

# .NET DEVELOPMENT COURSE CONTENT

## 1. Personal Skill Set

- Aptitude
- Arithmetic & Reasoning
- Communication

## 2. Technical Skill Set

### Computing Fundamentals

- Computing Architecture
- Hardware Components
- Application Types

### 3. Operating System Fundamentals

- OS Concepts—Kernel, Shell, UI
- Windows Versions
- Unix & Linux variants
- Command Shell
- Basic Commands usage
- Installation of OS
- User & Group Management
- Security
- File System Commands
- Software/Package Management
- Services & Process Management
- System Administration
- Text Editors Usage, Filters and I/O Redirections

### 4. Networking Basic

- What is Networking?
- TCP/IP Protocol
- IP Address
- Subnetting
- Networking Devices
- LAN, WAN, Intranet and internet
- Networking Ports
- Telnet
- SSH
- FTP
- DHCP

- DNS
- HTTP Server
- Remote Desktop Servers
- Firewalls
- Active Directory & LDAP
- Network Troubleshoot Tools

## 5. Software Engineering

### SDLC

- Waterfall Model
- Incremental Model
- Iterative Model
- V Model

### ○ Agile

- Why Agile
- The Triple Constraints in Agile
- Agile Approach to Planning
- Agile Manifesto
  - Agile Principles
- Agile Methodologies
  - Scrum Process
  - Kanban
- Agile Planning
  - Levels/Epics
  - User Stories
  - Release Planning
  - Product Backlog
  - Sprint Planning
- Estimations
  - Story Points
  - T-shirt Size
- Team Velocity
  - Metrics
    - Sprint Burndown Chart
    - Sprint Velocity
  - Daily Scrum
  - Sprint Review
  - Demo
  - Sprint Retrospective
- Agile Frameworks: Scrum & Kanban
- Tools: UML, Visio

# .NET DEVELOPMENT COURSE CONTENT

## 6.Database Fundamentals

### MySQL

- o CRUD – CREATE, READ, UPDATE AND DELETE
- o CONDITIONS AND OPERATORS
- o JOINS
- o FUNCTIONS
- o DATATYPES
- o DATABASE EXPORT AND IMPORT

### MongoDB

- o Installation
- o CRUD – CREATE, READ, UPDATE AND DELETE
- o MongoDB Tools – NoSQL Manager, RoboMongo

## 7.Programming Fundamentals

- o Introduction
- o Understanding Programming
- o Values and Variables
- o Functions to repeat actions
- o Parameterized Functions
- o Variables and Scope
- o User Input Capture
- o Conditional Tests
- o Loops
- o Arrays
- o Linked Lists
- o Stacks and Queues
- o Trees
- o Heaps
- o Sorting Algorithms
- o Return Values
- o API
- o OOPS Introduction
- o Objects and Classes
- o Inheritance
- o Polymorphism
- o Debugging
- o Refactor Code
- o Coding Standards

## 8.Programming Language

(End To End Training on Below Topics)

### Dotnet

#### Introduction to Dotnet Programming

#### ASP .Net

#### C#

#### VB .Net

#### MVC

#### Web-Services

#### Microservices

## 9.Web technologies

- o HTML, CSS and JavaScript

## 10.Development Tools

### oProgramming

#### IDEs(Eclipse,Netbeans,Pycharm)

### o VCS (Version Control System - Git)

- o What is VCS
- o VCS Terminologies
- o Types Of VCS
- o GIT Quick Setup
- o GIT Areas & Workflow
- o GIT Operation
- o GIT Configuration

### o CI Server(Continuous Integration - Jenkins)

- o Introduction to continuous integration.
- o Build & Release and relation with DevOps
- o Understanding development and developers
- o Why Continuous integration
- o Jenkins introduction and setup
- o Jenkins projects/jobs
- o Jenkins plugins
- o Jenkins administration
- o Build and Release job/project setup
- o Nexus
- o Continuous integration job/project setup
- o Jenkins not just CI tool anymore
- o More DevOps use cases of Jenkins

# .NET DEVELOPMENT COURSE CONTENT

## 11.Live Project

### o PROJECT-1

#### o B2C Realtime Project With:

- o .Net
- o Web Technologies
- o RDBMS
- o Backend Services etc....

## 12.Testing

- o Automation Testing (Selenium)
- o Staging Server (AWS Cloud)
- o JIRA

## 13.Virtualization

- o Vagrant
  - o why vagrant
  - o installing vagrant
  - o GIT BASH CLI
  - o Vagrant Cloud
  - o Vagrant File
  - o creating Centos
  - o creating Vagrant File
  - o vagrant Up
  - o Vagrant SSH
  - o Verification
  - o TearDown
  - o Vagrant Box command
  - o Useful Vagrant setting

### 14.1 DevOps

#### Ansible

- o Configuration management & Automation
- o What is Ansible & its features
- o Ansible setup on local & cloud
- o Understanding Ansible architecture & Execution
- o Inventory
- o Adhoc commands
- o Playbook Introduction

- o Ansible configuration with ansible.cfg
- o Ansible documentation
- o Modules, modules & lots of modules
- o Writing playbook for webserver & DB server deployments
  - o Tasks
  - o Variables
  - o Templates
  - o Loops
  - o Handlers
  - o Conditions
  - o Register
  - o Debugging
- o Ansible Roles
- o Ansible Galaxy
- o Ansible Advanced Execution

#### Docker

- o History of Docker / About Docker Inc.
- o Installation of Docker (all operating systems)
- o Working with containers
- o Working with images
- o Building images with Dockerfiles
- o Working with Docker Hub
- o Container networking
- o Docker local development workflow
- o Working with volumes
- o Connecting containers together (links)
- o Container orchestration
- o Using Docker for a Continuous Integration/Continuous Delivery pipeline
- o Securing Docker with TLS
- o Working directly with the Docker remote API
- o Docker Container Security
- o Docker in Production (ambassadors, service discovery, etc.)

# .NET DEVELOPMENT COURSE CONTENT

## 14.2 Cloud

### AWS

- o Introduction to Cloud Computing
- o Cloud Computing Deployment Models
- o Cloud Delivery/Service Models
- o Introduction to AWS Services
- o Elastic Compute Cloud (EC2) Essentials
- o Elastic Block Store (EBS)
- o Auto Scaling
- o Simple Storage Service (S3)
- o Identity and Access management (IAM)
- o Virtual Private Cloud (VPC)
- o Route 53
- o Cloud watch
- o Simple Notification Services (SNS)
- o Simple Queue Service (SQS)
- o Simple Email Services (SES)
- o Relational Database Service (RDS)
- o Use Cases

### MS Azure

- o MS Azure Basics
- o IAAS
- o Building blocks
  - o Compute
  - o Network
  - o Storage
- o Identity and Access management
  - o MS Azure Active Directory
  - o MS Azure WebApps
  - o MS Azure SQL Database
  - o MS Azure Service Bus
  - o MS Azure Traffic Manager
  - o MS Azure CDN
  - o Other Windows Azure Services

## 15.Live Project

### o PROJECT-2

**o Build n-tier architecture enterprise real-time project with:**

- o JAVA
- o Web Technologies
- o RDBMS
- o Message Queues(Rabbit MQ)
- o Python
- o Web Services
- o Notification Services
- o Email Services
- o Vagrant
- o Ansible
- o Docker
- o Aws/Azure Cloud

Visual Path