DAY – 1

18/08/23

Nabiha Khan

BUSINESS ANALYSIS

SDLC

Management Techniques

Scrum

SDLC Models

STLC

Facebook Test Scenario

SDLC

It’s a framework that defines the steps involved in the development of software at each phase, including:

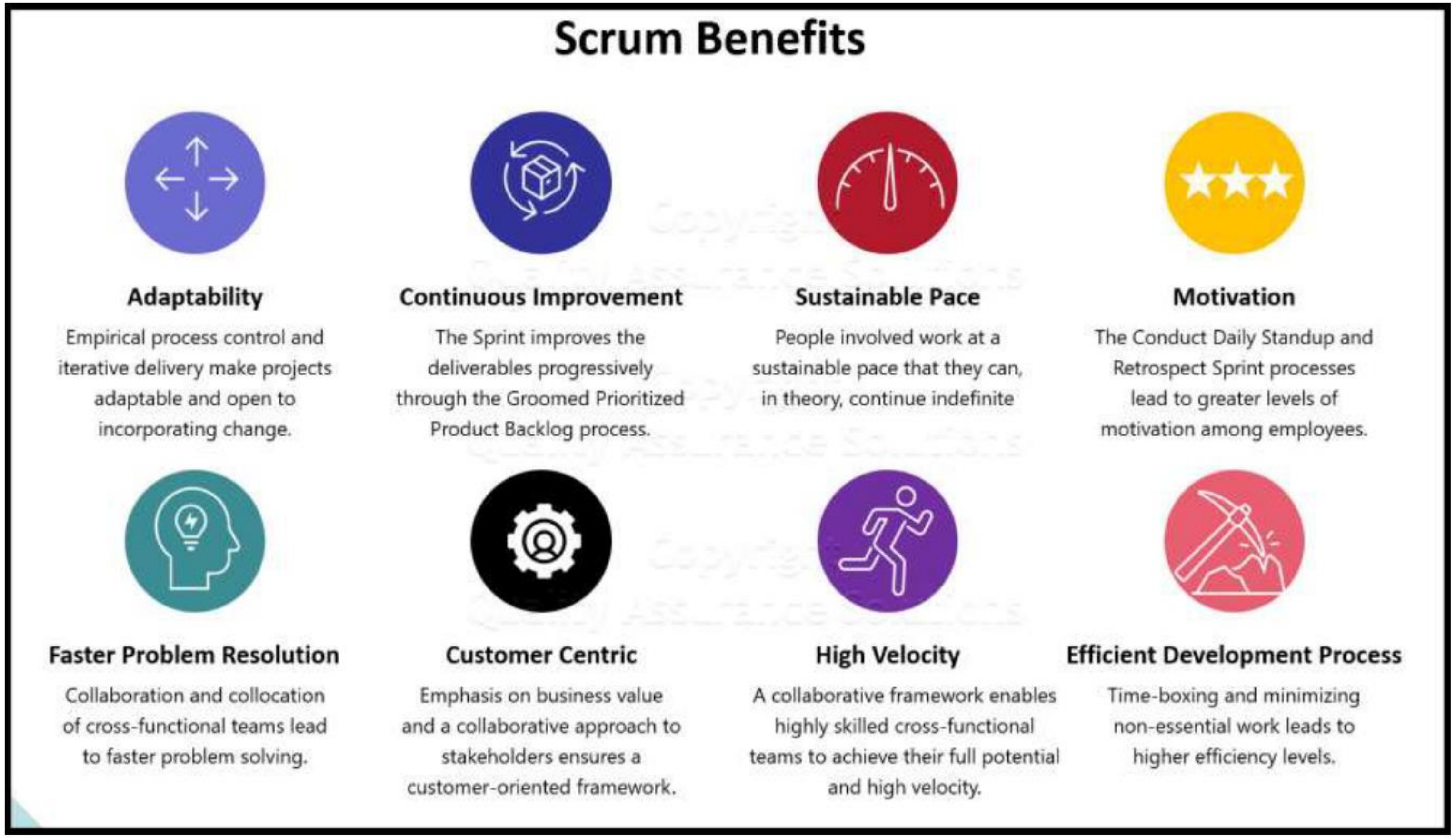
- Requirement gathering & analysis
- Design
- Coding
- Testing
- Deployment
- Maintenance

Management Techniques

The top management techniques are:

- Work breakdown structure
- Gantt charts
- Critical path method
- Water-fall
- Kanban
- Scrum

Scrum



Scrum Benefits

Adaptability

Empirical process control and iterative delivery make projects adaptable and open to incorporating change.

Continuous Improvement

The Sprint improves the deliverables progressively through the Groomed Prioritized Product Backlog process.

Sustainable Pace

People involved work at a sustainable pace that they can, in theory, continue indefinite

Motivation

The Conduct Daily Standup and Retrospect Sprint processes lead to greater levels of motivation among employees.

Faster Problem Resolution

Collaboration and collocation of cross-functional teams lead to faster problem solving.

Customer Centric

Emphasis on business value and a collaborative approach to stakeholders ensures a customer-oriented framework.

High Velocity

A collaborative framework enables highly skilled cross-functional teams to achieve their full potential and high velocity.

Efficient Development Process

Time-boxing and minimizing non-essential work leads to higher efficiency levels.

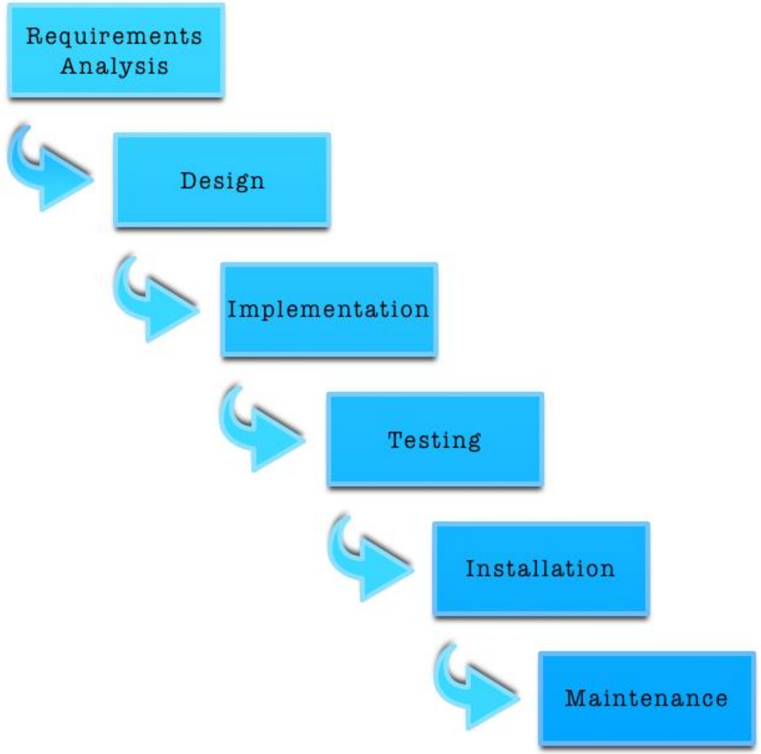
SDLC Models

- Waterfall Model
- V-Shape Model
- Prototype Model
- Iterative Model
- Spiral Model
- Rapid Application Development
- Agile Model

Waterfall Model

Drawbacks:-

- Cannot accommodate changing requirements
- The user cannot get the software until late during the SDLC
- Difficult to measure progress
- High amounts of risk and uncertainty

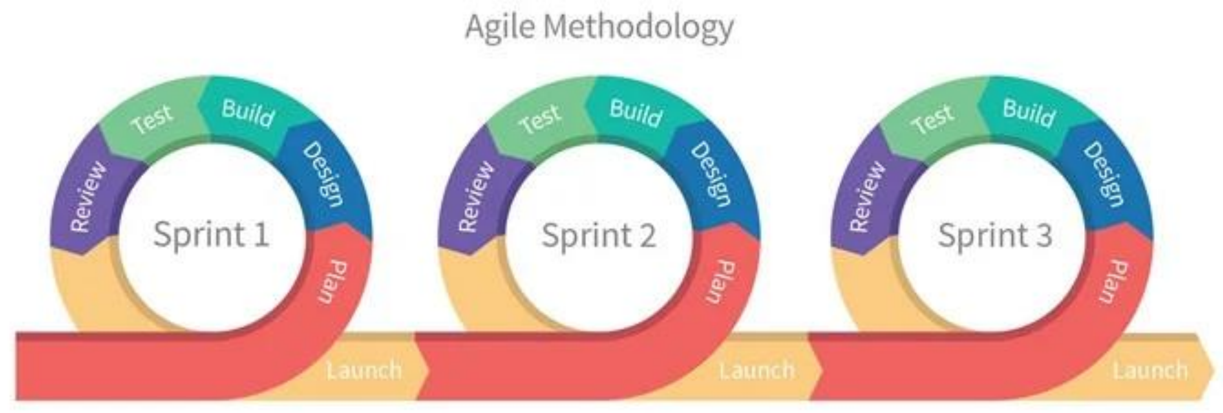


Agile Model

Agile promotes continuous iteration and testing throughout the SDLC

Advantages

- Higher customer satisfaction
- Flexibility to adapt changes
- Better quality
- Better productivity



STLC/ Testing Process

It’s the process of evaluating and verifying that a software product or application does what it is supposed to do.

Benefits include:

- Preventing bugs
- Reducing development costs
- Improving performance

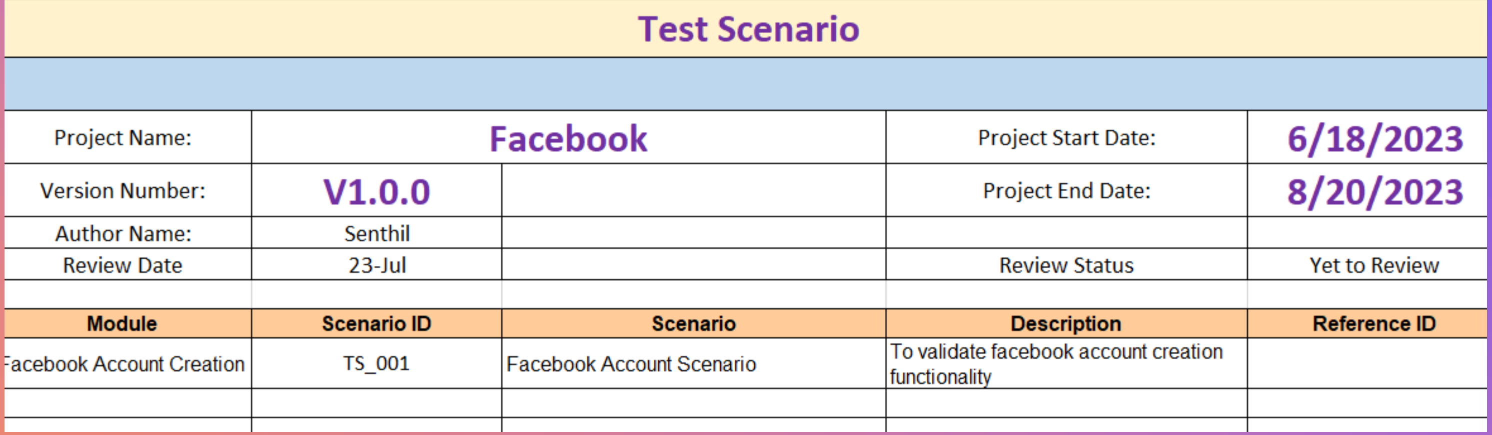
STLC/Training Process

Phases include:

- Requirement analysis
- Test planning
- Test case development
- Test environment setup
- Test execution
- Test cycle closure

FACEBOOK TEST SCENARIO

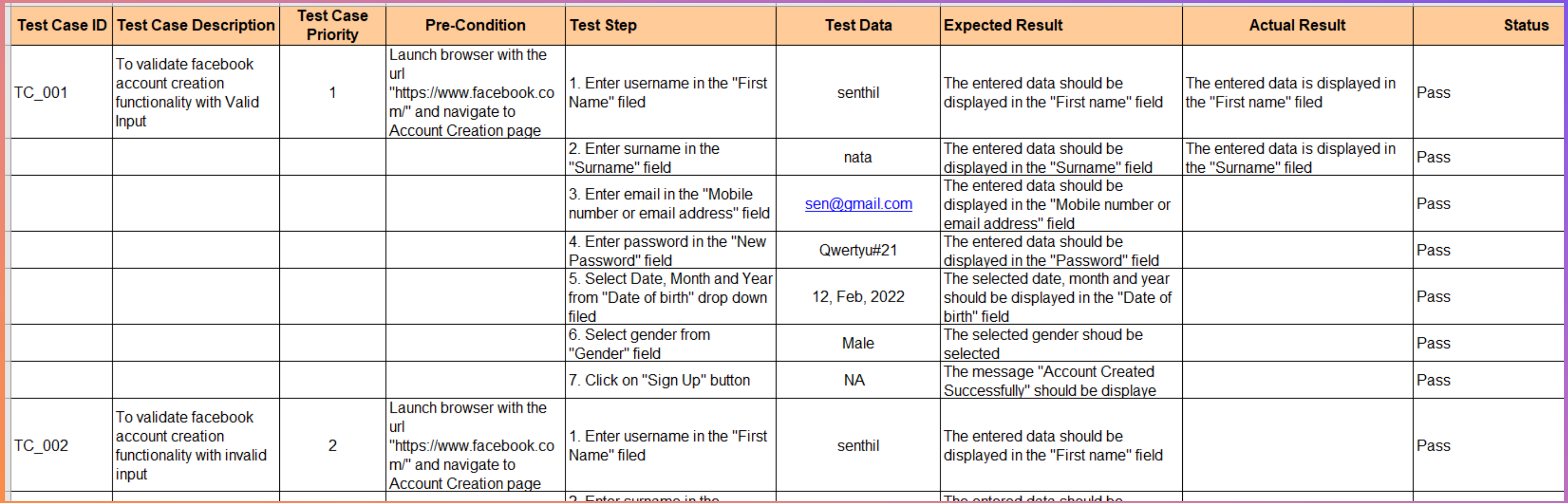
Test Scenario



Test Scenario

Project Name:	Facebook		Project Start Date:	6/18/2023
Version Number:	V1.0.0		Project End Date:	8/20/2023
Author Name:	Senthil			
Review Date	23-Jul		Review Status	Yet to Review
Module	**Scenario ID**	**Scenario**	**Description**	**Reference ID**
Facebook Account Creation	TS_001	Facebook Account Scenario	To validate facebook account creation functionality	

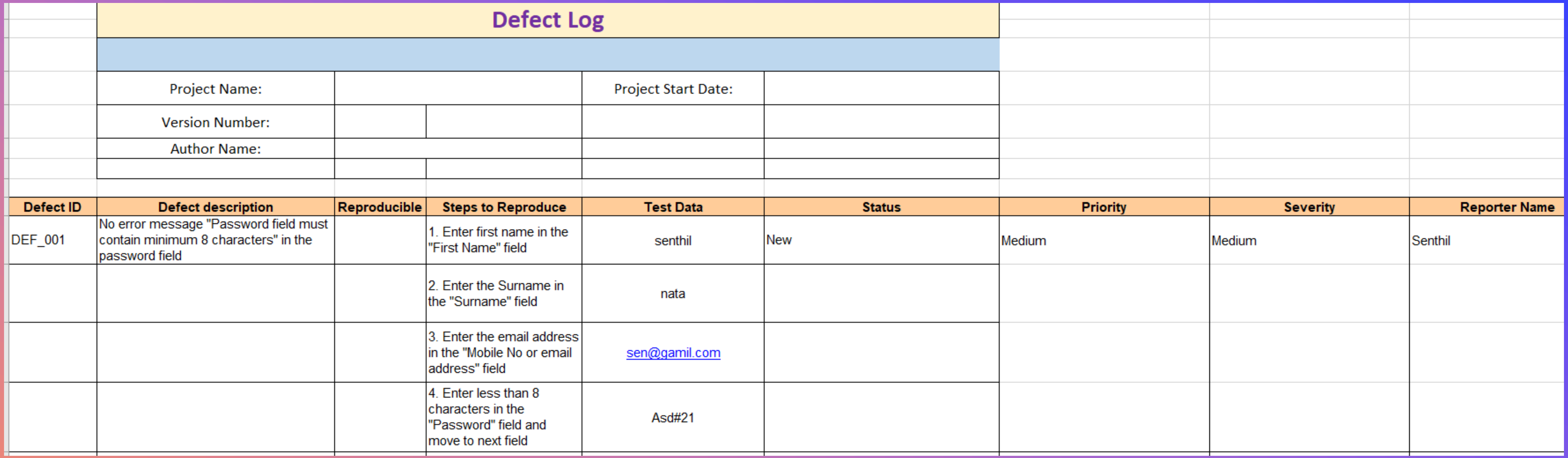
Test Case



Test Case ID	Test Case Description	Test Case Priority	Pre-Condition	Test Step	Test Data	Expected Result	Actual Result	Status
TC_001	To validate facebook account creation functionality with Valid Input	1	Launch browser with the url "https://www.facebook.com/" and navigate to Account Creation page	1. Enter username in the "First Name" filed	senthil	The entered data should be displayed in the "First name" field	The entered data is displayed in the "First name" filed	Pass
				2. Enter surname in the "Surname" field	nata	The entered data should be displayed in the "Surname" field	The entered data is displayed in the "Surname" filed	Pass
				3. Enter email in the "Mobile number or email address" field	sen@gmail.com	The entered data should be displayed in the "Mobile number or email address" field		Pass
				4. Enter password in the "New Password" field	Qwertyu#21	The entered data should be displayed in the "Password" field		Pass
				5. Select Date, Month and Year from "Date of birth" drop down filed	12, Feb, 2022	The selected date, month and year should be displayed in the "Date of birth" field		Pass
				6. Select gender from "Gender" field	Male	The selected gender shoud be selected		Pass
				7. Click on "Sign Up" button	NA	The message "Account Created Successfully" should be displaye		Pass
TC_002	To validate facebook account creation functionality with invalid input	2	Launch browser with the url "https://www.facebook.com/" and navigate to Account Creation page	1. Enter username in the "First Name" filed	senthil	The entered data should be displayed in the "First name" field		Pass
				2. Enter surname in the		The entered data should be		

FACEBOOK TEST SCENARIO

Defect Log

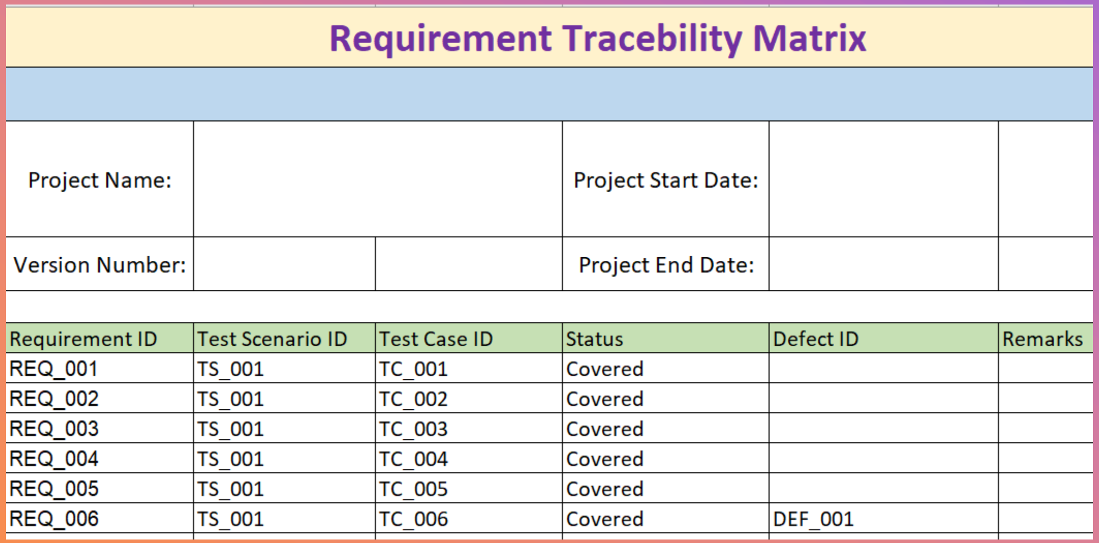


Defect Log

Project Name:		Project Start Date:	
Version Number:			
Author Name:			

Defect ID	Defect description	Reproducible	Steps to Reproduce	Test Data	Status	Priority	Severity	Reporter Name
DEF_001	No error message "Password field must contain minimum 8 characters" in the password field		1. Enter first name in the "First Name" field	senthil	New	Medium	Medium	Senthil
			2. Enter the Surname in the "Surname" field	nata				
			3. Enter the email address in the "Mobile No or email address" field	sen@gamil.com				
			4. Enter less than 8 characters in the "Password" field and move to next field	Asd#21				

RTM



Requirement Tracebility Matrix

Project Name:		Project Start Date:	
Version Number:		Project End Date:	

Requirement ID	Test Scenario ID	Test Case ID	Status	Defect ID	Remarks
REQ_001	TS_001	TC_001	Covered		
REQ_002	TS_001	TC_002	Covered		
REQ_003	TS_001	TC_003	Covered		
REQ_004	TS_001	TC_004	Covered		
REQ_005	TS_001	TC_005	Covered		
REQ_006	TS_001	TC_006	Covered	DEF_001	

DAY – 2

2 1 /08/23

Nabiha Khan

BUSINESS ANALYSIS

Creating Epic, Features, User Story, & Task

Azure DevOps – Scrum Demo

Charts

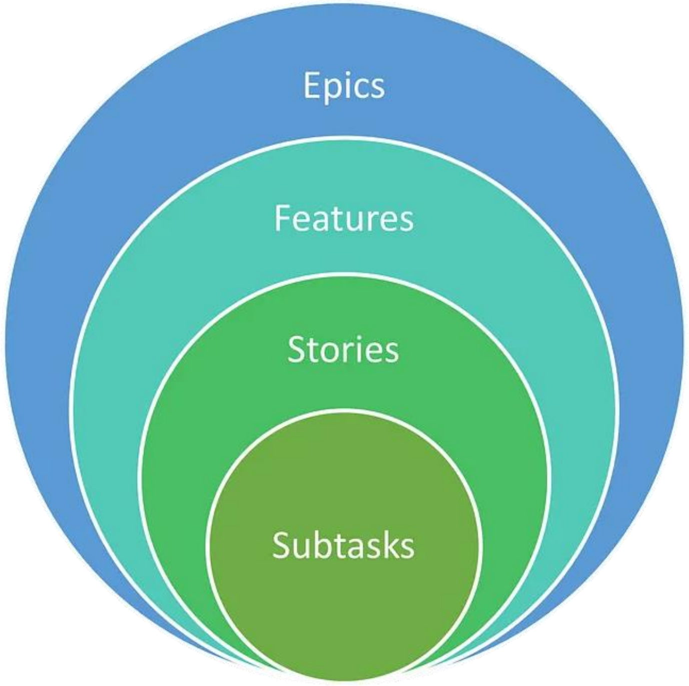
Epic, Features, User Story, & Task

- An **epic** is a collection of user stories with a common purpose and goal.

- **Features** can be termed generically to represent a group of functionality — as opposed to coming from a user's perspective, that many stories focus on instead.

- **User Stories** (often known as just 'Stories') are typically short requirements or requests written from the user's perspective.

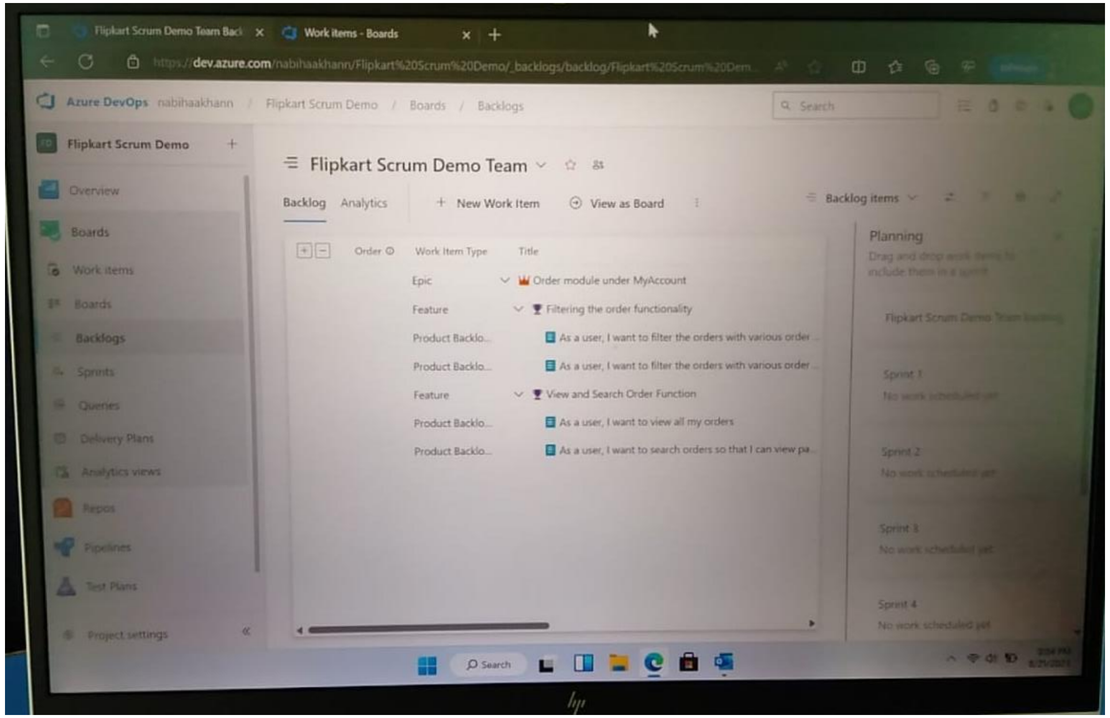
- Developers, testers may break the story down the story further into **tasks** to allow them to estimate, develop, and test it.



Azure DevOps – Scrum Demo

The scrum board allows the scrum team to:

- Identify the tasks that needs to be completed
- Ensure that everyone is working on project tasks
- Keep track of the progress of an active sprint
- Teams hold their daily scrum or stand-up meetings in front of a scrum board to discuss the daily tasks



Flipkart Scrum Demo Team

Work Item Type	Title
Epic	Order module under MyAccount
Feature	Filtering the order functionality
Product Backlo...	As a user, I want to filter the orders with various order ...
Product Backlo...	As a user, I want to filter the orders with various order ...
Feature	View and Search Order Function
Product Backlo...	As a user, I want to view all my orders
Product Backlo...	As a user, I want to search orders so that I can view pa...

Charts

- **Burn-down Chart**

Burndown charts show the status of the remaining quantum of work. The project data is collected using the burndown chart to visually represent how much work or project tasks are still left and how much time is left for doing these tasks.

- **Burn-up Chart**

Burn-up charts are the graphical representation of the amount of work completed in the project over a period. This means that it shows the info, which burn-down charts don’t. This makes them perfect foil to each other.

- **Velocity Chart**

The main purpose of the velocity chart is to overview how much work has been delivered for each sprint. It will help you to have a clear view on future perspectives and on the workload of your team.

DAY – 3

2 2 /08/23

Nabiha Khan

BUSINESS ANALYSIS

DBMS

SQL

PostgreSQL

Normalization

DBMS

- A database is a systematic collection of data
- A DBMS serves as an interface between the database and its end users or programs, allowing users or programs, allowing users to retrieve, update, and manage how the information is organized and optimized.
- DBMS allows users to do the following tasks:

  -> Data Definition

  -> Data Updation

  -> Data Retrieval

  -> User Administration

SQL

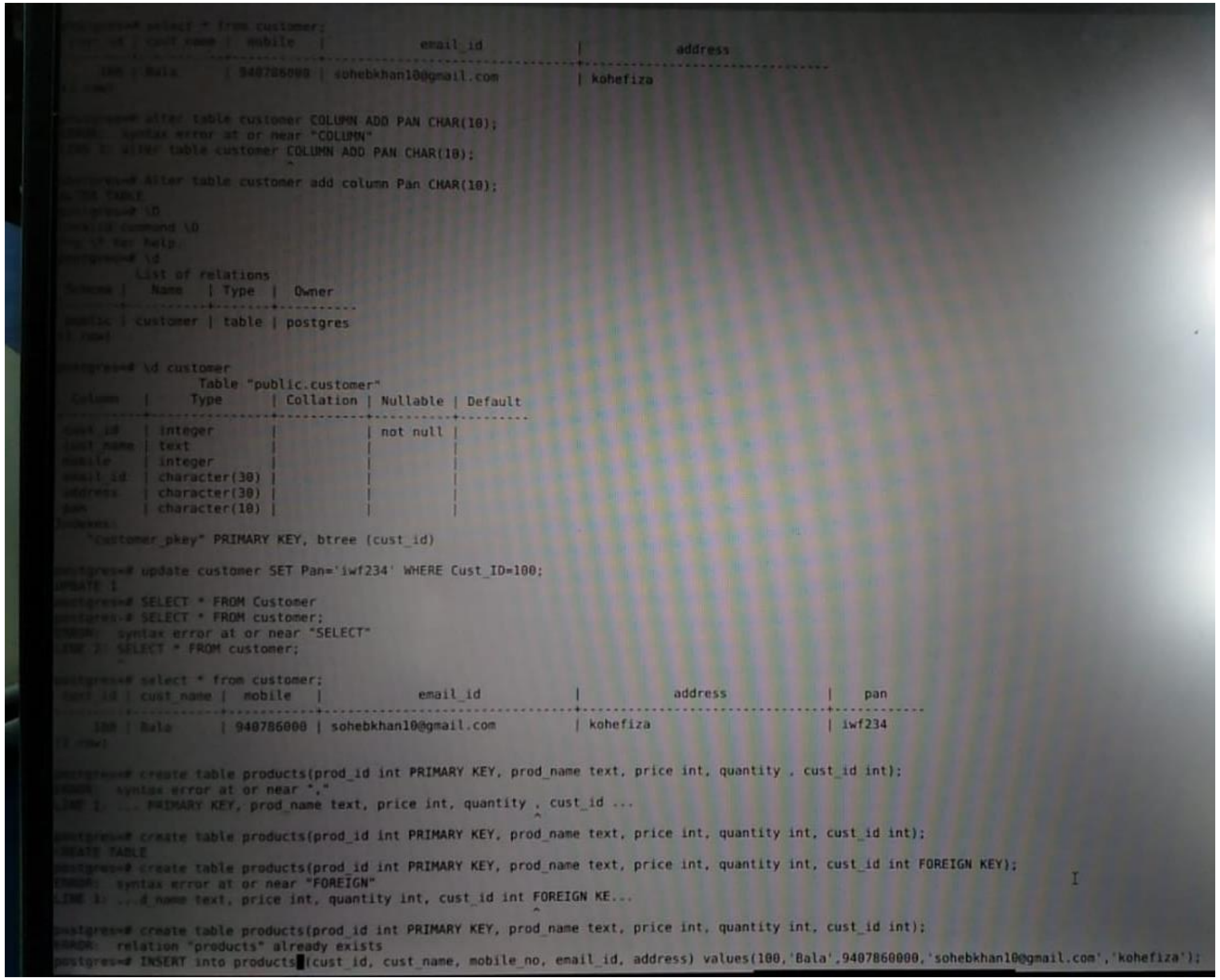
SQL is the standard language for dealing with relational databases.

It allows retrieval and manipulation of data in a relational database.

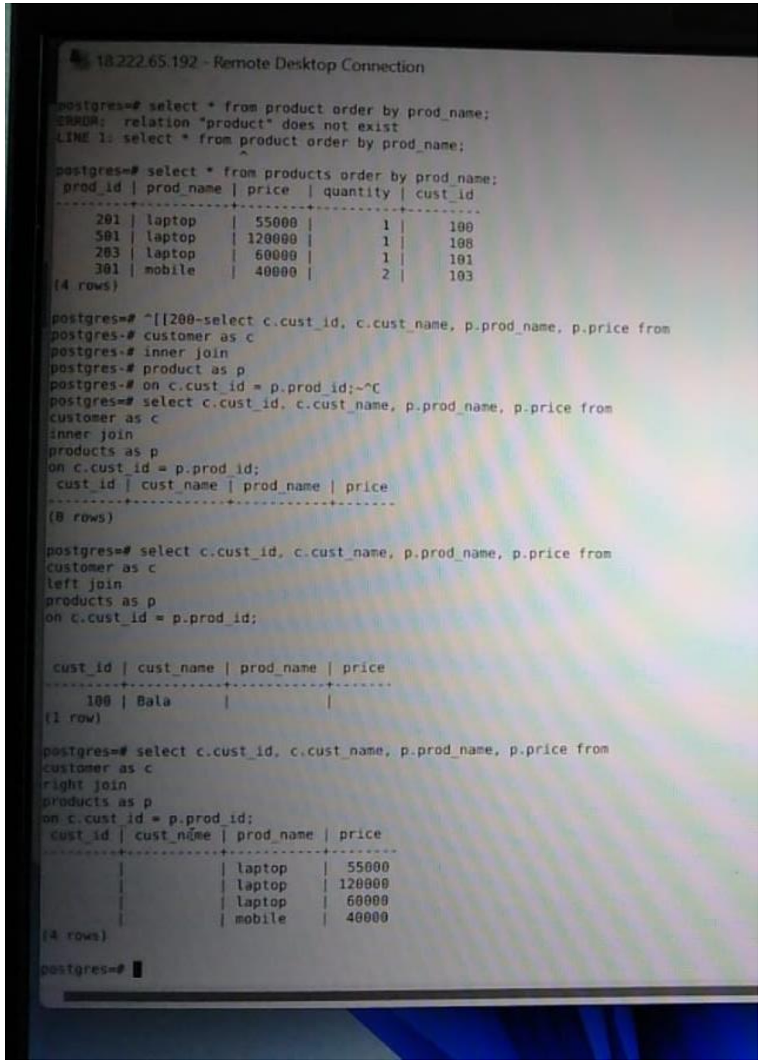
SQL performs the following operations:

- DDL – Data Definition Language (CREATE, DROP, ALTER, TRUNCATE)
- DQL – Data Query Language (SELECT)
- DML – Data Manipulation Language (INSERT, UPDATE, DELETE)
- DCL – Data Control Language (GRANT, REVOKE)
- TCL – Transaction Control Language (COMMIT, ROLLBACK, SAVEPOINT)

PostgreSQL – Hands-On



```
postgres=# select * from customer;
 cust_id | cust_name |  mobile   |                email_id                |                address
---------+-----------+-----------+----------------------------------------+---------------------------------------
     100 | Bala      | 940786000 | sohebkhan10@gmail.com                  | kohefiza
(1 row)

postgres=# alter table customer COLUMN ADD PAN CHAR(10);
ERROR:  syntax error at or near "COLUMN"
LINE 1: alter table customer COLUMN ADD PAN CHAR(10);
                             ^
postgres=# Alter table customer add column Pan CHAR(10);
ALTER TABLE
postgres=# \D
invalid command \D
Try \? for help.
postgres=# \d
          List of relations
 Schema |   Name   | Type  |  Owner
--------+----------+-------+----------
 public | customer | table | postgres
(1 row)

postgres=# \d customer
                  Table "public.customer"
  Column   |     Type      | Collation | Nullable | Default
-----------+---------------+-----------+----------+---------
 cust_id   | integer       |           | not null |
 cust_name | text          |           |          |
 mobile    | integer       |           |          |
 email_id  | character(30) |           |          |
 address   | character(30) |           |          |
 pan       | character(10) |           |          |
Indexes:
    "customer_pkey" PRIMARY KEY, btree (cust_id)

postgres=# update customer SET Pan='iwf234' WHERE Cust_ID=100;
UPDATE 1
postgres=# SELECT * FROM Customer
postgres-# SELECT * FROM customer;
ERROR:  syntax error at or near "SELECT"
LINE 2: SELECT * FROM customer;
        ^
postgres=# select * from customer;
 cust_id | cust_name |  mobile   |                email_id                |                address                |    pan
---------+-----------+-----------+----------------------------------------+---------------------------------------+------------
     100 | Bala      | 940786000 | sohebkhan10@gmail.com                  | kohefiza                              | iwf234
(1 row)

postgres=# create table products(prod_id int PRIMARY KEY, prod_name text, price int, quantity , cust_id int);
ERROR:  syntax error at or near ","
LINE 1: ... PRIMARY KEY, prod_name text, price int, quantity , cust_id ...
                                                             ^
postgres=# create table products(prod_id int PRIMARY KEY, prod_name text, price int, quantity int, cust_id int);
CREATE TABLE
postgres=# create table products(prod_id int PRIMARY KEY, prod_name text, price int, quantity int, cust_id int FOREIGN KEY);
ERROR:  syntax error at or near "FOREIGN"
LINE 1: ...d_name text, price int, quantity int, cust_id int FOREIGN KE...
                                                             ^
postgres=# create table products(prod_id int PRIMARY KEY, prod_name text, price int, quantity int, cust_id int);
ERROR:  relation "products" already exists
postgres=# INSERT into products(cust_id, cust_name, mobile_no, email_id, address) values(100,'Bala',9407860000,'sohebkhan10@gmail.com','kohefiza');
```



18.222.65.192 - Remote Desktop Connection

```
postgres=# select * from product order by prod_name;
ERROR:  relation "product" does not exist
LINE 1: select * from product order by prod_name;
                      ^
postgres=# select * from products order by prod_name;
 prod_id | prod_name | price  | quantity | cust_id
---------+-----------+--------+----------+---------
     201 | laptop    |  55000 |        1 |     100
     501 | laptop    | 120000 |        1 |     108
     203 | laptop    |  60000 |        1 |     101
     301 | mobile    |  40000 |        2 |     103
(4 rows)

postgres=# ^[[200-select c.cust_id, c.cust_name, p.prod_name, p.price from
postgres-# customer as c
postgres-# inner join
postgres-# product as p
postgres-# on c.cust_id = p.prod_id;~^C
postgres=# select c.cust_id, c.cust_name, p.prod_name, p.price from
customer as c
inner join
products as p
on c.cust_id = p.prod_id;
 cust_id | cust_name | prod_name | price
---------+-----------+-----------+-------
(0 rows)

postgres=# select c.cust_id, c.cust_name, p.prod_name, p.price from
customer as c
left join
products as p
on c.cust_id = p.prod_id;


 cust_id | cust_name | prod_name | price
---------+-----------+-----------+-------
     100 | Bala      |           |
(1 row)

postgres=# select c.cust_id, c.cust_name, p.prod_name, p.price from
customer as c
right join
products as p
on c.cust_id = p.prod_id;
 cust_id | cust_name | prod_name | price
---------+-----------+-----------+--------
         |           | laptop    |  55000
         |           | laptop    | 120000
         |           | laptop    |  60000
         |           | mobile    |  40000
(4 rows)

postgres=# █
```

DAY – 4

2 3 /08/23

Nabiha Khan

BUSINESS ANALYSIS

Test Planning

Testing Triangle

Defect Lifecycle

Types of Development

Fitnesse hands-on

Testing Triangle

- It tells us to group software tests into buckets of different granularity
- It gives the developer immediate feedback that code change don’t break existing features
- It has 3 layers in the form of pyramid
- Top to bottom the main layers include:

-> UI/ exploratory tests

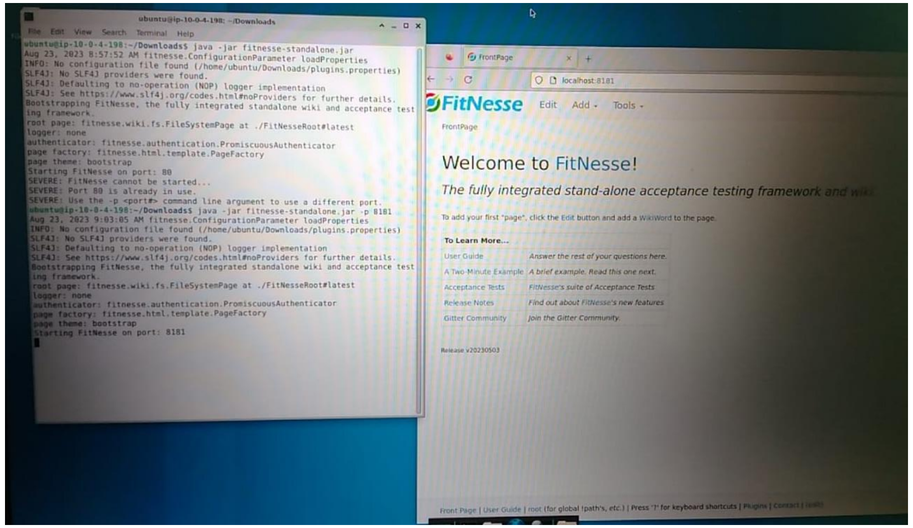
-> Integration tests

-> Unit tests

Development Types

- TDD – Test Driven Development
- ATDD – Acceptance Test Driven Development
- BDD – Behavior Driven Development
- DDD – Domain Driven Development

Fitnesse Hands-on



```
ubuntu@ip-10-0-4-198:~/Downloads$ java -jar fitnesse-standalone.jar
Aug 23, 2023 8:57:52 AM fitnesse.ConfigurationParameter loadProperties
INFO: No configuration file found (/home/ubuntu/Downloads/plugins.properties)
SLF4J: No SLF4J providers were found.
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See https://www.slf4j.org/codes.html#noProviders for further details.
Bootstrapping FitNesse, the fully integrated standalone wiki and acceptance test
ing framework.
root page: fitnesse.wiki.fs.FileSystemPage at ./FitNesseRoot#latest
logger: none
authenticator: fitnesse.authentication.PromiscuousAuthenticator
page factory: fitnesse.html.template.PageFactory
page theme: bootstrap
Starting FitNesse on port: 80
SEVERE: FitNesse cannot be started...
SEVERE: Port 80 is already in use.
SEVERE: Use the -p <port#> command line argument to use a different port.
ubuntu@ip-10-0-4-198:~/Downloads$ java -jar fitnesse-standalone.jar -p 8181
Aug 23, 2023 9:03:05 AM fitnesse.ConfigurationParameter loadProperties
INFO: No configuration file found (/home/ubuntu/Downloads/plugins.properties)
SLF4J: No SLF4J providers were found.
SLF4J: Defaulting to no-operation (NOP) logger implementation
SLF4J: See https://www.slf4j.org/codes.html#noProviders for further details.
Bootstrapping FitNesse, the fully integrated standalone wiki and acceptance test
ing framework.
root page: fitnesse.wiki.fs.FileSystemPage at ./FitNesseRoot#latest
logger: none
authenticator: fitnesse.authentication.PromiscuousAuthenticator
page factory: fitnesse.html.template.PageFactory
page theme: bootstrap
Starting FitNesse on port: 8181
```

ubuntu@ip-10-0-4-198: ~/Downloads
File Edit View Search Terminal Help
FrontPage
localhost:8181
FitNesse
Edit
Add
Tools

FrontPage

Welcome to FitNesse!

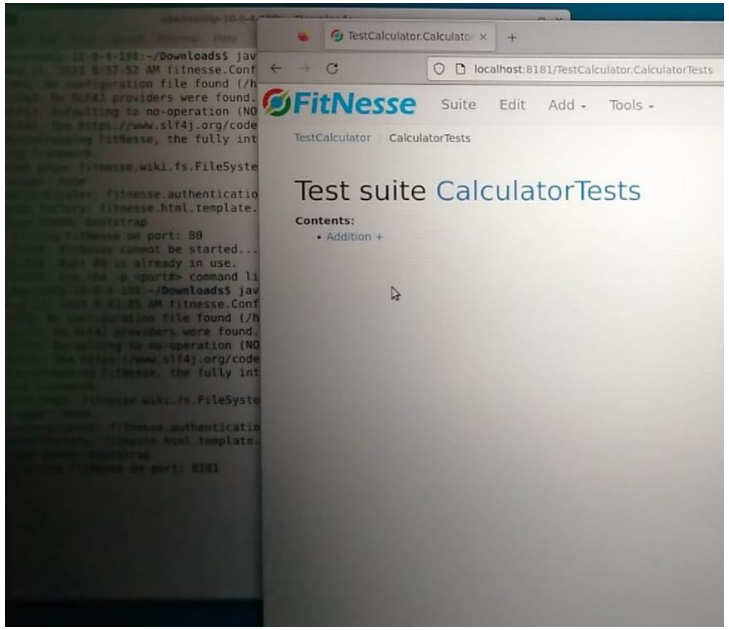
The fully integrated stand-alone acceptance testing framework and wiki

To add your first "page", click the Edit button and add a WikiWord to the page.

To Learn More...	
User Guide	*Answer the rest of your questions here.*
A Two-Minute Example	*A brief example. Read this one next.*
Acceptance Tests	*FitNesse's suite of Acceptance Tests*
Release Notes	*Find out about FitNesse's new features*
Gitter Community	*Join the Gitter Community.*

Release v20230503

Front Page | User Guide | root (for global !path's, etc.) | Press '?' for keyboard shortcuts | Plugins | Contact | Legal



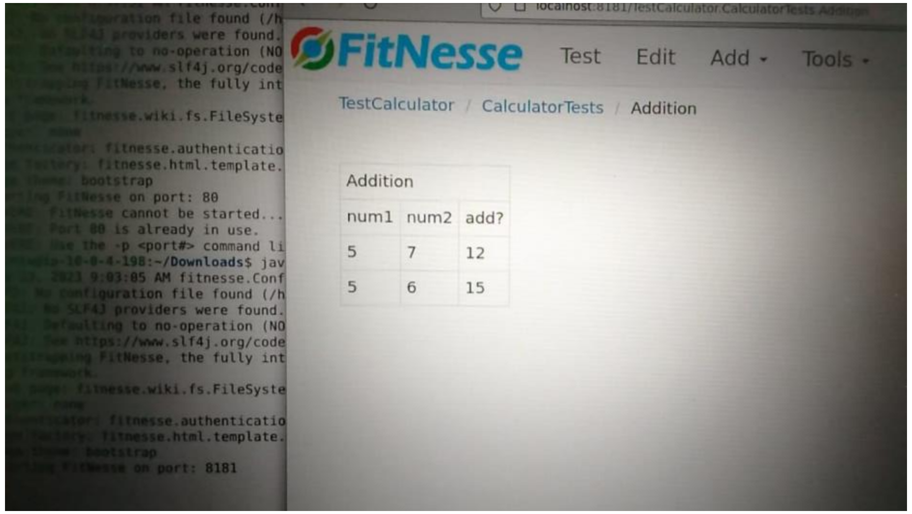
TestCalculator.Calculator
localhost:8181/TestCalculator.CalculatorTests
FitNesse
Suite
Edit
Add
Tools

TestCalculator / CalculatorTests

Test suite CalculatorTests

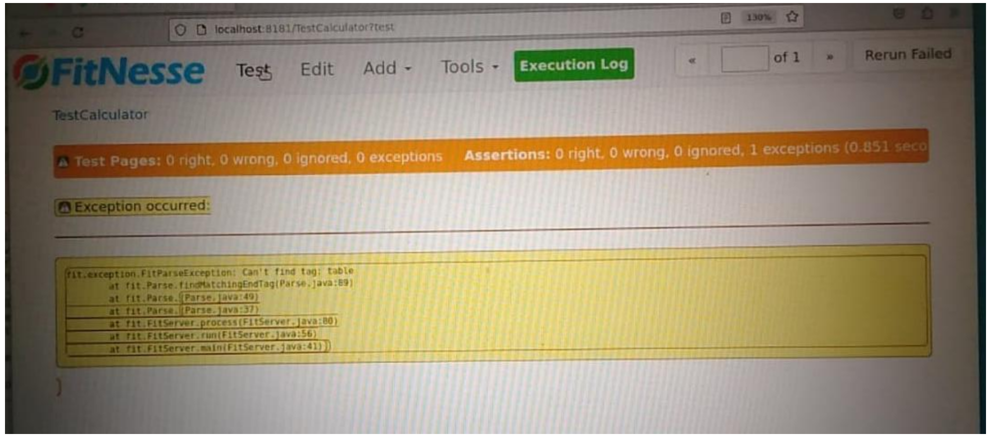
Contents:

- Addition +



TestCalculator / CalculatorTests / Addition

Addition		
num1	num2	add?
5	7	12
5	6	15



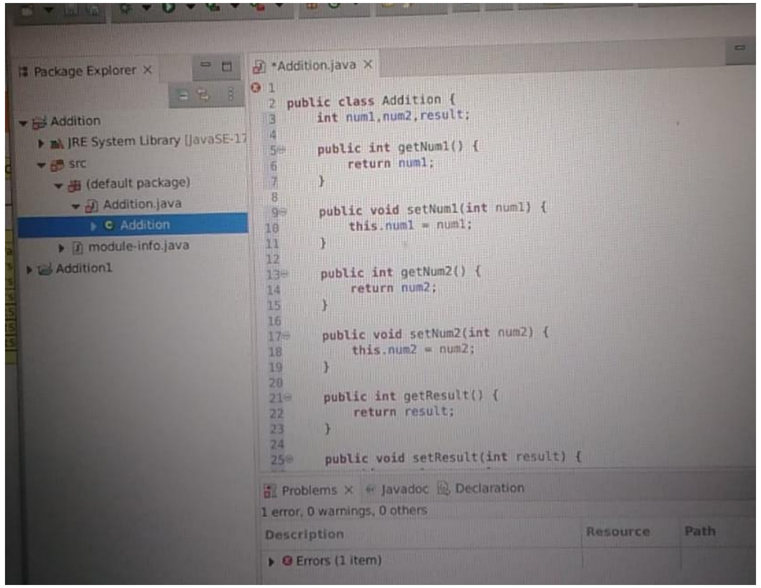
TestCalculator

Test Pages: 0 right, 0 wrong, 0 ignored, 0 exceptions Assertions: 0 right, 0 wrong, 0 ignored, 1 exceptions (0.851 seco

Exception occurred:

```
fit.exception.FitParseException: Can't find tag: table
        at fit.Parse.findMatchingEndTag(Parse.java:89)
        at fit.Parse.(Parse.java:49)
        at fit.Parse.(Parse.java:37)
        at fit.FitServer.process(FitServer.java:80)
        at fit.FitServer.run(FitServer.java:56)
        at fit.FitServer.main(FitServer.java:41))
```

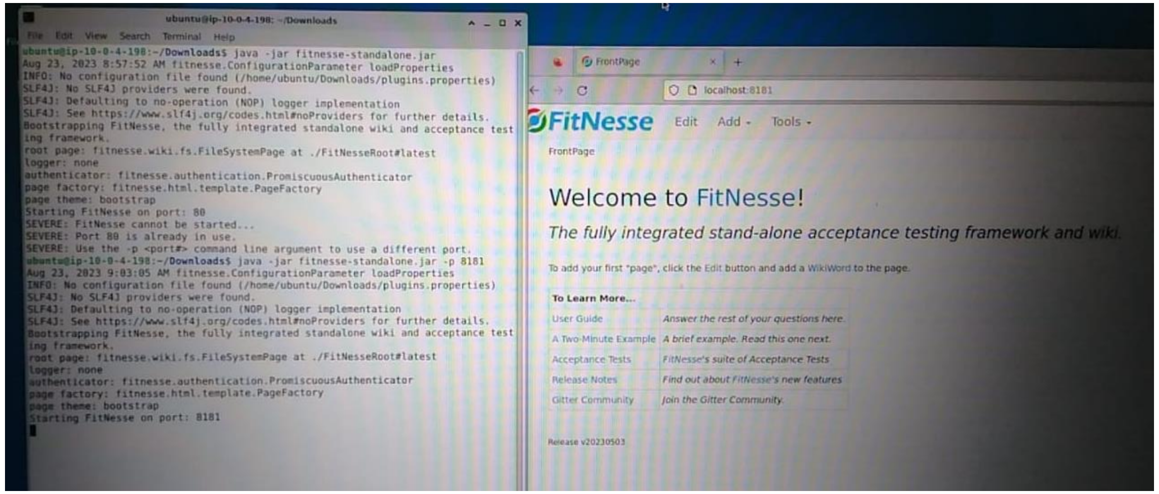
)



```java

public class Addition {
    int num1,num2,result;

    public int getNum1() {
        return num1;
    }

    public void setNum1(int num1) {
        this.num1 = num1;
    }

    public int getNum2() {
        return num2;
    }

    public void setNum2(int num2) {
        this.num2 = num2;
    }

    public int getResult() {
        return result;
    }

    public void setResult(int result) {
```

1 error, 0 warnings, 0 others

Description	Resource	Path
Errors (1 item)		



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FrontPage

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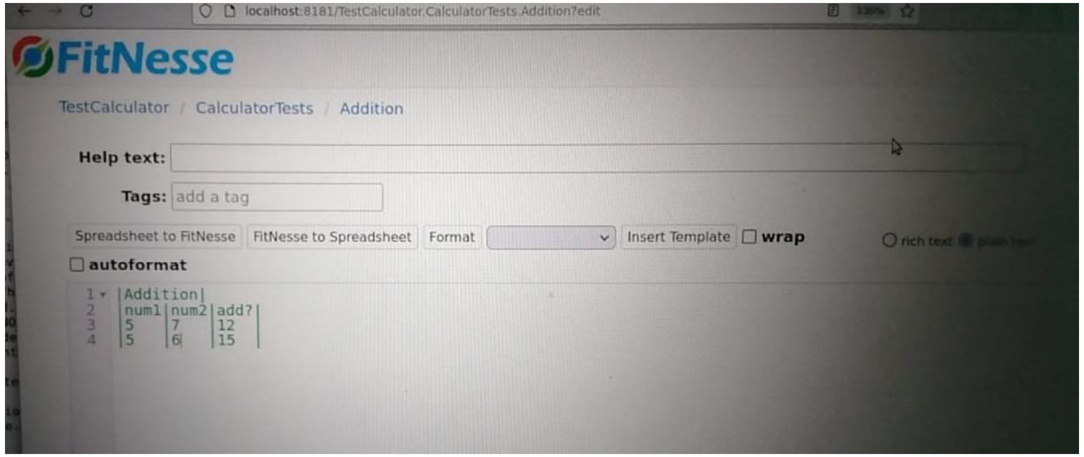
Release v20230503



TestCalculator / CalculatorTests / Addition

Help text:

Tags: add a tag

☐ **autoformat**

```
|Addition|
num1|num2|add?|
5    |7   |12  |
5    |6   |15  |
```

DAY – 5

24/08/23

Nabiha Khan

BUSINESS ANALYSIS

GitHub Actions (CI/CD workflow)

Problems in Agile

Devops LifeCycle – 7 C’s

DevOps Life Cycle

The process mainly consists of the following 7 stages:

- Continuous Development
- Continuous Integration
- Continuous Testing
- Continuous Deployment
- Continuous Monitoring
- Continuous Feedback
- Continuous Operations

DAY – 6

2 5 /08/23

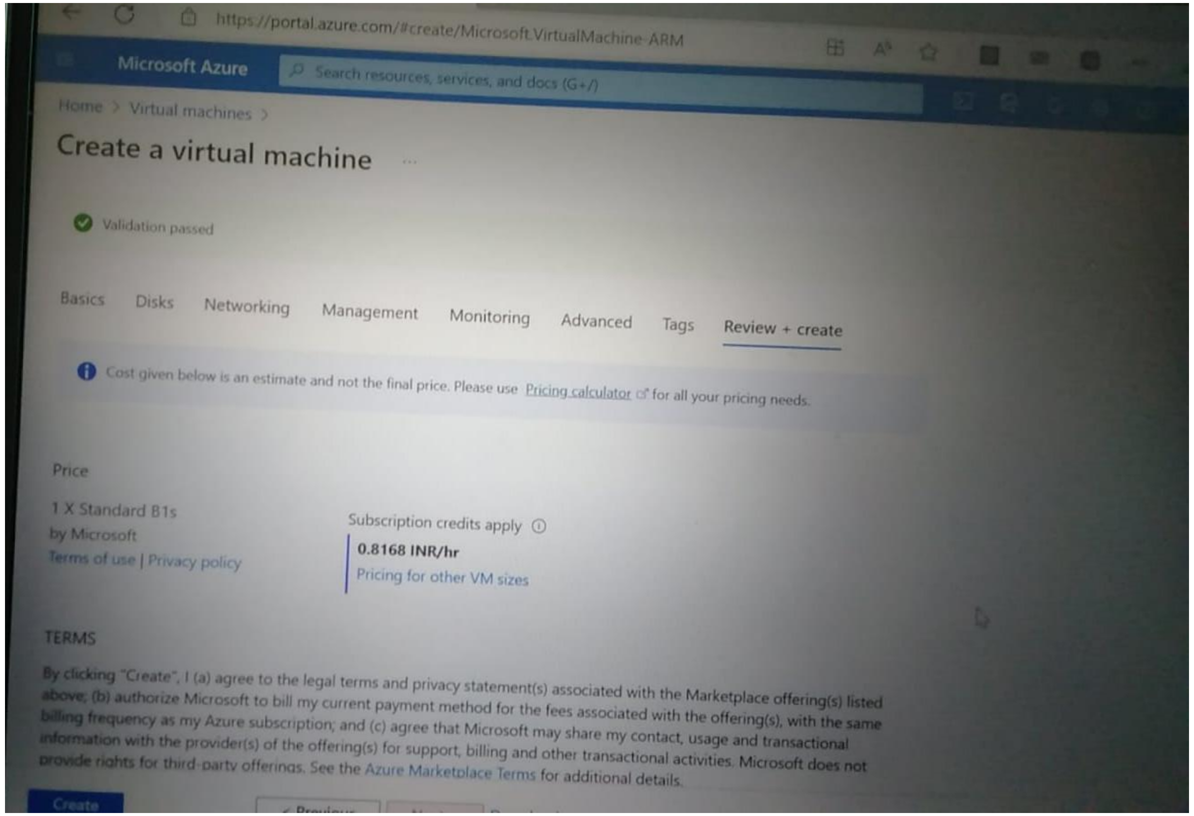
Nabiha Khan

BUSINESS ANALYSIS

GitHub Actions (CI/CD workflow)

Git & Docker

Cloud



https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
Search resources, services, and docs (G+/)
Home > Virtual machines >

Create a virtual machine

✓ Validation passed

Basics
Disks
Networking
Management
Monitoring
Advanced
Tags
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Cost given below is an estimate and not the final price. Please use Pricing calculator for all your pricing needs.

Price

1 X Standard B1s
by Microsoft
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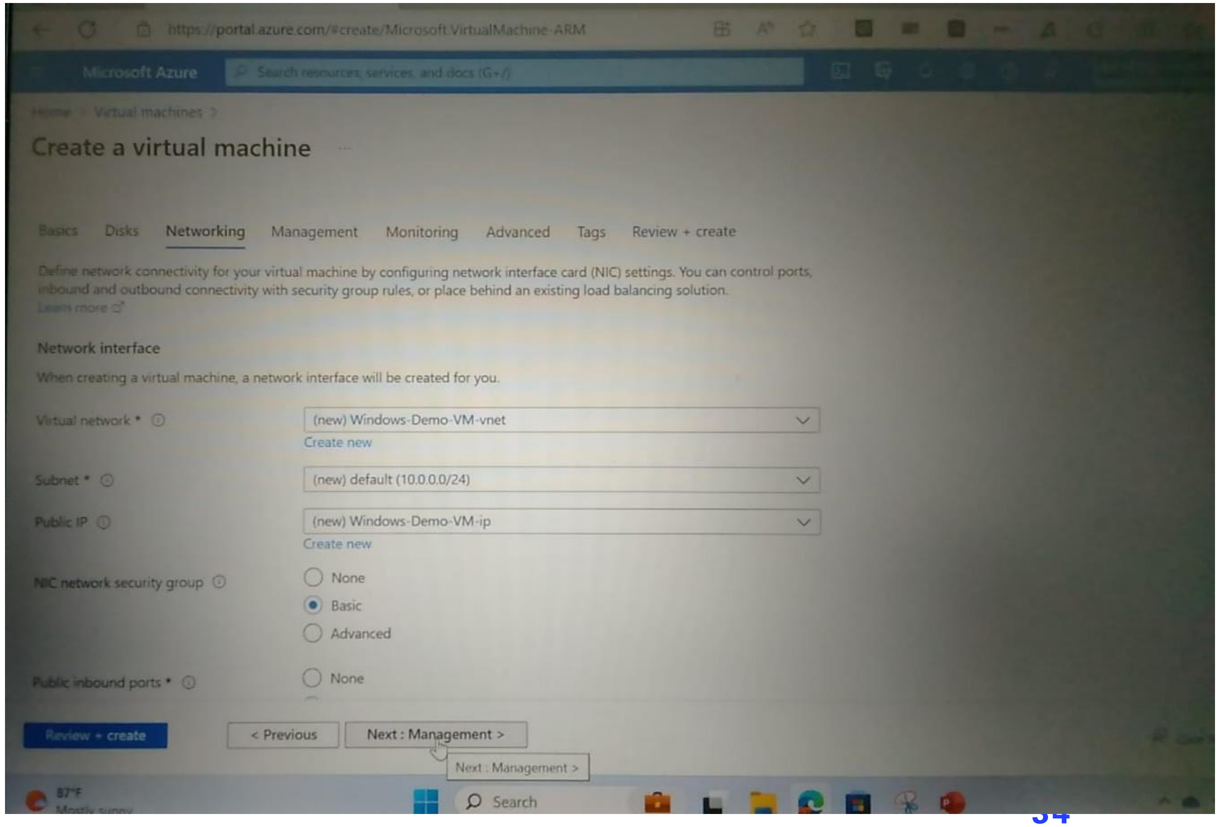
Subscription credits apply
0.8168 INR/hr
Pricing for other VM sizes

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the Azure Marketplace Terms for additional details.



https://portal.azure.com/#create/Microsoft.VirtualMachine-ARM
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Home > Virtual machines >

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Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.
Learn more

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * : (new) Windows-Demo-VM-vnet
Create new

Subnet * : (new) default (10.0.0.0/24)

Public IP : (new) Windows-Demo-VM-ip
Create new

NIC network security group : ○ None ● Basic ○ Advanced

Public inbound ports * : ○ None

DAY – 7

2 8 /08/23

Nabiha Khan

BUSINESS ANALYSIS

Case Study