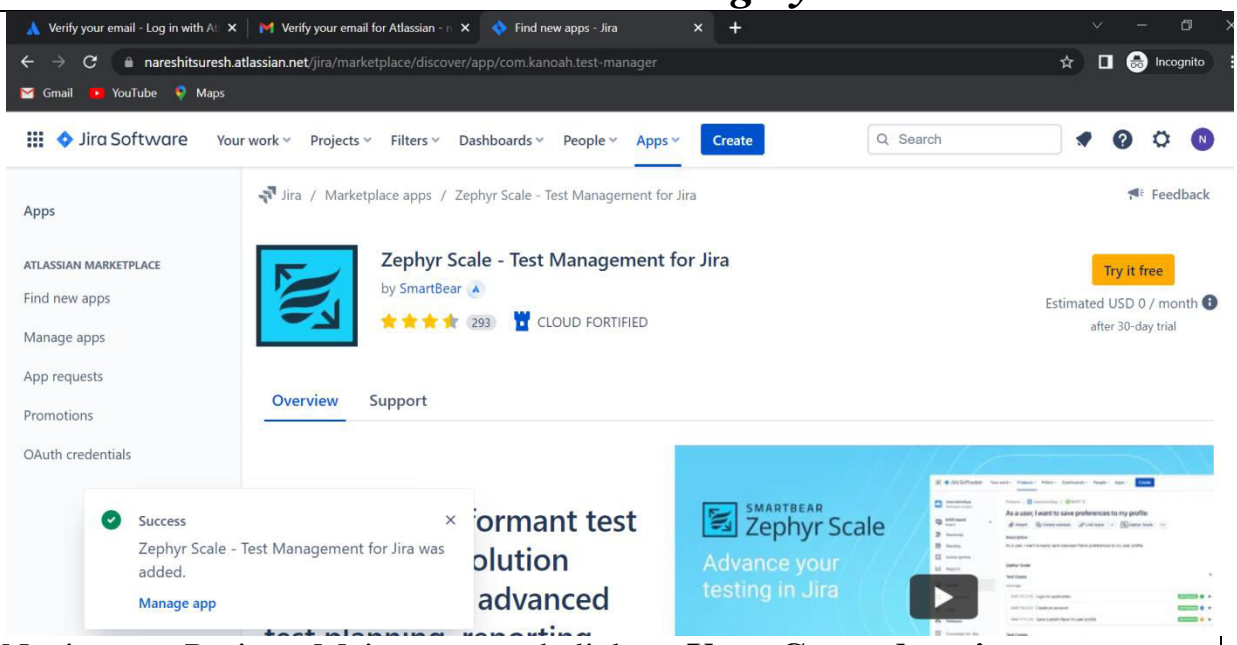
Click on **Try it Free** button



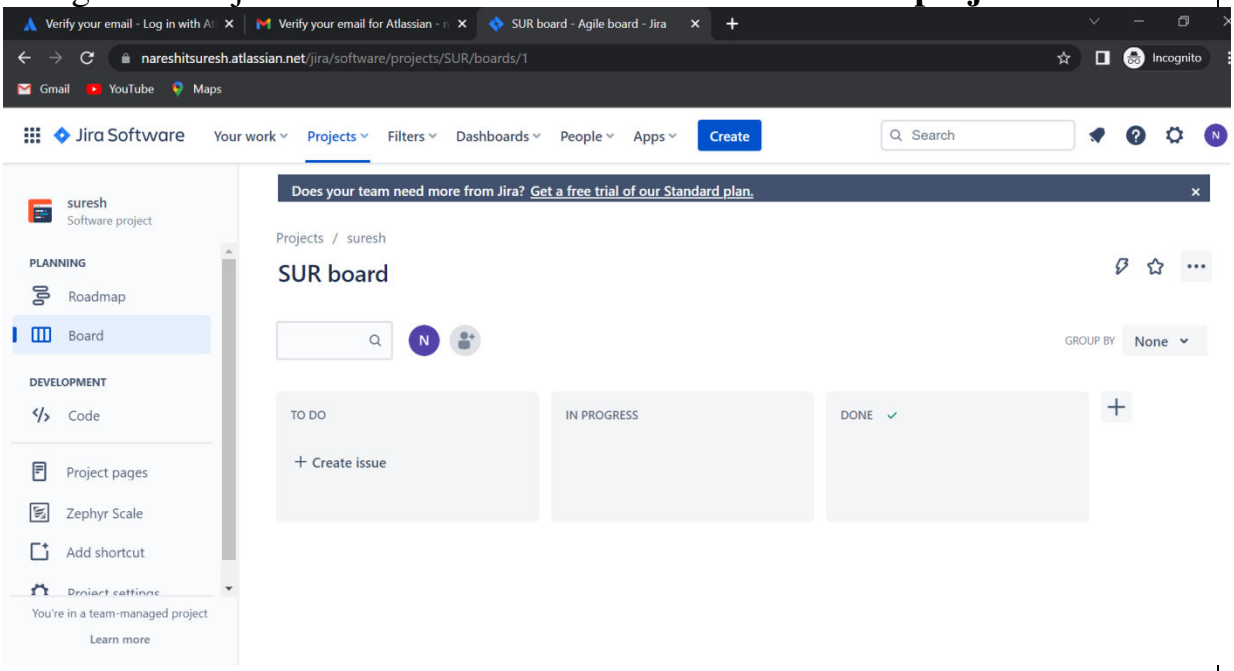
Click on **start free trial** button



After completion of Zephyr scale installation you will see message - **Success & Zephyr Scale was added**

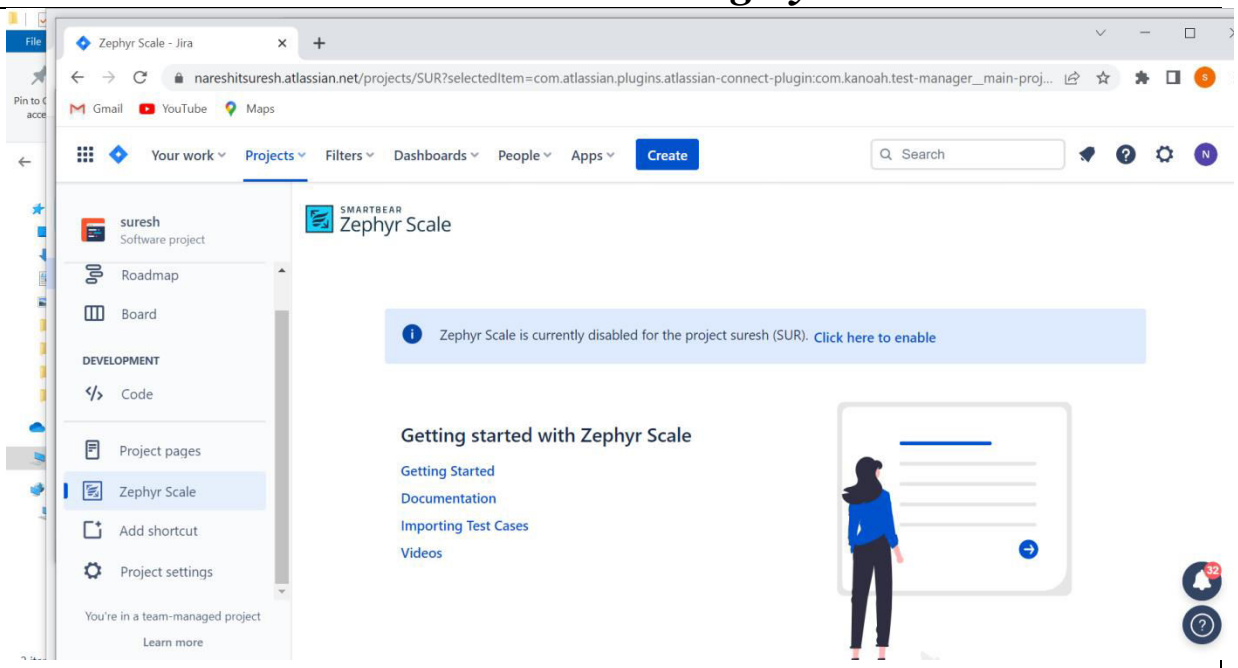


Navigate to Projects Main menu and click on **Your Created project**

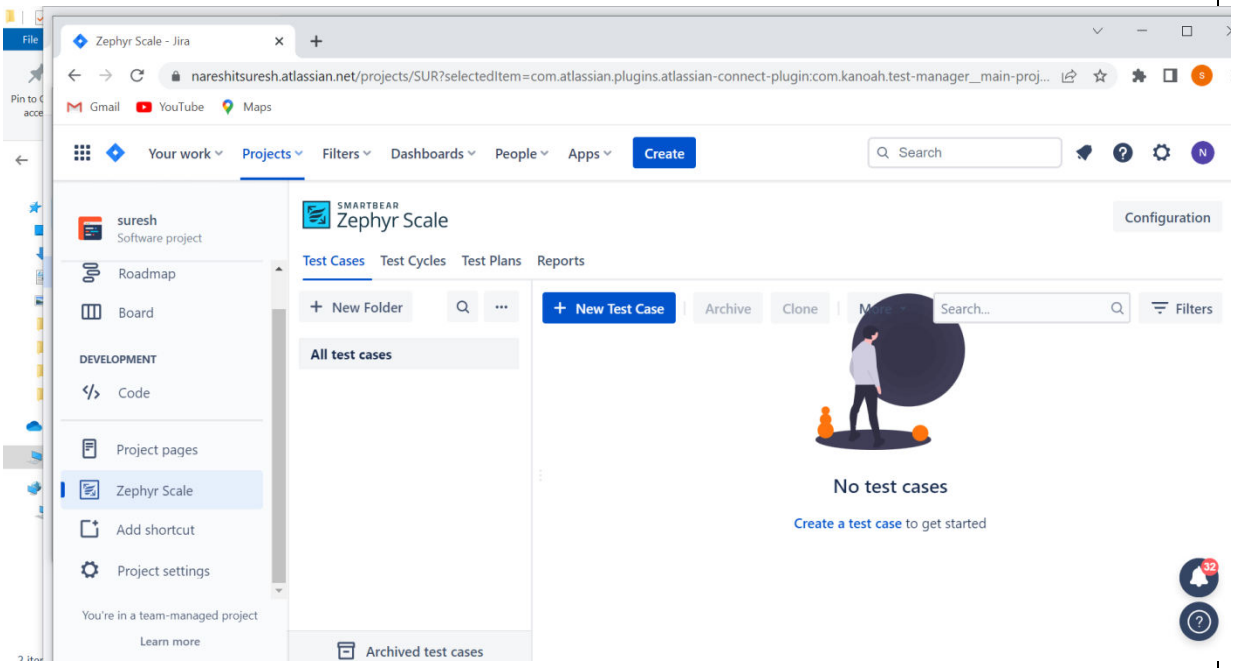


Click on Zephyr Scale option in left Side panel , after that click on **Click here to enable** option

Note : based on your internet speed this page will take some time to Load , if not loading click on Browser refresh button



Now you need enable all the option to continue in writing Test Cases & Doing execution



**********By this Jira Setup is completed**********

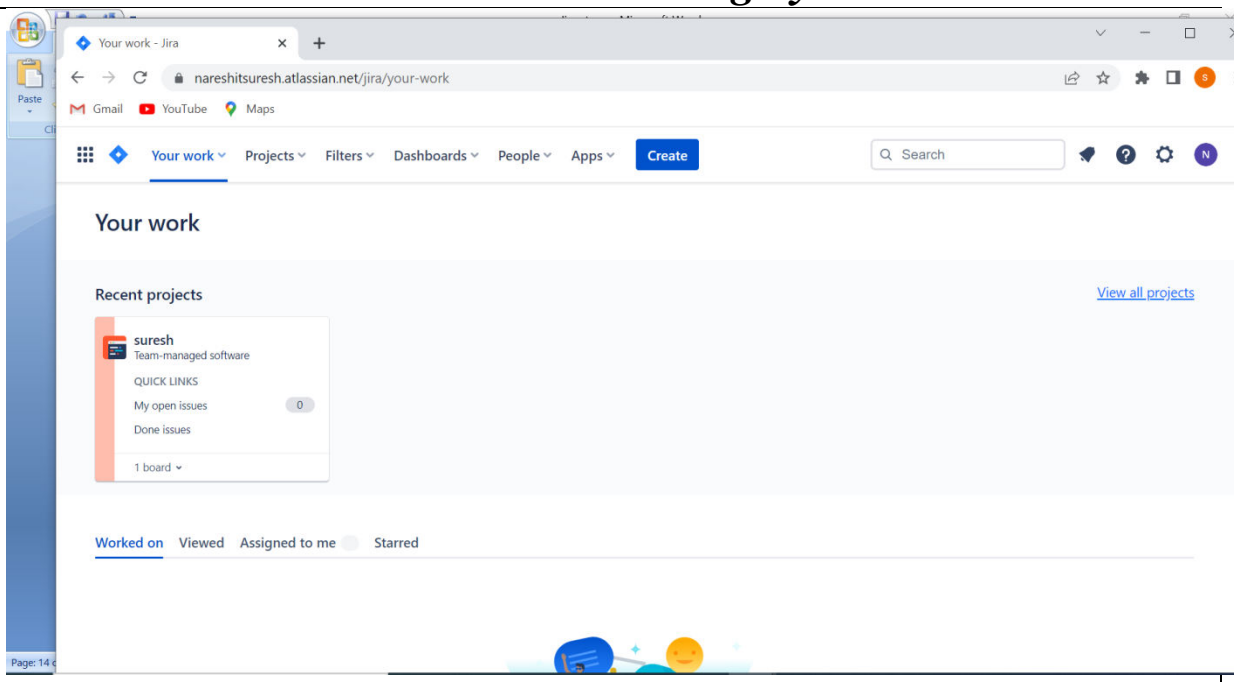
Agile Process in JIRA Tool

Open new Browser and enter your Jira website/domain url which you provided in previous steps

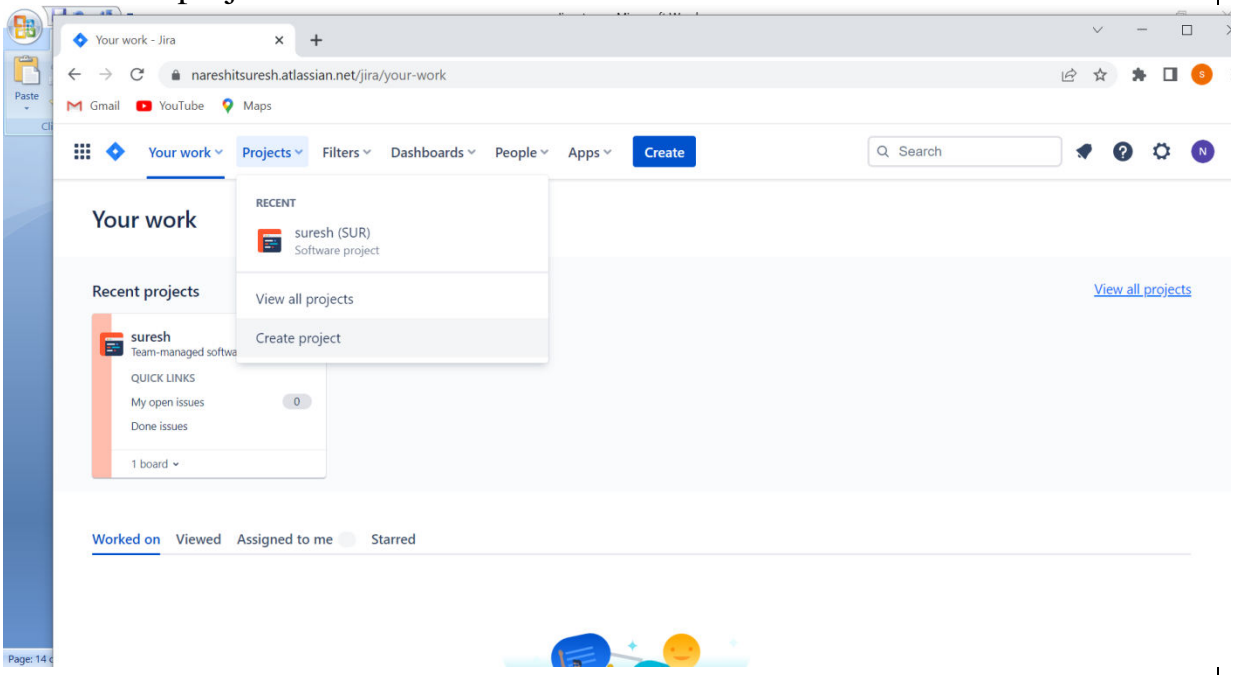
As example my Jira url as follows

https://nareshitsuresh.atlassian.net/

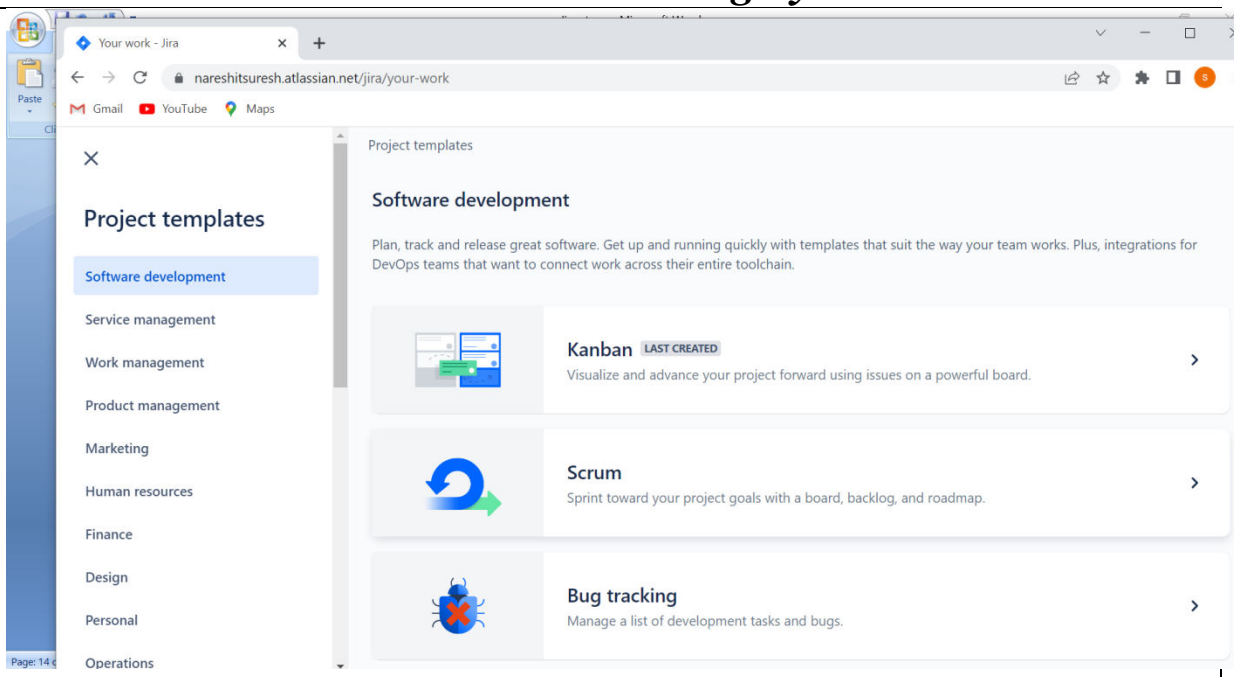
Now enter your gmail id & password which is Registered with JIRA



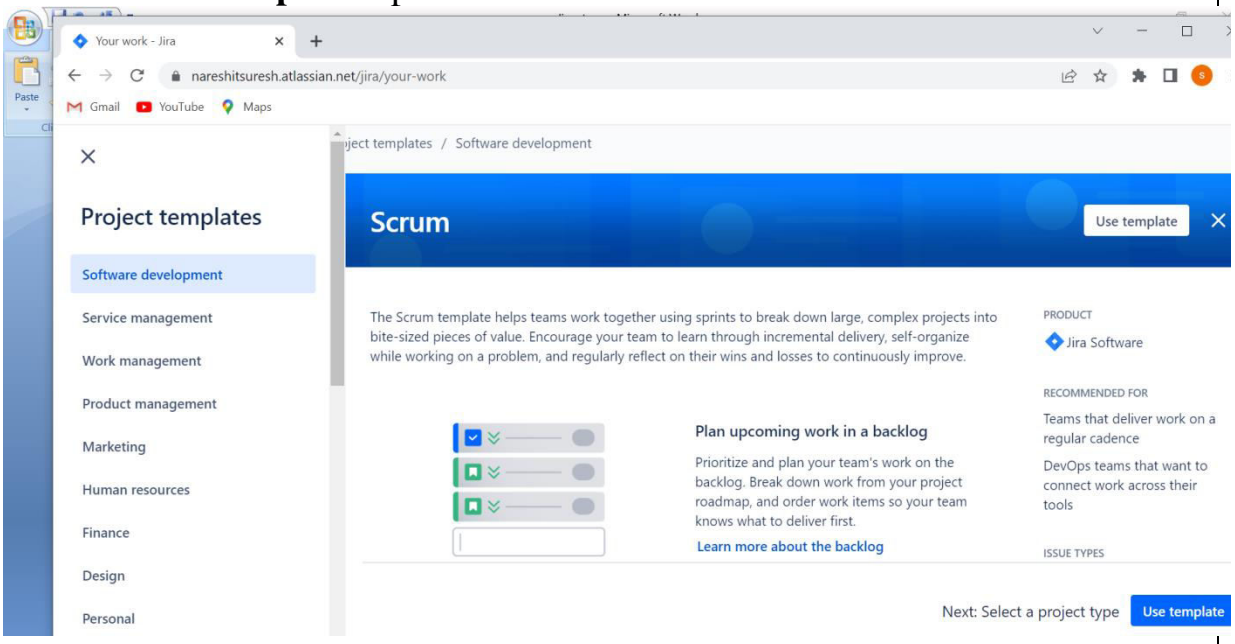
Create new project



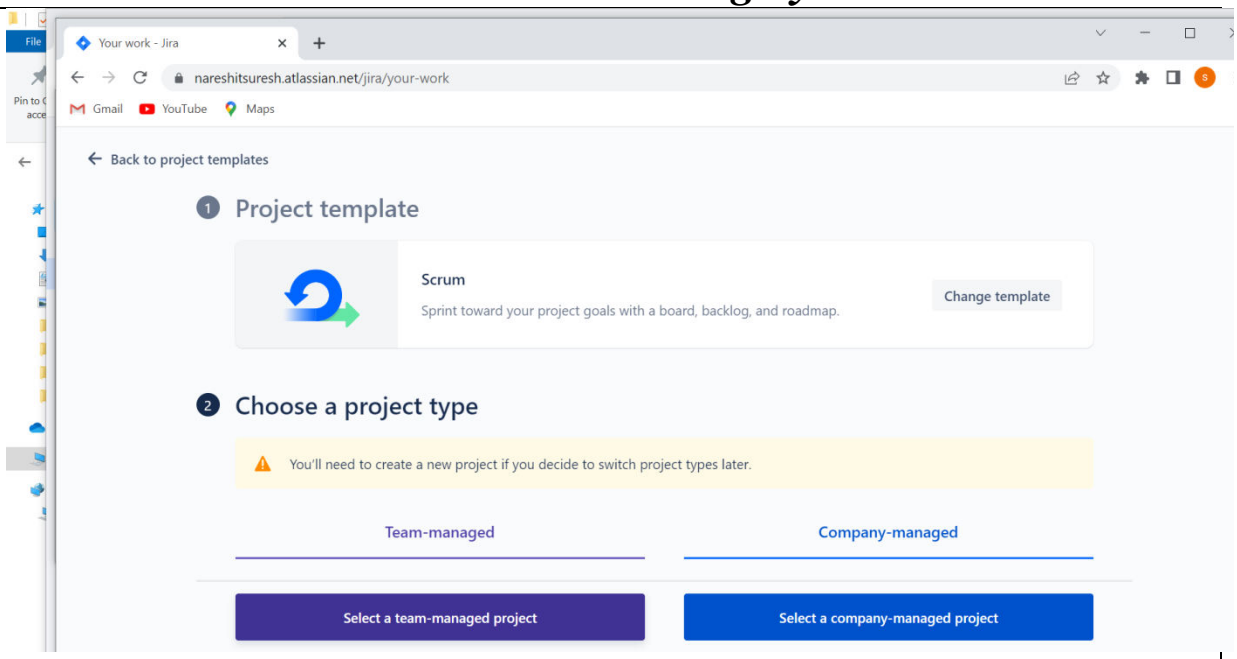
Click on **Scrum** Option



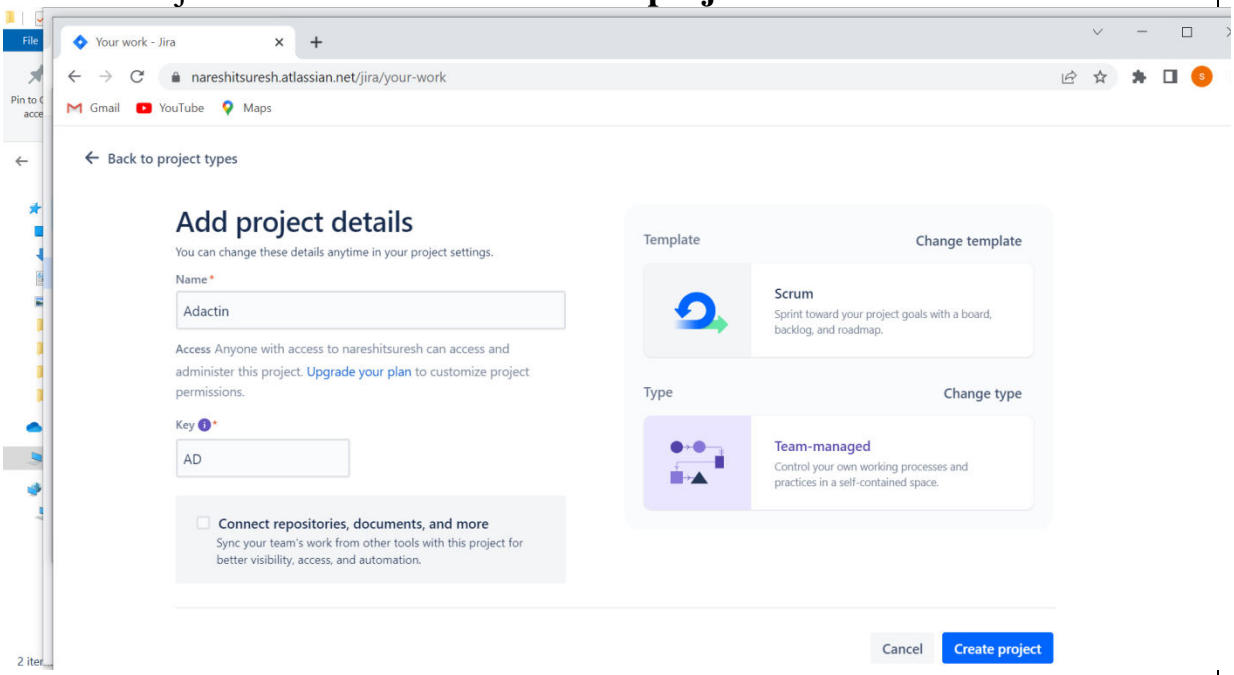
Click on **Use Template** Option



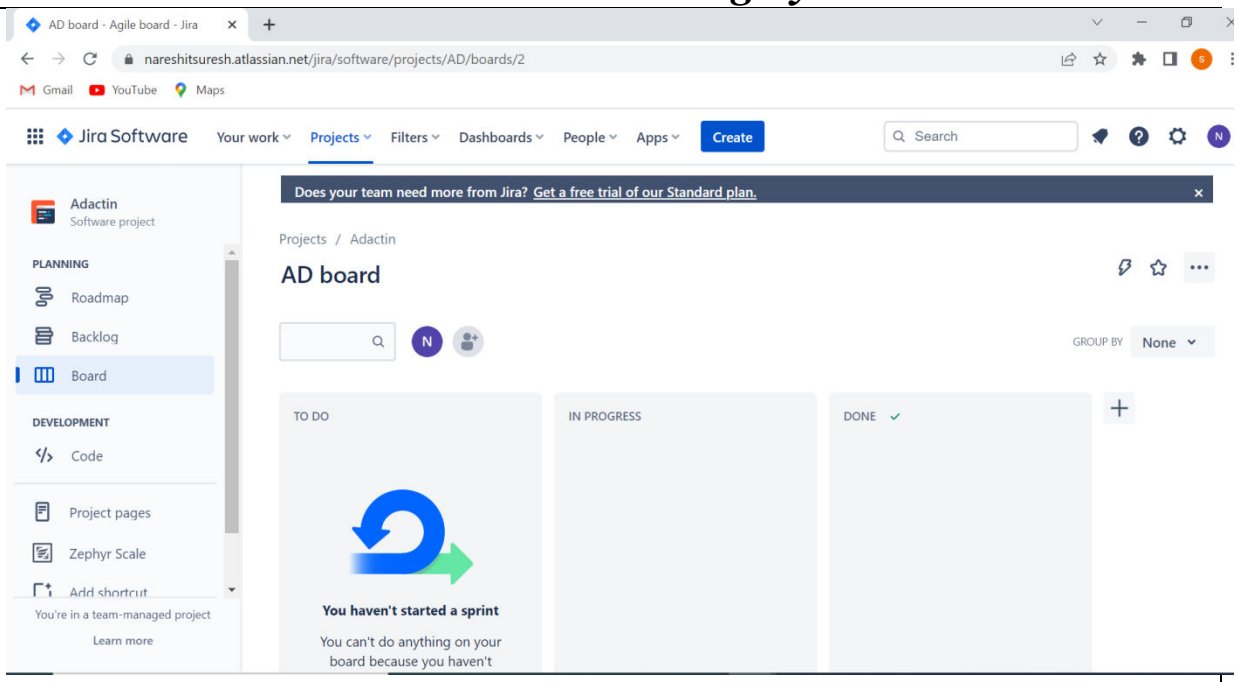
Click on Select **Team Managed** project



Provide Project Name and click on **Create project** button

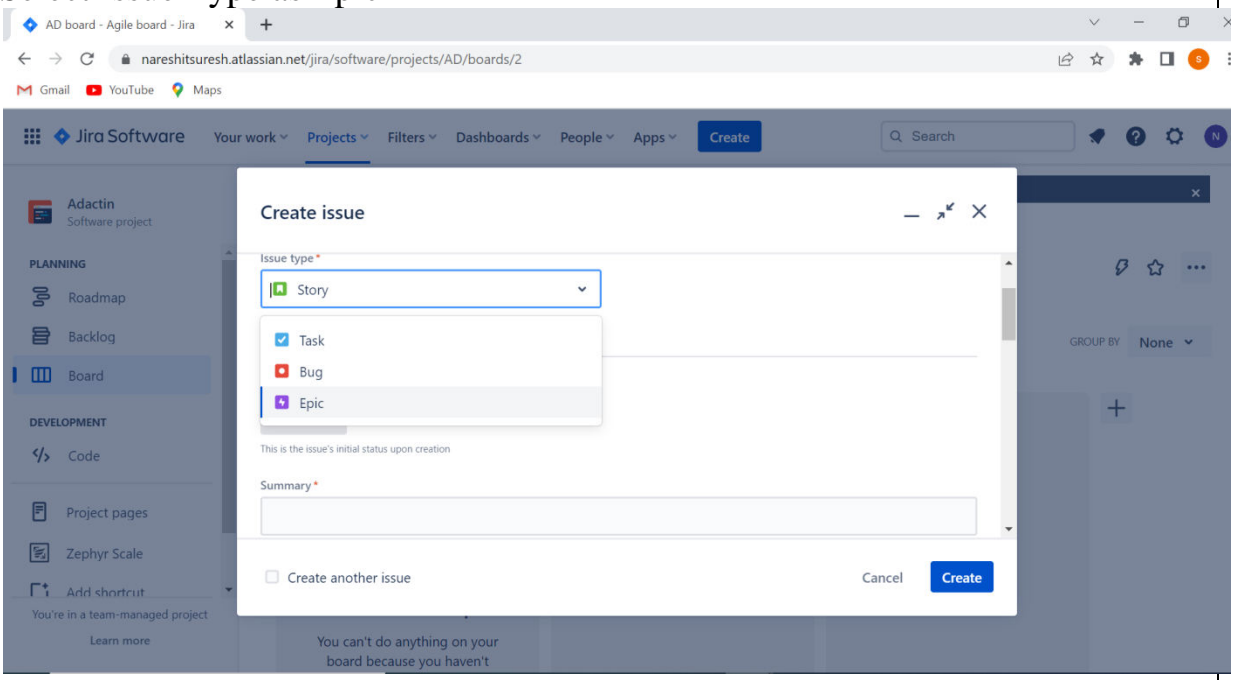


Project will be created

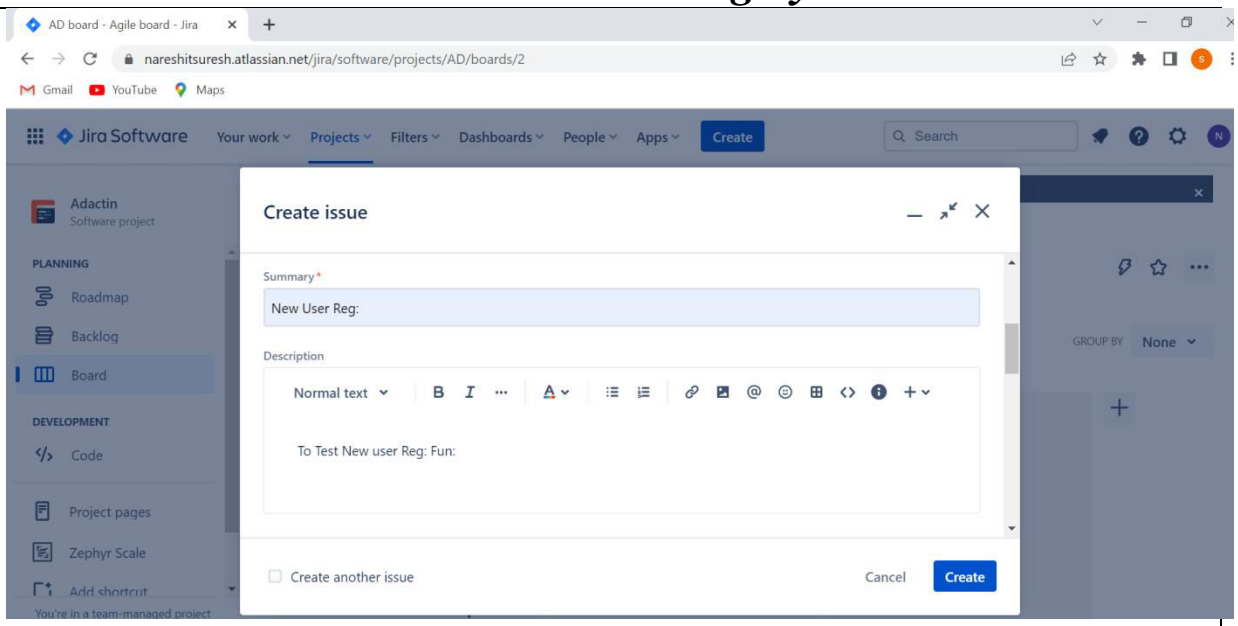


Click on Create button- To Create **New Epics** which is Equal to Modules in project

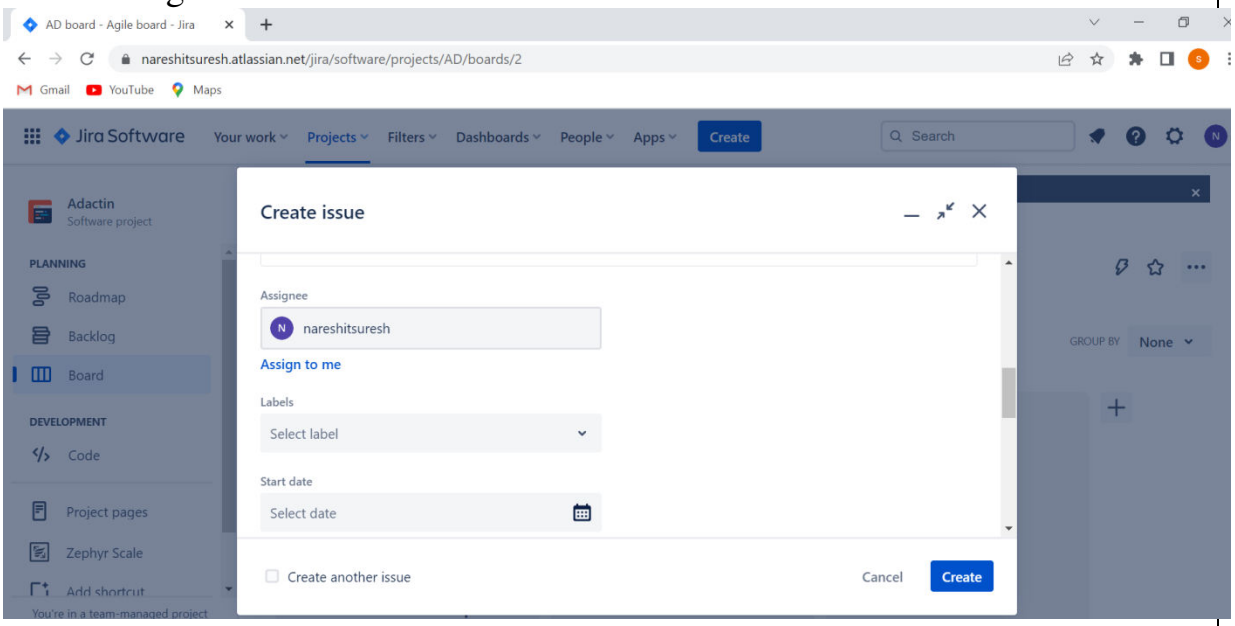
Select Issue Type as Epic



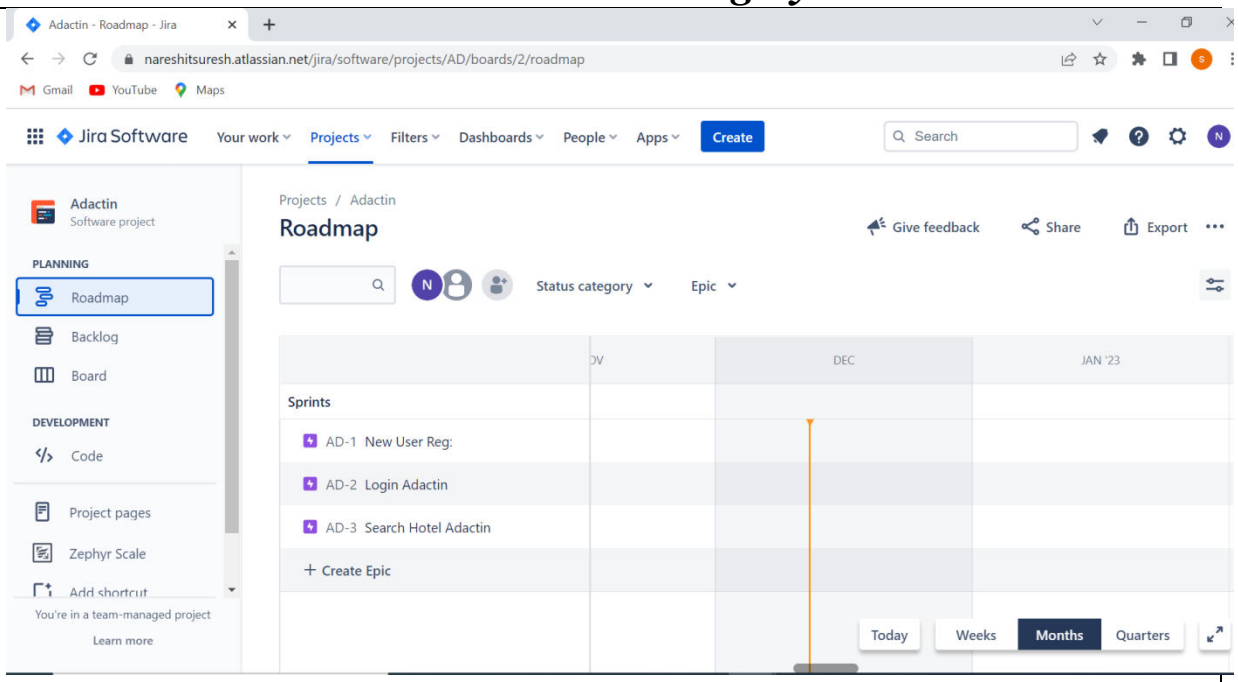
Provide Epic Summary & Description



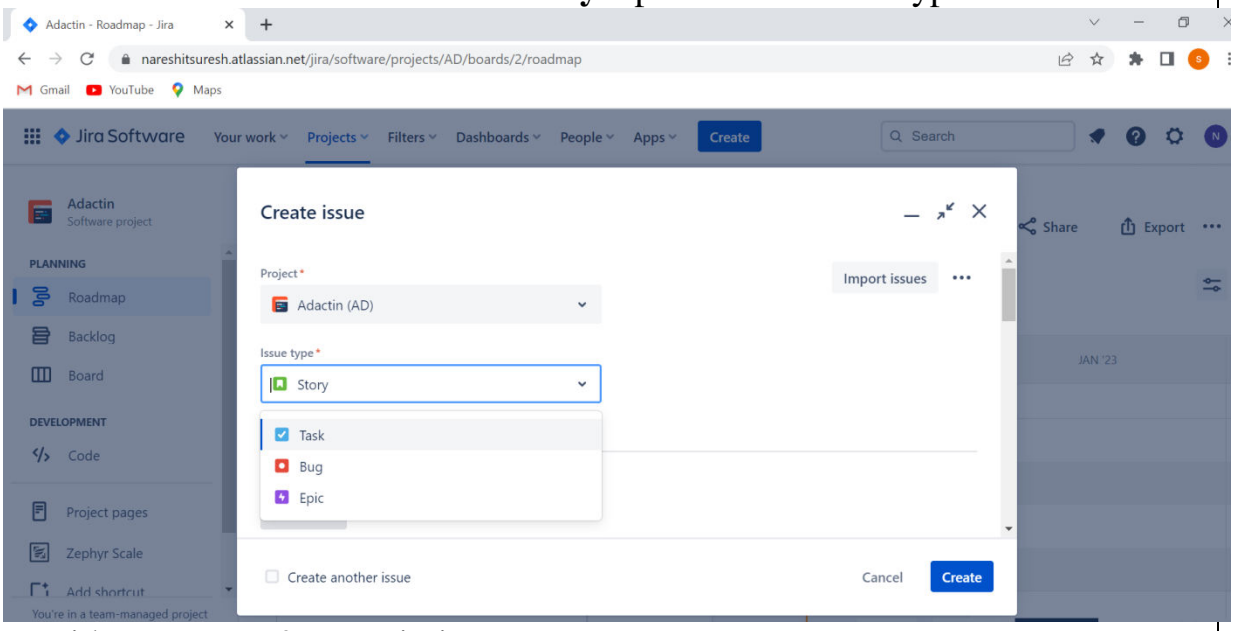
Select Assignee and Click on Create button .



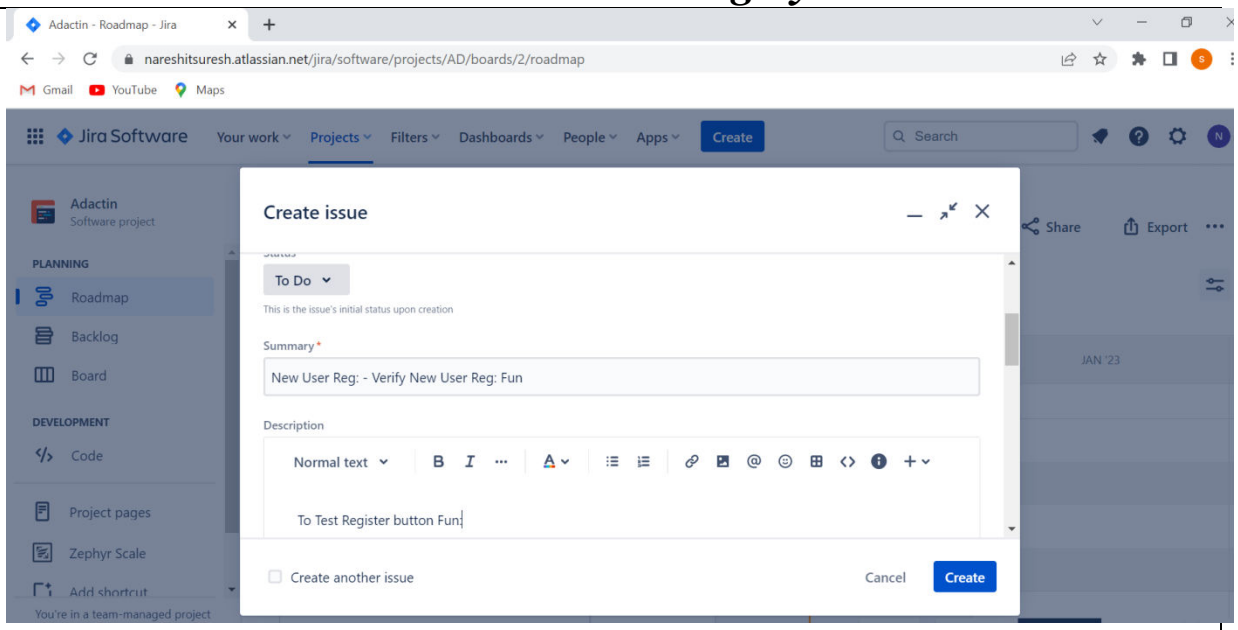
Note : Repeat Same steps to Create multiple **epics** based on the requirement
Now in Left side panel click on RoadMap option to see list of Epics created



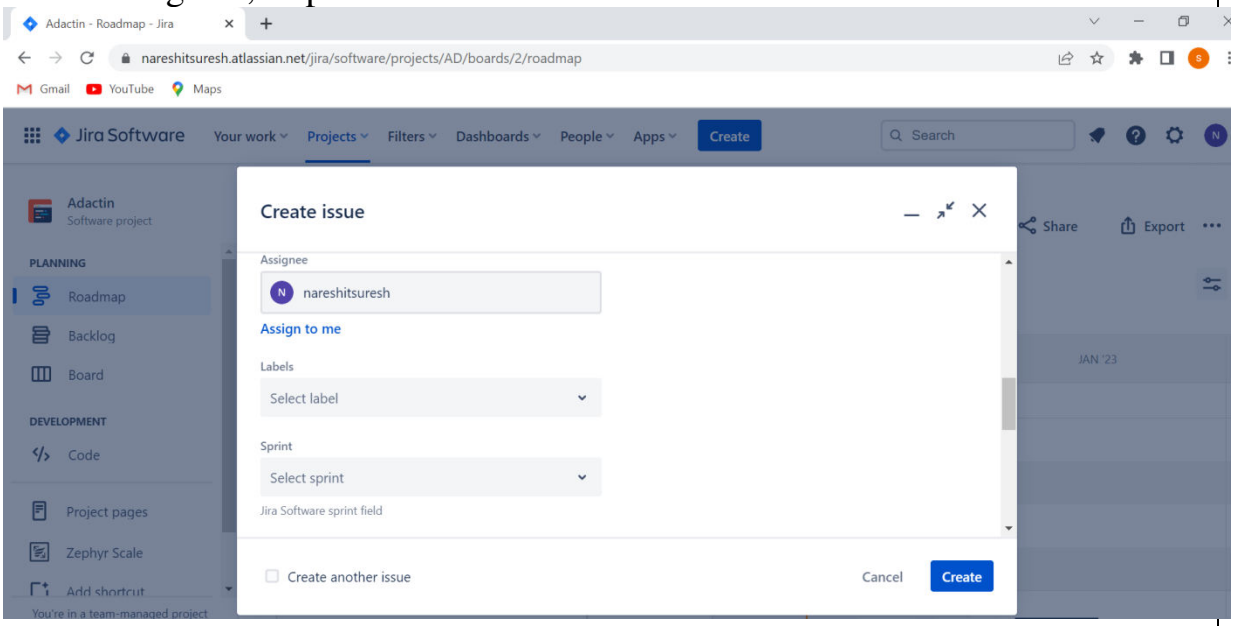
Now Create User Stories which is equal to Test Scenarios
Click on Create button and Select **Story** Option from Issue Type



Provide summary & Description



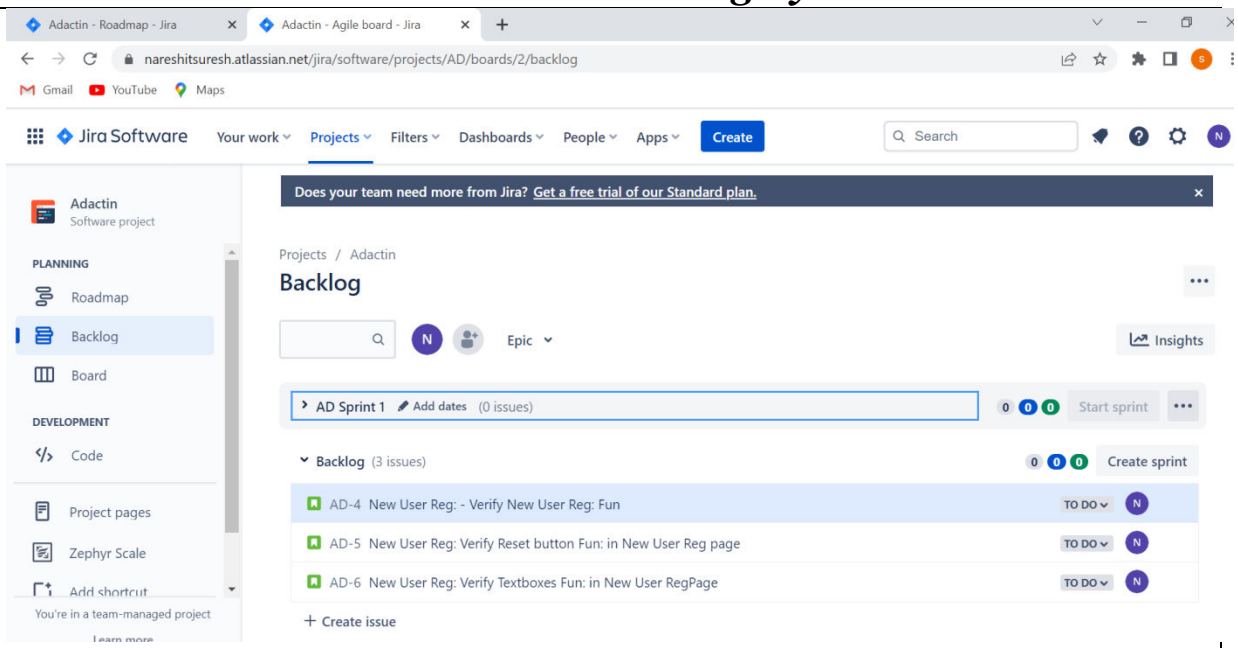
Select Assignee , Reporter and Click on Create button



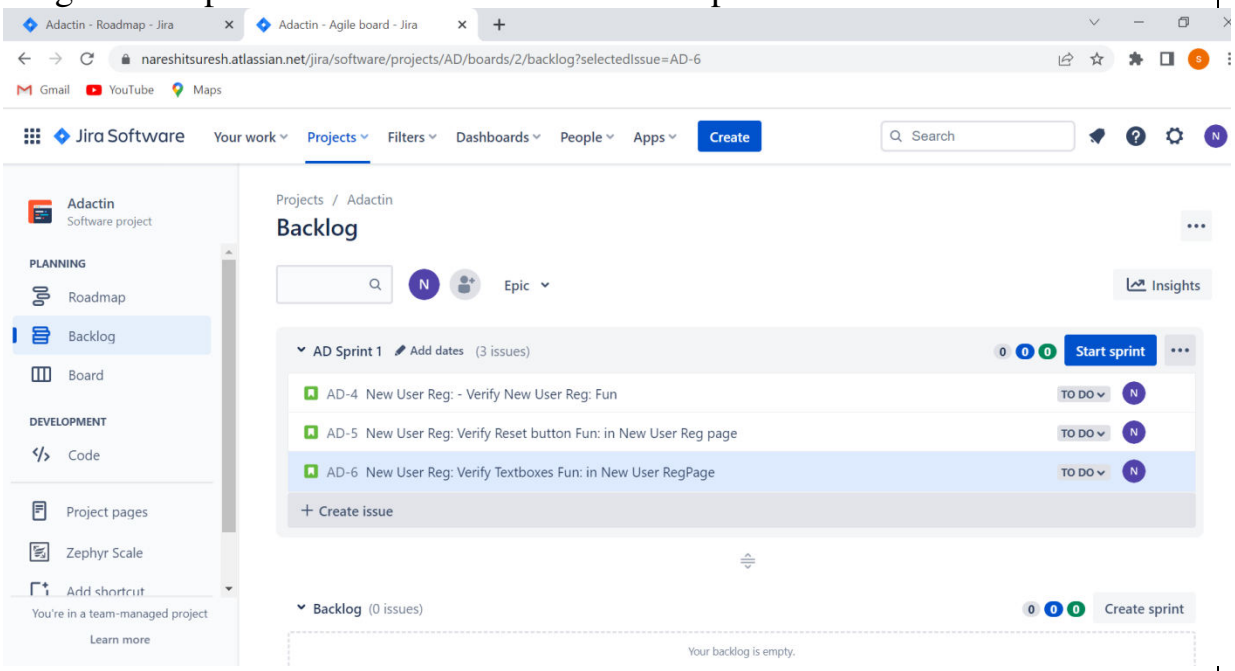
User Story will be created.

Note : Repeat same steps to create multiple user stories

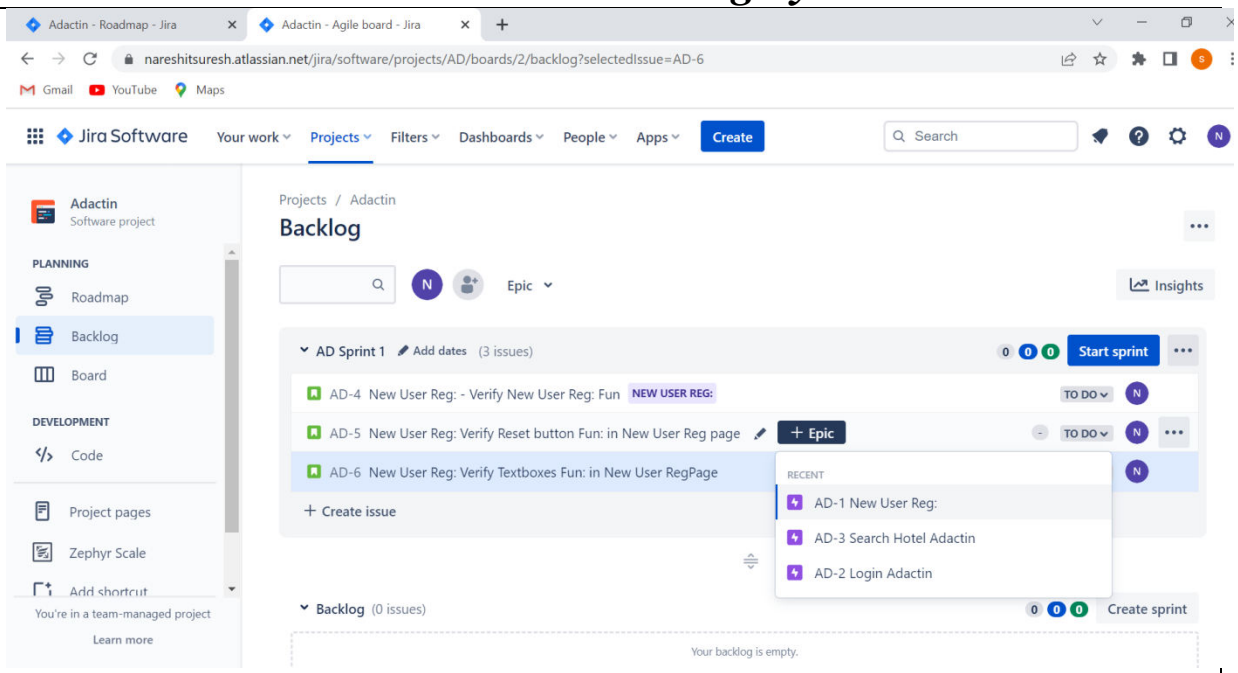
In Left side panel click on Backlog options To See created list user stories



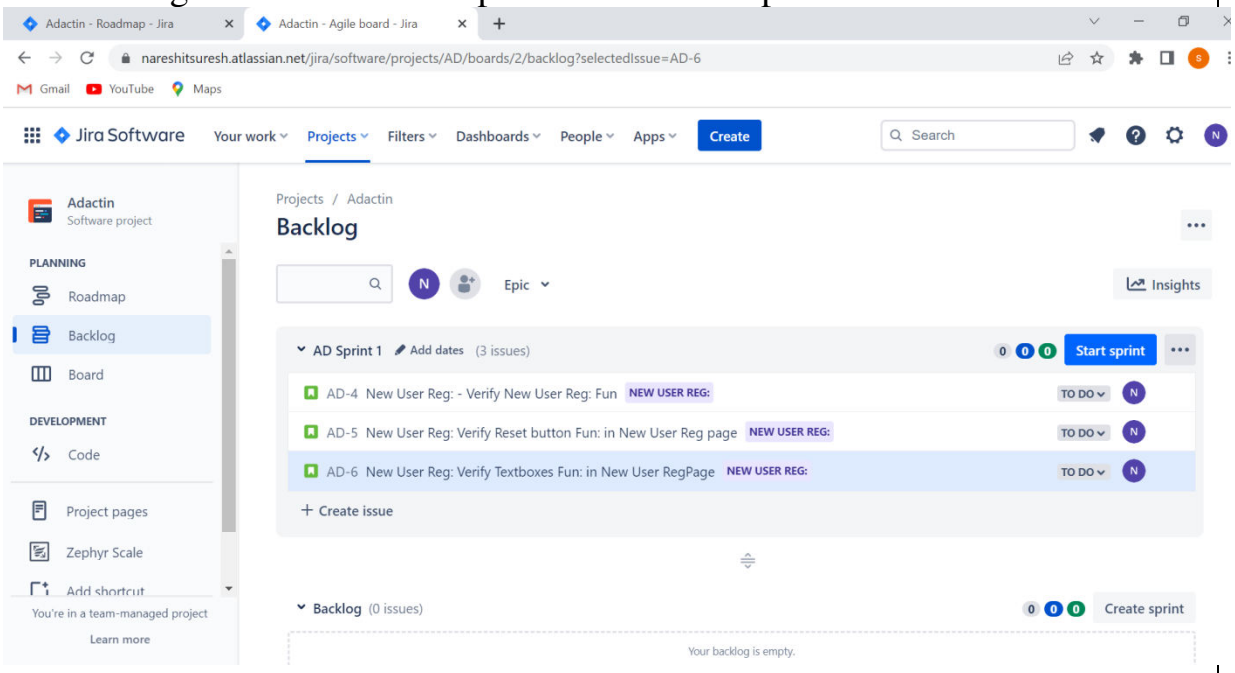
Drag and Drop All the Created user storied to Sprint1



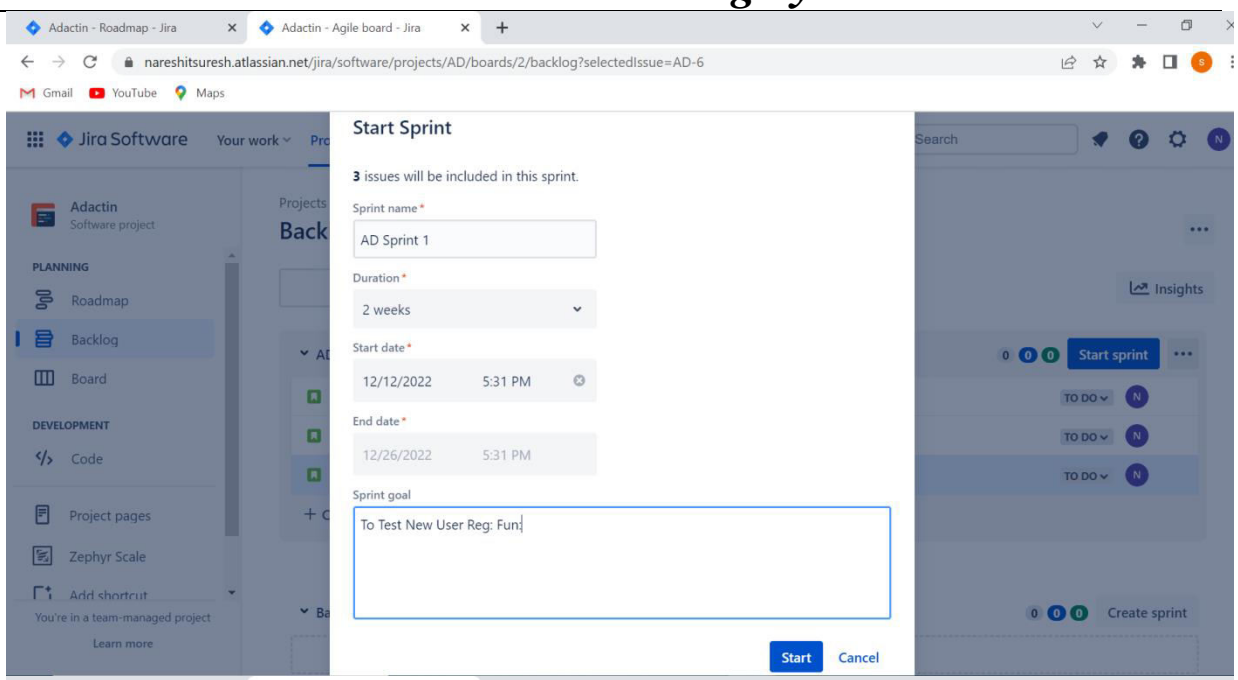
Now Add all the user Storied to required Epic

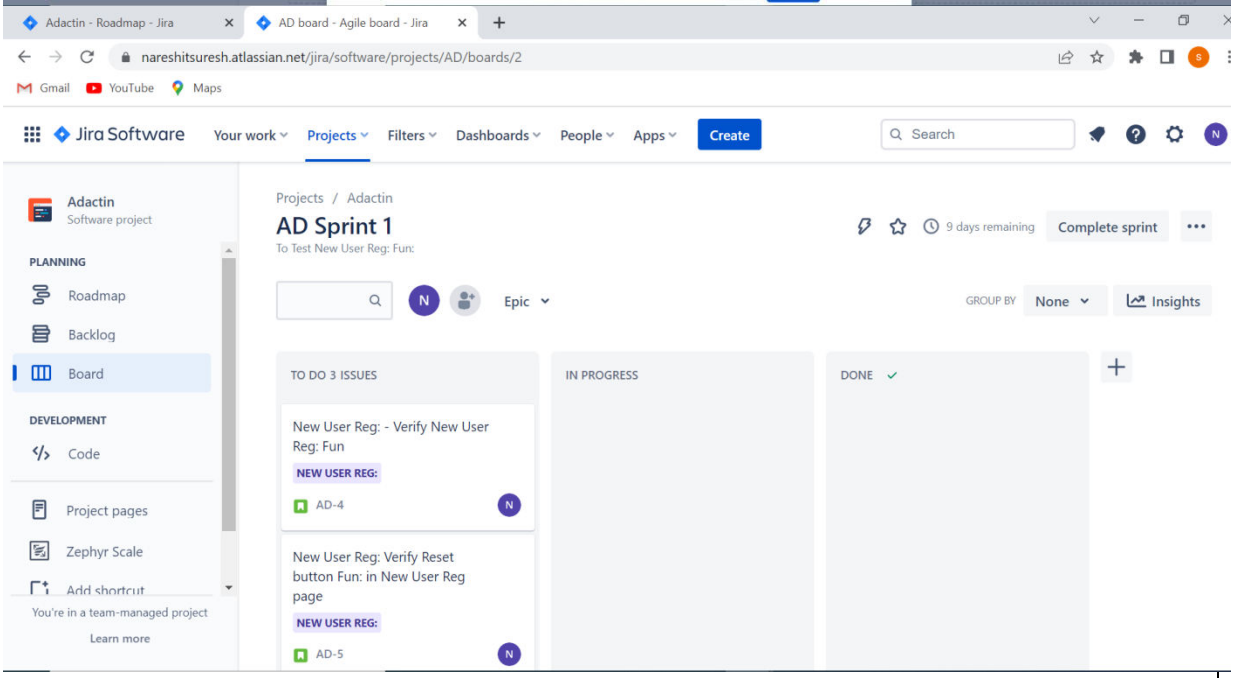


After adding all user stories to epic click on Start Sprint button



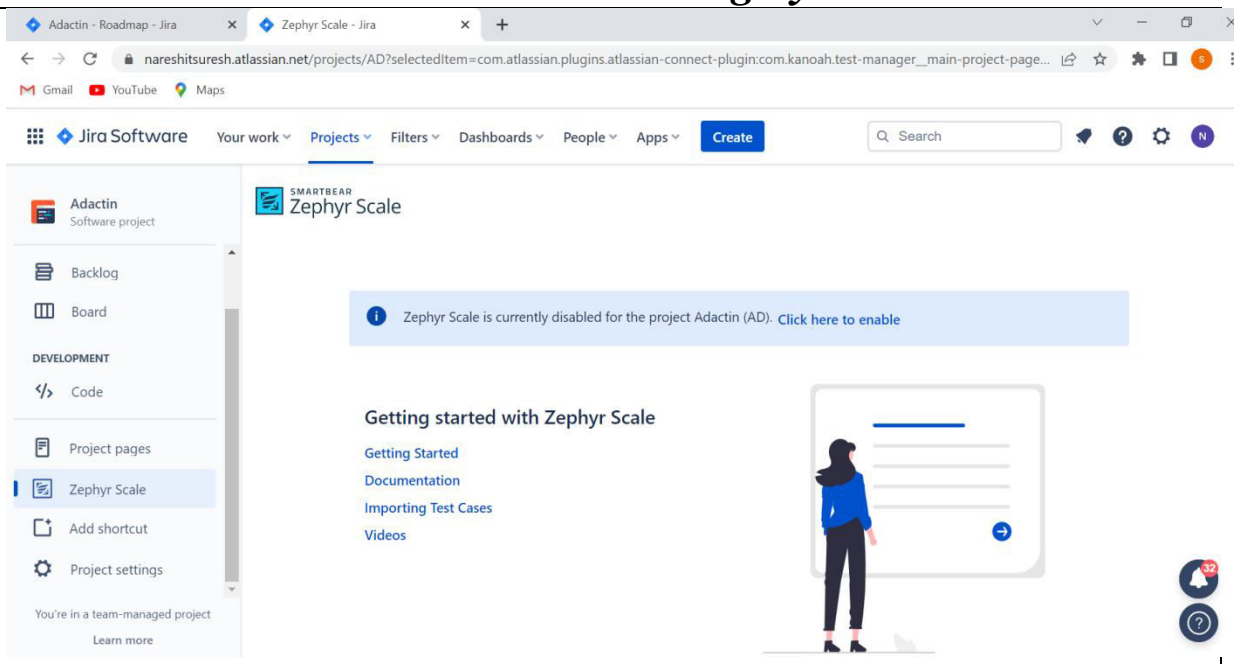
Select Sprint Duration and click on Start button



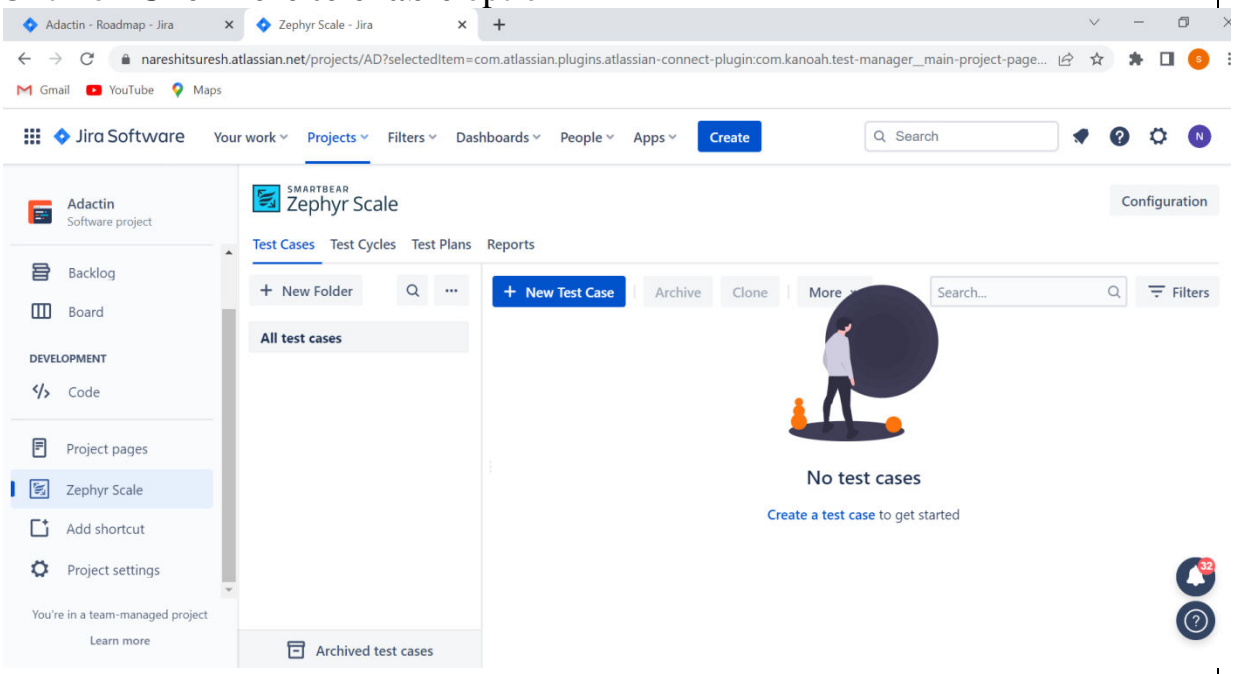


Steps to Create Test Cases :

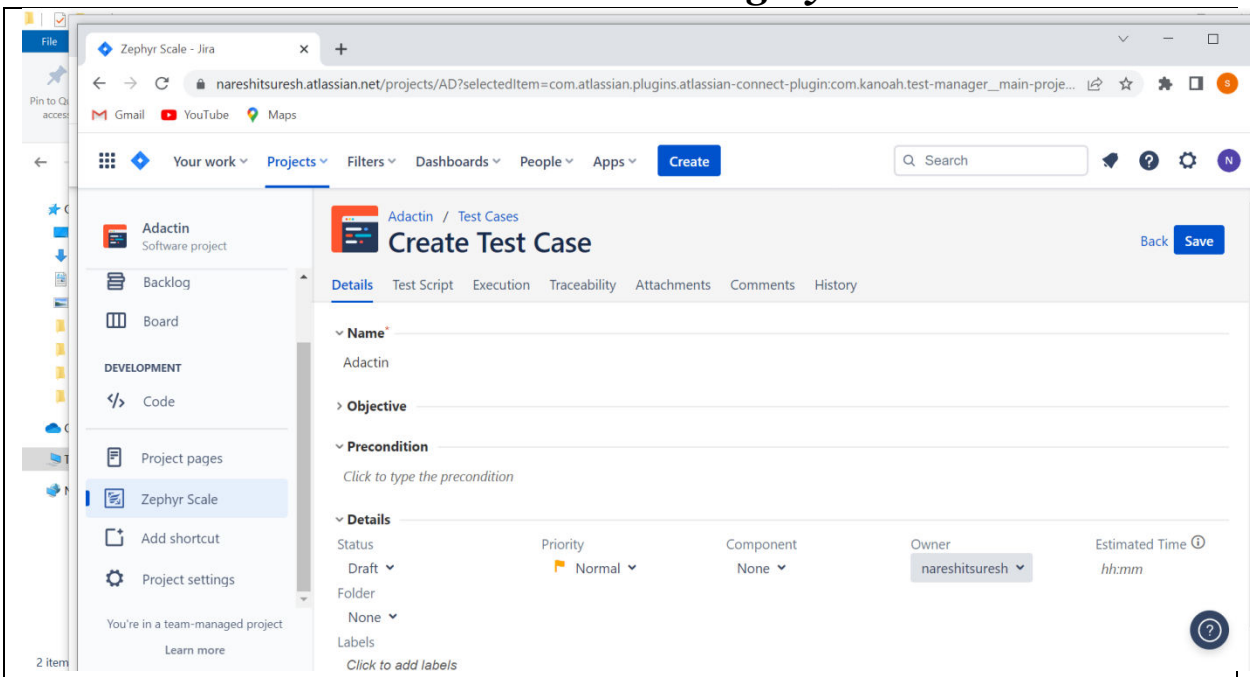
Click on Zephyr Scale option in Left side panel



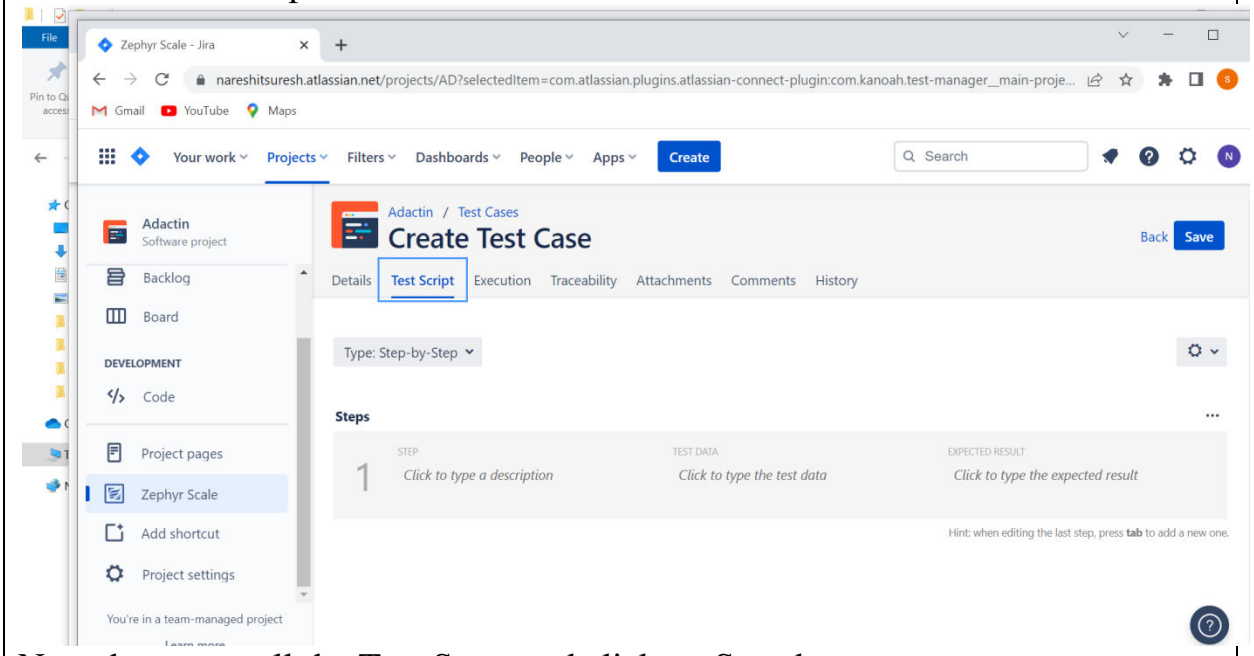
Click on **Click here to enable** option



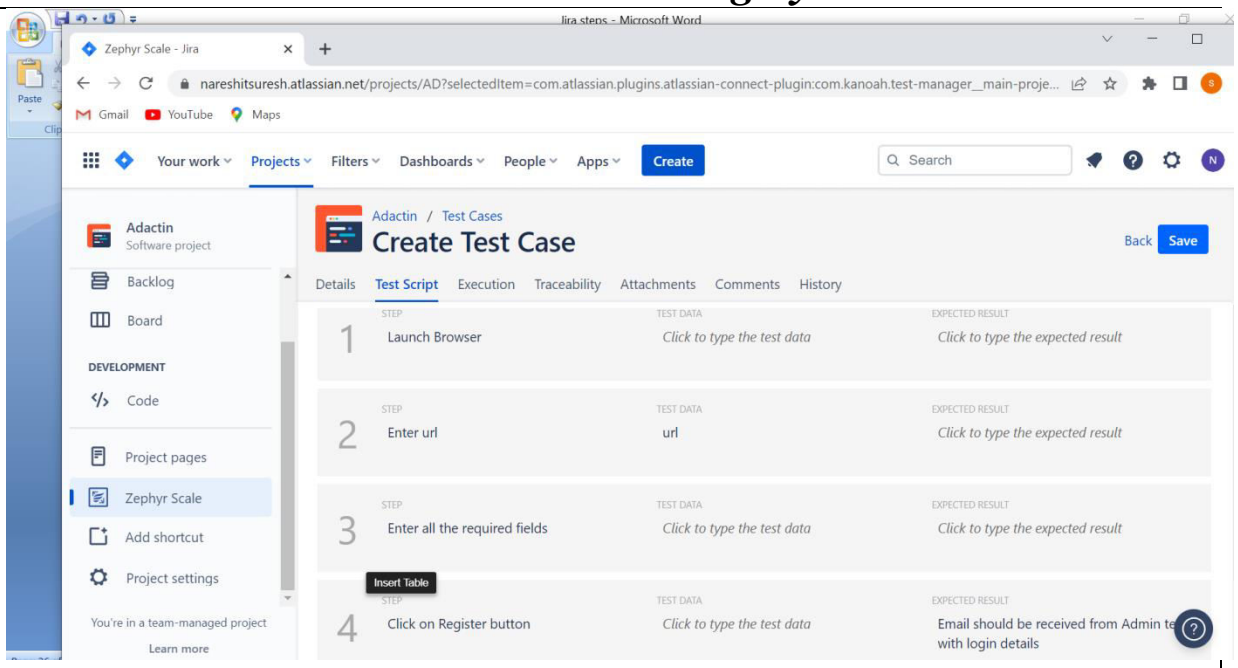
Click on New Test Case button & provide Name , Owner details



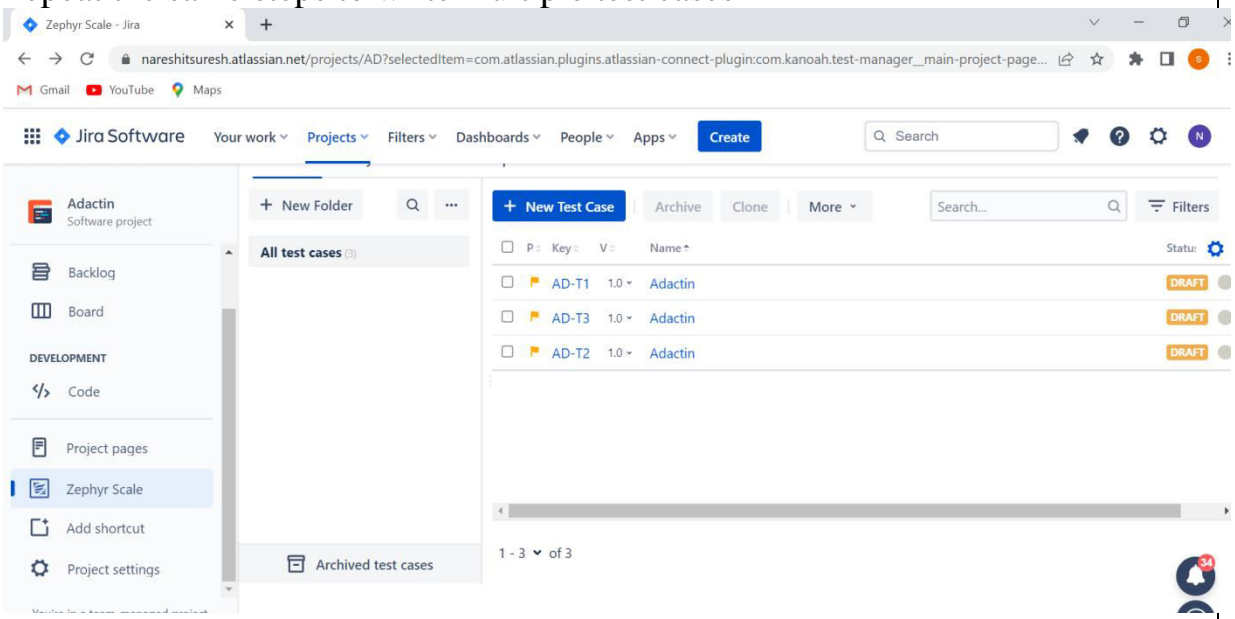
Click on Test Script Tab



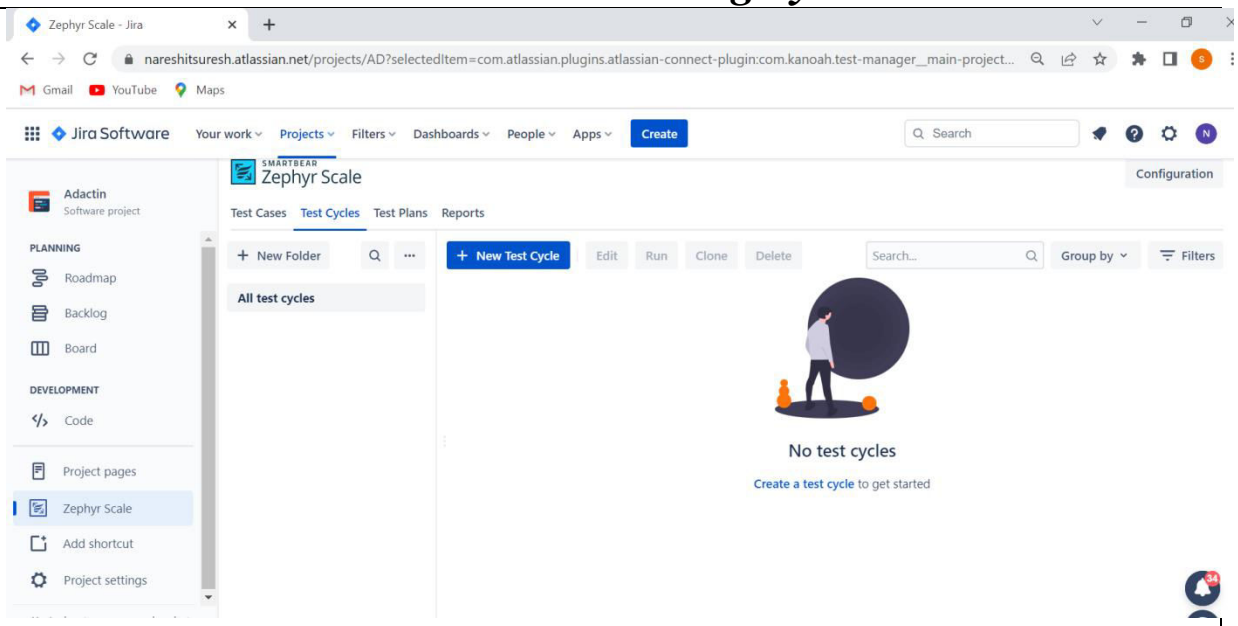
Now document all the Test Steps and click on Save button.



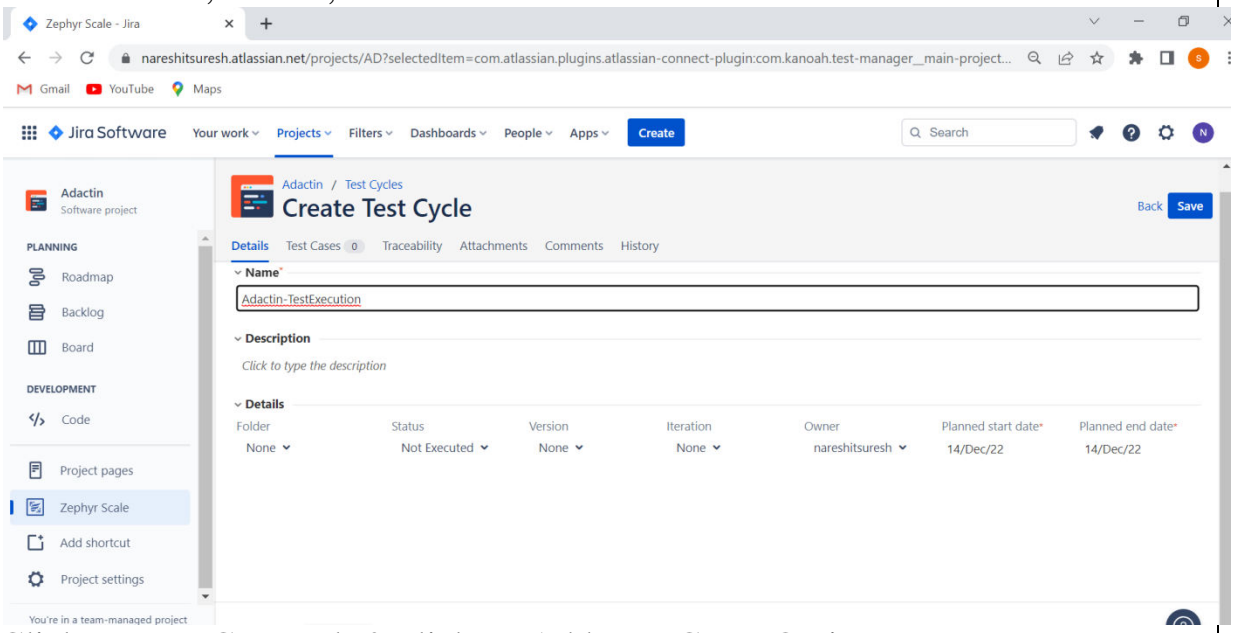
Repeat the same steps to write multiple test cases



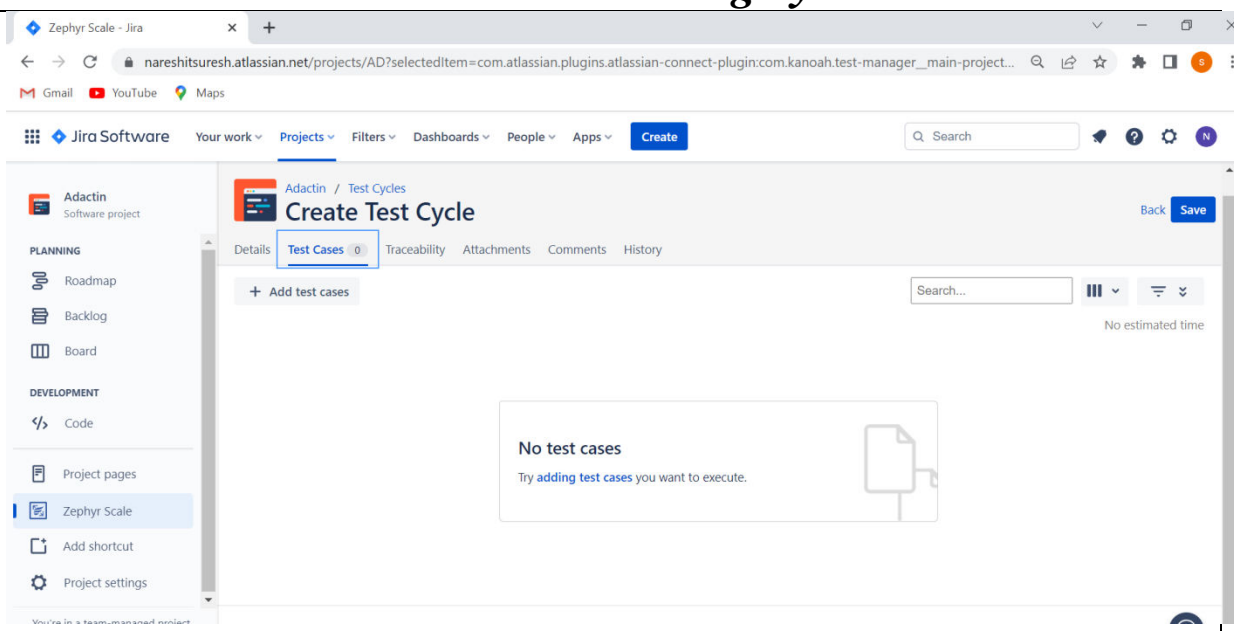
For Doing Execution Create **Test Cycle** by clicking on Test Cycles Tab



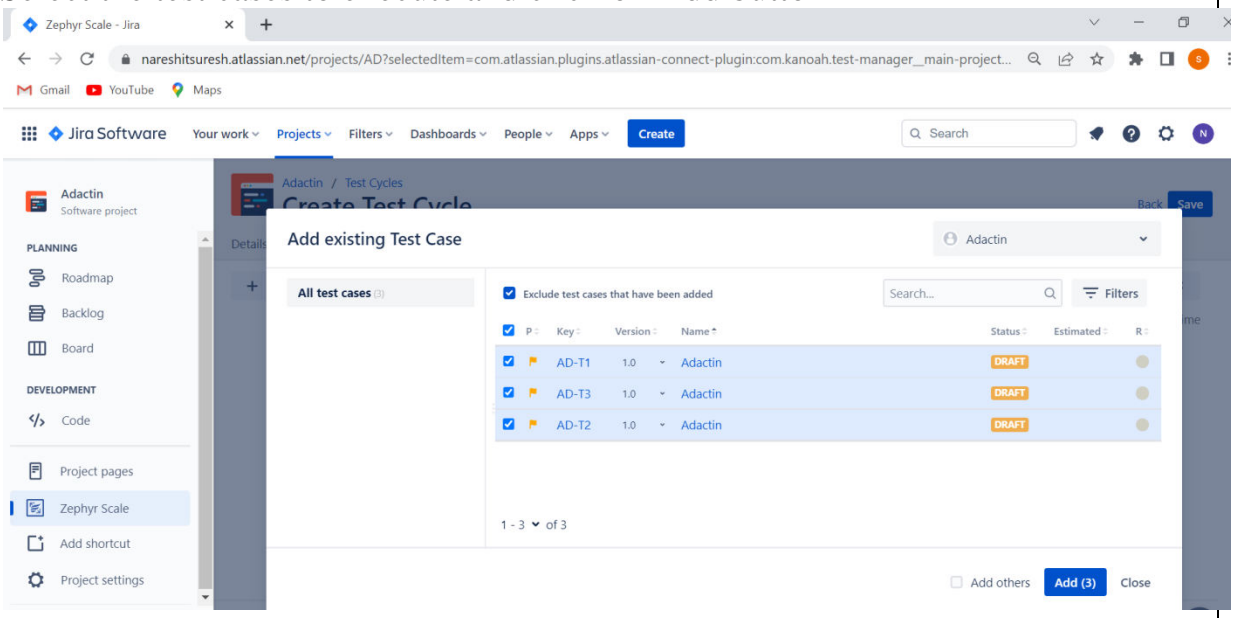
Provide name, owner , start date and end date details



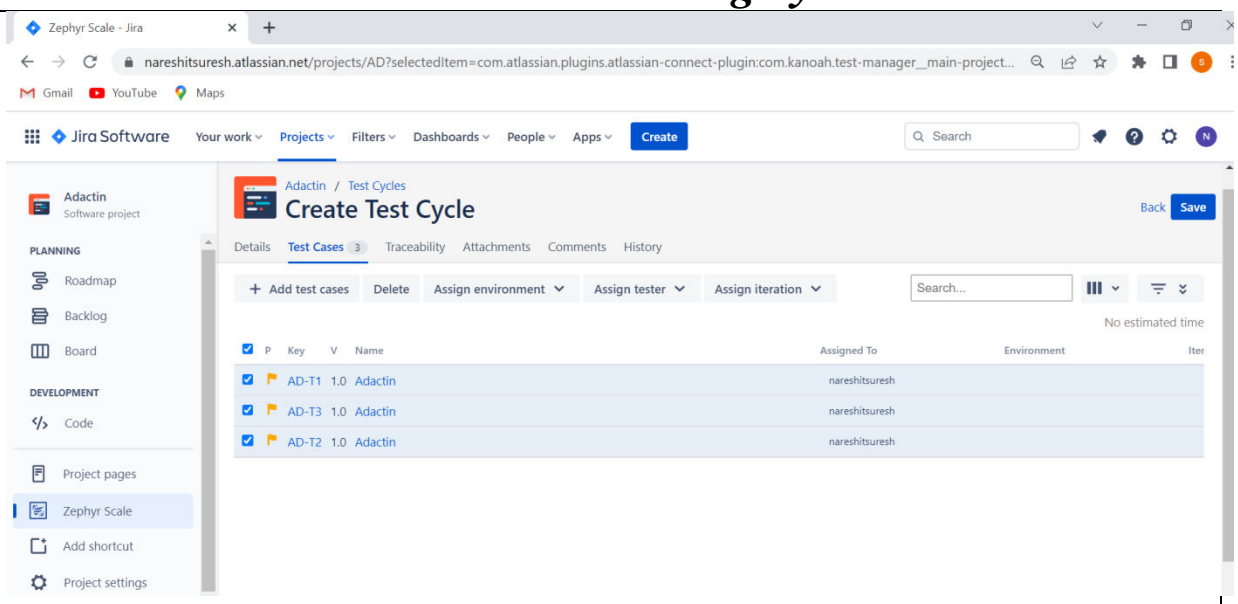
Click on Test Cases tab & click on Add Test Cases Option



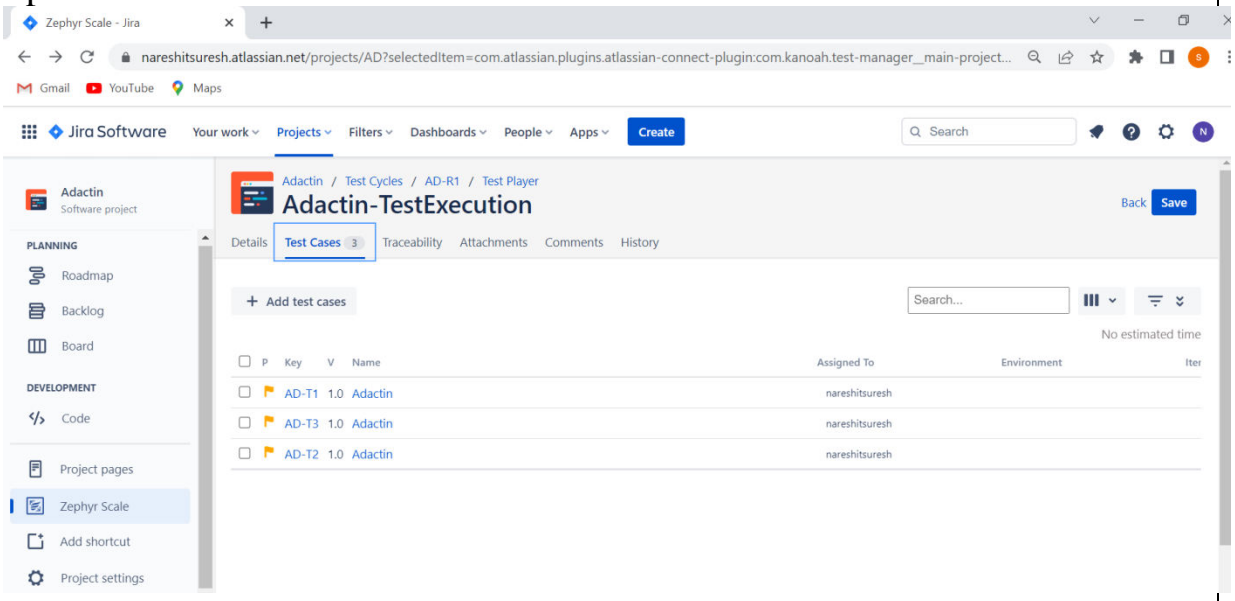
Select the test cases to execute and click on Add button



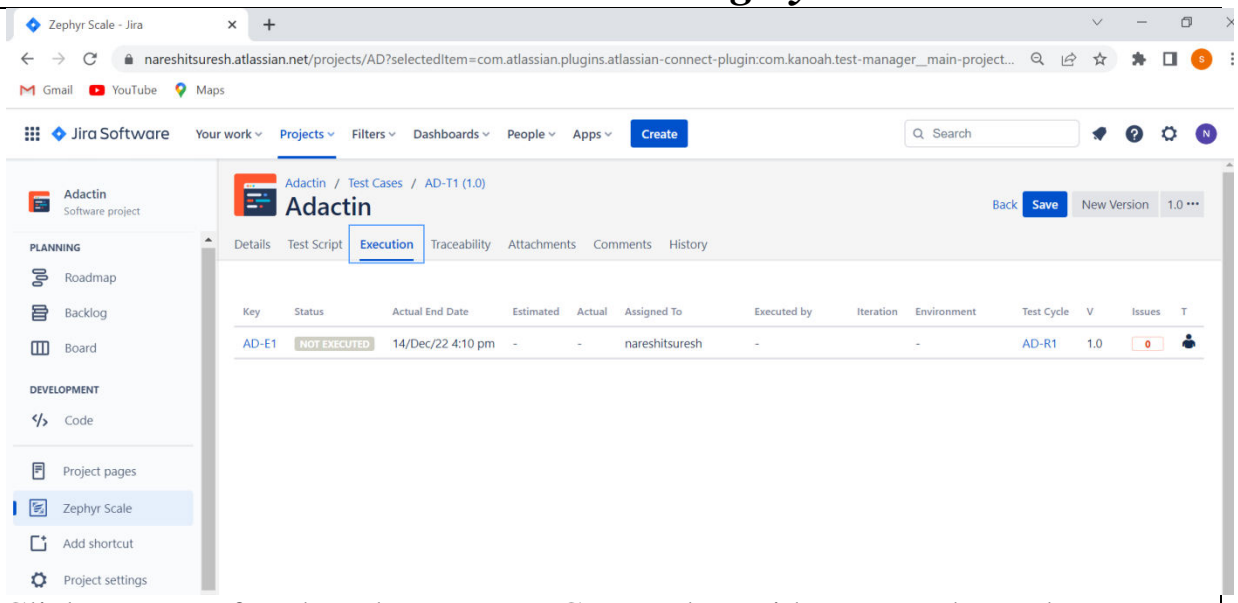
Click on Save button



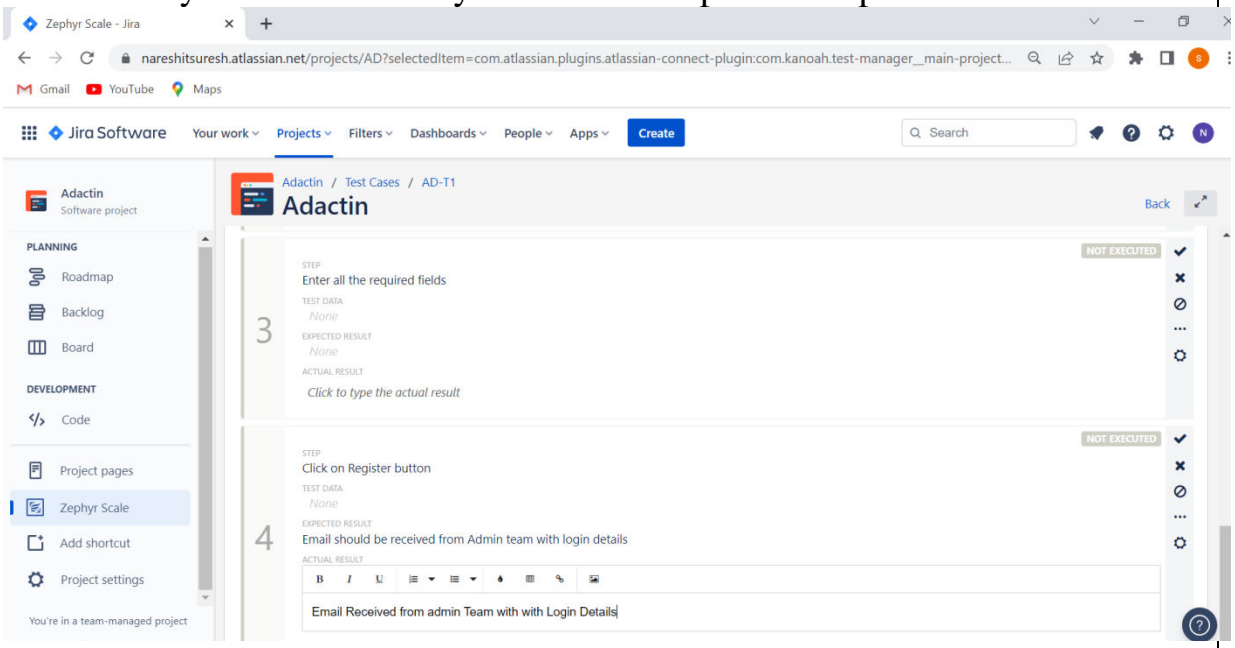
Open individual test cases to Execute



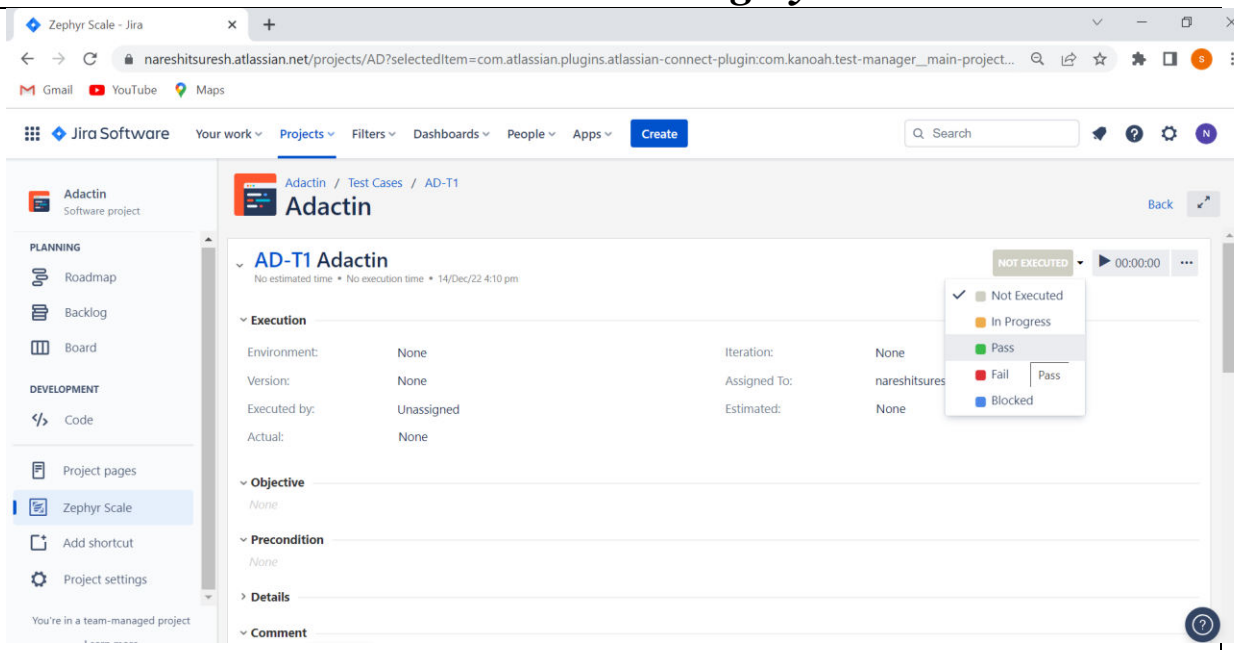
Click on Execution Tab



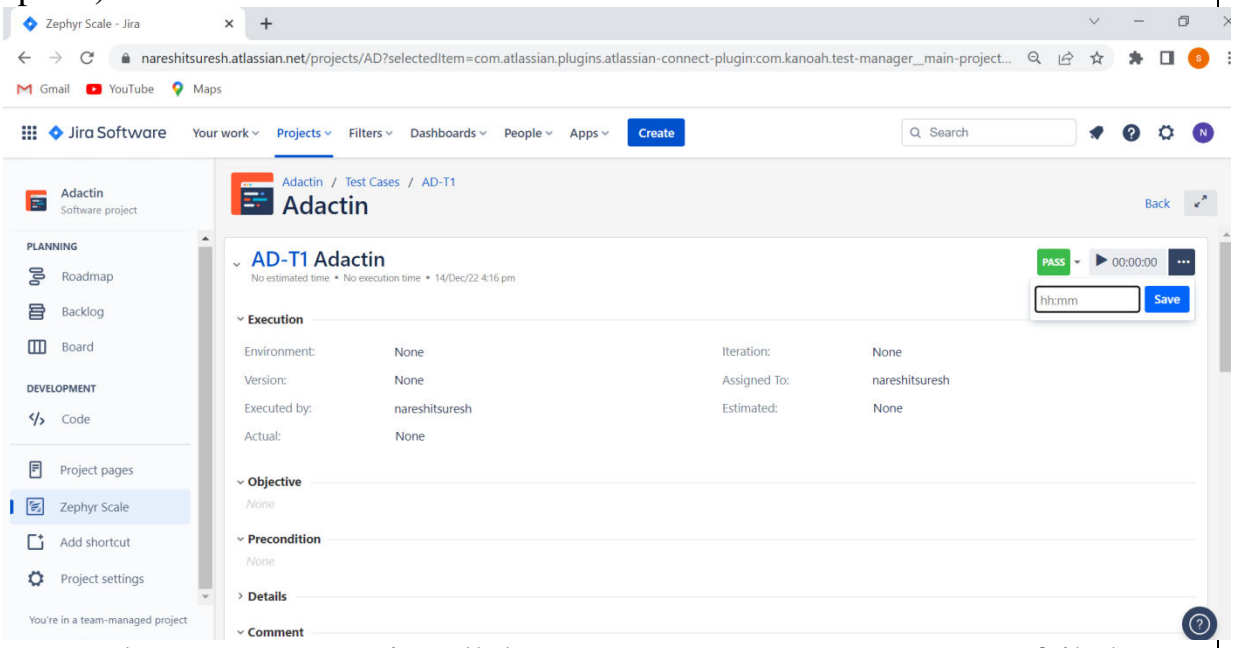
Click on Key of each and every Test Case and provide expected Results



Now Top of the test case select Execution status



Select required status and click on Save (click on doted symbol to see save option)



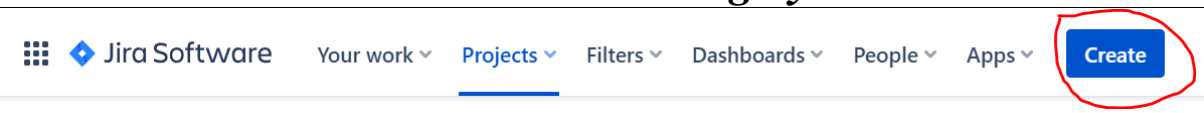
Repeat the same to execution all the test cases. In case any test cases failed we can report the bug.

Bug Reporting in JIRA

Steps to Report Bugs in JIRA Tool

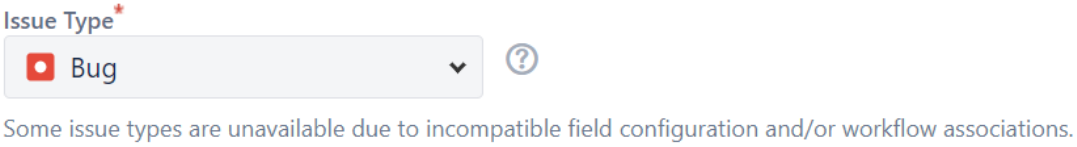
1.Login to JIRA tool

2. Click on **Create** button

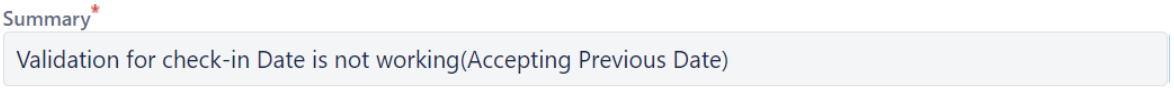


3.Select the Required **Project**From the list.

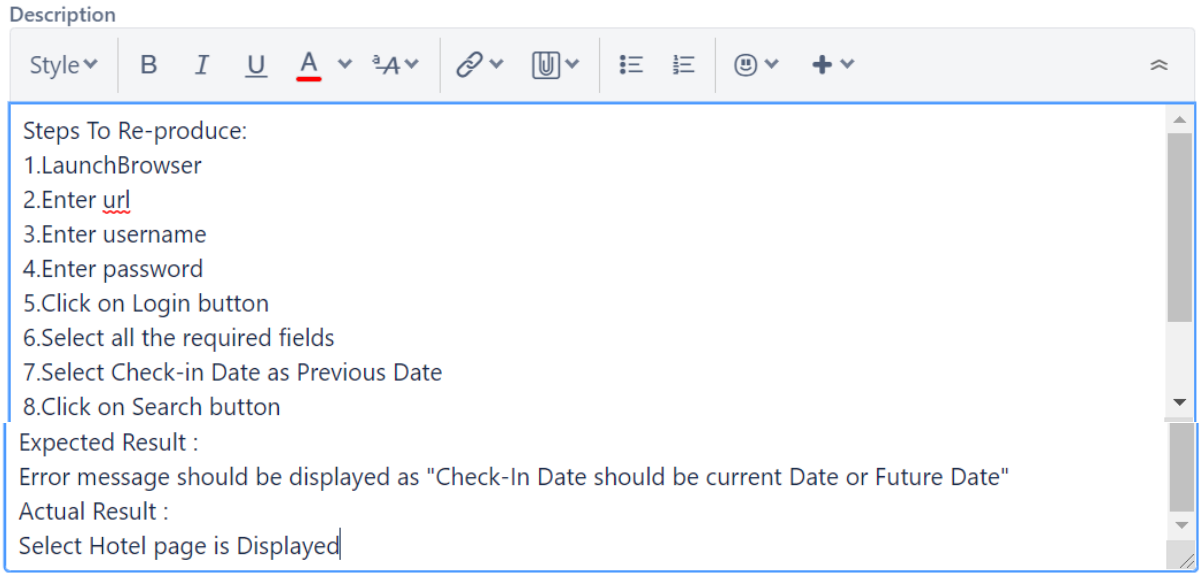
4.Select the **Bug** option from Issue Type dropdown



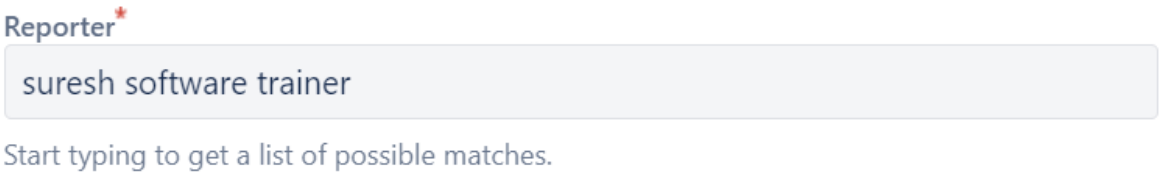
5.Provide **Summary** of the bug



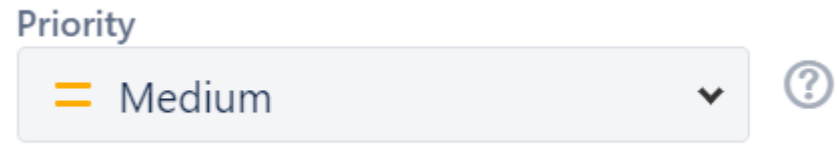
6.Provide the **Bug Description** which includes – Steps to re-produce , Expected Result and Actual Result



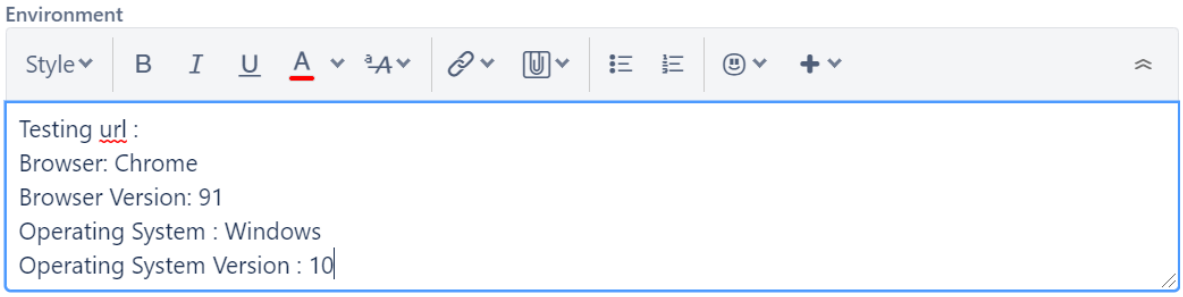
7.Provide Tester name



8.Provide Priority for the bug

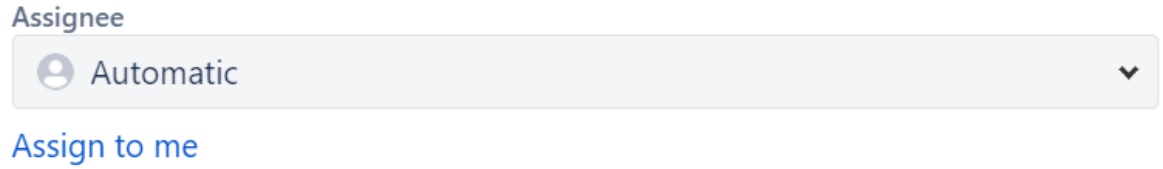


9.Mention Environment details



10.in case any screenshot attach the required files

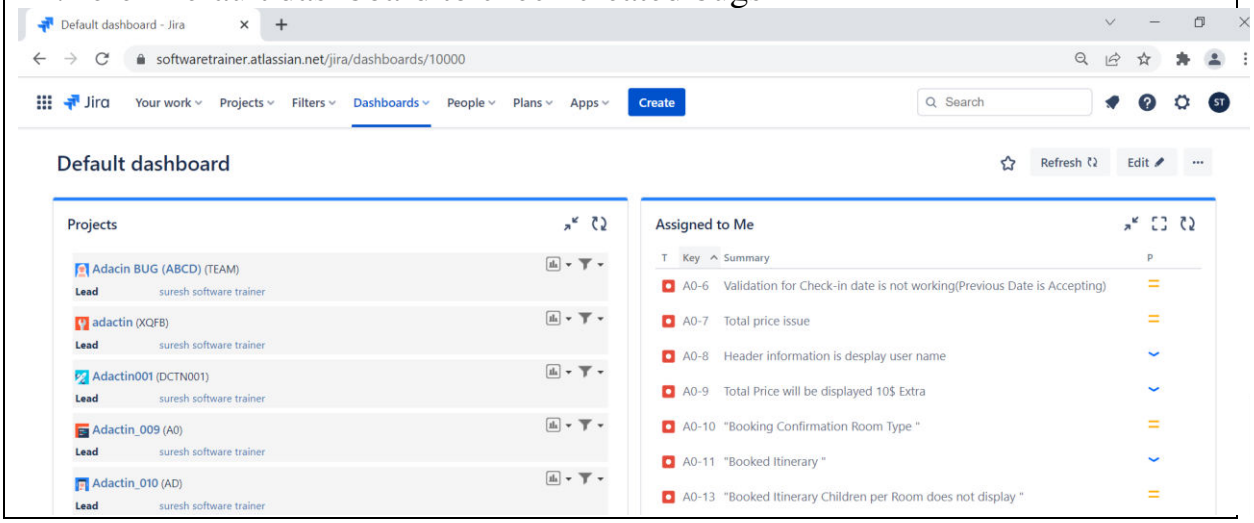
11.Select the developer name from Assignee dropdown



12.Click on Create button

13.Bug will be created.

14.Refer Default dashboard to check created bugs



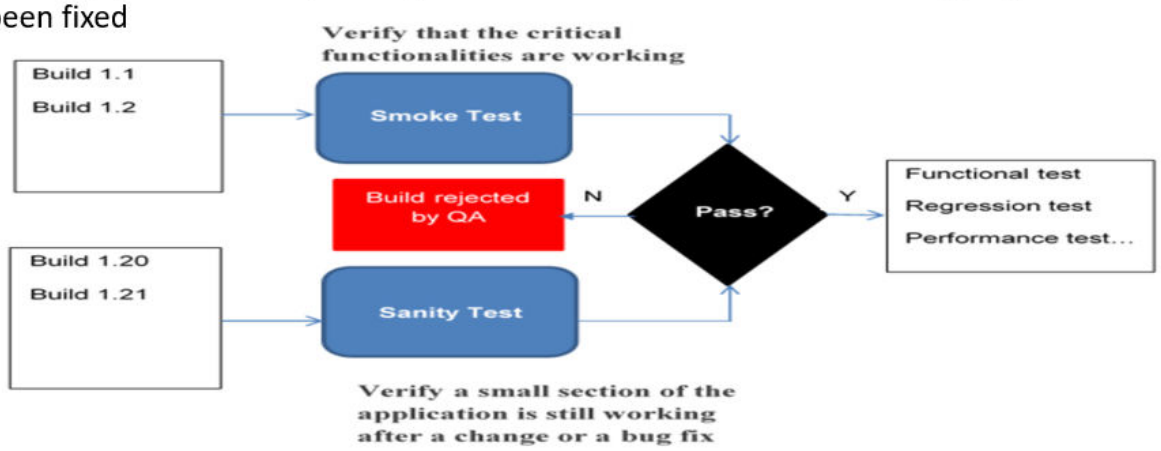
Types of Testing

- **Smoke Testing** or **BVT-Build Verification Testing** or **TAT – Testers Acceptance Testing**

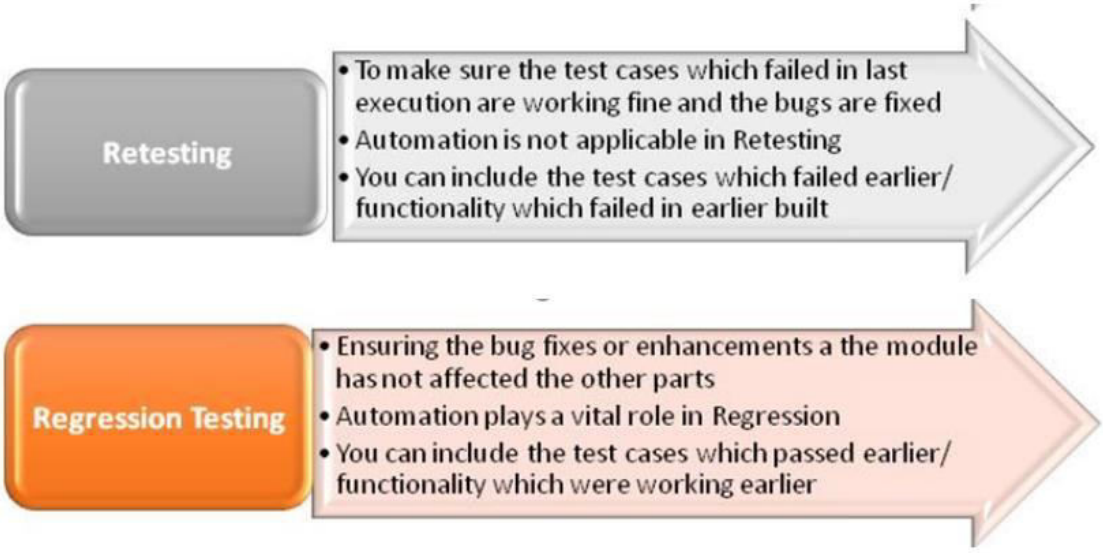
It is first level of testing on any newly released build to check main functionality of the application.

- **Sanity Testing :**

Sanity Testing is done during the release phase to check for the main functionalities of the application.Sanity Testing is done to check the new functionality/bugs have been fixed



- **Re-Testing :** Testing defects were fixed or not in the current build
- **Regression Testing:** To check existing functionality is un affected whenever the new change is added



- **Static Testing:** Testing an application with out performing any action.

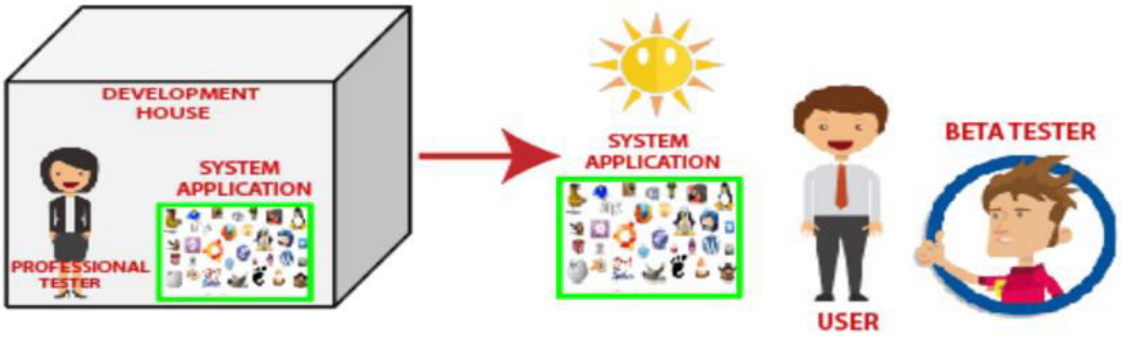
Eg: GUI Testing , colors ,spelling ,alignment … etc.

- **Dynamic Testing:** Testing an application by performing required actions.

Eg: Functionality Testing ,Textbox, button … etc

- **Ad-hoc Testing:** Testing the application with out any proper planning

- **Alpha Testing :**Final Testing on the application doing with in the development company
- **Beta Testing:** Testing doing in customer environment ,This testing will be done by the customer or third party test engineers.



BETA TESTING OF THE PRODUCT IN REAL WORLD ENVIRONMENT

Functionality Testing - Test for – all the links in web pages, database connection, forms used for submitting or getting information from the user in the web pages, Cookie testing etc.

Usability testing - Usability testing is nothing but the User-friendliness check. In Usability testing, the application flow is tested so that a new user can understand the application easily. Basically, system navigation is checked in Usability testing.

Compatibility testing - Compatibility testing is used to determine if your software is compatible with other elements of a system with which it should operate, e.g. Browsers, Operating Systems, or hardware.

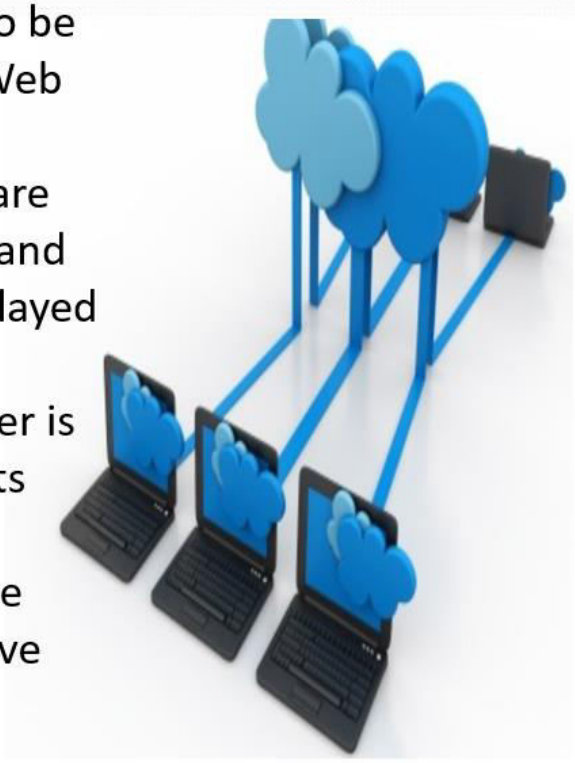
Database Testing – Database connection and user entered Data in application is saving into respective database tables

Interface testing-Three areas to be tested here are - Application, Web and Database Server

01. Application: Test requests are sent correctly to the Database and output at the client side is displayed correctly.

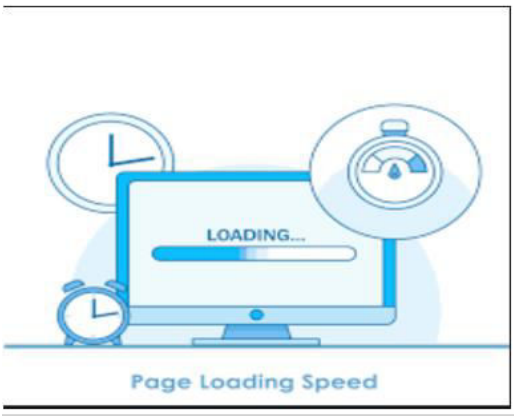
02. Web Server: Test Web server is handling all application requests without any service denial.

03. Database Server: Make sure queries sent to the database give expected results.



Performance testing – Testing page ,data, images load time

Security testing -Security Testing involves the test to identify any flaws and gaps from a security point of view.



Test Closure :

Test Closure is a document that is prepared prior to formally completing the testing process. This memo contains a report of test cases executed,passed,failed and number of defects found,fixed,re-tested,closed.
We will provide the path of all the required documents to client like testscenarios,testcases,testexecution and bugreporting,based on this report it will decide to stop or continue the testing.

When to stop Testing?

This can be difficult to determine. Most modern software applications are so complex, and run in such an interdependent environment, that complete testing can never be done. Common factors in deciding when to stop are:

- Deadlines (release deadlines, testing deadlines, etc.)
- Test cases completed with certain percentage passed
- Test budget depleted
- Coverage of code/functionality/requirements reaches a specified point
- Bug rate falls below a certain level
- Alpha & Beta testing period ends

Real Time Regular Interview Questions

1. Introduce yourself?

- Your Name
- Trainings in case of fresher
- Roles in Manual testing
- Roles in Automation testing
- Projects you have done
- Academic details
- Working company details in case of experience.

2. Explain STLC?

Software Testing Life Cycle (STLC) is a process used to test software and ensure that quality standards are met. Tests are carried out systematically over several phases. During product development, phases of the STLC may be performed multiple times until a product is deemed suitable for release.
STLC is an part of Software Development Life Cycle (SDLC).STLC deals only with the testing phases.

3.Explain Your role in the project?

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application

- Logs Test Results(How many Test cases passes/failed)
- Defect Report and Tracking
- Retest fixed defects of previous builds
- Performed various Types of testing assigned by Test Lead(Sanity
- ,Functionality , Usability, Compatibility , etc)
- Preparing and Sending of status Reports to Lead on assigned tasks
- Participated in regular meetings , team meetings by lead & Manager
- Creating automation scripts for Regression testing

4.What is manual testing and automation testing?

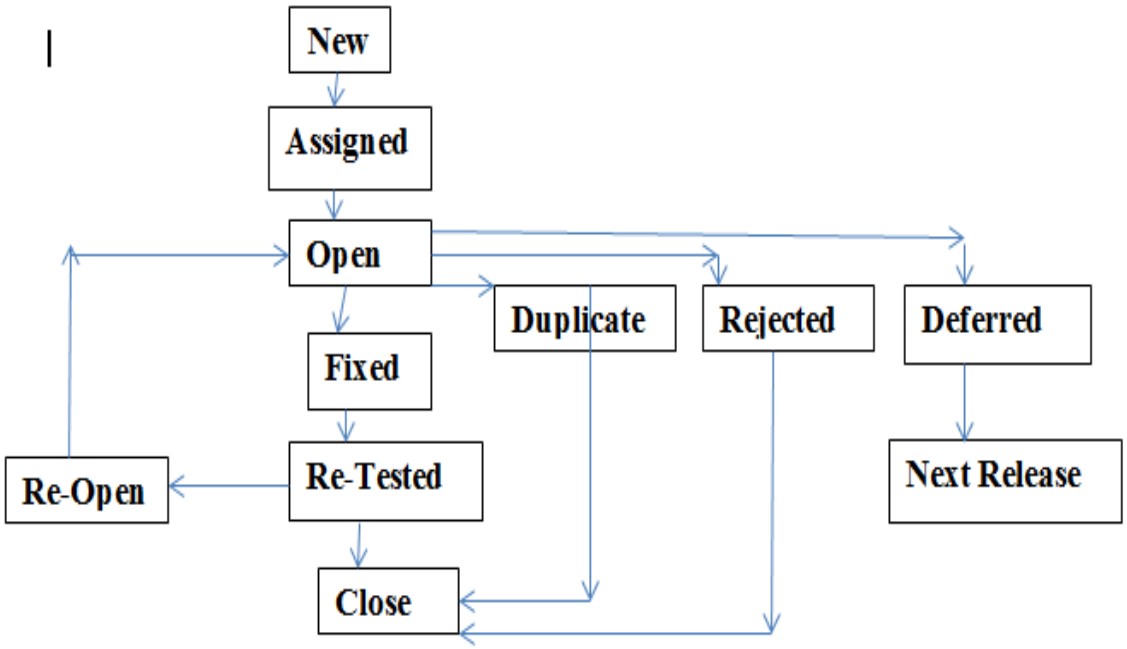
Manual Testing: It is a type of software testing in which test cases are executed manually by a tester without using any automated tools.

Automation Testing: This software testing method uses scripted sequences that are executed by automation testing tools.

5.Explain bug life cycle?

The defect life cycle is also known as bug life cycle. It is a process in which bug goes through different stages in its entire life.

Consider the bug as a lively object that has different stages throughout its life right from the state it's opened by tester to the state of getting closed after getting fixed.



6.What is RTM?

RTM stands for "Requirements Traceability Matrix".A traceability matrix is a mapping document between requirement documents and Test Cases . it helps the testing team to understand the level of testing that is done for a given

product.

7.Explain agile process?

Overview:

- Customer satisfaction by fast delivery.
- Requirement changes are accepted.
- Software is delivered frequently.
- The ability to move quickly ,easily and respond to change rapidly.
- Agile terminologies userstory,productbacklog,productowner,scrummaster,sprint,stand-up meeting,scrummeeting,status meeting.

Advantages:

- Face-to-Face conversation is the best form of communication.
- close co-operation between business people and developers.
- customerssatisfication by rapid,continuous delivery of useful software.

Disadvantages:

- In agile methodology ,dependency on documentation.
- for complex projects,the resource requirement and effort are difficult to estimate.
- projects can be become ever-lasting because there's no clear end.

8. Explain retesting & regression testing?

Retesting: Testing of a particular bug after it has been fixed to confirm that bug has been fixed correctly are not.

Regression testing: It is a type of testing where you can verify that the changes made in the codebase do not impact the existing software functionality.

9. Difference between QA & Software Testing?

Software testing focuses on the functionality of the software and if there are any bugs in it. Quality assurance is a management approach for ensuring the successful implementation of the company's quality objectives.

10. What is Test Plan?

A test plan is a document detailing the objectives,resources,and processes for a specific test for a software or hardware product.The plan typically contains a detailed understanding of the eventual workflow.

11.Difference between Test Plan & Test Cases?

Test Plan	Test Case
A large detailed document that covers management aspects and testing aspects in the entire testing project.	Specific and precise document for a particular testing feature that covers only testing aspects.
Testers,testleaders,managers,stakeholders,and other departments need to be updated about the	Only testing teams and test leaders.

testing process.	
Both testing and project managing aspects like schedule,scope,potentialrisks,staffresponsibilities,bugsreporting,and more.	Only testing aspects such as test steps,testdata,testenvironment,intended test results,real test results,teststatus,etc.,
Till the end of the whole testing project.	Till the end of the particular testing process.

12.What is Data Driven Testing?

Data-driven Testing(DDT) is also known as "Table-driven testing".DDT is data that is external to your functional tests,and is loaded and used to extend your automated test cases.

You can take the same test case and run it with as many different inputs as you like,thus getting better coverage from a single test.

13.What is System Testing?

System testing also referred to as system-level tests or system-integration testing,is the process in which a quality assurance(QA) team evaluates how the various components of an application interact together in the full,integrated system or application.

14.Who will Take care about System Testing?

System testing includes functional & non-functional testing and is performed by the testers. **[OR]**

In general,System- integration testing,especially the end-to-end test,is the responsibility of the testers.

15.What is GUI?

Graphical User Interface(GUI), is a form of user interface that allows users to interact with electronic devices through graphical icons and audio indicator such as primary notation,insteadot text-based UIs,typed command labels or text navigation.

16.What is Smoke Testing & Sanity Testing?

Smoke test is done to make sure that the critical functionalities of the program are working fine, whereas sanity testing is done to check that newly added functionalities, bugs, etc., have been fixed. The software build may be either stable or unstable during smoke testing.

17.What is Test Stategy?

A Test Strategy is a set of instructions, guidelines or principles that determine the test design and how the testing process will be carried out. It sets the testing process standards.

It can comprise of the principles used to detail the scope and overview of the testing process, testing methodology, specifications for the testing environment, tools used for testing, release control, risk analysis and mitigation, review and

approval of a product before its official release.

18.What is Test Case Design Techinques?

Test Case: Design techniques can broadly split in to 2 categories.

- Black box techniques
- White box techniques

Black box techniques:

- Equivalence Class Partitioning(ECP)
- Boundary Value Analysis(BVA)
- State Transition
- Decision Table / Cause Effect Table

White box techniques:

- Statement Testing
- Branch/Decision testing
- Data flow Testing
- Branch condition testing

19.What is concrete testing?

concrete testing is - how data moves through the testing workflow – and, in the process, is better able to structure and secure the data forever.

concrete testing an interface for accessing and communicating with that database, and a way to integrate everything with your concrete testing machine.

20. What is build testing?

Build Verification Testing is basic testing performed on every new build to make sure that it conforms to what is required of it before being passed to the testing or UAT team for further testing. This procedure can also called Build Acceptance Testing or Smoke Testing and is a measure of stability of the software build.

21.What is Test scenarios,test cases?

Test scenarios:

A Test Scenario is a statement describing the functionality of the application to be tested. It is used for end-to-end testing of a feature and is generally derived from the requirement document.

Test scenarios can serve as the basis for lower-level test case creation. A single test scenario can cover one or more test cases. Therefore a test scenario has a one-to-many relationship with the test cases.

Test cases:

A test case is a document, which has a set of test data, preconditions, expected results and postconditions, developed for a particular test scenario in order to verify compliance against a specific requirement.

Test Case acts as the starting point for the test execution, and after applying a set of input values, the application has a definitive outcome and leaves the system at some end point or also known as execution postcondition.

It is an in-details document that contains all possible inputs (positive as well as

negative) and the navigation steps, which are used for the test execution process. Writing of test cases is a one-time attempt that can be used in the future at the time of regression testing.

22.What are the test steps?

Test Steps **describe the execution steps and expected results that are documented against each one of those steps**. Each step is marked pass or fail based on the comparison result between the expected and actual outcome.

23.What is bug testing?

A malfunction in the software/system is **an error that may cause components or the system to fail to perform its required functions**. In other words, if an error is encountered during the test it can cause malfunction. For example, incorrect data description, statements, input data, design, etc.

24.Difference between validation and verification?

Verification	Validation
check whether we are developing the right product or not.	check whether the developed product is right.
Verification includes different methods like Inspections, Reviews, and Walkthroughs	In the validation testing, we can find those bugs, which are not caught in the verification process.
In verification testing, we can find the bugs early in the development phase of the product.	Validation includes testing like functional testing, system testing, integration, and User acceptance testing.
The goal of verification is application and software architecture and specification.	The goal of validation is an actual product.

25.what is testing?

Testing is the actual method for finding issues, or bugs, with the quality of the application. The testing process ensures the software meets standards and user requirements.

26. why testing required?

- To identify the defects in development phases
- To ensure Quality of the product
- Saves Money as defect identified in earlier stages
- To build customer confidence and business

27.how manual testing help in real time?

When user is required to carry out every activity related to testing manually, we say it is a Manual testing process. It helps in

- To identify the defects in development phases
- To ensure Quality of the product
- Saves Money as defect identified in earlier stages

- To build customer confidence and business

28. Shall we use tools in manual testing

Yes, a test case management tool helps to organize, measure, report, and collaborate on manual testing process. Testing usually involves a lot of documentation, and if the right tools and processes are not in place, things can quickly become disorganized. A good test case management tool can make life a lot easier when it comes to keeping those assets organized and up to date. Suggested tools like Jira , QC , TestLodge,Zephyr,Testlink …

29. when you will do retesting?

Once the development team releases the new build, then the test team has to test the already posted bugs to make sure that the bugs are fixed or not.

30.what is SDLC?

SDLC is a process followed for a software project, within a software organization. It consists of a detailed plan describing how to develop, maintain, replace and alter or enhance specific software.

31.what is smoke testing?

Smoke Testing is done whenever the new functionalities of software are developed and integrated with existing build that is deployed in QA/staging environment. It ensures that all critical functionalities are working correctly or not.

32.Is smoke testing done by developer (or) tester?

It is carried out by both the testers and developers because of its ease and less time commitment. It is part of the rigorous testing process and uses test cases to check all important components of the build. Smoke testing is performed when the developers provide a fresh build to the Quality Assurance teams.

33.what is BVA?

Boundary-value analysis is a software testing technique in which tests are designed to include representatives of boundary values in a range of using formula as min , max,min-1,max+1

34.can we write BVA FOR A BUTTON?

Test cases/scenarios For Radio Buttons
Check for selecting a radio button
Check for only one radio button is getting selected at a time
Check for the Radio button label description
Check for size and color of button
Check for the alignment of the Radio Buttons

35.explain about the BA?

A **Business Analyst** is a person who analyses an organization, designs processes, and systems, and assesses the business models so that they can be integrated with technology.

36.what is test scenarios?

Identify all possible areas to be tested or What is to be tested.
A Test Scenario is a statement describing the functionality of the application to be tested. It is used for end-to-end testing of a feature and is generally derived from the requirement document. Test scenarios can serve as the basis for lower-level test case creation. A single test scenario can cover one or more test cases. Therefore a test scenario has a one-to-many relationship with the test cases.

37.how can you write test cases &test scenarios?

How to create a Test Scenario:
Carefully study the Requirement Document – Business Requirement Specification (BRS), Software Requirement Specification (SRS), Functional Requirement Specification (FRS) pertaining to the System Under Test (SUT).

- Isolate every requirement, and identify what possible user actions need to be tested for it. Figure out the technical issues associated with the requirement. Also, remember to analyze and frame possible system abuse scenarios by evaluating the software with a hacker's eyes.
- Enumerate test scenarios that cover every possible feature of the software. Ensure that these scenarios cover every user flow and business flow involved in the operation of the website or app.
- After listing the test scenarios, Get the scenarios reviewed by a team.

38.The build is delay how to convince the client?

Be open and honest about all the obstacles, difficulties, and mishaps that emerged. Show them proof and try to explain in a simple way why the delay has originally happened and what needs to be done in order for your team to overcome the issues. The majority of clients are really understanding when you approach them with honesty and willingness to keep them on board.

39.what is bug report?

A bug report is a specific report that outlines information about what is wrong and needs fixing with software or on a website.The report lists reasons,or seen errors,to point out exactly what is viewed as wrong,and includes a request and or details for how to address each issue.

40.what is pesticide paradox in testing?

The pesticide paradox says that **if the same tests are repeated over and over again, eventually, the same set of test cases will no longer identify any new bugs in the system**. To overcome this 'pesticide paradox,' the test cases need to be regularly reviewed and revised.

41.what is concurrent testing?

Concurrency Testing is defined as a testing technique to detect the defects in an application when multiple users are logged in. In other words monitoring the effect while multiple users perform the same action at the same time.

42.what is software testing?

"Software testing is a process of executing the application with the intent of

finding the defects by comparing the output behavior of the application with expected behavior
(requirement)."
In other words it's comparing the actual behavior of an application with expected behavior.

43.what is manual testing?

Manual Testing is a type of software testing in which test cases are executed manually by a tester without using any automated tools. The purpose of Manual Testing is to identify the bugs, issues, and defects in the software application. Manual software testing is the most primitive technique of all testing types and it helps to find critical bugs in the software application.

44.what is positive testing?

Positive Testing is a type of testing which is performed on a software application by providing the valid data sets as an input. It checks whether the software application behaves as expected with positive inputs or not. Positive testing is performed in order to check whether the software application does exactly what it is expected to do.

45.for manual testing can we use any tools in it?

No, first we have to refer to the client which type of tool should be used in this project.By using POC(proof of concept) .so,that client can get idea on these tool, what is the use of it and why we are using this particular tool.

46.after new bug is fixed by the developer ,first what you test retesting or regression testing?

When ever new bug has been fixed by the developer,first we we have to do retesting,so that we can check whether that bug is working as expected or not.After that we have to go for regression testing.

47.what is smoke testing?

Smoke Testing is a software testing process that determines whether the deployed software build is stable or not. Smoke testing is a confirmation for QA team to proceed with further software testing. It consists of a minimal set of tests run on each build to test software functionalities. Smoke testing is also known as "Build Verification Testing" or "Confidence Testing."

48.what is BVA? Expalin with example?

BVA:BVA is another **Black Box Test Design Technique**, which is used to find the errors at boundaries of input domain (tests the behavior of a program at the input boundaries) rather than finding those errors in the centre of input.
If (Min,MAX) is the range given for a field validation, then the boundary values come as follows:
Invalid Boundary Check { Min-1 ; Max+1 }

Valid Boundary Check {Min; Min+1 ;Max-1;Max }
Requirement: Validate AGE field, which accepts values from 21-60.
We verify the following Boundary Value Test cases:
TC001: Validate AGE by entering 20 [Min-1]: Invalid Boundary Check
TC002: Validate AGE by entering 21 [Min]: Valid Boundary Check
TC003: Validate AGE by entering 22 [Min+1]: Valid Boundary Check
TC004: Validate AGE by entering 59 [Max-1]: Valid Boundary Check
TC005: Validate AGE by entering 60 [Max-1]: Valid Boundary Check
TC006: Validate AGE by entering 61[Max+1]: Invalid Boundary Check

49.can we write BVA for customer ID?it access only 5 to 8 characters?

50.what is functional testing?

Functional testing is **a type of testing that seeks to establish whether each application feature works as per the software requirements**. Each function is compared to the corresponding requirement to ascertain whether its output is consistent with the end user's expectations.

51.what is unit testing?

A unit test is **a way of testing a unit - the smallest piece of code that can be logically isolated in a system**. In most programming languages, that is a function, a subroutine, a method or property. The isolated part of the definition is important.

52.what is integration testing?

Integration testing -- also known as integration and testing (I&T) -- is **a type of software testing in which the different units, modules or components of a software application are tested as a combined entity**. However, these modules may be coded by different programmers.

Or

Integration testing is **the second level of the software testing process comes after unit testing**. In this testing, units or individual components of the software are tested in a group. The focus of the integration testing level is to expose defects at the time of interaction between integrated components or units.

53.what is test plan?

A test plan is a document detailing the objectives,resources,and processes for a specific test for a software or hardware product.The plan typically contains a detailed understanding of the eventual workflow.

54.what is test scenarios?explain?

ATest Scenario is defined as any functionality that can be tested. It is also called *Test Condition* or *Test Possibility*. As a tester, you should put yourself in the end user's shoes and figure out the real-world scenarios and use cases of the Application Under Test.

Entry Criteria to Identify Test Scenarios :

- Approved Test plan
- Approved SRS

- Test Scenarios Guidelines
- Test Scenario template

Exit Criteria for Test Scenarios :

- Test Scenarios should be reviewed & approved(mapping test scenarioswith requirements)

55.what is test cases?expalin?

Test cases define how to test a system, software or an application. A test case is **a singular set of actions or instructions for a tester to perform that validates a specific aspect of a product or application functionality**. If the test fails, the result might be a software defect that the organization can triage.

Entry Criteria to Identify Test Cases :

- Approved Test plan
- Approved SRS
- Approved FRS
- Approved Test Scenarios
- Test Case Guidelines
- Test Case Template

Exit Criteria for Test Cases :

- Test Cases should be reviewed & approved(mapping test scenarios with requirements)

56.Explain your Role in project?

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
- Defect Report and Tracking
- Retest fixed defects of previous builds
- Performed various Types of testing assigned by Test Lead(Sanity
- ,Functionality , Usability, Compatibility , etc)
- Preparing and Sending of status Reports to Lead on assigned tasks
- Participated in regular meetings , team meetings by lead & Manager
- Creating automation scripts for Regression testing

57.WHAT IS EXPLORATORY TESTING

Exploratory Testing is a type of software testing where Test cases are not created in advance but testers check system on the fly. They may note down ideas about what to test before test execution. The focus of exploratory testing is more on testing as a “thinking” activity.

Exploratory Testing is widely used in Agile models and is all about discovery, investigation, and learning. It emphasizes personal freedom and responsibility of the individual tester.

58.TELL ME RISK-BASED TESTING?

Risk-based testing (RBT) is a type of software testing that functions as an organizational principle used to prioritize the tests of features and functions in software, based on the risk of failure, the function of their importance and likelihood or impact of failure.

59.What is your role in project?

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
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- Creating automation scripts for Regression testing

60.Types of testing?

There are three types of testing.They are:

- **White box testing:**White-box testing is a testing technique which checks the internal functioning of the system. In this method, testing is based on coverage of code statements, branches, paths or conditions. White-Box testing is considered as low-level testing. It is also called glass box, transparent box, clear box or code base testing. The white-box Testing method assumes that the path of the logic in a unit or program is known.
- **Black box testing:**

In Black-box testing, a tester doesn't have any information about the internal working of the software system. Black box testing is a high level of testing that focuses on the behavior of the software. It involves testing from an external or end-user perspective. Black box testing can be applied to virtually every level of software testing: unit, integration, system, and acceptance.

- **Grey Box Testing:**

While white box testing assumes the tester has complete knowledge, and black box testing relies on the user's perspective with no code insight, grey box testing is a compromise. It tests applications and environments with partial knowledge of internal workings. Grey box testing is commonly used for penetration testing, end-to-end system testing, and integration testing.

61.What are the types functional testing?

- Smoke testing.

- Sanity testing.
- Retesting
- Regression testing.
- Static testing
- Dynamic testing
- Adhotesting
- Alpha testing
- Beta testing
- Functionality testing
- Usability testing
- Compatability testing

62.Write test cases for email password Positive & Negative
Requirement is : Password should be {alphanumeric}
{6-12 characters}

63.What you done in adactin?

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
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64.What you done in HRMS?

- Understating the requirements of the application
- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
- Defect Report and Tracking
- Retest fixed defects of previous builds
- Performed various Types of testing assigned by Test Lead(Sanity
- ,Functionality , Usability, Compatibility , etc)
- Preparing and Sending of status Reports to Lead on assigned tasks
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- Creating automation scripts for Regression testing

65.Your part of in that HRMS?

- Understating the requirements of the application

- Identifying required Test Scenarios of the project
- Designing and preparing Test cases to validate application
- Execute test cases to validate application
- Logs Test Results(How many Test cases passes/failed)
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- ,Functionality , Usability, Compatibility , etc)
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- Creating automation scripts for Regression testing

66.What is Api testing?

API TESTING is a software testing type that validates Application Programming Interfaces (APIs). The purpose of API Testing is to check the functionality, reliability, performance, and security of the programming interfaces. In API Testing, instead of using standard user inputs(keyboard) and outputs, you use software to send calls to the API, get output, and note down the system's response. API tests are very different from GUI Tests and won't concentrate on the look and feel of an application. It mainly concentrates on the business logic layer of the software

67.Explain black box & white box testing?

White box testing: White-box testing is a testing technique which checks the internal functioning of the system. In this method, testing is based on coverage of code statements, branches, paths or conditions. White-Box testing is considered as low-level testing. It is also called glass box, transparent box, clear box or code base testing. The white-box Testing method assumes that the path of the logic in a unit or program is known.

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In Black-box testing, a tester doesn't have any information about the internal working of the software system. Black box testing is a high level of testing that focuses on the behavior of the software. It involves testing from an external or end-user perspective. Black box testing can be applied to virtually every level of software testing: unit, integration, system, and acceptance.

68.What are the Levels of testing?

There are mainly four **Levels of Testing** in software testing :

1. **Unit Testing** : checks if software components are fulfilling functionalities or not.
2. **Integration Testing** : checks the data flow from one module to other modules.
3. **System Testing** : evaluates both functional and non-functional needs for the testing.
4. **Acceptance Testing** : checks the requirements of a specification or

contract are met as per its delivery.

69.ExplainTestCase Design Techquies?

Test Case: Design techniques can broadly split in to 2 categories.
Black box techniques
White box techniques

- Black box techniques:
- Equivalence Class Partitioning(ECP)
- Boundary Value Analysis(BVA)
- State Transition
- Decision Table / Cause Effect Table

White box techniques:

- Statement Testing
- Branch/Decision testing
- Data flow Testing
- Branch condition testing

70.Write Test cases and scenarios for Gmail login btn?

71.What is Functional testing &Non functional testing?

Functional testing:

Functional testing is a type of testing which verifies that each **function** of the software application operates in conformance with the requirement specification. This testing mainly involves black box testing, and it is not concerned about the source code of the application.
Every functionality of the system is tested by providing appropriate input, verifying the output and comparing the actual results with the expected results. This testing involves checking of User Interface, APIs, Database, security, client/ server applications and functionality of the Application Under Test. The testing can be done either manually or using automation.

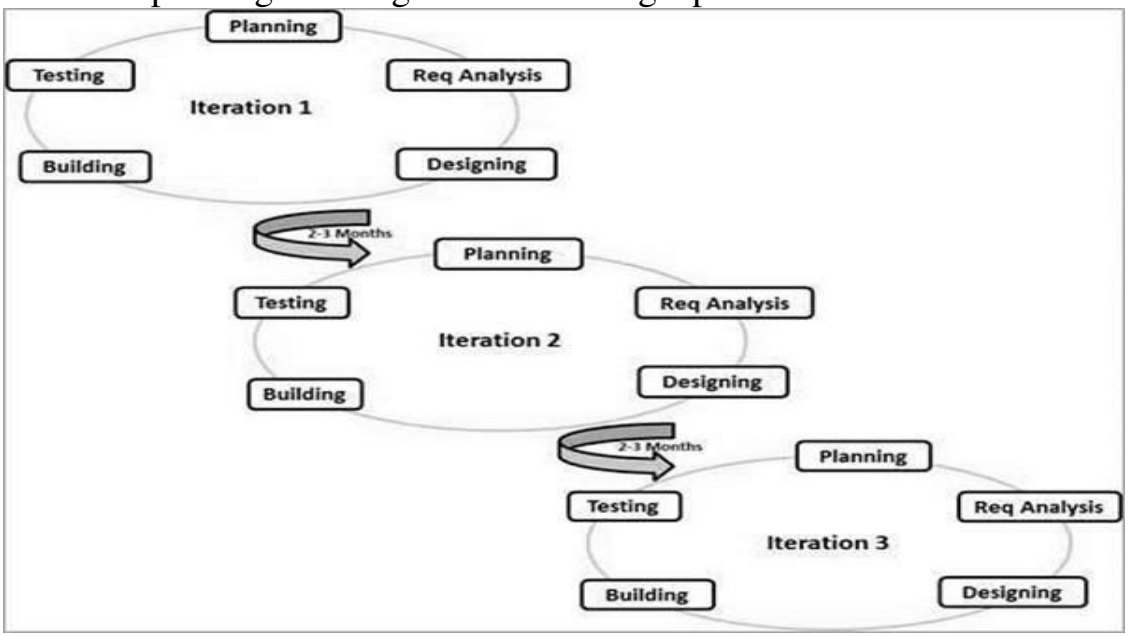
Non functional testing:

Non-functional testing is a type of testing to check non-functional aspects (performance, usability, reliability, etc.) of a software application. It is explicitly designed to test the readiness of a system as per nonfunctional parameters which are never addressed by functional testing.

72.Explain agile methodology?

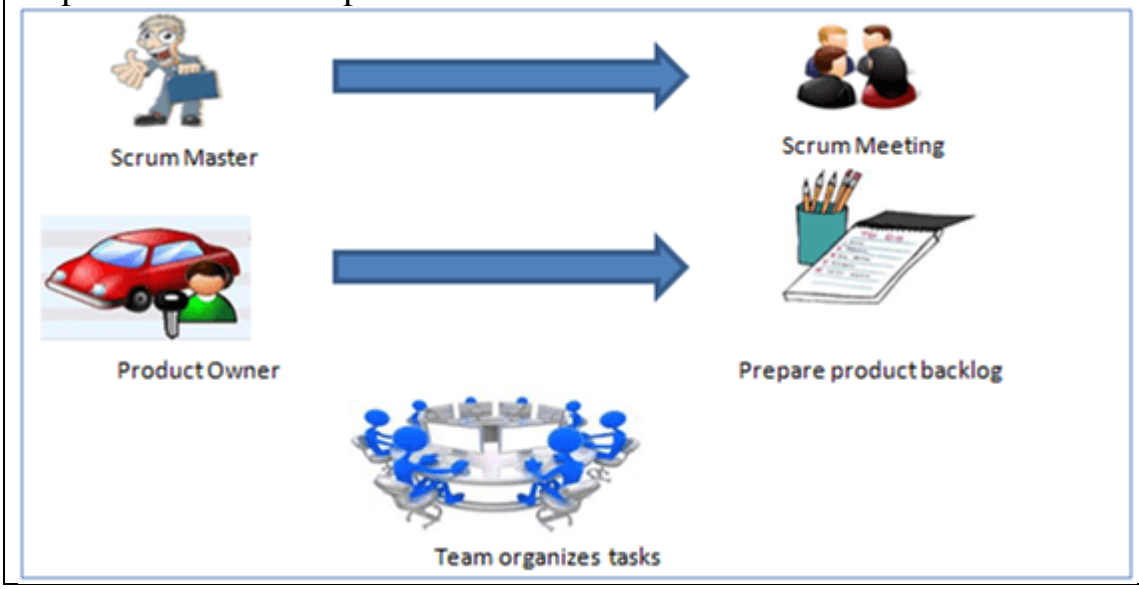
Agile Methodology meaning a practice that promotes **continuous iteration** of development and testing throughout the software development lifecycle of the project. In the Agile model in software testing, both development and testing activities are concurrent, unlike the Waterfall model.
The agile software development emphasizes on four core values.

1. Individual and team interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan.



Scrum:

SCRUM is an agile development method which concentrates specifically on how to manage tasks within a team-based development environment. Basically, Scrum is derived from activity that occurs during a rugby match. Scrum believes in empowering the development team and advocates working in small teams (say- 7 to 9 members). Agile and Scrum consist of three roles, and their responsibilities are explained as follows:



Product Backlog

This is a repository where requirements are tracked with details on the no of requirements(user stories) to be completed for each release. It should be maintained and prioritized by Product Owner, and it should be distributed to the scrum team. Team can also request for a new requirement addition or modification or deletion.

73.Why do you choose testing then Development?

Any software or product is incomplete without its testing. Without testing, there could be some bugs in the product and customers will not get satisfied according to the requirements. For testing, all companies need to have software tester for complete and satisfied software or product without any errors or bugs. Software Testers Are Made for Challenging Work Environments

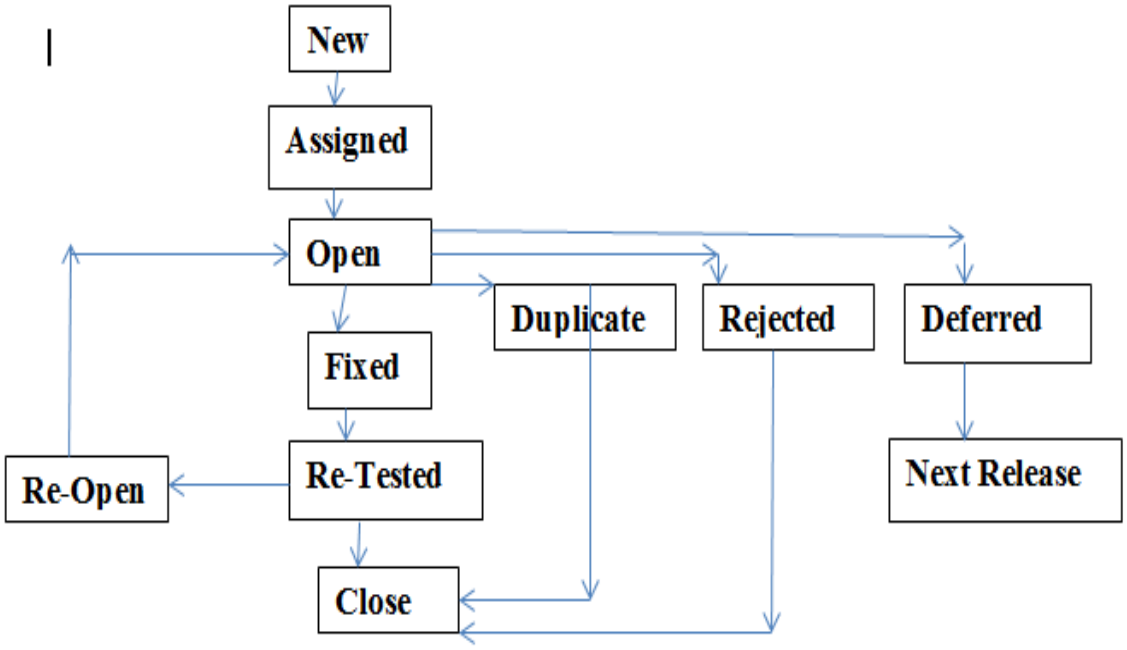
- You Can Enjoy Every Day of Work
- Flexible and Fun Work Environment
- It's Creative
- It Is a Secure Career Path
- There Is Attractive Remuneration and Room for Growth
- An Academic Background Isn't a Necessity

74.What is Agile Model?

Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile Methods break the product into small incremental builds. These builds are provided in iterations.

75.What are the phases of bug life cycle?

- New.
- Open
- Fixed
- Pending Retest
- Retest
- Reopen
- Verified



76.Difference between bug and Defect?

We can say that a mistake made by a programmer during coding is called an error, an error found during the unit testing in the development phase is called a defect, an error found during the testing phase is called a bug and when an error is found at an end user's end is called as the failure.

77.What is Dynamic Testing?

Dynamic testing technique is the type of testing that validates the functionality of an application when the **code is executed /** by executing the code. In simple terms dynamic testing is performed by actually using the application and seeing if a functionality works the way it is expected to.

78.What is Static Testing?

Static testing as the name itself suggests is static in nature, which also means there are no changing conditions or parameters. In other words, this is performed **without executing the code**.

79.What is priority and severity?

Severity : Importance of defect with respective to functional point of view…means criticalness of defect with respective to application.

Severity classification could be : S1-Urgent ,S2-High ,S3-Medium ,S4-Low , CRITICAL , HIGH ,MEDIUM ,LOW

Priority : Importance of defect with respective to client point of view … means how soon it should be fix.

Priority Classification could be : P1-Urgent ,P2-High ,P3-Medium ,P4-Low, CRITICAL , HIGH ,MEDIUM ,LOW

80.What is Functional and Non Functional Testing?

Functional testing:

Functional testing is a type of testing which verifies that each **function** of the software application operates in conformance with the requirement specification. This testing mainly involves black box testing, and it is not concerned about the source code of the application.

Every functionality of the system is tested by providing appropriate input, verifying the output and comparing the actual results with the expected results. This testing involves checking of User Interface, APIs, Database, security, client/ server applications and functionality of the Application Under Test. The testing can be done either manually or using automation.

Non functional testing:

Non-functional testing is a type of testing to check non-functional aspects (performance, usability, reliability, etc.) of a software application. It is explicitly designed to test the readiness of a system as per nonfunctional parameters which are never addressed by functional testing.

81.What is meant by sprint?

In Agile product development, a sprint is a set period of time during which specific work has to be completed and made ready for review.

82.Explain white box Techniques?

White Box Testing is a testing technique in which software's internal structure, design, and coding are tested to verify input-output flow and improve design, usability, and security. In white box testing, code is visible to testers, so it is also called Clear box testing, Open box testing, Transparent box testing, Code-based testing, and Glass box testing.

Following are important WhiteBox Testing Techniques:

- Statement Coverage
- Decision Coverage
- Branch Coverage
- Condition Coverage
- Multiple Condition Coverage
- Finite State Machine Coverage
- Path Coverage
- Control flow testing
- Data flow testing

83.What is Testing ?

In general, testing is **finding out how well something works**. In terms of human beings, testing tells what level of knowledge or skill has been acquired. In computer hardware and software development, testing is used at key checkpoints in the overall process to determine whether objectives are being

met.

84.Explain ECP and State Transition Table with one example each?

85.Difference between manual & automation testing?

Aspect of Testing	Manual	Automation
Test Execution	Done manually by QA testers	Done automatically using automation tools and scripts
Test Efficiency	Time-consuming and less efficient	More testing in less time and greater efficiency
Types of Tasks	Entirely manual tasks	Most tasks can be automated, including real user simulations
Test Coverage	Difficult to ensure sufficient test coverage	Easy to ensure greater test coverage

86.When to perform smoke testing, sanity testing, regression testing & retesting?

Sanity testing is usually performed after receiving a fairly stable software build or sometimes when a software build might have undergone minor changes in the code or functionality. It decides if end to end testing of a software product shall be carried out further or not.

87.Can Automation testing replace manual testing completely?

Automation testing will not replace manual testing. You need both manual and automation testing.

Manual testing handles complex test cases, while automated testing handles simpler, more repetitive tests.

So, manual testing is still important. But adding automated testing makes your manual tests more efficient.

88.Advantages of manual testing?

- Uses human intelligence to find errors
- Lets testers focus on complex features and functions
- Tester knowledge of the project
- Detects errors outside of the code
- Provides accurate emulation of user experience
- It helps maintain a testable system.

89.what are the testing techniques used in project?

- Equivalence Partitioning. In equivalence partitioning, the input of a program is divided into classes
- Boundary Value Analysis
- Decision Table Testing
- Exploratory Testing
- Experienced Based Testing

- Use Case Testing
- Check List Based Testing
- Risk-Based Testing.

90.Write Test Scenarios and Test Cases for a Login page with {UN,PW,Submit& Refresh button}?

91.what is Usability Testing?

Usability Testing also known as User Experience (UX) Testing, is a testing method for measuring how easy and user-friendly a software application is. A small set of target end-users, use software application to expose usability defects. Usability testing mainly focuses on user's ease of using application, flexibility of application to handle controls and ability of application to meet its objectives.

This testing is recommended during the initial design phase of SDLC, which gives more visibility on the expectations of the users.

92.What is GUI Testing?

Graphical User Interface Testing (GUI) Testing is the process for ensuring proper functionality of the graphical user interface (GUI) for a specific application.GUI testing generally evaluates a design of elements such as layout, colors and also fonts, font sizes, labels, text boxes, text formatting, captions, buttons, lists, icons, links, and content. GUI testing processes may be either manual or automatic and are often performed by third-party companies, rather than developers or end users.

93.what is Agile?

Agile is an iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer headaches.

The four Agile Manifesto values are:

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan.

94.Expalin Tester role in Agile Methodology ?

1. Understanding functionality of feature.
2. work closely with the development staff in all phases of development.
3. Communicate more with developers and end-users
4. Participating in preparing Test Plans.
5. Preparing Test Scenarios.
6. Preparing Test Cases for the product.
7. Preparing Test Data?s for the test cases.
8. Preparing Test Environment to execute the test cases.

9. Analyzing the Test Cases prepared by other team members.
10. Executing the Test Cases.
11. Defect Tracking.
12. Giving mandatory information of a defect to developers in order to fix it.
13. Retesting the fixed bugs to check for existence and to check for its effect.
14. Preparing Suggestion Documents to improve the quality of the application.

95.What is Test Closure?

Test Closure is a document that is prepared prior to formally completing the testing process. This memo contains a report of test cases executed, passed,failed and number of defects found, fixed, re-tested, closed.We will provide the path of all the required documents to client like test scenarios, test cases, test execution and bug reporting, based on this report it will decide to stop or continue the testing.

96.Diffirence between waterfall and agile?

Below is the difference between Agile and Waterfall software models in the tabular form for better understanding:

Agile	**Waterfall**
1.Sprints are used to break down the project into manageable pieces.	In general, the methodology gets separated into several stages.
2.Agile models follow the concept of consistent growth during the project itself so that afterward it reduces the risk of completing the requirements.	The waterfall technique is a sequential design process.
3.The model is known for its versatility.	This methodology is a systematic developing method that may be rather rigorous at times.
4.Agile may be thought to be a compilation of several outlines.	In this, the software gets developed as a specific outline.
5.This method is flexible and allows changes for the progress of the project soon after the first stage of designing gets completed.	Once the project development begins, there is no way to change the specifications if any are required.
Because this method uses an incremental development approach, the phases of design, production, testing, and other project management may appear several times.	All the development phases of the project are accomplished once
6.Testing is frequently done in conjunction with the development phase	In this method, the test approach is rarely used.

in Agile model to maintain consistent quality.	
7.This method is a software advancement technique in which you can change or develop the demands over time.	Appropriate for specialized requirements and unforeseen changes.
8.Testing occurs with software development simultaneously.	The "Testing" is done after the "Build" step.
9.It gives a production attitude wherein the software product fulfills the demands and adapts to the customer's expectations	It is entirely focused on completing the project.
10.It goes perfectly with Duration and Resources or non-fixed finance.	By obtaining risk agreement at the start of the process, it is possible to reduce risk in firm fixed price contracts.
11.It is preferable to work with small, focused teams with a higher level of cooperation.	A team's capacity to coordinate and synchronize is severely restricted.
12.The product manager and his colleagues prepare a list of lacks every day over the development of a project.	In this, the Business analyst develops thespecifications before the beginning of a project.

97.Explain steps of agile approach?

- Project planning
- Product roadmap creation
- Release planning
- Sprint planning
- Daily stand-ups
- Sprint review and retrospective.

98.What are advantages & drawbacks of agile?

Advantages:

- Testers are involved from the beginning.
- Agile testing allows for early testing.
- Agile testing saves time and money.
- Testers have more time to write test cases and implement the test cases.
- Testing is not able to be skipped.
- Cost of defects are reduced greatly.

Drawbacks:

- Poor resource planning
- Limited documentation
- Fragmented output
- No finite end
- Difficult measurement.

99.how to perform multi browser testing?

if we are using Selenium WebDriver, we can automate test cases using Internet Explorer, FireFox, Chrome, Safari browsers.To execute test cases with different browsers in the same machine at the same time we can integrate Testng framework with Selenium WebDriver.

Cross Browser Testing is a type of functional test to check that your web application works as expected in different browsers.

100.challenges faced in agile?

- Changing Requirements
- Not Enough Information
- Continuous Testing
- Technical Skills
- Frequent Regression Cycles
- Lack of Communication
- No Quality Measurement.