

SQL School™

Quality Training Assured

Azure DBA Training

Complete Practical; Real-time Job Oriented Training

	PLAN A	PLAN B	PLAN C
Description	Azure DBA	SQL DBA + Azure DBA	SQL DBA + Azure DBA + Azure DevOps
Course Curriculum	Chapters 28 to 39	Chapters 1 to 39	Chapters 1 to 57
SQL Server, DB, Agent Architecture	X	✓	✓
SQL Server Concepts, Backups, Restores	X	✓	✓
Jobs, Maintenance, Index Management	X	✓	✓
Database Repairs, Security Management	X	✓	✓
Query Tuning, DTA, Profiler, Exec Plans	X	✓	✓
Database Migrations, Updates, Upgrades	X	✓	✓
HADR: Replication and Log Shipping	X	✓	✓
HADR: DB Mirroring. Errors & Solutions	X	✓	✓
Always - On Availability, Server Rebuilds	X	✓	✓
SLA-OLA, Ticketing Tools & Licensing	X	✓	✓
Azure SQL DB Cloud(PaaS), Migration	✓	✓	✓
Azure SQL DB Tuning, Security & HA-DR	✓	✓	✓
Elastic Job Agent & Maintenance	✓	✓	✓
Geo Replication, Failover, PowerShell	✓	✓	✓
Virtual Machines (IaaS), Clusters & AOAG	✓	✓	✓
DP 300 Certification Exams : Guidance	✓	✓	✓
SDLC, Dev & Operations, DevOps	X	X	✓
DevOps Tools, Git & GitHub	X	X	✓
Docker, Kubernetes, Azure DevOps	X	X	✓
Azure Boards, Repos, Tests, Artifacts	X	X	✓
Azure Pipelines (CI, CD), Case Study	X	X	✓
Total Duration	3 Weeks	9 Weeks	13 Weeks

Trainer : Mr. Sai Phanindra T : 16+ Yrs of Real-time Exp. Profile @ [linkedin.com/in/saiphanindra](https://www.linkedin.com/in/saiphanindra)

Azure DBA Training Course Plan

Training Module		Dur	Az DBA Plan A	Az DBA Plan B	Az DBA Plan C
Module 1	Core SQL DBA [Tuning, Errors, HA-DR, Upgrades]	6 W	X	✓	✓
Module 2	Azure SQL DBA [Migrations, Clusters, Always-On, VM]	3 W	✓	✓	✓
Module 3	Azure DevOps [SDLC, Operations, DevOps Service, Server]	4 W	X	X	✓
Total Duration [Including Real-time Project, Resume]			6 W	9 W	13 W

Module 1: CORE SQL DBA

Includes: Basics, Architecture, Jobs, Security, Errors, Solutions, HA-DR, Always-On, Upgrades, SLA-OLA

Chapter 1: INTRODUCTION, INSTALLATIONS

Introduction to Databases, DBMS; Microsoft SQL Server : Advantages, Use; Versions and Editions of SQL Server; SQL DBA Job Roles, Responsibilities; Routine Maintenance DBA Activities; Emergency SQL DBA Activities; SQL Server Pre-requisites : S/W, H/W; SQL Server 2019/2017/2016 Installation; Default Instance, Named Instances; Port Numbers, Instance Differences; Service and Service Account Use; Authentication Modes and Logins; Firewall Configuration in Real-time; SQLServr.exe & SQLBrowser.exe;

Chapter 2: SSMS TOOL, SQL BASICS - 1

SQL Server Management Studio; Local and Remote Connections; System Databases: Master and Model; MSDB, TempDB, Resource Databases; Creating Databases : Files [MDF, LDF]; Creating Tables in GUI; Data Insertion & Storage; SQL : Real-time Usage; DDL, DML, SELECT, DCL and TCL Statements; Data Storage, Inserts - Basic Level; SELECT; Table Data Retrieval; Limitations with SSMS GUI Options;

Chapter 3: SQL BASICS - 2

Creating Databases & Tables in SSMS; Single Row Inserts, Multi Row Inserts; Rules for Data Insertion Statements; SELECT Statement @ Data Retrieval; SELECT with WHERE Conditions; AND and OR; IN and NOT IN; Between, Not Between; LIKE and NOT LIKE; UPDATE Statement; DELETE & TRUNCATE; Logged and Non-Logged Operations; ADD, ALTER and DROP Statements; Aliases and Batch Statements;

Chapter 4: SCHEMAS, TEMPORARY TABLES

Schemas : Group Tables in Database; Using Schemas for Table Creation; Using Schemas in Table Relations; Table Migrations across Schemas; Default Schema : "dbo"; Import and Export Wizard; Bulk Operations; Excel File Imports / Exports; SQL Server Native Client; Executing SSIS Packages, Data Loads; Local and Global Temporary Tables; # & ## Prefix; Temporary Vs Permanent Tables;

Chapter 5: CONSTRAINTS & INDEXES BASICS

Constraints and Keys - Data Integrity; NULL, NOT NULL Property on Tables; UNIQUE KEY Constraint; PRIMARY KEY Constraint; FOREIGN KEY Constraint, References; CHECK Constraint; DEFAULT Constraint; Identity Property : Seed & Increment; Database Diagrams; Relationships Verification; Indexes : Basic

Types and Creation; Clustered and Non Clustered Indexes; Primary Key and Unique Key Indexes;

Chapter 6: JOINS and AUDITS

JOINS - Table Comparisons; INNER JOINS For Matching Data; OUTER JOINS For (non) Match Data; Left Outer Joins; Right Outer Joins - Example Queries; FULL Outer Joins; One-way and Two Way Comparisons; "ON" Conditions; Join Unrelated Tables; NULL, IS NULL in Joins; CROSS JOIN and CROSS APPLY; Join Options: Merge, Loop and Hash Joins; Performance Advantages;

Chapter 7: VIEWS, PROCEDURES, FUNCTIONS BASICS

Views : Types, Usage in Real-time; System Predefined Views and Audits; Listing Databases, Tables, Schemas; Functions : Types, Usage in Real-time; Scalar, Inline and Multi-Line Functions; System Predefined Functions, Audits; DBId, DBName, ObjectID, ObjectName; Variables & Parameters; User & System Predefined Procedures; Parameters; Sp_help, Sp_helpdb and sp_helptext; sp_pkeys, sp_rename and sp_help; When to use Which Database Objects;

Chapter 8: TRANSACTIONS, LINKED SERVERS

Triggers - Purpose, Real-world Usage; FOR/AFTER Triggers - Real time Use; INSTEAD OF Triggers - Real time Use; INSERTED, DELETED Memory Tables; Using Triggers for Data Replication; Enable Triggers and Disable Triggers; Database Level, Server Level Triggers; Auditing Triggers and Real World Use; Transactions : Types, ACID Properties; Transaction Types and Auto Commit; EXPLICIT & IMPLICIT Transactions; COMMIT and ROLLBACK; Open Transaction Scenarios & Cause; Query Blocking Scenarios @ Real-time; NOLOCK and READPAST Lock Hints;

Chapter 9: SERVER ARCHITECTURE, DB ARCHITECTURE

Server Architecture and Protocols; Database Engine and Query Processor; Parser, Optimizer, SQL & DB Manager; Storage Engine Components, SQL OS; Transaction Services, Buffer Manager; Lock Manager, IO Manager, MDAC;CLR, WAL, Lazy Writer, Checkpoint; Database Architecture - Data Files; Database Architecture - Log Files; Primary (mdf), Secondary Files (ndf); Filegroups; ReadOnly Filegroups; Database Files : Size, Location; Pages, Extents. Uniform, Mixed Extents; Transaction Log File [LDF], LSN, VLF; Linked Servers and Real-time Usage; Security and Data Access; RPC and RPC Out; Using Aliases;

Chapter 10: BACKUPS - DB, FILE, FILEGROUP

Database Backups; Filegroup Backups; Log File Backups; COPY_ONLY Backups; Mirror Backups; Split Backups; FORMAT; Partial Backups and Backup Media Files; UNLOAD; INIT; FORMAT; VERIFY; SKIP; Compression; Checksum; RetainDays; Stats; ContinueOnError and Backup Validations; Backup History Tables in MSDB – Joins; Backup Audits. HOT and COLD Backups; Backup Devices Usage; Database Recovery Models; **Common Errors and Solutions**

Chapter 11: RESTORES & DB RECOVERY

Restore Phases – COPY, REDO, UNDO; RECOVERY and NORECOVERY Options; STANDBY; REPLACE Options in Restores; File; File Group and Meta Data Restores; Backup Verifications using GUI; Scripts; FILELISTONLY and VERIFYONLY Options; HEADERONLY; STATS; UNLOAD; STOPAT; PARTIAL / PIECEMEAL Restores – Use; Tail Log Backups. UNDO; REDO Phases; Restores using GUI and T-SQL Scripts; MOVE Options for File Level Restores; Point-In-Time Restore; Checkpoint LSN; Standby Restores and Read-Only State; **Common Errors and Solutions**

Chapter 12: JOBS, MAINTENANCE PLANS

SQL Server Agent Service & Agent XPs; SQL Agent Jobs - GUI; Script Creations; Job Steps - Creation; Edits and Parse; Job Executions; Disable/Enable Options; Job History Purge. Job Activity Monitor; Database Maintenance - Backup Jobs; Maintenance Plans; Backup Cleanup & History Cleanup Jobs; Backup Strategies For Minimal Data Loss; Backup Options: Block Size; Transfer Size; DB Mail Configurations and Alert System; DB Mail Profiles; SMTP Email Accounts; Operators; Job Notifications

Chapter 13: SECURITY MANAGEMENT - 1

Authentication Types & Modifications; Windows Logins & SQL Server Logins; Logins - Users Mapping, DB Access; Server Roles & Database Roles - Usage; Object, Column and Schema Security; GRANT, WITH GRANT, DENY, REVOKE; CONTROL, OWNERSHIP, Authorization; Data Encryption: Keys and Certificates; Security Scripts; DMVs for Security Audits, Orphan Users;

Chapter 14: DB MIGRATIONS, SECURITY MANAGEMENT - 2

Database Migration Precautions; Migration Methods & Comparisons; CDW: Copy Database Wizard @ SSMS; Database Detach and Attach Options; SMO Method and Database Scripting; Creating and Using Credentials; Creating and Using Agent Proxies; SSIS Job Subsystem with Proxies; Copy Database Wizard: SSIS Packages; Scheduling Database Migration Jobs; Transfer of Logins & Server Objects; Detecting and Resolving Orphan Users; Containment Databases Authentication; Login Failure Audits & Server Logs;

Chapter 15: Tuning 1 - AUDITS & INDEXES

Audit Long Running Queries @ DMVs and DMFs; Activity Monitor and Query Statistics; Logical I/O, Physical I/O, Database I/O, Wait Time; Recent Expensive Queries, Active Expensive Queries; Plan Handle & Execution Time; Server Dashboards; Query Store - Settings and Advantages. Options; Indexes: Architecture; B Tree Structure, IAM [Root]; Clustered & Non Clustered; Included, Column store, Online; Filtered, Covering, Indexed Views; Fill Factor & Pad Index;

Chapter 16: Tuning 2 - PARTITIONS, INDEX MANAGEMENT

PARTITIONS Mechanism : Advantages, Performance; Partition Functions and Partition Schemes ; Partitioning Un-partitioned Tables; Partition Compression: ROW, PAGE; Statistics : Auto Creation & Updates; Index Management : Internal, External Fragmentation; Fragmentation Audits : DMFs and Thresholds; Index Reorganization and Index Rebuild Options; Database Maintenance Plans (DMP) For Index Reorg; Page Count, Last Used. Fast, Sampled / Detailed Scan; Statistics & Index Management : Degree Of Parallelism; Resumable Indexes: ONLINE, RESUME; PAUSE & RESUME in Index Rebuilds;

Chapter 17: Tuning 3 - TUNING TOOLS, LOCKS

Tuning Tools: Workload Files, .trc Files; Profiler Tuning Template, SP Events; DTA, Profiler Trace : Recommendations; PDS: Physical Design Structures; Index, Stats, Partition Recommendations; DTA with Query Execution Cache; Perfmon Tool : Usage, Permon Counters; Real-time Tracking: CPU, Memory, IO; Execution Plan Analysis and Internals; Query Costs: IO Cost and CPU Cost; Query Costs: SubTree & Operator Cost; NUMA Nodes, Processor, IO Affinity; Thread Count, Degree of Parallelism; Stored Procedure Recompilations; Table Scan, Index Scan, Index Seek;

Chapter 18: Tuning 4 - LOCKS, ISOLATION LEVELS

S, X, IX,U, MD, Sch-M and Sch-S; Lock Audits : SP_WHO2 & SP_LOCK; sysprocesses and Lock Waits :

Audits; Open Transactions, Query Blocking; Lock Hints and Isolation Levels; Read Committed, Read Uncommitted; Serializable and Repeatable Read; Snapshot Isolation, Page Versioning; Read Committed Snapshot Row Version; Choosing Correct Isolation Level; Profiler Tool and Lock Templates; Profiler Filters, Column Selections; Deadlock Audits and Deadlock Graphs; XDL Files and Deadlocks Prevention;

Chapter 19: REPLICATION For HA - LEVEL 1

Replication Architecture and Topology; Publication Types - Purpose; Importance; DB Articles; Publications; Subscriptions; Distribution DB Configuration; Snapshots; Snapshot Replication and Repl Agents; Adding Articles to Existing (LIVE) Replica; PUSH; PULL Subscriptions. N/W Shares; Transactional Replication Configuration; Log Reader Agent - Configuration; Keys; Tracer Tokens Latency; Ranking Options; Replication Monitor - Usage; Replication Warnings and Agent Alerts;

Chapter 20: REPLICATION For HA - LEVEL 2

Merge Replication and Merge Agent Job; Replication Conflicts and ROWGUIDCOL; Subscription Reinitialization; Expiry Setting; Server Subscription & Client Subscription; Peer-Peer Replication Connections; Nodes; NodeID and Conflict Detection Options; Replication Options on Conflicts: sp_MSRepl; sp_changedbowner; backup initialization; Replication Conflicts and Priority; Replication Verify - Rowcount; Checksum; Disabling; Cleaning Replication; Replication Strategies for HA and DR Plan; Replication for Load Balancing; **Common Errors and Solutions**

Chapter 21: LOG SHIPPING (HA - DR)

Log Shipping Topology for HA and DR; Primary and Secondary: Recovery Plan; Log Shipping Monitor; Jobs and Alerts; NORECOVERY Mode – Configuration; STANDBY Mode Configuration & Jobs; Log Shipping Jobs and Manual Failover; Log Shipping Mode Changes – cautions; Re-Restoring Log Backups for Recovery; LSBackup; LSCopy & LSRestore Jobs; LS Job Audits; Dashboards (Reports); TUF Files & Standby Options in LS; Broken Chains & Issues; **Common Errors and Solutions**

Chapter 22: DB MIRRORING (HA - DR)

DB Mirroring Architecture For HA & DR; Log Shipping Versus Database Mirroring; TCP Endpoints; TCP Network Security; Heartbeat and Polling Concepts in DM; Automatic Fail-Over Procedures; Tests; PARTNER OFFLINE Conditions; Options; DB Mirroring Monitors and Commit Loads; SYNCHRONOUS & ASYNCHRONOUS; DB Mirroring & Port Configurations; Mirroring Monitor; Stop/Resume; Need for Always-On; DB Recovery without Witness; **Common Errors and Solutions**

Chapter 23: HEALTH CHECKS, REAL-TIME ISSUES & SOLUTIONS

Alerts : Creation and Notifications; DB Suspect Event Alerts (023); Perfmon Counters for Alerts; Log Space, Memory, Tempdb Alerts; Scheduling Alerts & Notifications; Allocation Errors, Consistency Errors; DBCC ShowContig, Extent Fragmentation; Trace Flags and EstimateOnly; DBCC Page: GAM, SGAM and PFS; Consistency Errors : Cause & Solutions; Allocation Errors : Cause and Solutions; Log Space Issues and Log Rebuilds; Memory & TempDB Issues, Solutions; DBCC ShrinkDB & Page Restores;

Chapter 24: PATCHES, UPGRADES, CUs

Establishing Downtime For Maintenance; Precautions for Maintenance Activities; DB Backups; Scripting and Services; Service Packs and Patch/Hotfix Activities; Cumulative Updates (CU); Hotfix Process; Instance Selectivity for Updates; Cautions; Verifications; Smoke Test and Rollbacks; SERVER Upgrades; Silent Installation & Installation Repairs; System Database Rebuilds; Silent Installation & Repairs;

SQLCMD Tool; DAC : Dedicated Administration Console; **Service Startup Issues and Solutions;**

Chapter 25: Always-On Implementation in Non-Clustered Environment

Always On Availability Group [AOAG]: Need, Topology; Configuring Multi Database HA-DR; Synchronous and Asynchronous Modes; Adding Replica Nodes; Synchronization, Automated Seeding; Data Synchronization for AOAG ; Backup Preferences, Location; SQL Server Configuration Manager Tool; AOAG Settings; Backups & Restores across Network Shares; Adding Availability Replica; Database; Adding Availability Listeners and DNS; Automated Failovers; Manual Failovers; Always-On Availability Groups Health; Testing Always-On; Monitoring Always-On; Always-On Health Checks; Failover Process and Precautions; HA-DR Strategies;

Chapter 26, 27: SQL DBA PROJECT WORK

Routine SQL DBA Activities: Audit Login Failures : Server Logs; Monitor Connectivity Issues; Auditing Long Running Queries; Memory Issues; PLE (Page Life Expectancy) Issues; MSDTC; Job Monitoring; Monitoring HA & DR Mechanisms; DB Refresh; Schema Refresh; Dump Files; Idle Sessions and Precautions; Index Management; Deadlock : Prevention; Monitor Server Health;

Emergency SQL DBA Activities: Server Down : Issues; Solutions; Database Down : Issues; Solutions; Data Synchronization : Issues; Solutions; Slow Running Queries : Issues; Solutions; Database Response : Issues; Solutions; Slow Replication : Issues; Solutions; Hot CPU & Processor Node; Priority; Orphan Users; Service Startup Issues; Trace Flags; Always-On (AAG): Issues and Solutions;

Ticketing Tools : SLA & OLA Concepts; **Incident Management;** Immediate, High and Medium Priority; **3rd Party Tools;** Automated Backups, Log File Readers; Licensing and Pricing, CALs; Device CALs and User CALs; Multiplexing with Server Licenses;

Module 2: AZURE SQL DBA

Includes: Azure SQL DB Architecture, Migrations, HA - DR, Security, LINUX, PowerShell, Virtual Machines

Chapter 28: AZURE CLOUD INTRODUCTION

Introduction to Cloud & Advantages; Cloud Architecture: IaaS, PaaS and SaaS; Microsoft Cloud Advantages, Azure Platform; Azure Products and Services - Marketplace; Database Implementations in Azure Platform; Comparing PaaS and IaaS Implementations; PaaS Implementations For SQL Server; IaaS Implementations For SQL Server; Logical, Virtual Machine, Managed Instance; Installing SSMS and Azure Data Studio; Azure Account and Free Subscription; Azure Resources: Resource Groups Usage; Azure Active Directory: User & Groups; Azure Active Directory Authentication;

Chapter 29: AZURE SQL SERVER CONFIGURATION

Installing SSMS and Azure Data Studio; Azure Account and Free Subscriptions; Azure SQL Server (Logical Server); Azure SQL Server Logical Server Firewall; Firewall Rules - IP for Remote Access; Server Properties and Status Format; Password Resets in Azure SQL Server; Azure SQL Databases & Pricing Tiers; Azure SQL Database Access from SSMS; Elastic Scaling with Azure Databases; General Purpose and Business Critical; Basic, Standard and Premium Plans; Gen 4, Gen 5; Resource Groups;

Chapter 30: DATABASE MIGRATIONS, DTU, ELASTIC QUERIES

Data Migration and Database Migration in Azure; Azure Storage : Creation & Containers; LRS, GRS and RA-GRS Azure Storage Accounts; Storage Containers, Storage Explorer Tool; Data Migration Assistant (DMA), Assessment; Migrations To Azure SQL; DB Exports & Imports with bacpac; Schema Generation & Compatibility; DTU : Data Transaction Unit, Resource Allocations; Basic, Standard & Premium Plans For SQL DB; vCore Based Purchasing : Gen 4 and Gen 5 Types; General Purpose & Business Critical Plans; Compute Tier : Provisioned and Server less; Bounding Box Model, Elastic Pools & Queries; eDTUs and Elastic Pool, per DB Settings; Elastic Scaling with Azure SQL Databases;

Chapter 31: AZURE SQL DATABASE TUNING

Azure SQL Server Level Tuning Options; Azure SQL Database Level Tuning Options; Automated Tuning Options and Peak-Loads; Force Plan, Create Index and Drop Index; Query Performance Insight, Recommendations; IO Metrics, CPU Metrics & Query Statistics; Data File IO, Log File IO, Custom Reports; Query Level Recommendations; Azure Search Service; Azure Search; Suggester and Analyzer Index Modes for Tuning; Retrievable, Filterable Indexes; Facetable and Searchable Indexes for Tuning; Change Tracking Options, Watermark Columns;

Chapter 32: XEL GRAPHS, STRETCH DATABASES

SQL Traces : Creation; SQL Traces : Event Class, Category, Filter, Conditions; Extended Events Package, Target, Action, Session; TSQL and SP Debug Events with Global Fields; XE Objects : Catalog & Dynamic Management Views; XE Profiler - Templates for Event Profiling; Comparing XE Profiler with SQL Profiler Tool; Stretch Databases in Azure SQL Databases; Stretch Databases; Table Level Migrations; Performance Levels and DSU Pricing; Data Storage and Snapshots; Geo Backup Of Tables and Hybrid Cloud Settings; Remote Data Archive Configuration in Azure; Database Master Key [DMK], Cold Data Migration; Real-time Advantages of Stretch Databases;

Chapter 33: ALERTS, AZURE BACKUPS & RESTORES

Azure SQL Server Activity Log and Options; Events, Operations and Event Categories; Quick Insights from Events and Filters; Events Exports to Event Hub, Log Analytics; Log Analytics Workspace, Alert Rules; Email / SMS Notifications and Schedules; Log Analytics Settings and Azure Storage; Activity Logs and Audit Reports, Insights; Automated Backups; Long Term & Automated Backup Retentions (bacpac); Backups - Retentions, Audits. LTR Policy; Restore Points, Database Recovery; Geo-Redundant Backups in Azure; Azure Storage Explorer For Backups; Disaster Recovery (DR) Advantages in Azure;

Chapter 34: HA - DR : Geo Replication, DB Sync

Failover Groups and Active Geo-Replication; Read-Write Failover Policy, Automated Failover; Geo Replication Configurations - Azure Locations; Primary-Secondary and Read / Write Modes; Geo Replication : Monitoring and Forced Failover; Azure Server Failover Process, Strategies; Automated SQL Data Sync Service and Sync Groups; HUB, MEMBER and SYNC DATABASE; Sync Direction, Sync Schema and Sync Interval; bi-directional Load Balancing and Failover; Conflict Resolution Policy;

Chapter 35: SECURITY MANAGEMENT, RLS

Firewall and Virtual Network Configurations; Server-level Firewall & Database Firewall Rules; System Stored Procedures for Firewall Settings; Logins, Users, Roles and Permissions using T-SQL; Creating

Logins without Logins. Containment Users; GRANT, DENY, REVOKE, WITH GRANT Permissions; Threat Detection, Transparent Database Encryption; Vulnerability Assessment, Dynamic Data Masking; Implementing RLS - Row Level Security; Creating Users with & without Logins; Using SECURITY Schema for RLS Functions; Creating Security Predicates and Filters; Security Policies for Row Level Security; EXECUTE AS options for RLS. STATE ON/OFF;

Chapter 36: POWERSHELL, AZURE VMs

Azure Virtual Machines : Deploy, Configure; Configure Windows Server, Redhat Linux; Azure Storage Blades and Pricing Options; Azure VM - Settings, Access & DB Creation; On-Premise & Azure VMs: Similarities; SQL Server Instance, Agent in Azure VM; Azure SQL Database in VM to SQL Cloud; Azure SQL Database in VM to OnPrem; Deployment Automation Scripts in Azure; Azure Cloud Shell - PowerShellGet; Power Shell Scripts for Configurations; Power Shell Scripts for Job Schedules; Power Shell Scripts for Firewall, ARM; Azure CLI - Purpose, Real-time Use;

Chapter 37: Windows Clusters with Azure VM

Windows Clusters For HA and DR; Virtual Networks, Subnets and IPs; Availability Sets and Availability Zones; Fault Domains and Update Domains; DC Deployment & Configurations; Active Directory Domain Services; SAN [Storage Area Network] and LUN; DNS Server, DSRM and Private IP; Windows Level Clusters, MSCS Service; Active-Active, Active-Passive Clusters; DNS, AA Hosts; SQL Clustering & RAID Levels; SQL Cluster Groups, Domain Accounts; Quorum and MSDTC Disks. LUN Grows;

Chapter 38 : Always-On with SQL Server Clusters

SQL Server VMs and File Share Witness (FSW); Joining Machines to Domain Network (AD); Adding Install Accounts to Active Directory; Install Failover Cluster (FCI) Features; Firewall Configurations and Port Exceptions; FSW File Shares and Usability Options; Need for Always - On Availability (AAG); Always On Availability Group [AOAG]; Multi-Database Replication Options; Backup Preferences, Location Options; Synchronous and Asynchronous Modes; Synchronization, Automated Seeding; Data Synchronization for AOAG; AOAG Dashboards & Automated Failover; Failover Connection Tests;

Chapter 39: MCSA 70-765 Guidance, Material and Sample Questions

Real-time Project For your Resume, MCSA Certification Guidance

Module 3: Azure DevOps {For Azure SQL DBA Plan C}

Chapter 40: Azure Fundamentals

Basics of Cloud Computing; Cloud Services: Advantages; Cloud Services: Product Models; Virtualization Concepts in Cloud; Comparing On-Premise with Cloud; DevOps : Introduction, Use; Azure Cloud : Features, Advantages; Azure Cloud : Services & Usage; Azure Cloud : Platform Components; Azure Resources, Service Types; Azure PaaS, IaaS & SaaS; Azure Account Creation, Resources;

Chapter 41: Azure Services, Configurations

Azure Registration and Azure Portal; Azure Resources and Azure Services; Azure Resource Types, Resource Groups; Creating Resource Groups in Azure Portal; Resource Groups: Access, Advantages; Cost and Billing Management; Azure Storage Account Creation; Storage Account Types, Replication; Azure BLOB Data Storage Containers; Azure Storage Explorer Tool; Uploads, Imports, SAS and Access Key; Azure File Storage and On-Premise Access;

Chapter 42: Azure Active Directory, Monitoring

Azure Active Directory Service; Azure AD : Users, Tokens & Passwords; Azure AD : Groups, Members, Owners; Azure AD : App Registrations, Tokens; Service Principals and Real-time Use; Identity & Access Management (IAM); Azure Monitoring and Metrics; Azure Dashboards and Counters; Customizations and Usage Reports; Azure Alerts and Conditions; Notifications: Push/Email/SMS; Log Analytics and Health Checks;

Chapter 43: SDLC, Dev & Operations, DevOps

Software Development Life Cycle; SRS Documents and Principles; Design, Planning and Coding; Coding Techniques and Tools; Testing Operations, Issues; UAT, Production Deployment Issues; Need for DevOps Services; Life Cycle Management; Automations and Code Control; DevOps Tools and Techniques; DevOps : Advantages, Benefits; DevOps Engineers: Job Roles;

Chapter 44: DevOps Tools, Git & GitHub

DevOps Tools & Life Cycle Stages; Continuous Development (CD); Continuous Integration (CI); Planning Phase: UML Tools; Code: Visual Studio, Git; Build: Maven and Gradle; Test: Selenium and Junit; Release: Jenkins, Bamboo; Deploy: Puppet, Chef, Ansible; Operate: Visual Studio Options; Monitor: NewRelic, Splunk; Git & GitHub For Code Store;

Chapter 45: Docker, Kubernetes, AzureDevOps

Introduction to Docker in Azure; Understanding Docker Lifecycle; ACI Containers and Options; Introduction to Kubernetes in Azure; Kubernetes Lifecycle Implementation; Azure Kubernetes Containers, Options; Azure DevOps : Advantages; Azure DevOps: Services; Azure Boards, Azure Repos; Azure Pipelines and Real-time Use; Azure Test Plans and Artifacts; VSTS Versus Azure DevOps;

Chapter 46: Organizations & Projects

Azure DevOps: Implementation Plan; Creating and Using Organizations; Planning and Security Advantages; Region Specifications and Owners; Users and Resource Limits; Azure DevOps - Org Notifications; Azure Projects - Creation, Use; Public and Private Projects; Version Control: Git and TFS; Work Item Process: Agile; Basic, CMM and Scrum Options; Security, Teams, Dashboards;

Chapter 47: Azure Boards

Azure Boards - Creation, Use; Work Item - Fields & Sprints; Kanban Boards, Item Tracking; Backlogs and Code Testing; Bugs and Feature Requests; Team Dashboards, Monitoring; Azure Boards with Agile Process; Azure Boards For CMMI Process; Azure Boards For Scrum Process; Change Column & Queries; Style Rules and Highlight Cards; Color Tag & Work Item Cards;

Chapter 48: Azure Repos

<p>Azure Repository (Repo), Storage; Distributed Versus Centralized; Azure DevOps Repos: Cloning; Commit, Push and Pull Options; Branch & Branch Policies; Fork, Git and WorkFlow; Git Versus TFVC, Customizations; Public Projects and Pull Requests; Notification Options in Repos; Team Foundation Version Control; Git and TFS Projects in DevOps; Azure Repos with Slack;</p>
<p>Chapter 49: Azure Pipelines For CI/CD - 1 Azure Pipelines - Architecture, Creation; Azure Pipeline Creation Ecosystem; Continuous Integration (CI); Continuous Development (CD); Build Pipeline in Azure DevOps; Key Concepts, Real-time Use; Creating Pull and Push Requests; Release Pipelines - Creation, Use; Multi Stage Release Pipelines; New Branch Options with Pipelines; Classic Release Pipelines; Classic Editor - Pipeline Creation;</p>
<p>Chapter 50: Azure Pipelines For CI/CD - 2 Continuous Integration Pipelines; Pre Deployments in Azure DevOps; WorkTeam Correlation Options; Azure Pipelines - Customizations; GitHub with Azure Active Directory; GitBub with DevOps Integration; Pipeline Creation Comparisons; Azure Pipelines for YAML; Agent, Approvals and Artifacts; Caching, Conditions and Jobs; Classic Builds and Class Release; Dependencies, Job Deployments;</p>
<p>Chapter 51: Azure Testing & Artifacts Azure Testing Options in DevOps; Manual Testing in Kanban; Manual Testing in Test Manager; UAT and Test Tracking; Test Case Explorer in DevOps; Stakeholder Feedback; Azure Artifacts and Feeds; Single Feeds & Multi Feeds; Nuget, npm, Maven with DevOps; Versions and Compatibility; Retention Policies with Artifacts; Maven Central Upstream Sources;</p>
<p>Chapter 52: Azure Functions, App Service, Alerts Azure Functions and Automations; Azure Event Notifications, Audits; Azure App Services & Webapps; Build, Deployment and Scaling; Azure App Service Migrations; Azure Apps Versus DevOps; Azure Monitoring and Alerts; Notification Options in Azure; Alert Management, Operators; Creating, Managing Alert Rules; RBAC , Continuous Monitoring; Smart Groups and Performance;</p>
<p>Chapter 53: Azure DevOps Resources in Portal Azure DevOps Services From Portal; Application Insights and Logs; Log Analytics and Storage Account; API Management Services; API Connections in Azure; Azure DevOps Organizations; DevTest Labs From Azure Portal; Build Apps with Azure DevOps; Azure Pipelines and Samples; Plan and Buld Tasks in DevOps; Setup Azure DevOps Org Account; Create & Publish Azure Pipelines;</p>
<p>Chapter 54: Azure DevOps Starter, App Insights Azure DevOps Starter Deployments; Migrations from Git Repository; Continuous Integration (CI); Continuous Delivery (CD); Item Pipeline and Workflow; Azure DevOps Pipelines; DevOps Starter, Github Integration; DevOps Starter, DevOps Integration; DevOps Starter Vs Azure DevOps; Github Actions & Azure DevOps; Azure DevOps to Azure VM; Examine CI and CD Pipelines;</p>
<p>Chapter 55: Power Shell & Azure DevOps Azure Power Shell and DevOps; Power Shell Installations; Power Shell in Azure Portal; Creating Resources in Portal; Creating Pipelines in PowerShell; YAML Snippet and Arguments; Writing Sample</p>

Apps, Builds; Writing Warnings and Errors; Power Shell with Multiple Args; Service Fabric Manifests; Publish Test Results in DevOps; Run Functional Test Results;

Chapter 56: DevOps Server - Configurations

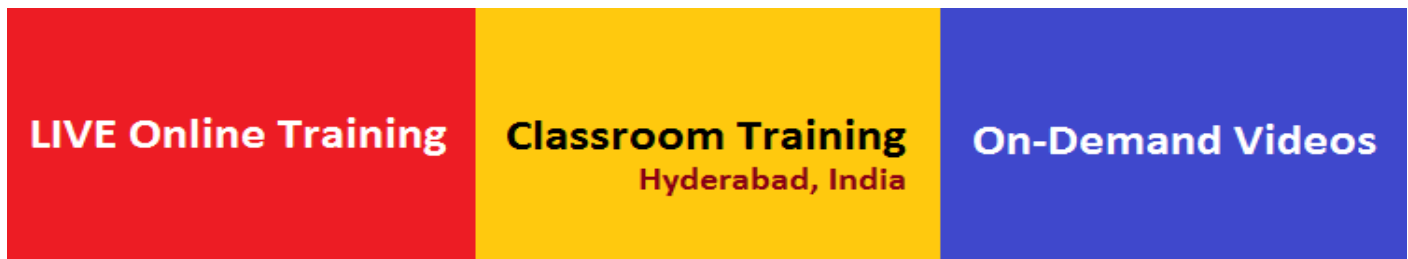
Azure DevOps Server - Advantages; On-Premise Configurations for Server; Code Share, Track Work and Shipping; Visual Studio Team Foundation Server; Azure DevOps Server - Installation; Criterion for Azure DevOps Server; SQL Server Installation for DevOps; Database Engine, Full Text Search; Services and Service Account, Agent; SSMS Tools Installation for Access; Server Connections, Authentication; Database Creation using SSMS;

Chapter 57: DevOps Server & Visual Tools

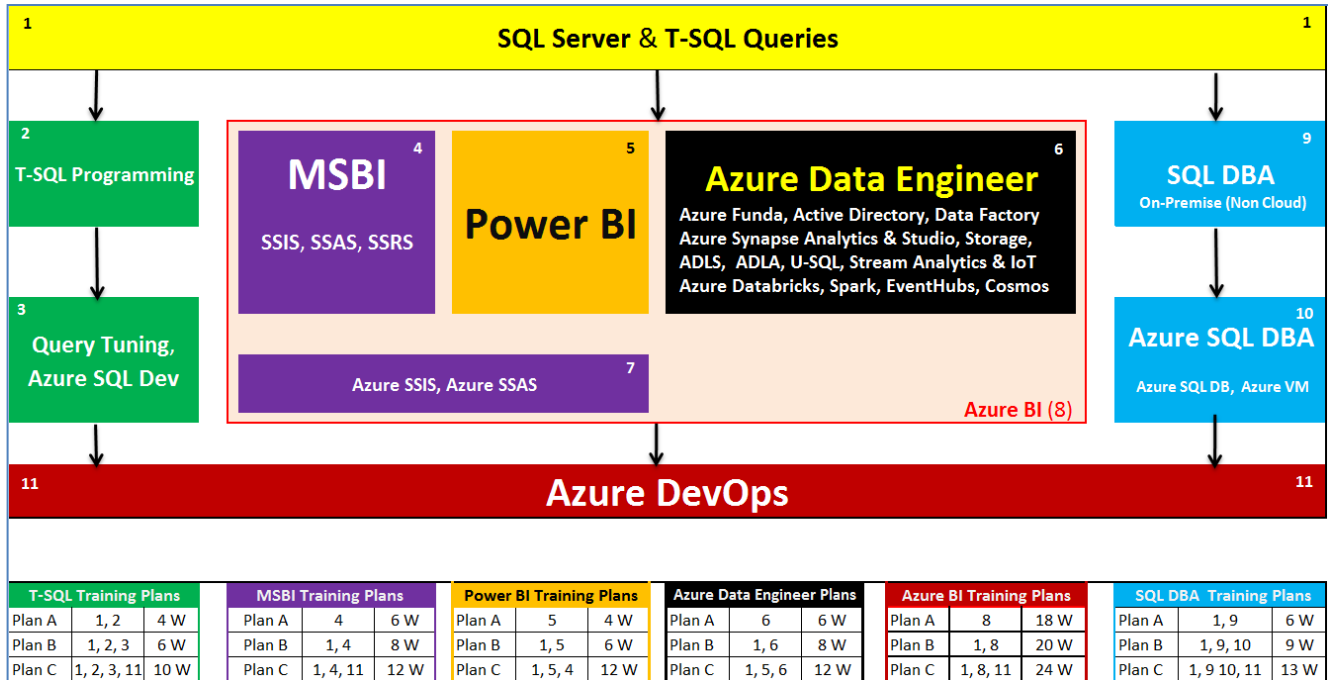
Privacy Advantages with DevOps Server; XML Definition Files and Options; Build Server Configurations; Content Version and Projects; General Administration Tasks; Server Level Administration Tasks; Adding Users to Projects; Grant and Restrict Permissions; Set Code & Test Properties; Area and Iteration Paths; Adding Teams and Scaling; Billing Items & Monitoring;

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