Planning and Designing Databases on AWS

Category: Cloud Platforms | **Vendor:** Amazon Web Services

Duration: 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

Choosing the right database service can make or break your cloud architecture. Planning and Designing Databases on AWS gives you the knowledge and hands-on experience to design data solutions that align with your application’s performance, scalability, and cost requirements. You’ll explore the process of planning and designing both relational and nonrelational databases on AWS. Learn the trade-offs of hosting on Amazon EC2 versus using fully managed services, and dive deep into AWS database offerings including Amazon RDS, Aurora, Redshift, DocumentDB, DynamoDB, ElastiCache, Neptune, and QLDB. By the end of the course, you’ll understand the unique capabilities of each service, how to evaluate them for specific workloads, and how to build secure, optimized, and future-ready database solutions in the cloud.

About This Course

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Who Should Attend

Data platform engineers, Database administrators, Solutions architects, IT professionals

Prerequisites & Entry Requirements

General Prerequisites:

- Relational Database experience
- Understanding of AWS foundational services: EC2, VPC, IAM
- Attended one of Architecting on AWS, Developing on AWS, or Systems Operations on AWS

Learning Outcomes

Upon successful completion of this course, participants will be able to:

By the end of the Planning and Designing Databases on AWS course, you’ll understand how to apply core database concepts and data modeling techniques within the AWS ecosystem. You'll evaluate the pros and cons of hosting databases on Amazon EC2 versus AWS-managed services and learn how to design using Amazon RDS, Aurora, Redshift, DocumentDB, DynamoDB, Neptune, ElastiCache, and QLDB. You'll also learn how to apply service-specific management principles and select the right database solutions based on business and technical requirements.

Detailed Course Outline

- **1 – Planning and Designing Databases on AWS**

  Course overview, structure, and database design goals

  Introduction to AWS's portfolio of database services

- **2 – Database Concepts and General Guidelines**

  Review of relational and nonrelational database fundamentals

  Best practices for cloud-native database design

- **3 – Database Planning and Design**

  Workload assessment and design decision-making

  Key criteria: performance, cost, scalability, and availability

- **4 – Databases on Amazon EC2**

  Self-managed databases on EC2: when and why

  Trade-offs vs managed services

  Cost, maintenance, and availability considerations

- **5 – Purpose-Built Databases on AWS**

  Overview of AWS's purpose-built database strategy

  Matching use cases to services (key-value, document, graph, etc.)

- **6 – Amazon RDS**

  Features and capabilities of Amazon RDS

  Supported engines and deployment models

  Use cases for managed relational databases

- **7 – Amazon Aurora**

  Aurora architecture and performance benefits

  Aurora MySQL vs Aurora PostgreSQL

  Replication, backups, and high availability

- **8 – Amazon DocumentDB (with MongoDB compatibility)**

  Designing document-based applications

  Scaling and querying document data

  Differences between DocumentDB and MongoDB

- **9 – Amazon DynamoDB**

  Key-value and NoSQL data models

  Partitioning, throughput, and access patterns

Design best practices for performance and cost

- **10 – Amazon Neptune**

  Graph database use cases and data models

  Working with Gremlin and SPARQL queries

  Design considerations for connected data

- **11 – Amazon Quantum Ledger Database (QLDB)**

  Immutable ledger design and cryptographic verification

  Use cases for financial records, supply chains, and auditing

  How QLDB differs from blockchain and relational models

- **12 – Amazon ElastiCache**

  In-memory caching with Redis and Memcached

  Boosting performance and reducing database load

  Common caching patterns and considerations

- **13 – Amazon Redshift**

  Data warehousing and analytics at scale

  Columnar storage and performance optimization

  Redshift Spectrum and integration with AWS services

- **14 – Course Review and Design Application**

  Recap of all AWS database services

  Workload matching and final design scenarios

  Q&A and review exercises

Frequently Asked Questions

Q: What delivery options are available for Planning and Designing Databases on AWS?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 3-day Planning and Designing Databases on AWS course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Planning and Designing Databases on AWS training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Planning and Designing Databases on AWS?

Yes, we provide corporate training, dedicated training, and closed classes for Planning and Designing Databases on AWS. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: Why choose Nexus Human for Planning and Designing Databases on AWS?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Planning and Designing Databases on AWS training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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