.NET Core 2.2

Release Notes for RPMs

.NET Core 2.2 Release Notes for RPMs

Legal Notice

Abstract

The Release Notes for RPMs provide high-level coverage of the features and functionality that comprise the .NET Core 2.2 platform and document known problems in this release.

Table of Contents

CHAPTER 1. AVAILABILITY

Red Hat provides a distribution of .NET Core that enables developers to create applications in the C#, Visual Basic, and F# languages and then deploy them on Red Hat Enterprise Linux (RHEL), Red Hat OpenShift Container Platform, or other platforms. A no-cost Red Hat Enterprise Linux Developer Subscription is available, including a full suite of tools for Linux container development.

The availability of .NET Core 2.2 allows Windows developers to deploy to RHEL without having to learn RHEL and to expand the reach of workloads to RHEL environments. The goal is to provide a safe introduction to a new environment and culture without risk of exposure. Now users of RHEL and RHEL-based Red Hat products can develop and run .NET Core applications directly on RHEL 7, including Red Hat Enterprise Linux Atomic Host and Red Hat OpenShift Container Platform.

.NET Core 2.2 is available as the RPM **rh-dotnet22** for Red Hat Enterprise Linux 7 in the following repositories:

- RHEL 7 Server: **rhel-7-server-dotnet-rpms**

- RHEL 7 Workstation: **rhel-7-workstation-dotnet-rpms**

- RHEL 7 HPC: **rhel-7-hpc-node-dotnet-rpms**

.NET Core 2.2 includes the following RPM packages that can be installed via **yum install**:

- **rh-dotnet22**: includes the .NET Core 2.2 SDK and Runtime.

- **rh-dotnet22-dotnet-sdk-2.2**: functionally the same as above. It is the latest .NET Core 2.2 SDK.

- **rh-dotnet22-dotnet-runtime-2.2**: only the .NET Core 2.2 Runtime. If you want to use just the Runtime without the SDK, you should install this.

Full instructions for installing .NET Core 2.2 on RHEL 7 are available in the .NET Core 2.2 Getting Started Guide.

Report a bug

CHAPTER 2. .NET CORE OVERVIEW

.NET Core is a general purpose, modular, cross-platform, and open source implementation of .NET that features automatic memory management and modern programming languages. It allows users to build high-quality applications efficiently. .NET Core is available for Red Hat Enterprise Linux (RHEL) 7.

This release improves build, runtime, and networking performance. It includes a new way of deploying tools as NuGet Packages. There are many new APIs, focused on reducing allocations, cryptography, and compression. This release also reduces platform differences between Windows and Linux.

.NET Core offers:

- the ability to follow a microservices-based approach, where some components are built with .NET and others with Java, but all can run on a common, supported platform in RHEL.

- the capacity to more easily develop new .NET Core workloads on Microsoft Windows. Customers can deploy and run on either RHEL or Windows Server.

- a heterogeneous data center, where the underlying infrastructure is capable of running .NET applications without having to rely solely on Windows Server.

The major .NET Core components that can be used together or separately include:

- Runtime

- Libraries

- .NET Standard

- C#/VB.NET compiler

- F# compiler

- SDK

- CLI tools

- NuGet

- ASP.NET Core

Report a bug

CHAPTER 3. FEATURES AND BENEFITS

3.1. CURRENT FEATURES AND BENEFITS

.NET Core 2.2 offers the following features and benefits.

- Runtime and framework libraries
  .NET Core consists of the CoreCLR runtime and the CoreFX framework libraries as well as compilers, build tools, tools to fetch NuGet packages, and a command-line interface to tie everything together. Benefits include:

  - Automatic memory management

  - Type safety

  - Delegates and lambdas

  - Generic types

  - Language Integrated Query (LINQ)

  - Async programming

  - Native interoperability

- .NET Core 2.2 supports developing applications using ASP.NET Core 2.2 and EF Core 2.2, which bring benefits such as:

  - New lightweight and modular HTTP request pipeline

  - Ability to host on a web server or self-host in your own process

  - Built on .NET Core, which supports true side-by-side app versioning

  - Available entirely as NuGet packages

  - Integrated support for creating and using NuGet packages

  - Single aligned web stack for web UI and web APIs

  - Cloud-ready environment-based configuration

  - Built-in support for dependency injection

  - New tooling that simplifies modern web development

3.2. NEW FEATURES AND BENEFITS

.NET Core 2.2 continues to broaden its support and tools for application development in an open source environment. The latest version of .NET Core includes the following improvements:

- Open API Analyzers and Conventions to produce better Open API documentation for ASP.NET Core

- Better link generation, more customizable and faster routing in ASP.NET Core

- Faster MVC validation in ASP.NET Core

- Built-in support for health checks for running in container-style environment

- Support for HTTP 2 in Kestrel

- HTTP Client performance improvements

- Support for SignalR clients written in Java

- Updated templates for ASP.NET Core applications, including Bootstrap 4

Report a bug

CHAPTER 4. OPERATING SYSTEM AND ARCHITECTURE SUPPORTED FOR .NET CORE ON RED HAT ENTERPRISE LINUX

.NET Core 2.2 is available for Red Hat Enterprise Linux 7 x86_64 Server, Workstation, and HPC Compute Node. .NET Core 2.2 is also available for Red Hat Enterprise Atomic Host and OpenShift Container Platform.

The .NET Core platform comprises runtime, library, and compiler components. As a developer, you have the flexibility to use the components in numerous configurations for device and cloud workloads.

Report a bug

CHAPTER 5. CUSTOMER PRIVACY

Various Microsoft products have a feature that reports usage statistics, analytics, and various other metrics to Microsoft over the network. Microsoft calls this Telemetry. Red Hat is disabling telemetry because we do not recommend sending customer data to anyone without explicit permission.

As part of the **scl enable** command, we automatically set an environment variable that tells the CLI to disable its telemetry reporting. Any customer that uses **scl enable** to run .NET Core will not report telemetry information to Microsoft. This helps keep customer information confidential. Customers are free to override the environment variable after using **scl enable** to report telemetry, if they wish.

Customers can enable telemetry by unsetting the environment variable **DOTNET_CLI_TELEMETRY_OPTOUT**. See .NET Core Tools Telemetry collection for more information.

Report a bug

CHAPTER 6. SUPPORT

6.1. SUPPORT OVERVIEW

Red Hat and Microsoft are committed to providing excellent support for .NET Core and are working together to resolve any problems that come up from either side. At a high level, Red Hat supports the installation, configuration, and running of the .NET Core component in Red Hat Enterprise Linux (RHEL). If it is a runtime issue, we are responsible for getting the customer an answer. Red Hat can also provide "commercially reasonable" support for issues we can help with, for instance, NuGet access problems, permissions issues, firewalls, and application questions that we might know the answer to. If it is a defect or vulnerability in .NET Core, we let Microsoft know about it.

.NET Core 2.2 is supported on RHEL 7 and Red Hat OpenShift Container Platform versions 3.3 and later.

See .NET Core Life Cycle for information about the .NET Core support policy

6.2. CONTACT OPTIONS

There are a couple of ways you can get support, depending on how you are using .NET Core.

- If you are using .NET Core on-premise, you can contact either Red Hat Support or Microsoft directly.

- If you are using .NET Core in Microsoft Azure, you can contact either Red Hat Support or Azure Support to receive Integrated Support.

Integrated Support is a collaborative support agreement between Red Hat and Microsoft. Customers using Red Hat products in Microsoft Azure are mutual customers, so both companies are united to provide the best troubleshooting and support experience possible.

6.3. FREQUENTLY ASKED QUESTIONS

Here are four of the most common support questions for Integrated Support.

1. When do I access Integrated Support?
   You can engage Red Hat Support directly. If the Red Hat Support Engineer assigned to your case needs assistance from Microsoft, the Red Hat Support Engineer will collaborate with Microsoft directly without any action required from you. Likewise on the Microsoft side, they have a process for directly collaborating with Red Hat Support Engineers.

2. What happens after I file a support case?
   Once the Red Hat support case has been created, a Red Hat Support Engineer will be assigned to the case and begin collaborating on the issue with you and your Microsoft Support Engineer. You should expect a response to the issue based on Red Hat's Production Support Service Level Agreement.

3. What if I need further assistance?
   Contact Red Hat Support for assistance in creating your case or with any questions related to this process. You can view any of your open cases here.

4. How do I engage Microsoft for support for an Azure platform issue?

If you have support from Microsoft, you can open a case using whatever process you typically would follow. If you do not have support with Microsoft, you can always get support from Microsoft Support.

6.4. MORE SUPPORT RESOURCES

The Resources page at Red Hat Developers provides a wealth of information, including:

- Getting started documents

- Knowledgebase articles and solutions

- Blog posts

.NET Core documentation is hosted on a Microsoft website. Here are some additional topics to explore.

- .NET Core

- ASP.NET Core

- C#

- F#

- Visual Basic

You can also see more support policy information at Red Hat and Microsoft Azure Certified Cloud & Service Provider Support Policies.

Report a bug

CHAPTER 7. KNOWN ISSUES

The known issues for running .NET Core on Red Hat Enterprise Linux (RHEL) include the following issues.

1. .NET Core only runs on RHEL 7.x; it does not run on earlier versions of RHEL.

2. The ASP.NET Core Shared Framework is not available on RHEL. Deployed ASP.NET Core applications must include the ASP.NET Core packages. See Publish ASP.NET Core Applications in the .NET Core Getting Started Guide.

3. Global tools that are preinstalled with Microsoft SDK are not available by default on RHEL. The **dev-certs**, **ef**, **sql-cache**, **user-secrets**, and **watch** commands are available by default with the Microsoft SDK. On RHEL, they can be installed from nuget.org using the **dotnet tool install** command. When the command is not installed, the CLI prints the command to install it, for example, **dotnet tool install --global dotnet-ef**.

4. **dotnet dev-certs https --trust** does not work on RHEL.
   .NET Core supports the creation of HTTPS certificate through **dotnet dev-certs https**, but it does not support trusting them through **dotnet dev-certs https --trust**. The client that connects to the ASP.NET Core application, such as curl or firefox, will warn about the untrusted self-signed certificate. To work around this in a browser such as Firefox, ignore the warning and trust the certificate explicitly when the warning about the untrusted certificate comes up. Command-line tools support flags to ignore untrusted certificate. For curl, use **--insecure**. For wget, use **--no-check-certificate**.

5. There are different values for math libraries on different platforms.
   Math libraries that are part of .NET Core 2.2 can return different values on different platforms. This is expected behavior. .NET Core 2.2 takes advantage of the platform-specific libraries to improve performance and reduce overhead. See the Math.Cos(double.MaxValue) returns different values on Windows and other platforms issue discussion for more information.

See Known issues for .NET Core, ASP.NET Core, and ASP.NET and Web Tools in Visual Studio 2017 for more information about using Visual Studio with .NET Core 2.2.

Report a bug

APPENDIX A. REVISION HISTORY

Date	Version	Author	Changes
08/21/2017	2.0	Les Williams	Generally available
10/24/2017	2.0	Les Williams	Updated life cycle page link to point to the new life cycle page
02/28/2018	2.0.3	Les Williams	Revised to include SDK 2.0 and 2.1
06/14/2018	2.1	Les Williams	Generally available
06/25/2018	2.1	Les Williams	Revised SDK 2.1.1 to 2.1.301
09/19/2018	2.1	Toby Drake	Added known issue for SDK 2.1.3xx
12/04/2018	2.2	Toby Drake	Generally available
03/26/2019	2.2	Les Williams	Revised to call out how to install only the .NET Core runtime

Report a bug