# Get started with Azure

<https://azure.microsoft.com/en-us/get-started/?ocid=AID3021690>

Azure live demo

## What is Azure?

Azure is a complete cloud platform that can host your existing applications and streamline new application development. Azure can enhance on-premises applications. Azure integrates the cloud services that you need to develop, test, deploy, and managed your applications, while taking advantage of the efficiencies of cloud computing.

By hosting your applications on Azure, you can start small and easily scale your application as your customer demand grows. Azure also offers the reliability that is needed for high-availability applications, even including failover between different regions. The Azure portal lets you easily manage all of your Azure services. You can also manage your services programmatically by using service-specific APIs and templates.

This guide is an introduction to the Azure platform for application developers. It provides guidance and directions you need to start building new applications in Azure or migrating existing applications to Azure.

## Where do I start?

With all the services that Azure offers, it can be an intimidating task to figure out which services you need to support your solution architecture. This section highlights the Azure series that developers commonly use. For a list of all Azure series, see the Azure documentation.

First, you must devices on how to host your application in Azure. First, you must decide on how to host your application in Azure. Do you need to manage your entire infrastructure as a virtual machine (VM)? Can you use the platform management facilities that Azure provides? Maybe you need a serverless framework to host code execution only?

Your application needs cloud storage, which Azure provides several options for. You can take advantage of Azure’s enterprise authentication. There are also tools for cloud-based development and monitoring, and most hosting services offers DevOps integration.

Now, let’s look at some of the specifics that we recommend investigating for your applications.

## Application hosting

Azure provides several cloud-based compute offerings to run your application so that you don’t have to worry about the infrastructure details. You can easily scale up or scale out your resources as your application usage grows.

Azure offers services that support your application development and hosting needs. Azure provides Infrastructure as a Service (IaaS) to give you full control over your application hosting. Azure’s Platform as a Service (PaaS) offerings provide the fully managed services needed to power your apps. There’s even true serverless hosting in Azure where all you need to do is write your code.

## Azure App Service

Azure app service provides the quickest way to publish your web-based projects. App Service allows you to extend your web apps to support your mobile clients and publish easily consumed REST APIs. This platform provides authentication by using social providers, traffic-based autoscalling, testing in production, and continuous and container-based deployments.

You can create web apps, mobile app back ends, and API apps.

Since off three of these app types share the App Service, you can host a website, support mobile clients, and expose your APIs in Azure, all from the same project or solution.

App Service has been designed with DevOps in mind. It supports various tools for publishing and continuous integration deployments. These tools include GitHub webhooks, Jenkins, Azure DevOps, TeamCity, and others.

You can migrate your existing applications to App Service by using the online migration tool.

When to use – Use App Service when you’re migrating existing web applications to Azure, and when you need a fully-managed hosting platform for your web apps. You can also use App Service when you need to support mobile clients or expose REST APIs with your app.

Get Started – App Service makes it easy to create and deploy your first web app, mobile app, or API app.

Try it now – App Service lets you provision a short-lived app to try the platform without having to sign up for an Azure account.

## Azure Virtual Machines

As an infrastructure as a Service (IaaS) provider, Azure lets you deploy to or migrate your application to either Windows or Linux VMs. Together with Azure Virtual Network, Azure Virtual Machines support the deployment of Windows or Linux VMs to Azure. With VMs, you have total control over the configuration of the machine. When using VMs, you’re responsible for all server software installation, configuration, maintenance, and operating system patches.

Because of the level of control that you have with VMs, you can run a wide range of server workloads on Azure that don’t fit in to PaaS model. These workloads include database servers, Windows Server Active Directory, and Microsoft SharePoint.

When to use – Use Virtual Machines when you want full control over your application infrastructure or to migrate on-premises application workloads to Azure without having to make changes.

## Azure Functions (serverless)

Rather than worrying about building out and managing the whole application or the infrastructure to run your code, what if you could just write your code and have it run in response to events or on a schedule? Azure Functions is a “serverless” style offering that lets you write just the code you need. With Functions, you can trigger code execution with HTTP requests, webhooks, cloud service events, or on a schedule. You can code in your development language of choice, such as C#, F#, Node.js, Python, or PHP. With consumption-based billing, you pay only for the time that your code executes, and Azure scales as needed.

When to use – Use Azure Functions when you have code that is triggered by other Azure services, by web-based events, or on a schedule. You can also use Functions when you don’t need the overhead of a complete hosted project or when you only want to pay for the time that your code runs.

## Azure Service Fabric

Azure Service Fabric is a distributed system platform. This platform makes it easier to build, package, deploy, and manage scalable and reliable microservices. It also provides comprehensive application management capabilities such as Provisioning, Deploying, Monitoring, Upgrading/Patching, and Deleting.

App, which runs on a shared pool of machines, can start small and scale to hundreds or thousands or machines as needed.

Service Fabric supports WebAPI with Open Web Interface for .NET (OWIN) and ASP.NET Core. It provides SDKs for building services on Linux in both .NET Core and Java.

When to use: Service Fabric is a good choice when you’re creating an application or requiring and existing application to use a microservice architecture. Use Service Fabric when you need more control over, or direct access to, the underlying infrastructure.

Azure Service Fabric

## Enhance your applications with Azure Services:

You can use any of the following storage and data services in Azure.

### Azure CosmosDB –

A globally distributed, multi-modeled database service. This database enables you to elastically scale throughput and storage across any number of geographical regions with a comprehensive SLA.

#### When to use

When your application needs document, table, or graph databases, including MongoDB databases, with multiple well-defined consistency modes.

### Azure Storage

Offers durable, highly available storage for blobs, queues, files, and other kinds of nonrelational data. Storage provides the storage foundation for VMs.

#### When to use

When your app stores non-relational data, such as key-value pairs (tables), blobs, file shares, or messages (queues).

### Azure SQL Database

This is an Azure-based version of the Microsoft SQL Server engine for storing relational tabular data in the cloud. SQL Database provides predictable performance, scalability with no downtime, business continuity, and data protection.

#### When to use:

When your application requires data storage with referential integrity, transaction support, and support for TSQL queries

You can use Azure Data Factory to move existing on-premises data to Azure. If you aren’t ready to move data to the cloud, Hybrid Connections in Azure App Services let you connect your App Services hosted app to on-premises resources. You can also connect to Azure data and storage servcics form our on-premises applications.

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## Docker Support

<https://docs.microsoft.com/en-us/azure/guides/developer/azure-developer-guide>

# Azure online tutorial

<https://portal.azure.com/#home>

## Creating a resource

Different types of resources that can be created include Storage accounts, SQL databases, Azure Database for ProgreSQL, Azure Comos DB, Kubernates services, Function App, etc.

## Home

You can use the Home page to view key info quickly, such as top Azure services, common tasks, recently used resources, online training, the Azure log, and more.

## Dashboard

The Dashboard is a customizable display exactly what you want: resources, services, alerts, tutorial, and more.

## All Services

Allows you to browse all variety of services of available Azure services.

## Favorites

Mark favorites by selecting All services and toggle the star icon accordingly.

## Search

Quickly find the resources you are looking for

## Directory and Subscription

Switch between directories or use global subscriptions filter to filter resources in portal

## Notifications

View status updates and other information

## Help + support

Get help or open a support request

## Account information

Switch directories, change your password, view your permissions, submit an idea, or view your bill.