Comprehensive guide to the **DP-300: Administering Microsoft Azure SQL Solutions** (Microsoft Azure Database Administrator Associate) certification. This exam is designed for DBAs and data professionals who manage **on-prem, cloud, and hybrid SQL Server and Azure SQL workloads** with a focus on **performance, security, availability, and automation**.

🎯 **DP-300: Microsoft Azure Database Administrator Associate – Full Breakdown**

Exam Overview

Detail	Info
Exam Code	DP-300
Certification	Microsoft Certified: Azure Database Administrator Associate
Duration	~120 minutes
Format	40–60 questions (multiple-choice, case studies, drag-and-drop, hands-on labs)
Cost	$165 USD
Passing Score	700/1000
Languages	English, Japanese, Korean, Simplified Chinese

🧠 **Measured Skills (Domains & Weightage)**

Domain	Weight	Key Topics
1. Plan and Implement Data Platform Resources	15–20%	• Deploy Azure SQL Database (Single, Elastic Pool, Managed Instance) • Deploy SQL Server on Azure VMs • Configure High Availability (Auto-failover groups, Failover Cluster Instance) • Configure IaaS PaaS networking (VNets, Private Endpoints)
2. Implement a Secure Environment	15–20%	• Configure authentication (Azure AD, SQL Auth, Managed Identities) • Configure Row-Level Security (RLS), Dynamic Data Masking • Transparent Data Encryption (TDE), Always Encrypted • Monitor for security compliance
3. Monitor and Optimize Operational Resources	15–20%	• Query Store, Performance Insights • Identify blocking & deadlocks • Configure alerts (Azure Monitor, Log Analytics) • Scale compute, storage, DTUs/vCores
4. Optimize Query Performance	5–10%	• Use execution plans (actual/estimated) • Create and tune indexes (Clustered, Nonclustered, Filtered) • Statistics maintenance and auto-update • Intelligent Query Processing (IQP) features
5. Perform Automation of Tasks	10–15%	• Automate deployment using ARM/Bicep templates • Automate patching and backups • Automate maintenance jobs using Elastic Jobs or Azure Automation
6. Plan and Implement High Availability and Disaster Recovery (HADR)	15–20%	• Configure Auto-failover groups, Geo-replication • Configure Backup & Restore strategy (PITR, LTR backups) • Configure Failover Cluster Instances and Always On AG in Azure VMs • Test failover and validate SLA requirements
7. Perform Administration Using T-SQL	10–15%	• Manage logins, users, roles, permissions • Configure database-level settings • Implement database recovery models • Monitor system health using DMVs

🔑 **Core Azure Services to Know**

- **Azure SQL Database** (Single DB, Elastic Pool, Serverless, Hyperscale)
- **Azure SQL Managed Instance** (MI-link for near real-time replication)
- **SQL Server on Azure VMs** (IaaS deployment, HADR setup)
- **Azure Arc-enabled SQL Server** (hybrid management)
- **Azure Monitor, Log Analytics, Alerts**
- **Azure Automation & Elastic Jobs**
- **Azure Key Vault** (for encryption keys)
- **Azure Active Directory** (authentication & RBAC)

🗓 **Suggested 7-Day Study Plan (Checklist)**

Day	Focus Areas	Hands-On Practice
Day 1 – Core Azure SQL Deployments	• Single DB vs Elastic Pool vs Managed Instance • Provisioning methods (Portal, CLI, ARM) • Service tiers (DTU vs vCore, Hyperscale)	🔧 Deploy Single DB, Elastic Pool, and Managed Instance in a test subscription
Day 2 – Security & Compliance	• Azure AD Authentication • TDE, Always Encrypted, Dynamic Data Masking • RLS, Permissions, Auditing	🔧 Enable TDE & Dynamic Masking 🔧 Configure RLS policy & audit logs
Day 3 – Monitoring & Performance	• Query Store, Performance Insights • Identify blocking sessions, deadlocks • Intelligent Performance features (Adaptive Joins, Automatic Plan Correction)	🔧 Capture execution plans 🔧 Analyze Query Store & fix a regressed query plan
Day 4 – Indexing & Query Optimization	• Clustered, Nonclustered, Filtered Indexes • Columnstore indexes • Statistics updates, maintenance plans	🔧 Create index strategies, compare execution times pre/post index
Day 5 – Backup & HADR	• PITR & LTR backups • Geo-restore & Auto-failover groups • Always On AG in Azure VMs	🔧 Configure Auto-failover group for Azure SQL DB 🔧 Simulate failover and validate
Day 6 – Automation & Scripting	• Elastic Jobs for maintenance • Azure Automation Runbooks • ARM/Bicep template deployment	🔧 Automate backup retention settings using PowerShell 🔧 Schedule index rebuilds using Elastic Jobs
Day 7 – Review & Mock Exams	• Microsoft Learn modules review • Revisit weak areas • Take 2 full-length practice exams	🔧 Redo labs from Days 1–6 🔧 Focus on incorrect answers from mock tests

🎯 **Exam Tips**

- **Hands-on practice is critical** — Many DP-300 questions are scenario-based.
- **Know the differences** between DTU vs vCore, Hyperscale vs MI, Always On AG vs Auto-failover groups.
- **Understand SLAs** — 99.99% availability guarantee and what HA option meets it.
- **Read execution plans** — The exam may show a plan and ask you what to fix.
- **Practice with Azure CLI & T-SQL** — Some questions test your knowledge of commands.

7-Day Structured Study Checklist for **DP-300: Microsoft Azure Database Administrator Associate**.
This plan is designed to cover all exam domains efficiently, with **hands-on practice** for each topic.

🗒 **DP-300: Azure Database Administrator Associate – 7-Day Study Checklist**

Day	Focus Areas	Hands-On Practice / Labs	Status ✅
Day 1 – Core Azure SQL Deployments	• Azure SQL Database: Single DB, Elastic Pool, Serverless, Hyperscale • Azure SQL Managed Instance • SQL Server on Azure VMs • Service tiers: DTU vs vCore	🔧 Deploy Single DB, Elastic Pool, Managed Instance 🔧 Configure compute & storage scaling 🔧 Explore Serverless auto-pausing & auto-scaling	☐
Day 2 – Security & Authentication	• Azure AD Authentication, SQL Auth, Managed Identity • Row-Level Security (RLS), Dynamic Data Masking • Transparent Data Encryption (TDE), Always Encrypted • Auditing & Compliance	🔧 Enable Azure AD auth on SQL DB 🔧 Configure RLS & Dynamic Data Masking 🔧 Enable TDE & audit logs	☐
Day 3 – Monitoring & Performance	• Query Store & Performance Insights • Identify blocking & deadlocks • Intelligent Performance features: Automatic Plan Correction, Adaptive Joins • Azure Monitor & Log Analytics	🔧 Enable Query Store on SQL DB 🔧 Analyze performance regressions 🔧 Create alerts for blocked sessions or high DTU usage	☐
Day 4 – Indexing & Query Optimization	• Clustered & Nonclustered Indexes, Filtered Indexes • Columnstore Indexes • Statistics management & Auto Update • Execution plans analysis	🔧 Create and drop indexes 🔧 Compare query performance before/after indexing 🔧 Read & interpret execution plans	☐
Day 5 – High Availability & Disaster Recovery	• Auto-failover groups, Geo-replication • Backup & Restore strategies: PITR, LTR • Always On Availability Groups on SQL VMs • SLA & RTO/RPO considerations	🔧 Configure Auto-failover group on Azure SQL DB 🔧 Test Geo-replication failover 🔧 Perform point-in-time restore	☐
Day 6 – Automation & Scripting	• Elastic Jobs for maintenance • Azure Automation Runbooks • ARM/Bicep template deployments • Patch management & scheduled tasks	🔧 Automate index maintenance using Elastic Jobs 🔧 Schedule backups or patching using Runbooks 🔧 Deploy SQL DB using ARM template	☐
Day 7 – Review & Practice Exams	• Review all weak areas from Days 1–6 • Microsoft Learn modules & documentation review • Take 2 full-length practice exams (Tutorials Dojo, Whizlabs, MeasureUp) • Revisit labs for missed concepts	🔧 Re-do failed labs 🔧 Revise key HA architectures & performance tuning steps	☐

✅ **Study Tips**

- **Hands-on practice is key** — scenario-based questions dominate DP-300.
- **Know service differences** — Single DB vs Managed Instance vs Hyperscale vs SQL VM.
- **Understand SLA & HA options** — Auto-failover vs Always On AG.
- **Focus on performance tuning** — execution plans, Query Store, statistics.
- **Use Azure CLI and PowerShell** — some questions test command-line knowledge.