

PostgreSQL DBA with Azure & Advanced Administration

Become PostgreSQL DBA with Performance Tuning, HA/DR, Migrations & Enterprise Skills

This comprehensive training program is designed to transform beginners and working professionals into industry-ready **Postgres DBAs with Azure Cloud expertise**. The course combines Postgre Database Administration, Azure Postgres, High Availability & Disaster Recovery, Performance Tuning, Database Security, Cloud Migration and real-time enterprise projects.

Your Journey to Becoming a PostgreSQL DBA Starts Today!

What You'll learn in this Job Oriented Course ?

- ✓ PostgreSQL Administration Expertise
- ✓ Azure PostgreSQL Cloud Skills
- ✓ Backup, Recovery & High Availability
- ✓ Performance Tuning & Query Optimization
- ✓ Enterprise Monitoring & Security
- ✓ Real-Time DBA Projects
- ✓ Resume Building & LinkedIn Optimization
- ✓ Interview Preparation & Mock Interviews
- ✓ Lifetime Learning Community

Training Highlights

- ✓ 100% Practical Hands-on Sessions
- ✓ Daily Assignments & Practice Exercises
- ✓ Security, Auditing & Compliance
- ✓ Mock Interviews with MNC Interview Questions
- ✓ Lifetime Career Support

Who Should Join?

- Developers
- Infrastructure Engineers
- IT Support Professionals
- Freshers aspiring to become DBAs
- Working professionals looking to transition into Cloud Database Administration

Career Opportunities

After completing this course, you can apply for roles such as:

- Database Administrator
- Azure DBA
- Production DBA
- Database Migration Specialist

DETAILED COURSE CONTENT

Module 1: PostgreSQL DBA Concepts

Ch 1: PostgreSQL Introduction

- ✓ Database Concepts
- ✓ DBA Job Roles
- ✓ PostgreSQL DBMS
- ✓ Postgres Editions

Ch 2: Installation & Setup

- ✓ Installing PostgreSQL on Linux
- ✓ Installing PostgreSQL on Windows
- ✓ Package-based Installation
- ✓ PostgreSQL Directory Structure
- ✓ Initial Cluster Creation
- ✓ Start, Stop & Restart using pg_ctl
- ✓ PostgreSQL using systemctl

Ch 3: Database Administration

- ✓ Creating Databases
- ✓ Managing Schemas
- ✓ Tablespaces
- ✓ Roles & Users
- ✓ Privileges & Permissions
- ✓ Default Privileges

Ch 4: Configuration Management

- ✓ postgresql.conf
- ✓ pg_hba.conf
- ✓ pg_ident.conf
- ✓ Reload vs Restart
- ✓ Parameter Classification
- ✓ Memory Configuration
- ✓ Logging Configuration

Ch 5: Security Management

- ✓ Authentication Methods
- ✓ SSL Concepts

Ch 6: PostgreSQL Architecture

- ✓ PostgreSQL Process Architecture
- ✓ PostgreSQL Storage Architecture
- ✓ System Catalogs

Ch 7: Tools & Utilities

- ✓ psql
- ✓ pgAdmin

- ✓ createdb
- ✓ dropdb
- ✓ createuser
- ✓ dropuser

Ch 8: Backup & Recovery

- ✓ Logical Backup
- ✓ pg_dump
- ✓ pg_restore
- ✓ pg_dumpall
- ✓ Physical Backup
- ✓ Base Backup (pg_basebackup)

Ch 9: WAL Fundamentals

- ✓ WAL Architecture
- ✓ WAL Files
- ✓ Checkpoints
- ✓ WAL Configuration

Ch 10: Routine Maintenance

- ✓ VACUUM
- ✓ VACUUM FULL
- ✓ ANALYZE
- ✓ AUTOVACUUM
- ✓ REINDEX
- ✓ CLUSTER, MVCC
- ✓ Maintenance Best Practices

Ch 11: Monitoring

- ✓ pg_stat_activity
- ✓ pg_stat_database
- ✓ pg_locks
- ✓ pg_stat_user_tables
- ✓ pg_stat_statements
- ✓ Session Monitoring

Ch 12: Extensions

- ✓ pg_stat_statements
- ✓ pg_buffercache
- ✓ postgres_fdw
- ✓ pg_repack
- ✓ pgstattuple
- ✓ uuid-oss

Ch 13: Advanced Backup & Recovery Strategies

- ✓ WAL Archiving
- ✓ Point-in-Time Recovery (PITR)

- ✓ Recovery Targets
- ✓ pgBackRest/Barman
- ✓ Backup Scheduling using Cron Jobs

Ch 14: Performance Tuning - 1

- ✓ PostgreSQL Optimizer
- ✓ Query Planner
- ✓ EXPLAIN, EXPLAIN ANALYZE
- ✓ Buffer Usage

Ch 15: Performance Tuning - 2

- ✓ Cost Estimation
- ✓ Slow Query Analysis
- ✓ Index Optimization
- ✓ Execution Plans
- ✓ Join Strategies
- ✓ Parallel Queries

Ch 16: Indexing

- ✓ B-tree
- ✓ Hash, GIN
- ✓ GiST, BRIN
- ✓ Expression Indexes
- ✓ Partial Indexes
- ✓ Covering Indexes (INCLUDE)

Ch 17: Vacuum Internals

- ✓ Dead Tuples
- ✓ Auto vacuum Internals
- ✓ Bloat Analysis

Ch 18: Locking & Wait Events

- ✓ Lock Types
- ✓ Deadlocks
- ✓ Blocking Sessions
- ✓ Types of Wait Events
- ✓ Transaction Isolation Levels

Ch 19: Replication

- ✓ Streaming Replication
- ✓ Logical Replication
- ✓ Synchronous Replication
- ✓ Asynchronous Replication
- ✓ Cascading Replication
- ✓ Replication Lag Monitoring

Ch 20: High Availability

- ✓ Failover, Switchover

- ✓ Automatic Failover (pgpool-II / Patroni)
- ✓ Disaster Recovery (DR)

Ch 21: Partitioning

- ✓ Range, List
- ✓ Hash
- ✓ Partition Pruning

Ch 22: Upgrades

- ✓ Minor Version Upgrade
- ✓ Major Version Upgrade
- ✓ pg_upgrade
- ✓ Best Practices Upgrade
- ✓ Rollback Planning

Ch 23: Enterprise Monitoring

- ✓ Prometheus
- ✓ Grafana

Module 2: PostgreSQL Administration in Cloud (Azure)

Ch 24: Cloud Fundamentals

- ✓ IaaS
- ✓ PaaS
- ✓ SaaS
- ✓ Managed PostgreSQL

Ch 25: Introduction to Azure Database for PostgreSQL

- ✓ Overview of Azure Database Services
- ✓ PostgreSQL on Azure Architecture
- ✓ Deployment Models

Ch 26: Azure Postgres DBA: Flexible Server

- ✓ Creating Flexible Server
- ✓ Compute and Storage Options
- ✓ Networking Configuration
- ✓ Start/Stop Server
- ✓ Cost Optimization

Ch 27: Azure Postgres DBA: Single Server

- ✓ Single Server Architecture
- ✓ Features and Limitations
- ✓ Single Server vs Flexible Server

Ch 28: Azure Postgres DBA: Backups

- ✓ Automated Backups
- ✓ Backup Retention Period
- ✓ Point-in-Time Recovery (PITR)
- ✓ Restore Operations
- ✓ Backup Monitoring
- ✓ Backup Best Practices

Ch 29: Azure Postgres DBA: Migration

- ✓ Azure DB Migration Service (DMS)
- ✓ pg_dump and pg_restore

Ch 30: Azure Postgres DBA: Monitoring

- ✓ Metrics and Alerts
- ✓ Performance Dashboard
- ✓ Query Performance Insights

Ch 31: Azure Postgres DBA: High Availability and Replication

- ✓ HA Architecture
- ✓ Read Replica
- ✓ Replica Creation
- ✓ Failover Process
- ✓ Disaster Recovery (DR)

Ch 32: PostgreSQL DBA Realtime Project

Enterprise PostgreSQL Production Database Administration

Project Scenario:

A retail/e-commerce company runs a business-critical PostgreSQL production database.

Environment:

PostgreSQL on Linux with one **Primary Server**, one **Standby/DR Server**, and a monitoring environment.

Phase 1 — Installation & Production Setup

Phase 2 — Backup & Disaster Recovery

Phase 3 — Performance Tuning

Phase 4 — Production Issues & Troubleshooting

Phase 5 — HA & Replication

Phase 6 — Monitoring

Final Project Deliverables

Students should submit **architecture diagram + installation document + backup/recovery plan + PITR evidence + performance-tuning report + HA/DR configuration + monitoring dashboard + troubleshooting tickets + RCA documents + final project presentation.**

Don't Just Learn PostgreSQL. Manage It Like a Production DBA.

Build practical skills in PostgreSQL Administration, Performance Tuning, Backup & Recovery, HA/DR, Azure and Production Troubleshooting.

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Thank You!
Your Journey to Becoming a PostgreSQL DBA Starts Today!

Congratulations on taking the first step towards mastering PostgreSQL Administration with Azure & AI. With dedication, practice and expert guidance, you are now on the path to a successful and high-growth database career.

WHAT YOU WILL GAIN

- PostgreSQL Administration Expertise
- Azure PostgreSQL Cloud Skills
- Backup, Recovery & High Availability
- Performance Tuning & Query Optimization
- Enterprise Security & Monitoring
- Real-Time DBA Projects
- Resume Building & LinkedIn Optimization
- Interview Preparation & Mock Interviews
- Certification Guidance
- Lifetime Learning Community Support

LEARN • PRACTICE • BUILD • SUCCEED

20+ YEARS OF TRUST | **ISO CERTIFIED** | **MSME REGISTERED (Govt. of India)** | **100% PRACTICAL HANDS-ON TRAINING** | **STEP-BY-STEP LEARNING APPROACH** | **CAREER GUIDANCE & PLACEMENT SUPPORT**

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