

# Day-1 (Mansi Mardiya)

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- 1) Introduction Session
- 2) Discuss BizTech 200% Success Mantra
- 3) Perform 3 Different Task :
  - a) Accuracy
  - b) Logic
  - c) Analytic
- 4) Discus project management Agile
- 5) Give 5 Task

# Day-2 (Mansi Mardiya)

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## Q-1)List of 5 cutting-edge technology

Ans:

**a) Augmented Reality :**

Augmented Reality refers to the ability to overlay information on a live video feed of the world.

Augmented ID Program is being developed to help direct to the nearest pubs or restaurants just by pointing their cameras in whatever direction. this technology works as a personal dynamic GPS system.

**b) Babel Fish Earbuds:**

Google has already developed earbuds that can translate 40 languages in real-time. It won't be long before this technology can translate even more languages with greater proficiency.

link:<https://qz.com/1094638/google-goog-built-earbuds-that-translate-40-languages-in-real-time-like-the-hitchhikers-guides-babel-fish/>

**c) Blockchain:**

Blockchain helping create a high-perfect privacy and security experience. The idea is for information to be distributed but not copied, thus allowing for transactions without risking valuable information getting into the wrong hands.

Link: <https://blockgeeks.com/guides/what-is-blockchain-technology/>

**d) Artificial intelligence:**

This technology involves the creation of machines that possess artificial consciousness or self-awareness like humans. Through the help of artificial intelligence, analyzing data through complex computer models becomes possible. Artificial consciousness is envisioned to come out in the field of robotics, such as a robot maid that can perform household chores.

**d) NanoTechnology:**

It is not just by making the process faster but also by making computing devices a lot smaller. Scientists believe that devices as small as cells may someday navigate through the human body to serve as artificial immune systems.

## **Q-2)What is React JS & React Native.**

Ans:

❖ **ReactJS:**

- reactJS is an open source frontend Javascript library.
- Which is used for building user interface especially for **Single page Application**.
- It is used for handling view layer for web & mobile apps.
- React was created by **jordan walke**.
- **React JS features:**
  1. Support server side rendering.
  2. Follows unidirectional data flow or data binding.

3. It used VirtualDom instead RealDom considering that RealDom Manipulations are expensive.

- **React JS components:**

There are 2 types of components:

- A) Function components:

Those are pure javascript function that accept props object as first parameter and return react element.

- B) Class components:

A class component requires you to extend from React.Component and create a render function which returns a React element. This requires more code but will also give you some benefits which you will see later on.

- **Redux(Library):**

- One of the hottest library for frontEnd development.
- Application developed with redux are easy to test & can run in different environment showing consist behaviour.

Components of redux:

1. **Action:**

It is an object that describes what happened.

2. **Reducer:**

It is a place to determine how the state will change.

3. **Store:**

State /object tree of the entire application is saved in the store

4. **View:**

Simply display the data provided by the store.

- **State and props:**

**State:**

State of a component is an object that holds some information that may change over the lifetime of the component.

### Props:

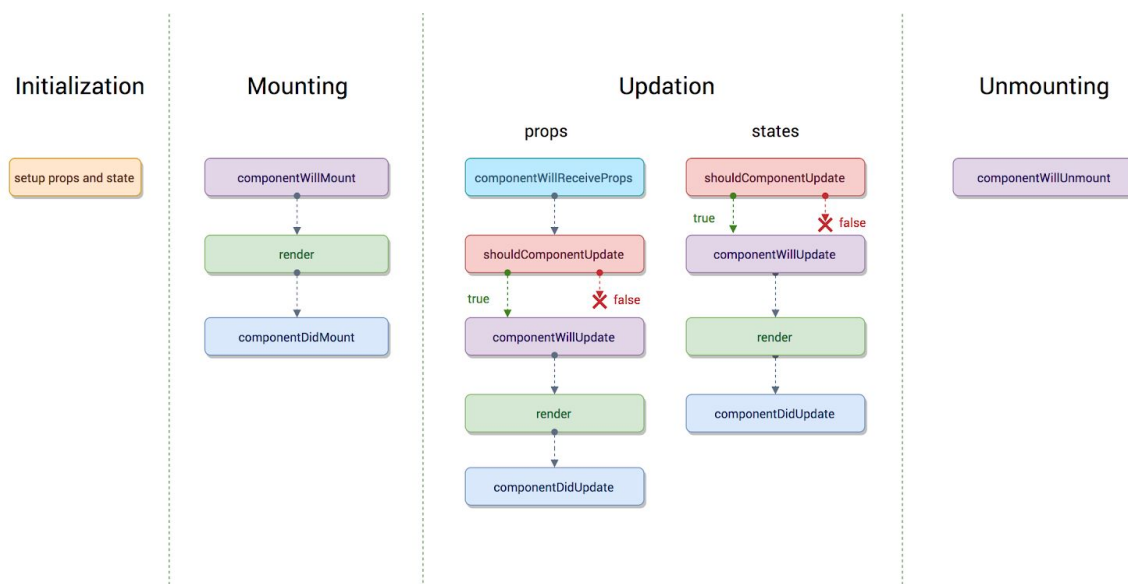
Props are input to components. They are single values or objects containing a set of values that are passed to component on creation using naming convention similar to html tag attributes.

- **Life Cycle:**

This is what the lifecycle methods in ReactJs provide us, so that the developer can produce a quality application and make sure the developer can really plan what and how to do at various points of birth, growth or death of UI interfaces.

There are 4 types:

1. **Initialization:**
2. **Mounting:**
3. **Update**
4. **Unmounting**



### ◆ React Native:

React Native is a JavaScript framework for writing real, natively rendering mobile applications for iOS and Android. It's based on React, Facebook's JavaScript library for building user interfaces, but instead of targeting the browser, it targets mobile platforms

Advantage of React Native:

- 1). Community-driven
- 2) Maximum code reuse & cost saving
- 3) Strong performance for mobile environments
- 4) Modular and intuitive architecture similar to React

Platform is same as ReactJS.

### Q-3) what is team culture

Ans:

Link:

<https://www.youtube.com/watch?v=9wqeOtlZqso>

**Description:**

**Team:** A group of people working together to achieve specific goals.

**T:**Together.

**E:**Everyone.

**A:**Achieve.

**M:**More.

- Every team has a specific goal.
- Every team member have useful knowledge and skills.
- Team member have to share their works and ideas.
- Support other team member.

- Encourage each other.

#### Q-4) MicroSoft Learning Virtual Academy.

Ans.

- The Microsoft Virtual Academy (MVA) is a free online school with courses that cover Microsoft-related topics and specific Microsoft products.
- As a technology company Microsoft offers learning resources. For people who want to develop technical skills and confidence as well as build career opportunities.
- Most often allowing them to leverage and skill up in their tools and technologies. These platforms include, [Microsoft Virtual Academy](#) (MVA), [Cloud Society Platform](#), Microsoft courses on edX and Microsoft Learning.

#### ❖ C#:

- C# is a simple, modern, general-purpose, object-oriented programming language developed by Microsoft within its .NET initiative led by Anders Hejlsberg.
- C# programming is very much based on C and C++ programming languages, so if you have a basic understanding of C or C++ programming, then it will be fun to learn C#.
- C# is designed for Common Language Infrastructure (CLI), which consists of the executable code and runtime environment that allows use of various high-level languages on different computer platforms and architectures.

The following reasons make C# a widely used professional language :

- It is a modern, general-purpose programming language
- It is object oriented.
- It is component oriented.
- It is easy to learn.
- It is a structured language.
- It produces efficient programs.
- It can be compiled on a variety of computer platforms.

- It is a part of .Net Framework.
- C# constructs closely follow traditional high-level languages, C and C++ and being an object-oriented programming language. It has strong resemblance with Java, it has numerous strong programming features that make it endearing to a number of programmers worldwide.

Following is the list of few important features of C# –

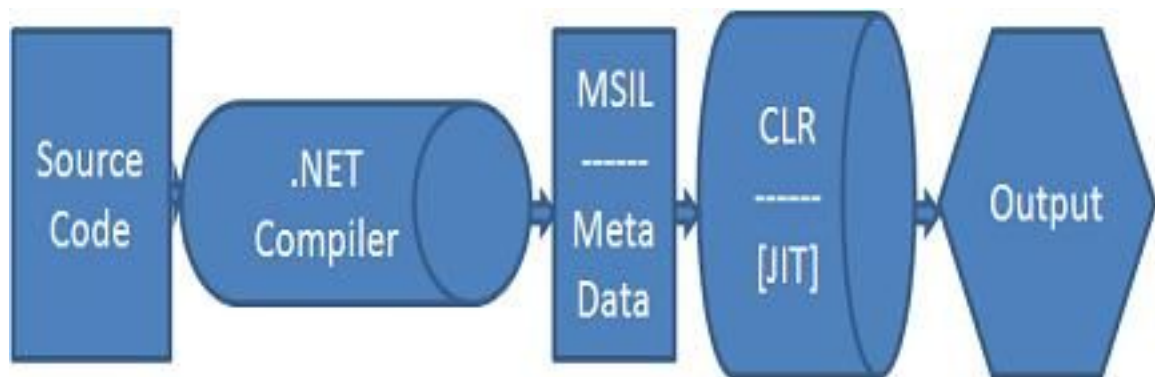
- Boolean Conditions
- Automatic Garbage Collection
- Standard Library
- Assembly Versioning
- Properties and Events
- Delegates and Events Management
- Easy-to-use Generics
- Indexers
- Conditional Compilation
- Simple Multithreading
- LINQ and Lambda Expressions
- Integration with Windows

#### ◆ **.Net:**

The .Net framework is a software development platform developed by Microsoft. The framework was meant to create applications, which would run on the Windows Platform. The first version of the .Net framework was released in the year 2002.

The .Net framework can be used to create both - Form-based and Web-based applications. [Web services](#) can also be developed using the .Net framework. Microsoft .Net Languages Source Code are compiled into Microsoft Intermediate Language (MSIL) . MSIL we can call it as Intermediate Language (IL) or Common Intermediate Language (CIL).

Microsoft Intermediate Language (MSIL) is a CPU independent set of instructions that can be converted to the native code. Metadata also created in the course of compile time with Microsoft Intermediate Language (MSIL) and stored it with the compiled code . Metadata is completely self-describing . Metadata is stored in a file called Manifest, and it contains information about the members, types, references and all the other data that the Common Language Runtime (CLR) needs for execution.



The Common Language Runtime (CLR) uses metadata to locate and load classes, generate native code, provide security, and execute Managed Code.

#### ◆ VB:

- VB.NET is an update to Visual Basic that targets Microsoft's .NET Framework.
- VB.NET has a lot of similarities to Visual Basic but also some differences.
- VB.NET is an object-oriented language, which supports the abstraction, encapsulation, inheritance, and polymorphism features.
- It is the most productive tool for rapidly creating a wide range of Windows, Web, Mobile, and Office applications built on the .NET Framework.



- The Visual Basic language is designed to be human readable and accessible to everyone from novice programmers to advanced system architects.
- All of this is built on top of the .NET Framework, which guarantees that programs written in Visual Basic run with unsurpassed scalability and reliability.
- The .NET Framework provides VB.Net programmers with the ability to create fully object oriented programs (OOPs), just like the ones created using Java, C# or C++.
- Also programs written in VB.Net will interoperate seamlessly with programs written in any other .NET languages such as Visual C#, Visual J#, or Visual C++.
- Using VB.NET, you can create a wide variety of applications, such as a
  1. Console Applications, that displays its output in an MS-DOS-like window,
  2. Windows Applications that often displays a form-based interface,
  3. Web Applications
  4. Web Services
  5. Mobile Applications etc.

#### ◆ **SQL:**

SQL is a database computer language designed for the retrieval and management of data in a relational database. SQL stands for Structured Query Language.

SQL is a language to operate databases; it includes database creation, deletion, fetching rows, modifying rows, etc. SQL is an ANSI (American National Standards Institute) standard language, but there are many different versions of the SQL language.

SQL is the standard language for Relational Database System. All the Relational Database Management Systems (RDMS) like MySQL, MS Access, Oracle, Sybase, Informix, Postgres and SQL Server use SQL as their standard database language.

SQL is widely popular because it offers the following advantages –

- Allows users to access data in the relational database management systems.
- Allows users to describe the data.
- Allows users to define the data in a database and manipulate that data.
- Allows to embed within other languages using SQL modules, libraries & pre-compilers.
- Allows users to create and drop databases and tables.
- Allows users to create view, stored procedure, functions in a database.
- Allows users to set permissions on tables, procedures and views.

## SQL Commands

The standard SQL commands to interact with relational databases are CREATE, SELECT, INSERT, UPDATE, DELETE and DROP.

### 1. DDL - Data Definition Language

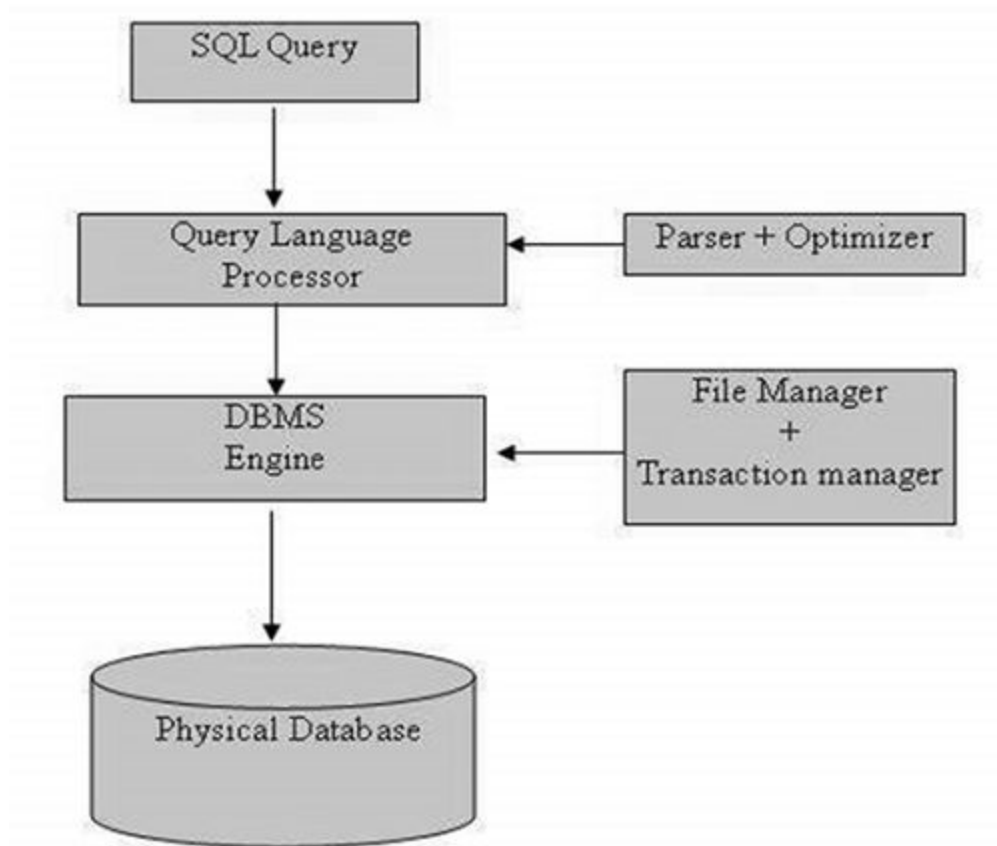
**Create,Alter,Drop**

### 2. DML - Data Manipulation Language

**Select ,Insert,Update,Delete**

### 3. DCL - Data Control Language

**Revoke,Grant**



## Q-5) Google Product:

Ans

1. [Google Docs](#) – Create a new document and edit with others at the same time – from your computer, phone or tablet.
2. [Google Forms](#) – Create a new survey on your own or with others at the same time.
3. [Google Hangouts](#) – Hangouts bring your conversations to life with photos, emoji, and group video calls for free.
4. [Google Mail \(Gmail\)](#) – Gmail is a new kind of webmail, built on the idea that email can be more intuitive, efficient, and useful.

5. [Google Maps](#) & [Google Map Maker](#) – Find local businesses, view maps and get driving directions. With Map Maker you can edit the map in more than a hundred countries and watch your edits go into Google Maps.
6. [Google Slides](#) – Create a new presentation and edit with others at the same time – from your computer, phone or tablet.
7. [Google Translate](#) – Free online language translation service instantly translates text and web pages.
8. [Google Voice](#) – Google Voice gives you one number for all your phones, voicemail as easy as email, free US long distance, low rates on international calls, and more. Tip: The first minute of calls to phone numbers in twenty-five different countries [is now free](#) with Hangouts.
9. [Google Sheets](#) – Create a new spreadsheet and edit with others at the same time – from your computer, phone or tablet.
10. [Google Duo](#) – Get closer to everyone you love with simple, high-quality video calling on iOS and Android.

## Day-3 (Mansi Mardiya)

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Q-1) Company Hierarchy

Ans

- The definition of **hierarchy** is a group of people or things arranged in order of rank or the people that rank at the top of such a system.
- An **example** of **hierarchy** is the corporate ladder.

- Software company hierarchy reflects the roles, authorities and responsibilities for software professionals and contribute towards the growth and development of the company.

Software company hierarchy is described below in descending order. Just have a look-

1. Senior or top level professional
2. Middle level professional
3. Entry level professional

1) Senior or top level professional:

These senior professional are highly experienced and practised and are accountable for designing, creating and maintaining effective business connection management plans.

- Board of directors
- Chief Executive Officer (CEO)
- Chief Operation Officer (COO)
- Chief Finance Officer (CFO)
- Chief Technology Officer (CTO)
- Chief Revenue Officer (CRO)
- Chief Visionary Officer (CVO)
- President
- Vice president

2) Middle level professional:

Middle level officials play the most important and essential role in growth of software company. They have a strong impact on organization's performance and development than other professionals of the organization.

- Senior Project Manager
- Project Director/Project Head
- Project manager
- Senior Project leader

- Project leader
- Senior technical Head
- Technical Head
- Senior Quality Analyst
- Senior Testing Officer
- Senior Resource Management Officer
- Human Resource Manager

### 3) Entry level professional:

The fresher are appointed at this level. This level is considered to be the stepping stone of their career. They are responsible for preparing reports and maintain records of work accomplishments and administrative information, as required by the middle level officials.

- Senior SoftWare developer
- SoftWare developer
- Junior Developer
- Programmer analyst
- Software Testing Officer
- Quality Testing Officer
- Team Leader



Q-2) Different Type of Version Control Tools:

Ans

- Version Control Software VCS is also referred as SCM (Source Code Management) tools or RCS (Revision Control System)
- Version control is a way to keep a track of the changes in the code so that if something goes wrong, we can make comparisons in different code versions and revert to any previous version that we want.
- It is very much required where multiple developers are continuously working on /changing the source code.

## 1) Git:

Git is one of the best version control tools that is available in the present market.

### **Features**

- Provides strong support for non-linear development.
- Distributed repository model.
- Compatible with existing systems and protocols like HTTP, FTP, ssh.
- Capable of efficiently handling small to large sized projects.
- Cryptographic authentication of history.
- Pluggable merge strategies.
- Toolkit-based design.
- Periodic explicit object packing.
- Garbage accumulates until collected.

## 2) TFS :

It is based on client-server, distributed repository model and has a proprietary license. It provides Windows, cross-platform OS support through Visual Studio Team Services (VSTS).

### **Features**

- Provides entire application lifecycle support including source code management, project management, reporting, automated builds, testing, release management and requirement management.
- Empowers DevOps capabilities.
- Can be used as a backend for several IDEs.
- Available in two different forms (on-premises and online (known as VSTS)).



3)VSTS : VSTS (Visual Studio Team Services) is a distributed, client-server repository model based version control tool provided by Microsoft. It follows the Merge or Lock concurrency model and provides cross-platform support.

### Features

- **Programming Language:** C# & C++
- Changeset storage method.
- File and Tree scope of change.
- **Network protocols supported:** SOAP over HTTP or HTTPS, Ssh.
- VSTS offers elastic build capabilities thru build hosting in Microsoft Azure.
- DevOps enables

## Q-3) Productive Tools: Git & Github

Ans

### ❖ What is Git?

- Git is a VCS – *Version Control System*. What that really means is, Git helps us manage our project files.
- Git exists is to keep track of the entire history of things that you are working on.
- This is especially helpful for software developers because when you are working on a project you first build a basic version of it and then try to improve it by adding new features (or) just experiment with things.
- This whole process of experimenting with new features is incredibly error prone and you might wanna revert back to your original code.

## ❖ What is Github?

- GitHub is a web-based service for version control using Git.
- Basically, it is a social networking site for developers. You can look at other people's code, identify issues with their code and even propose changes.
- This also helps you in improving your code.

## Some Basic Terminology

Repository: A Git Repository, or a repo, is a folder that you've told Git to help you track file changes.

Branch: A branch is an independent line of development. You can think of it as a brand new working directory.

Fork: A fork is a personal copy of another user's repository that lives on your account.

Clone: A clone is simply a copy of a repository that lives on your computer instead of on a server.

Commit: A commit is a set of one or more changes to a file(or a set of files). Every time you save, it creates a unique ID("hash") which helps it keep track of the history.

Master: The default development branch. Whenever you create a git repo, a branch named “master” is created which becomes the default active branch.

Q-4) Task Management Tools:

Ans

1. Wrike
  2. Monday.com
  3. Clarizen
  4. ProjectManager
  5. Meister Task
  6. Zoho Projects
  7. Workamajig Platinum
  8. Backlog
  9. Bitrix24
  10. Nuvro
- 

Q-5) Coding Conversion :

Ans

**Coding conventions** are a set of guidelines for a specific **programming** language that recommend **programming** style, practices, and methods for each aspect of a program written in that language. ... These are guidelines for software structural quality.



