



## .NET 5.0

### Release Notes for .NET 5.0 RPM packages





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## Abstract

The Release Notes for .NET 5.0 RPM packages provide high-level coverage of the features and functionality that comprise the .NET 5.0 platform and document known problems in this release.

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## CHAPTER 1. AVAILABILITY

Red Hat provides a distribution of .NET that enables developers to create applications using 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 container development.

- For Red Hat Enterprise Linux 7, .NET 5.0 is available as the RPM **rh-dotnet50** 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**

Full instructions for installing .NET 5.0 on RHEL 7 are available in the [Getting started with .NET on RHEL 7](#) guide.

- For Red Hat Enterprise Linux 8, .NET 5.0 is available as the RPM **dotnet-sdk-5.0** in the AppStream repositories. The AppStream repositories are enabled by default in RHEL 8. Full instructions for installing .NET 5.0 on RHEL 8 are available in the [Getting started with .NET on RHEL 8](#) guide.

## CHAPTER 2. OVERVIEW

.NET 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 is available for Red Hat Enterprise Linux (RHEL) 7 and RHEL 8.

.NET 5.0 is a Current releases. Current releases receive the same fixes and are updated with the same features as Long Term Support (LTS) releases. Current releases reach End of Support a few month after the next LTS release becomes available. For more information, see the [Life Cycle and Support Policies for the .NET Core Program](#).

.NET 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 workloads on Microsoft Windows. You 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.



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## CHAPTER 3. FEATURES AND BENEFITS

### 3.1. CURRENT FEATURES AND BENEFITS

.NET 5.0 offers the following features and benefits.

- Runtime and framework libraries  
.NET consists of the runtime and the 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 5.0 supports developing applications using ASP.NET Core 5.0 and EF Core 5.0, which bring benefits such as:
  - Lightweight and modular HTTP request pipeline
  - Ability to host on a web server or self-host in your own process
  - Built on .NET, which supports true side-by-side app versioning
  - 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
  - Tools that simplify modern web development

### 3.2. NEW FEATURES AND BENEFITS

.NET 5.0 continues to broaden its support and tools for application development in an open source environment. The latest version of .NET includes the following improvements:

- Support for C# 9
- Support for F# 5
- Improved single-file executables
- Performance improvements in base libraries, GC and JIT

## CHAPTER 4. SUPPORTED OPERATING SYSTEMS AND ARCHITECTURES

.NET 5.0 is available for Red Hat Enterprise Linux 8, Red Hat Enterprise Linux 7 x86\_64 Server, Workstation, and HPC Compute Node. .NET 5.0 is also available for Red Hat Enterprise Atomic Host and OpenShift Container Platform.

## 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.

Customers can enable telemetry by setting the environment variable **DOTNET\_CLI\_TELEMETRY\_OPTOUT** to **0**. See [.NET Core Tools Telemetry collection](#) for more information.

## CHAPTER 6. SUPPORT

### 6.1. SUPPORT OVERVIEW

Red Hat and Microsoft are committed to providing excellent support for .NET and are working together to resolve any problems that occur on Red Hat supported platforms. At a high level, Red Hat supports the installation, configuration, and running of the .NET component in Red Hat Enterprise Linux (RHEL). 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. If the issue is a defect or vulnerability in .NET, we actively work with Microsoft to resolve it.

.NET 5.0 is supported on RHEL 7, RHEL 8, and Red Hat OpenShift Container Platform versions 3.3 and later.

See [.NET Core Life Cycle](#) for information about the .NET support policy

### 6.2. CONTACT OPTIONS

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

- If you are using .NET on-premises, you can contact either [Red Hat Support](#) or [Microsoft](#) directly.
- If you are using .NET 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. ADDITIONAL 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 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](#).

## CHAPTER 7. KNOWN ISSUES

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

1. **dotnet dev-certs https --trust** does not work on RHEL.  
.NET 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 certificates. For **curl**, use the **--insecure** flag. For **wget**, use the **--no-check-certificate** flag.
2. There are different values for math libraries on different platforms.  
Math libraries that are part of .NET 5.0 can return different values on different platforms. This is expected behavior. .NET 5.0 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.