Microsoft

Zero to hero in 4 weeks with Azure Database for MySQL

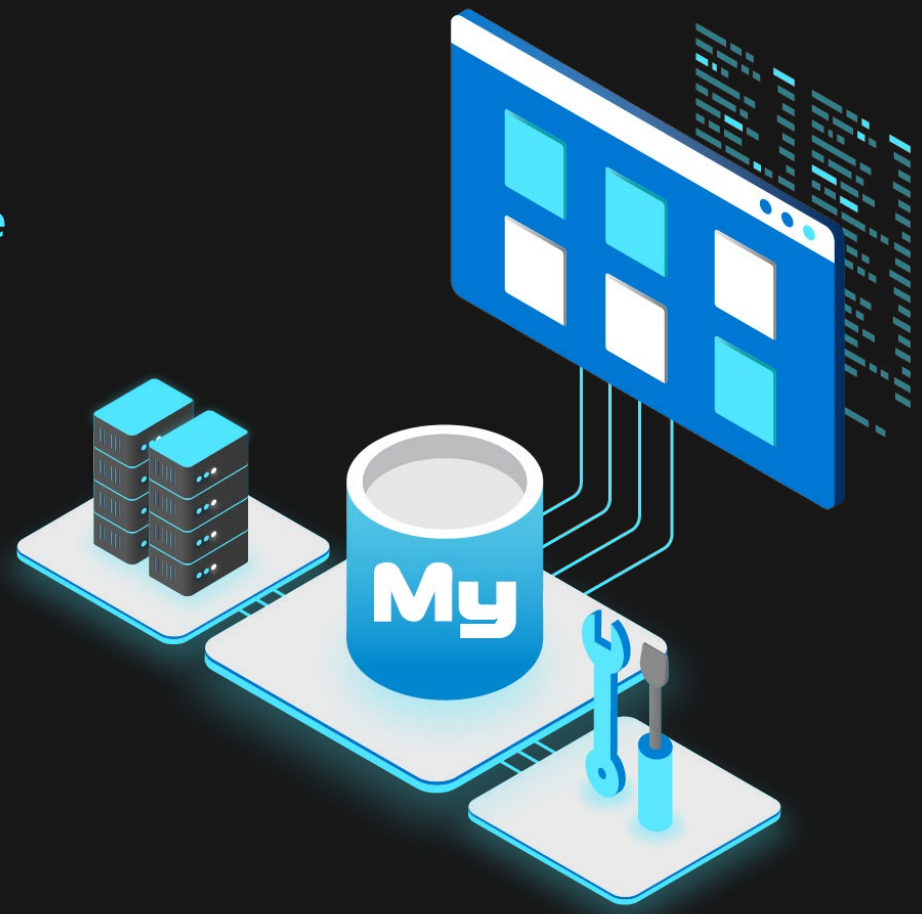
A guide to building and deploying applications for MySQL in Azure

With Azure Database for MySQL Flexible Server and the various managed application hosting services in Azure, you can build and deploy apps using your favorite open-source frameworks and languages.

This guide will show you how to create innovative, secure, and scalable cloud apps for MySQL using the managed services in Azure. We have curated an easy-to-understand learning journey that can be completed in 4 weeks. Each week you will watch a few videos on foundational concepts, learn step-by-step guidance, and try skills for yourself with hands-on exercises and tutorials.

To support your developer journey to Azure, we have also created a new MySQL Developer Guide for you to download and easily access recommended content from the 4 week learning journey. The guide contains actionable insights and proven best practices for a successful deployment of cloud applications for MySQL in Azure.

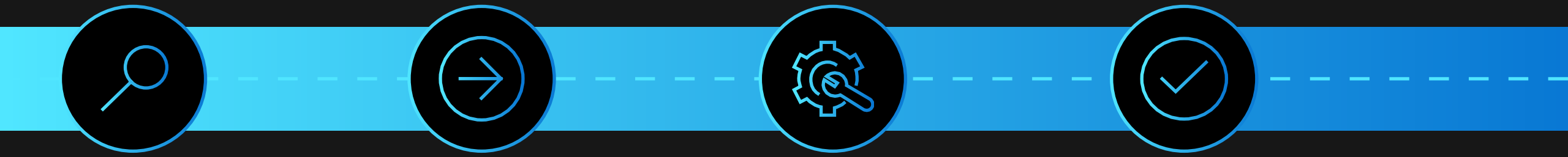
Let's get started!



Your journey to success

There's so much to learn about Azure, but don't worry, we've curated an easy to understand learning journey that will walk you through the basic concepts and fundamentals of Azure Database for MySQL, Azure App Service, and Azure Kubernetes Service. You will learn about the typical use cases and application architectures for Azure Database for MySQL, as well as some of the best practices when building secure, highly available, and scalable applications.

Before you begin, start an Azure Free Trial or use your existing Azure subscription. You'll need it for hands-on learning.



WEEK 1

Tour the Basics

Learn about the key concepts, features, application patterns, and use cases for Azure Database for MySQL Flexible Server.

WEEK 2

Getting Started with Azure Database for MySQL and Application Development in Azure

Learn about the various application hosting options in Azure, and how Azure can protect your applications and data.

WEEK 3

End to End Application Development with Azure Database for MySQL

Learn how to build and deploy your application to Azure and use Azure Database for MySQL Flexible Server in the backend.

WEEK 4

Best Practices for Monitoring, Performance Optimization, High Availability and much more

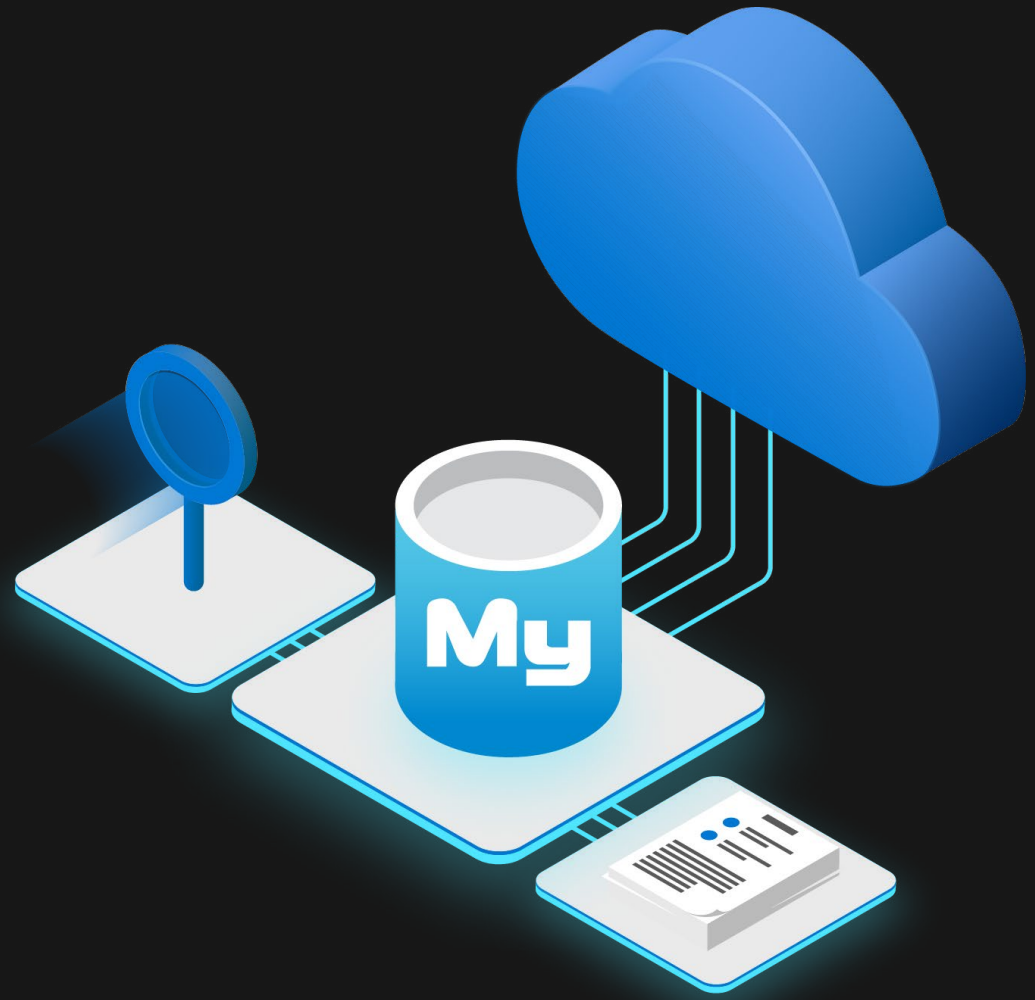
Learn tips and tricks to build efficient, stable applications for Azure Database for MySQL Flexible Server.

Week 1

Tour the Basics

Azure allows you to build apps on your terms in your favorite languages and frameworks. With managed services such as Azure Database for MySQL Flexible Server, Azure App Service, and Azure Kubernetes Service, you can focus on application development and innovate faster.

Spend this first week learning the essentials. We will cover the basic use cases and application patterns for Azure Database for MySQL Flexible Server, and you will also get familiar with the key concepts of Azure. Learning these fundamentals will help you later when you start architecting and building new applications in Azure.



Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

WATCH:

- [ ] **Introduction to Azure Database for MySQL Flexible Server**

  In this first episode of the MySQL Developer Essentials video series, you will learn about Azure Database for MySQL Flexible Server and why to use it.

- [ ] **Application patterns and use cases for Azure Database for MySQL Flexible Server**

  In this video you will learn some of the typical application patterns and use cases for Azure Database for MySQL Flexible Server and why developers are using MySQL in Azure when building applications.

- [ ] **Top 3 Reasons to consider Azure Database for MySQL Flexible Server**

  In this Data Exposed video, Parikshit Savjani, the Principal PM of Azure Database for MySQL, discusses some of the top reasons why developers should use Flexible Server for MySQL deployments in Azure.

- [ ] **Beginners Series: Introduction to Azure Database for MySQL**

  Explore why developers love MySQL, the hosting options for MySQL in Azure, and get introduced to the fully managed MySQL service in Azure.

- [ ] **Beginners Series: Azure Database for MySQL Flexible Server Features and Concepts**

  Watch this video for a brief and consolidated view of Azure Database for MySQL Flexible Server key features and core concepts.

- [ ] **Beginners Series: Demo – Getting Started with Azure Database for MySQL**

  In this video we will show you a detailed demo on how to create and connect to an Azure Database for MySQL Flexible Server instance.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

LEARN:

- [ ] **Introduction to Azure Database for MySQL**

  In this MS Learn module, you will learn more about Azure Database for MySQL, how it works, and when to use it.

- [ ] **Microsoft Azure Fundamentals: Describe core Azure concepts**

  In this MS Learn Learning Path, you will get an introduction to Azure fundamentals, concepts, and core Azure architectural components.

- [ ] **Microsoft Azure Fundamentals: Describe core Azure services**

  In this MS Learn Learning Path you will get a broad understanding of services available in Azure including compute, network, storage, and databases. This information is very useful for any developer who plans to migrate their MySQL application to Azure or wants to build a new solution in Azure.

TRY:

- [ ] **Quickstart: Use the Azure portal to create an Azure Database for MySQL Flexible Server**

  Use your own Azure subscription, or get a free Azure account, and create an instance of Azure Database for MySQL flexible server with the help of this tutorial.

- [ ] **Use PHP with Azure Database for MySQL Flexible Server**

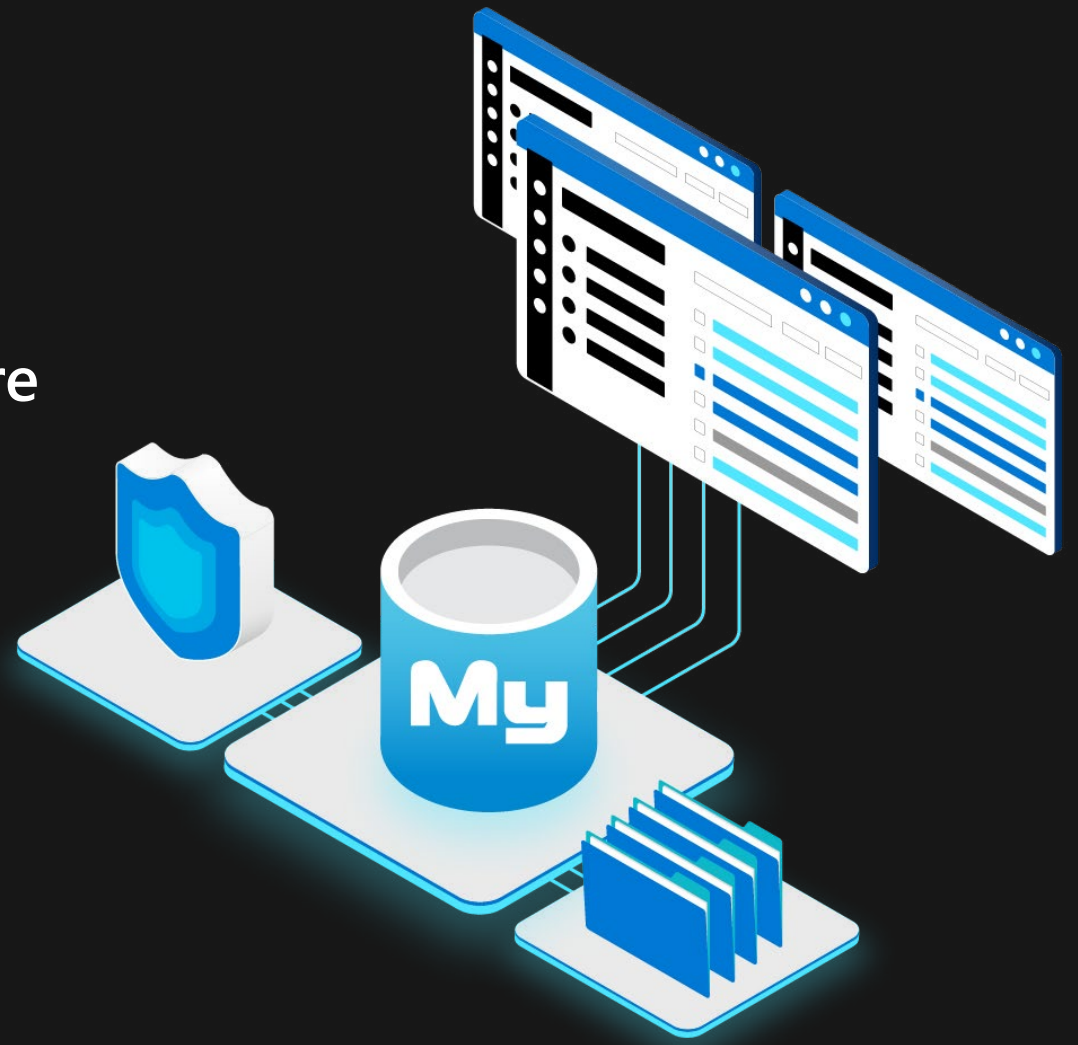
  This quickstart demonstrates how to connect to an Azure Database for MySQL Flexible Server using a PHP application.

Week 2

Getting Started with Azure Database for MySQL and Application Development in Azure

In week 2, you will learn about the most common cloud application architectures and the various options you have as a developer to host your application in Azure. We will discuss more traditional web applications written in PHP, Python, and Java and advanced scenarios for cloud native applications that leverage microservices or event-driven applications that can be implemented with the Azure serverless platform.

Additionally, week 2 covers the features of Azure Database for MySQL Flexible Server, security, and networking, and how Azure services protect your users, applications, and the data.



Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

WATCH:

- [ ] **Building web applications and microservices for MySQL in Azure**

  In this episode of the MySQL Developer Essentials series, you will learn about Azure App Service, Azure Functions, Azure Logic Apps, as well as Azure Kubernetes Services.

- [ ] **Securing your data with Azure Database for MySQL Flexible Server**

  Get an overview of how Azure Database for MySQL Flexible Server, Azure App Service, and Azure Kubernetes Service protect your applications and data.

- [ ] **Beginners Series: Compute and Storage Options**

  In this Data Exposed video, Parikshit Savjani, the Principal PM of Azure Database for MySQL, discusses some of the top reasons why developers should use Flexible Server for MySQL deployments in Azure.

- [ ] **Beginners Series: Networking and Security**

  Watch this video to learn more about networking and connectivity options as well as security and compliance in Azure Database for MySQL Flexible Server.

- [ ] **Tutorial: Connect and Query from Your Applications**

  Watch this tutorial video to learn how to connect to Azure Database for MySQL Flexible Server from your applications using PHP, Python, and Java.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

LEARN:

- [ ] **Create your first Azure Database for MySQL**

  In this MS Learn module, you will be exploring Azure Database for MySQL Flexible Server and the various features using the sandbox in the learning environment.

- [ ] **Configure Azure App Services**

  Get familiar with Azure App Service, and learn how to create and secure an app service.

- [ ] **Create Azure App Service web apps**

  In this MS Learn Learning Path, you will learn how Azure App Service works and how to use it to create and update an app.

- [ ] **Introduction to Azure Kubernetes Service**

  Get familiar with Azure Kubernetes Service and how the components of AKS work to support compute container orchestration.

- [ ] **Microsoft Azure Fundamentals: Describe general security and network security features**

  Use this MS Learn Learning Path to familiarize yourself with the various technologies and services in Azure that protect your workloads in the cloud.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

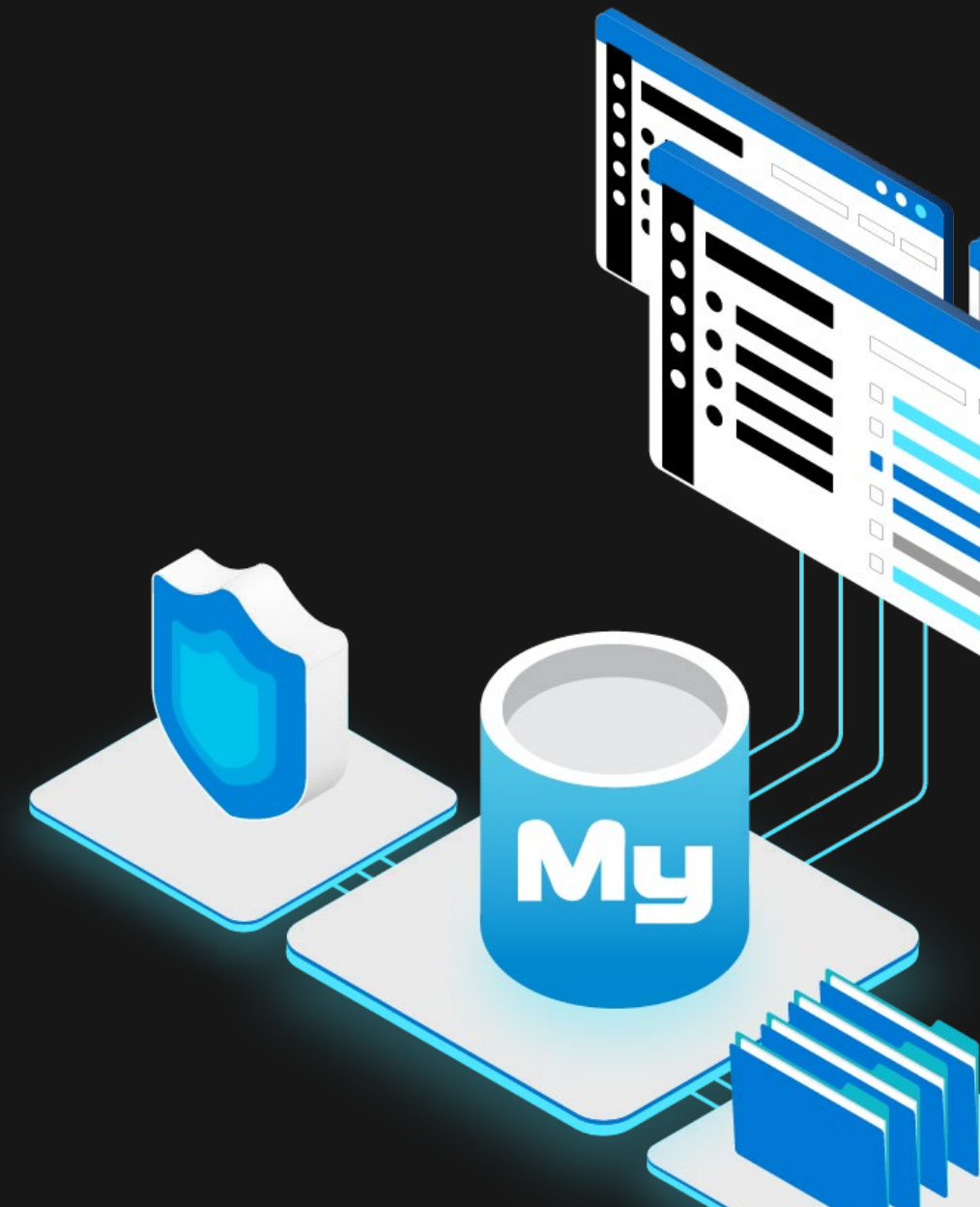
TRY:

- [ ] **Tutorial: Build a PHP and MySQL app in Azure App Service**

  This tutorial shows how to create a PHP app in Azure and connect it to Azure Database for MySQL.

- [ ] **Quickstart: Deploy an Azure Kubernetes Service (AKS) cluster using the Azure portal**

  In this quickstart, you will learn how to deploy an AKS cluster using the Azure portal. You will also run a sample multi-container application with a web front-end and a Redis instance in the cluster.



Week 3

End to End Application Development with Azure Database for MySQL

During week 3, you will learn more about Azure App Service, Azure Kubernetes Service, and how to deploy applications to these services using Azure Database for MySQL Flexible Server in the backend. You will also get familiar with end-to-end application development and deployment best practices in Azure by using step-by-step guidance from the MySQL Developer Guide.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

WATCH:

- [ ] **Application Development with Flexible Server**

  Learn more about how Azure Database for MySQL Flexible Server gives you the flexibility to develop applications for Azure App Services and Azure Kubernetes Service using GitHub or Azure DevOps.

- [ ] **Tutorial: Azure App Service and MySQL Flexible Server**

  In this tutorial video you will learn how to deploy MySQL applications with Azure App Service.

- [ ] **Tutorial: Azure Kubernetes Service and MySQL Flexible Server**

  Watch this tutorial video to learn how to deploy simple applications to Azure Kubernetes Service with Azure Database for MySQL Flexible Server in the backend.

LEARN:

- [ ] **Develop applications with Azure Database for MySQL Flexible Server**

  In this MS Learn module, you will learn how to build a basic application in Azure using Azure Database for MySQL Flexible Server and the application hosting services.

- [ ] **Deploy a website to Azure with Azure App Service**

  In this MS Learn learning path you will learn how to publish and manage a website easily using the robust Azure platform.

- [ ] **Develop and deploy applications on Kubernetes**

  In this learning path, you will learn how to develop, build, deploy, and automatically maintain cloud native applications designed to work with Azure Kubernetes Service from the scratchpad to the deployment pipeline.

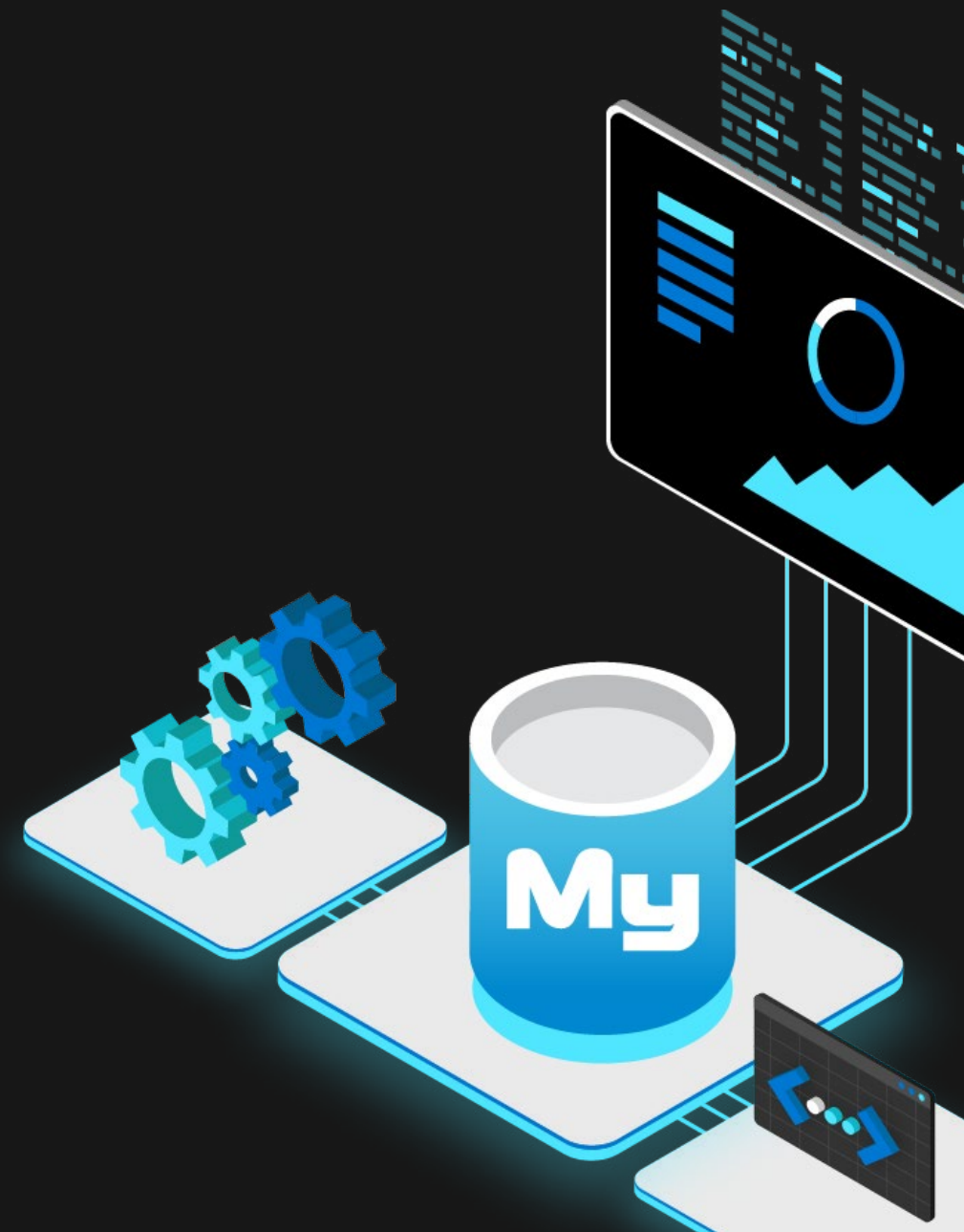
Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

TRY:

- [ ] **Azure Database for MySQL Developer Guide tutorials**

  The Azure Database for MySQL Developer Guide is a comprehensive guide to developing MySQL-based applications in Azure. This GitHub repo contains the Word and PDF versions of the guide. The guide contains the content and links to tutorial jumpstarts.

  We have created a sample PHP application that is referenced in the evolution tutorials in the guide. You will be creating a basic PHP application as well as an evolved version utilizing a Java REST microservice Azure Kubernetes Service architecture.



Week 4

Best Practices for monitoring, performance optimization, high availability and much more

During this final week of the MySQL Developer Journey, you will get familiar with some of the more advanced topics such as, performance monitoring, high availability, disaster recovery, replication, cost optimization, and database migrations. You will also continue working on the sample applications described in the MySQL Developer Guide.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

WATCH:

- [ ] **Monitoring and Optimizing for Performance**

  In this MySQL Developer Essentials video, you will learn the fundamentals of how to monitor your end-to-end solution using Azure Monitor.

- [ ] **Cost Optimization and Cost Management**

  In this MySQL Developer Essentials video, you will learn about the various ways you can optimize and manage cost when running applications and MySQL databases in Azure.

- [ ] **Beginner Series: Cost Savings with Flexible Server**

  In this video, we will explore some of cost saving features of Azure Database for MySQL Flexible Server.

- [ ] **Planning for High Availability and Disaster Recovery in Azure**

  In this MySQL Developer Essentials video, you will learn about high availability and disaster recovery in Azure Database for MySQL Flexible Server, Azure App Service, and Azure Kubernetes Service.

- [ ] **Demo: High Availability**

  Watch this demo to deep dive into the two high-availability architectures and failover scenarios of Azure Database for MySQL Flexible Server.

- [ ] **Beginner Series: Backup and Restore**

  In this video, you will deep dive into Flexible Server's automated backups, backup redundancy, retention period as well as the restore options.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

WATCH:

- [ ] **Beginner Series: Replication**

  In this video, you will learn how replication works in MySQL, and what data-in replication is used for. You will also learn how read replicas in Flexible Server help improve app performance.

- [ ] **Migrating to Azure Database for MySQL Flexible Server**

  In this video, you will learn about the main stages and activities you should be aware of when migrating your MySQL databases to Azure Database for MySQL.

LEARN:

- [ ] **Monitor the usage, performance, and availability of resources with Azure Monitor**

  Learn about Azure Monitor and how it provides insights into your Azure resource performance and operations. You will also learn how you can use Application Insights to capture and view page load times in your Azure web app.

- [ ] **Get started with Azure Advisor**

  Learn how to use Azure Advisor to optimize your Azure workload usage, lower costs, increase efficiency, and improve security.

- [ ] **Monitor app performance**

  Learn how to use the tools offered in Application Insights to enhance the performance and stability of your applications.

Click the box to launch each module. Once completed, be sure to check the box to easily track your progress.

LEARN:

- [ ] **Migration guide: Migrate MySQL on-premises to Azure Database for MySQL**

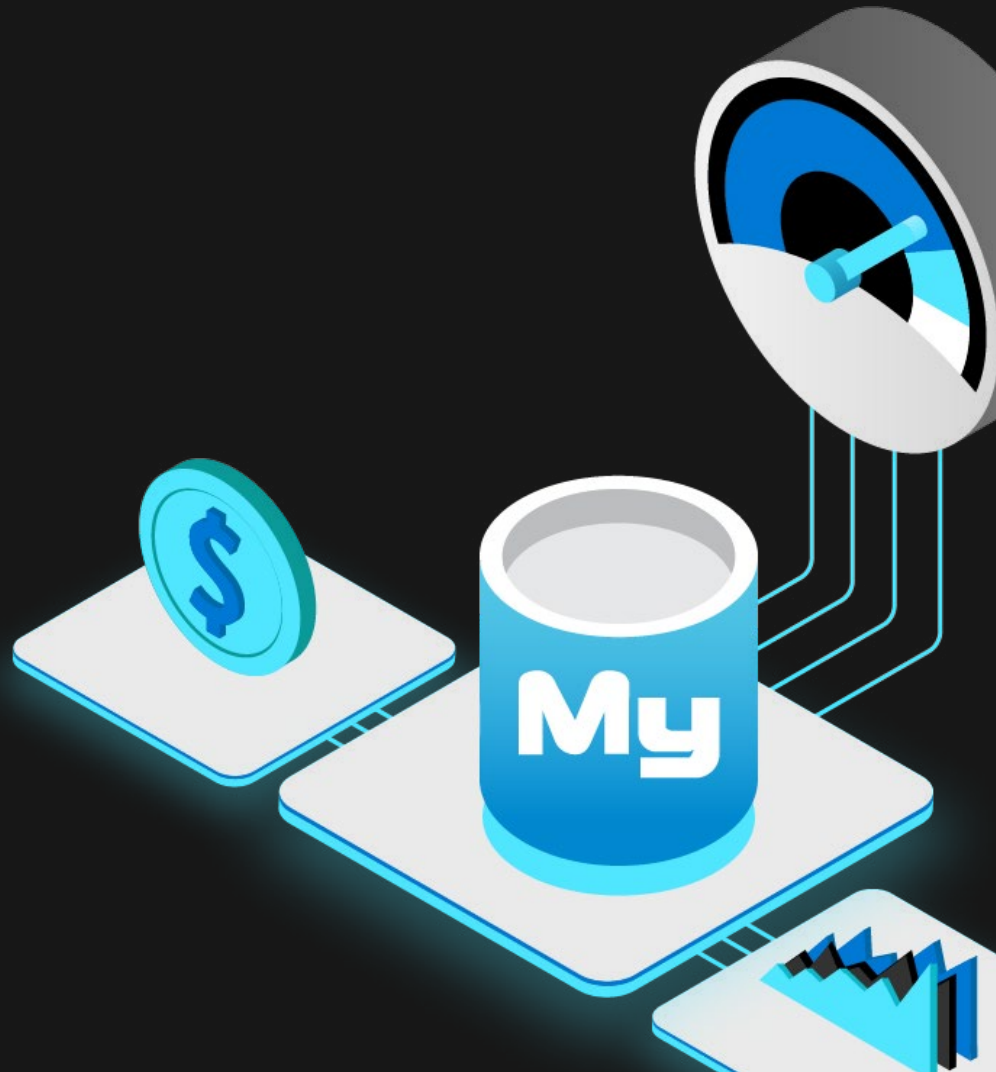
  This migration guide is designed to provide actionable information and best practices on how to migrate MySQL workloads to Azure Database for MySQL.

TRY:

- [ ] **Azure Database for MySQL Developer Guide tutorials**

  Use the Azure Database for MySQL Developer Guide and continue working on the sample PHP application and the evolved version that utilizes a microservices architecture on AKS.

  The guide contains lots of additional information, technical deep dives, and links to various resources and jumpstarts that you can try out in the final week of your learning journey.



Congratulations! You have now completed your four weeks of training and are ready to start building and deploying applications for MySQL in Azure.

Post your technical questions about Azure Database for MySQL in Microsoft Q&A.

Read the Azure Database for MySQL Tech Community blog to get the latest news about Azure Database for MySQL Flexible Server.

Read the Azure Developer Community blog to learn about the latest product news, tips, tricks, and best practices when building solutions in Azure.