

Publishing .NET Applications

Framework-Dependent Deployment (FDD)

1. When to Use FDD

FDD is used when the target machine already has .NET installed, such as internal servers or Docker environments, because it produces smaller binaries and simplifies runtime management.

2. Command to Publish (Framework-Dependent)

```
● (base) tusharmacbookair@Tushar-MacBook-Air DOTNET % dotnet publish
Determining projects to restore...
All projects are up-to-date for restore.
Day1 -> /Users/tusharmacbookair/Desktop/DOTNET/Day 1/Project/bin/Release/net8.0/Day1.dll
Day1 -> /Users/tusharmacbookair/Desktop/DOTNET/Day 1/Project/bin/Release/net8.0/publish/
```

3. Output Location

After publishing, files are created at:

```
> CU-DotNet-Jan26-B4
  ✓ Day 1/Project
    ✓ bin
      > Debug
      ✓ Release/net8.0
        ✓ publish
          ≡ Day1
          { } Day1.deps.json
          ≡ Day1.dll
          ≡ Day1.pdb
          { } Day1.runtimeconfig.json
          ≡ Day1
          { } Day1.deps.json
          ≡ Day1.dll
          ≡ Day1.pdb
          { } Day1.runtimeconfig.json
```

4. Verify Framework Dependency

Check runtime config:

```
(base) tusharmacbookair@Tushar-MacBook-Air DOTNET % dotnet run --project DotnetTraining/HelloApp/HelloApp.csproj
Cross-Platform .NET Application
OS: Darwin 25.0.0 Darwin Kernel Version 25.0.0: Wed Sep 17 21:38:03 PDT 2025; root:xnu-12377.1.9~141/RELEASE_ARM64_T8112
Architecture: Arm64
```

This confirms **framework-dependent mode**.

Self-Contained Deployment (SCD)

1. When to Use SCD

SCD is used when the target system may not have .NET installed, such as client machines or offline distributions, because it bundles the runtime with the application

2. Identify Target Runtime (RID)

Common Runtime Identifiers (RID):

OS	RID
macOS x64	osx-x64

3. Command to Publish (Self-Contained)

```
(base) tusharmacbookair@Tushar-MacBook-Air DOTNET % dotnet publish -c Release
Determining projects to restore...
All projects are up-to-date for restore.
Day1 -> /Users/tusharmacbookair/Desktop/DOTNET/Day 1/Project/bin/Release/net8.0/Day1.dll
Day1 -> /Users/tusharmacbookair/Desktop/DOTNET/Day 1/Project/bin/Release/net8.0/publish/
```

4. Output Location

> CU-DotNet-Jan26-B4	
└ Day 1/Project	●
└ bin	●
└ Debug	●
└ Release / net8.0	●
└ publish	●
└ Day1	U
└ {} Day1.deps.json	U
└ Day1.dll	U
└ Day1.pdb	U
└ {} Day1.runtimeconfig.json	U
└ Day1	U
└ {} Day1.deps.json	U
└ Day1.dll	U
└ Day1.pdb	U
└ {} Day1.runtimeconfig.json	U