ploy .NET apps to Raspberry Pi

/2020 • 3 minutes to read •

s article

oying a framework-dependent app

oying a self-contained app

oyment of .NET apps to Raspberry Pi is identical to that of any other platform. Your an run as *self-contained* or *framework-dependent* deployment modes. There are ntages to each strategy. For more information, see .NET application publishing iew.

ploying a framework-dependent app

ploy your app as a framework-dependent app, complete the following steps:

Ensure SSH is enabled on your Raspberry Pi. If needed, refer to *Enable SSH* in the Raspberry Pi documentation .

Install .NET on the Raspberry Pi using the dotnet-install scripts. Complete the following steps from a Bash prompt on the Raspberry Pi (local or SSH):

a. Run the following command to install .NET:

Bash Copy

```
curl -sSL https://dot.net/v1/dotnet-install.sh | bash /dev/stdin --
channel Current
```

> **Note**
>
> This installs the latest version. If you need a specific version, replace the `--channel Current` parameter with `--version <VERSION>`, where `<VERSION>` is the specific build version.

b. To simplify path resolution, add a `DOTNET_ROOT` environment variable and add the *.dotnet* directory to `$PATH` with the following commands:

Bash Copy

```
echo 'export DOTNET_ROOT=$HOME/.dotnet' >> ~/.bashrc
echo 'export PATH=$PATH:$HOME/.dotnet' >> ~/.bashrc
source ~/.bashrc
```

c. Verify the .NET installation with the following command:

.NET CLI Copy

```
dotnet --version
```

Verify the displayed version matches the version you installed.

Publish the app on the development computer as follows, depending on development environment.

- If using **Visual Studio**, deploy the app to a local folder. Before publishing, select **Edit** in the publish profile summary and select the **Settings** tab. Ensure that **Deployment mode** is set to *Framework-dependent* and **Target runtime** is set to *Portable*.
- If using the **.NET CLI**, use the dotnet publish command. No additional arguments are required.

Using an SFTP client , copy the files from the publish location on the development computer to a new folder on the Raspberry Pi.

For example, to use the `scp` command to copy files from the development computer to your Raspberry Pi, open a command prompt and execute the following:

Console Copy

```
scp -r /publish-location/* pi@raspberrypi:/home/pi/deployment-location/
```

Where:

- The `-r` option instructs `scp` to copy files recursively.
- */publish-location/* is the folder you published to in the previous step.
- `pi@raspberypi` is the user and host names in the format `<username>@<hostname>`.
- */home/pi/deployment-location/* is the new folder on the Raspberry Pi.

Tip

Recent versions of Windows have OpenSSH, which includes `scp`, pre-installed.

From a Bash prompt on the Raspberry Pi (local or SSH), run the app. To do this, set the deployment folder as the current directory and execute the following command (where *HelloWorld.dll* is the entry point of the app):

.NET CLI Copy

```
dotnet HelloWorld.dll
```

ploying a self-contained app

ploy your app as a self-contained app, complete the following steps:

Ensure SSH is enabled on your Raspberry Pi. If needed, refer to *Enable SSH* in the Raspberry Pi documentation .

Publish the app on the development computer as follows, depending on development environment.

- If using **Visual Studio**, deploy the app to a local folder. Before publishing, select **Edit** in the publish profile summary and select the **Settings** tab. Ensure that **Deployment mode** is set to *Self-contained* and **Target runtime** is set to *linux-arm*.
- If using the **.NET CLI**, use the dotnet publish command with the `-r linux-arm` argument:

  .NET CLI Copy

  ```
  dotnet publish -r linux-arm
  ```

Using an SFTP client , copy the files from the publish location on the development computer to a new folder on the Raspberry Pi.

For example, to use the `scp` command to copy files from the development computer to your Raspberry Pi, open a command prompt and execute the following:

Console Copy

```
scp -r /publish-location/* pi@raspberrypi:/home/pi/deployment-location/
```

Where:

- The `-r` option instructs `scp` to copy files recursively

- The `-r` option instructs `scp` to copy files recursively.
- */publish-location/* is the folder you published to in the previous step.
- `pi@raspberypi` is the user and host names in the format `<username>@<hostname>`.
- */home/pi/deployment-location/* is the new folder on the Raspberry Pi.

> **Tip**
>
> Recent versions of Windows have OpenSSH, which includes `scp`, pre-installed.

From a Bash prompt on the Raspberry Pi (local or SSH), run the app. To do this, set the current directory to the deployment location and complete the following steps:

a. Give the executable *execute* permission (where `HelloWorld` is the executable file name).

```
Bash
chmod +x HelloWorld
```

b. Run the executable.

```
Bash
./HelloWorld
```

ıis page helpful?

ʏes No

ːommended content

ebug .NET apps on Raspberry Pi

ːarn how to debug .NET apps on Raspberry Pi and similar devices.

ink an LED

arn how to blink an LED with the .NET IoT Libraries.

isplay text on an LCD

arn how to display characters on a liquid crystal display with the .NET IoT Libraries.

evelop apps for IoT devices with the .NET IoT Libraries

arn how .NET can be used to build applications for IoT devices and scenarios.

Show more