

# AZURE WEB APPS

Azure Web Apps is a fully managed platform for building, deploying, and scaling web apps. It is part of Microsoft Azure, a cloud computing platform that provides a variety of services and resources for building, deploying, and managing applications.

Key features and components of Azure Web Apps include:

1. **Web App Service:** Azure Web Apps allows you to build and host web applications in the programming language of your choice, without managing infrastructure. It supports languages such as .NET, Java, Node.js, Python, and more.
2. **Scalability:** You can easily scale your web app vertically by adjusting the number of virtual machine instances or horizontally by adding more instances. This ensures that your application can handle varying levels of traffic.
3. **Deployment Options:** Azure Web Apps supports various deployment options, including continuous integration and continuous deployment (CI/CD) through integration with services like Azure DevOps, GitHub Actions, and others.
4. **Integration with Azure Services:** Azure Web Apps seamlessly integrates with other Azure services, such as Azure SQL Database, Azure Storage, Azure Active Directory, and more. This allows you to leverage a wide range of services to enhance the functionality of your web applications.
5. **Monitoring and Diagnostics:** Azure provides built-in monitoring and diagnostics tools for web apps. You can gain insights into the performance and health of your applications using Azure Monitor and Azure Application Insights.
6. **Custom Domains and SSL Certificates:** You can use custom domains for your web apps, and Azure provides options for securing your site with SSL certificates.
7. **Authentication and Authorization:** Azure Web Apps supports various authentication providers, including Azure Active Directory, social identity providers, and custom authentication mechanisms. You can also configure role-based access control (RBAC) to manage access to your app resources.
8. **DevOps Integration:** Azure DevOps Services can be integrated with Azure Web Apps to automate the build and release pipelines. This facilitates a streamlined deployment process and allows for continuous delivery.
9. **Backup and Restore:** Azure Web Apps provides options for backing up your app and restoring it to a previous state if needed.
10. **Global Distribution:** You can deploy your web apps in multiple Azure regions to provide low-latency access to users around the world.

Azure Web Apps simplifies the process of deploying and managing web applications, allowing developers to focus on building great software without the overhead of managing infrastructure.

## Why use App Service?

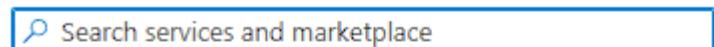
Azure App Service is a fully managed platform as a service (PaaS) offering for developers. Here are some key features of App Service:

1. **Multiple languages and frameworks** - App Service has first-class support for ASP.NET, ASP.NET Core, Java, Node.js, PHP, or Python. You can also run PowerShell and other scripts or executables as background services.
2. **Managed production environment** - App Service automatically patches and maintains the OS and language frameworks for you. Spend time writing great apps and let Azure worry about the platform.
3. **Containerization and Docker** - Dockerize your app and host a custom Windows or Linux container in App Service. Run multi-container apps with Docker Compose. Migrate your Docker skills directly to App Service.
4. **DevOps optimization** - Set up continuous integration and deployment with Azure DevOps, GitHub, BitBucket, Docker Hub, or Azure Container Registry. Promote updates through test and staging environments. Manage your apps in App Service by using Azure PowerShell or the cross-platform command-line interface (CLI).
5. **Global scale with high availability** - Scale up or out manually or automatically. Host your apps anywhere in Microsoft's global datacenter infrastructure, and the App Service SLA promises high availability.
6. **Connections to SaaS platforms and on-premises data** - Choose from many hundreds of connectors for enterprise systems (such as SAP), SaaS services (such as Salesforce), and internet services (such as Facebook). Access on-premises data using Hybrid Connections and Azure Virtual Networks.
7. **Security and compliance** - App Service is ISO, SOC, and PCI compliant. Create IP address restrictions and managed service identities. Prevent subdomain takeovers.
8. **Authentication** - Authenticate users using the built-in authentication component. Authenticate users with Microsoft Entra ID, Google, Facebook, Twitter, or Microsoft account.
9. **Application templates** - Choose from an extensive list of application templates in the Azure Marketplace, such as WordPress, Joomla, and Drupal.
10. **Visual Studio and Visual Studio Code integration** - Dedicated tools in Visual Studio and Visual Studio Code streamline the work of creating, deploying, and debugging.
11. **Java tools integration** - Develop and deploy to Azure without leaving your favorite development tools, such as Maven, Gradle, Visual Studio Code, IntelliJ, and Eclipse.
12. **API and mobile features** - App Service provides turn-key CORS support for RESTful API scenarios, and simplifies mobile app scenarios by enabling authentication, offline data sync, push notifications, and more.
13. **Serverless code** - Run a code snippet or script on-demand without having to explicitly provision or manage infrastructure, and pay only for the compute time your code actually uses (see Azure Functions).

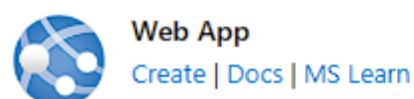
Besides App Service, Azure offers other services that can be used for hosting websites and web applications. For most scenarios, App Service is the best choice. For microservice architecture, consider Azure Spring Apps or Service Fabric. If you need more control over the VMs on which your code runs, consider Azure Virtual Machines. For more information about how to choose between these Azure services, see Azure App Service, Virtual Machines, Service Fabric, and Cloud

## TO BEGIN WITH THE LAB

1. Log in to your Azure Portal. Go to create resources.
2. There you need to search WEB APP.
3. You can either search or it will be on the same screen under virtual machine.



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4. Now click on create.
5. Now you need to choose your resource group.
6. Then give it a unique name. This name will be used as DNS name, so, that you can open your app website.
7. Then there are multiple Runtime Stack to choose from, but for the time being choose .NET 6 (LTS)
8. Select the Operating system as Windows (you can also choose Linux)
9. Then choose your region.

App Service Web Apps lets you quickly build, deploy, and scale enterprise-grade web, mobile, and API apps running on any platform. Meet rigorous performance, scalability, security and compliance requirements while using a fully managed platform to perform infrastructure maintenance. [Learn more](#)

#### Project Details

Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* ⓘ

Free Trial

Resource Group \* ⓘ

app-grp

[Create new](#)

#### Instance Details

Name \*

appvm123321

.azurewebsites.net

Publish \*

Code  Docker Container  Static Web App

Runtime stack \*

.NET 6 (LTS)

Operating System \*

Linux  Windows

Region \*

Central India

i Not finding your App Service Plan? Try a different region or select your App Service Environment.

10. For the pricing plans keep everything as you get by default. If you want to learn about pricing then you can click on learn more option.

## Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app.  
[Learn more ↗](#)

Windows Plan (Central India) *	<input type="text" value="(New) ASP-appgrp-af35"/>	<input type="button" value="Create new"/>
Pricing plan	<input type="text" value="Free F1 (Shared infrastructure)"/>	

## Zone redundancy

An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed [Learn more ↗](#)

Zone redundancy

- Enabled:** Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.
- Disabled:** Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

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Next : Database >

## 11. Now on the Monitoring section, turn off application insights.

Basics Database Deployment Networking **Monitoring** Tags [Review + create](#)

Azure Monitor application insights is an Application Performance Management (APM) service for developers and DevOps professionals. Enable it below to automatically monitor your application. It will detect performance anomalies, and includes powerful analytics tools to help you diagnose issues and to understand what users actually do with your app. Your bill is based on amount of data used by Application Insights and your data retention settings. [Learn more ↗](#)

[App Insights pricing ↗](#)

### Application Insights

Enable Application Insights \*

No  Yes

## 12. Go to review page and create you app.

## 13. Once the deployment is complete, go to resources.

### ✓ Your deployment is complete



Deployment name: Microsoft.Web-WebApp-Portal-add91e6b-8bed  
Subscription: [Free Trial](#)  
Resource group: [app-grp](#)

Start time: 12/29/2023, 3:20:13 PM

Correlation ID: 2fedd2fb-6bd5-490b-a17f-370eaa9d7c1a [Copy](#)

#### ✓ Deployment details

#### ✗ Next steps

[Manage deployments for your app.](#) Recommended

[Protect your app with authentication.](#) Recommended

[Go to resource](#)

14. Now if you just copy your default domain and paste it in a new tab. Then you'll see that a default web app running as part of the web service itself.

Your web app is running and waiting for your content

Your web app is live, but we don't have your content yet. If you've already deployed, it could take up to 5 minutes for your content to show up, so come back soon.

</> Supporting Node.js, Java, .NET and more

Haven't deployed yet?  
Use the deployment center to publish code or set up continuous deployment.

Starting a new web site?  
Follow our Quickstart guide to get a web app ready quickly.

[Deployment center](#) [Quickstart](#)

15. Go back to portal, on the app page scroll down the left side, there you will see an option for development tools.

16. From there click on App service Editor.

## Development Tools

-  Clone App
-  Console
-  Advanced Tools
-  App Service Editor (Preview)
-  Extensions

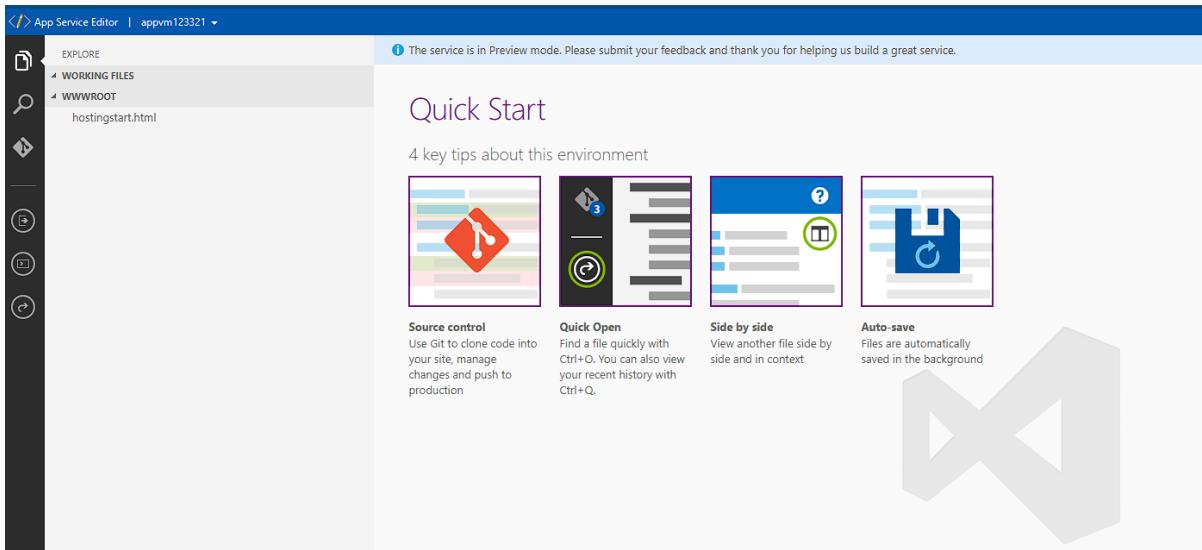
17. Click on open editor.

## App Service Editor (Preview)

App Service Editor provides an in-browser editing experience for your App code. [Learn more](#)

[Open Editor](#) ↗

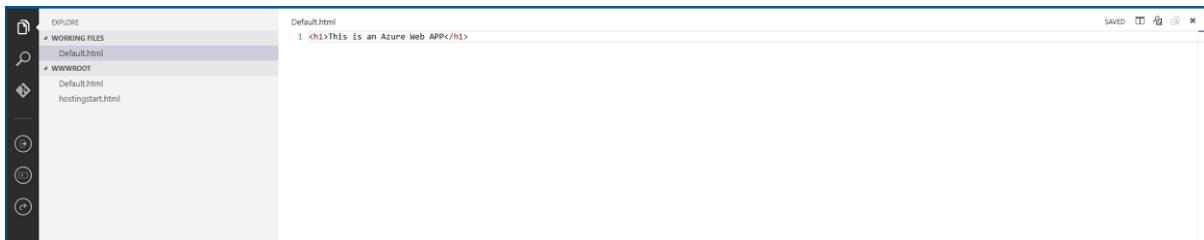
18. You will be directed on the new page which will look like this.



19. Now if you just right click on the space under WWWROOT, and then create a new file with the name Default.HTML



20. Then if you will write something in the default.html like shown below. It will automatically be saved in the editor.



21. Now if you will refresh your DNS URL then you can see the changes there also.

A screenshot of a browser window. The address bar shows the URL: 'https://appvm123321.azurewebsites.net'. The page content is '

# This is an Azure Web APP

'.

So, in the end, this is a platform as a service. The Azure Web app in the end is part of this app service suite of services. Internally, it is being hosted on some sort of virtual machines, compute infrastructure. But all of this is being managed in the background. You don't need to worry about the underlying compute infrastructure. You just focus on deploying your web applications and maintaining them accordingly.