

Deploying .NET to Azure App Service

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You can deploy your .NET project to Azure App Service as part of your continuous deployment (CD) workflows.

Note: GitHub-hosted runners are not currently supported on GitHub Enterprise Server. You can see more information about planned future support on the [GitHub public roadmap](#).

Introduction

This guide explains how to use GitHub Actions to build and deploy a .NET project to [Azure App Service](#).

Note: If your GitHub Actions workflows need to access resources from a cloud provider that supports OpenID Connect (OIDC), you can configure your workflows to authenticate directly to the cloud provider. This will let you stop storing these credentials as long-lived secrets and provide other security benefits. For more information, see "[About security hardening with OpenID Connect](#)" and "[Configuring OpenID Connect in Azure](#)."

Prerequisites

Before creating your GitHub Actions workflow, you will first need to complete the following setup steps:

- 1 Create an Azure App Service plan.

For example, you can use the Azure CLI to create a new App Service plan:

Bash



```
az appservice plan create \
  --resource-group MY_RESOURCE_GROUP \
  --name MY_APP_SERVICE_PLAN \
  --is-linux
```

In the command above, replace `MY_RESOURCE_GROUP` with your pre-existing Azure Resource Group, and `MY_APP_SERVICE_PLAN` with a new name for the App Service plan.

See the Azure documentation for more information on using the [Azure CLI](#):

- For authentication, see "[Sign in with Azure CLI](#)."
- If you need to create a new resource group, see "[az group](#)."

2 Create a web app.

For example, you can use the Azure CLI to create an Azure App Service web app with a .NET runtime:

Bash

```
az webapp create \  
  --name MY_WEBAPP_NAME \  
  --plan MY_APP_SERVICE_PLAN \  
  --resource-group MY_RESOURCE_GROUP \  
  --runtime "DOTNET|5.0"
```

In the command above, replace the parameters with your own values, where `MY_WEBAPP_NAME` is a new name for the web app.

3 Configure an Azure publish profile and create an `AZURE_WEBAPP_PUBLISH_PROFILE` secret.

Generate your Azure deployment credentials using a publish profile. For more information, see "[Generate deployment credentials](#)" in the Azure documentation.

In your GitHub repository, create a secret named `AZURE_WEBAPP_PUBLISH_PROFILE` that contains the contents of the publish profile. For more information on creating secrets, see "[Using secrets in GitHub Actions](#)."

4 Optionally, configure a deployment environment. Environments are used to describe a general deployment target like `production`, `staging`, or `development`. When a GitHub Actions workflow deploys to an environment, the environment is displayed on the main page of the repository. You can use environments to require approval for a job to proceed, restrict which branches can trigger a workflow, gate deployments with custom deployment protection rules, or limit access to secrets. For more information about creating environments, see "[Using environments for deployment](#)."

Creating the workflow

Once you've completed the prerequisites, you can proceed with creating the workflow.

The following example workflow demonstrates how to build and deploy a .NET project to Azure App Service when there is a push to the `main` branch.

Ensure that you set `AZURE_WEBAPP_NAME` in the workflow `env` key to the name of the web app you created. If the path to your project is not the repository root, change `AZURE_WEBAPP_PACKAGE_PATH`. If you use a version of .NET other than `5`, change `DOTNET_VERSION`.

If you configured a deployment environment, change the value of `environment` to be the name of your environment. If you did not configure an environment, delete the `environment` key.

YAML

```
# This workflow uses actions that are not certified by GitHub.  
# They are provided by a third-party and are governed by  
# separate terms of service, privacy policy, and support
```

```

# documentation.

# GitHub recommends pinning actions to a commit SHA.
# To get a newer version, you will need to update the SHA.
# You can also reference a tag or branch, but the action may change without
warning.

name: Build and deploy ASP.Net Core app to an Azure Web App

env:
  AZURE_WEBAPP_NAME: MY_WEBAPP_NAME    # set this to your application's name
  AZURE_WEBAPP_PACKAGE_PATH: '.'        # set this to the path to your web app
project, defaults to the repository root
  DOTNET_VERSION: '5'                  # set this to the .NET Core version to use

on:
  push:
    branches:
      - main

jobs:
  build:
    runs-on: ubuntu-latest

    steps:
      - uses: actions/checkout@v4

      - name: Set up .NET Core
        uses: actions/setup-dotnet@v3
        with:
          dotnet-version: ${ env.DOTNET_VERSION }

      - name: Set up dependency caching for faster builds
        uses: actions/cache@v3
        with:
          path: ~/.nuget/packages
          key: ${ runner.os }-nuget-${ hashFiles('**/packages.lock.json') }
          restore-keys: |
            ${ runner.os }-nuget-

      - name: Build with dotnet
        run: dotnet build --configuration Release

      - name: dotnet publish
        run: dotnet publish -c Release -o ${ env.DOTNET_ROOT }/myapp

      - name: Upload artifact for deployment job
        uses: actions/upload-artifact@v3
        with:
          name: .net-app
          path: ${ env.DOTNET_ROOT }/myapp

  deploy:
    runs-on: ubuntu-latest
    needs: build
    environment:
      name: 'production'
      url: ${ steps.deploy-to-webapp.outputs.webapp-url }

    steps:
      - name: Download artifact from build job
        uses: actions/download-artifact@v3
        with:
          name: .net-app

      - name: Deploy to Azure Web App
        id: deploy-to-webapp
        uses: azure/webapps-deploy@85270a1854658d167ab239bce43949edb336fa7c
        with:
          app-name: ${ env.AZURE_WEBAPP_NAME }
          publish-profile: ${ secrets.AZURE_WEBAPP_PUBLISH_PROFILE }

```

```
package: ${ env.AZURE_WEBAPP_PACKAGE_PATH }
```

Additional resources

The following resources may also be useful:

- For the original starter workflow, see [azure-webapps-dotnet-core.yml](#) in the GitHub Actions `starter-workflows` repository.
- The action used to deploy the web app is the official Azure [Azure/webapps-deploy](#) action.
- For more examples of GitHub Action workflows that deploy to Azure, see the [actions-workflow-samples](#) repository.

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