



Deploying .NET to Azure App Service

In this article

Introduction

Prerequisites

Creating the workflow

Additional resources

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 <u>GitHub public roadmap</u>.

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:



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:



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."

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."

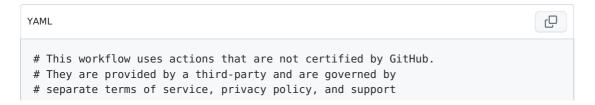
Creating the workflow &

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.



```
# 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
          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 <u>Azure/webapps-deploy</u> action.
- For more examples of GitHub Action workflows that deploy to Azure, see the <u>actions-workflow-samples</u> repository.

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