

HydraExpress Evaluation Guide

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HYDRAEXPRESS EVALUATION GUIDE

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Evaluating HydraExpress

Welcome

HydraExpress (formerly LEIF) provides a framework for developing and hosting high performance C++ Web services, including advanced XML, SOAP, and WSDL productivity tools for transforming new and existing C++ applications for use in Service Oriented Architectures (SOA).

This Evaluation Guide provides steps for verifying that HydraExpress is properly installed and ready to use on the Windows platform. The steps of the process described can be applied to Linux as well, although the details will be different.

Once you have successfully completed this process, you will be able to begin evaluating HydraExpress for your own requirements from a stable, verified starting point.

Software Requirements

HydraExpress requires the following additional software:

- HydraExpress requires the Java JRE 1.8.x. The JRE is available without cost from:

<https://www.oracle.com/java/technologies/javase/javase-jdk8-downloads.html>

Then select the right version and download for your platform.

- HydraExpress requires a C++ compiler. For a list of supported compilers, see the document *HydraExpress Supported Platforms* on the Rogue Wave website.

Installation

This release of HydraExpress is provided as a web download. If you have not already done so, install HydraExpress now:

1. Navigate to the Rogue Wave HydraExpress product page (<http://www.roguewave.com/products-services/request-evaluation>) and request an evaluation copy, selecting the appropriate bitness for your platform.
2. Download and unzip the archive.

NOTE: HydraExpress does not support path names with spaces. For example, an installation directory of `C:\Program Files\HydraExpress` is not supported on Windows. When installing software, be sure to install in a directory without spaces.

Configuration

You have two choices when configuring your system to run HydraExpress:

- **System-level configuration**

Use the Windows Control Panel to set your `PATH` environment variable and other properties for running HydraExpress. This approach guarantees that any command prompt has the proper settings, but makes it cumbersome to work with more than one version of the required tools on the same system. For example, if you set your system to use Java 1.8 but you also have Java 1.7 installed, you would need to reset the command window if you wanted to use Java 1.7 for a different application.

- **Local configuration**

Set the environment locally by opening a command prompt and running a series of commands. If you decide on this approach, you might want to create a batch file that runs the commands in a single operation. Remember that the commands or batch file must be run *each time* you open a new command prompt that you want to use with HydraExpress.

The following sections discuss launching a command prompt and ensuring that you have the necessary configuration for working with HydraExpress.

Opening a Command Prompt

The first step in verifying your HydraExpress development environment is to open a command prompt. On Windows, you can find a command prompt through the Start menu as a system accessory. The Microsoft Visual Studio installer creates a shortcut to a command prompt already set to use Visual Studio, which saves you the trouble of setting that configuration.

This command prompt will be used throughout the process. Keep in mind that if you open a new prompt, you will need to configure it as well, unless you have set up everything as a system-level configuration.

Checking for a C++ Compiler

Check for your C++ compiler. To check for the Microsoft Visual C++ (MSVC) compiler, enter `"cl"` at the command prompt and hit **Enter**. You should see something similar to this:

```
Microsoft (R) C/C++ Optimizing Compiler Version 19.16.27031.1 for x86
Copyright (C) Microsoft Corporation. All rights reserved.
usage: cl [ option... ] filename... [ /link linkoption... ]
```

If the compiler is not configured in this command prompt, you will see something like this instead:

```
'cl' is not recognized as an internal or external command,  
operable program or batch file.
```

Find and run the MSVC configuration script for your MSVC version, either `vsvars32.bat` (prior to versions 2017) or `vcvars.bat`.

Remember that you will have to run `vcvars.bat` each time you open a new command prompt if you want the compiler to be available.

Checking for Java

At the command line, check the version of Java installed by entering:

```
prompt>java -version
```

You should see something similar to this:

```
java version "1.8.0_101"  
Java(TM) SE Runtime Environment (build 1.8.0_101-b13)  
Java HotSpot(TM) 64-Bit Server VM (build 25.101-b13, mixed mode)
```

If Java is not configured in this command prompt, you will see something like this instead:

```
'java' is not recognized as an internal or external command,  
operable program or batch file.
```

In this case, obtain and install Java on your system. The installation typically includes instructions to add the path to the Java executable to your `PATH` environment variable. Once you do this, Java should be available in any command window you open.

If you already have Java on your system, adding the path to the executable to the `PATH` environment variable is probably all you need to do. You can do this locally for a particular command window by entering something like this:

```
set PATH=C:\Program Files (x86)\Java\jre8\bin;%PATH%
```

The above command prepends the Java path to the `PATH` environment variable for this command prompt.

Checking for HydraExpress

The easiest way to check for HydraExpress from the command prompt is to invoke the HydraExpress code generator with the `-version` option:

```
prompt>rwsfgen -version
```


You should see something like this:

```
RWSF VERSION: 2019
```

If Windows returns its “not recognized” message, you need to run `rwsfvars.bat` in root of the HydraExpress installation:

```
prompt>rwsfvars.bat
*****
RWSF (TM) - Environment Setup Script
Copyright (C) Rogue Wave Software 2001-2020. All rights reserved.
*****
RWSF_HOME = C:\RogueWave\HydraExpress\2020
```

NOTE: On Linux, there is an additional requirement to set `RWSF_HOME`. The command should look something like this:

```
RWSF_HOME=<installdir>; export RWSF_HOME
```

The HydraExpress License File

At runtime, HydraExpress looks in `<installdir>\license` for a valid license file. If you do not have a license file, please contact your Rogue Wave account representative.

Generating and Building an Example Project

To confirm that your environment is properly set up, generate, build, and run one of the HydraExpress examples. You may choose any of them, but for this discussion we will use the [DayOfWeek](#) Web service example. The `examples\webservices\DayOfWeek` directory contains a `readme.txt` file on how to run the example (as do all of the example directories), but here is a step by step procedure for your convenience.

1. Change to the example directory:

```
prompt> cd <installdir>\examples\webservices\DayOfWeek
```

2. Run the `rwsfgen` code generator:

```
prompt> rwsfgen example-project.xml
```

You should see output something like this:

```
Code generation messages logged to: rwsfgen.log
Total time for code generation: 1.673 seconds
```

3. Copy the provided client and server implementations into the appropriate directories, where they overwrite the sample implementations created by the code generator:

```
prompt> copy /Y DayOfWeekPortClient.cpp DayOfWeekExample\app\client
1 file(s) copied.
```

```
prompt> copy /Y DayOfWeekPortTypeImp.cpp DayOfWeekExample\app\server
1 file(s) copied.
```

4. Change to the output directory:

```
prompt> cd DayOfWeekExample
```

5. Compile the project:

```
prompt> nmake
```

Your compiler will produce several lines of output, ending with something like this:

```
cd ..
cd ..
cd conf
nmake -f makefile
```

```
Microsoft (R) Program Maintenance Utility Version 11.00.50727.1
Copyright (C) Microsoft Corporation. All rights reserved.
```

```
cd ..
```

6. Deploy the project:

```
prompt> nmake deploy
```

Again, several lines of output display, logging which files are copied to the deployment directory and other details.

The project has now been deployed to the HydraExpress Agent. The next step is to start the Agent so we can test the example using the client.

7. Start the HydraExpress Agent:

```
prompt> rwsfserver start
```

You should see the following output:

```
*****
RWSF (TM) - Server Control Script
Copyright (C) Rogue Wave Software Inc. 2001-2019. All rights reserved.
*****
RWSF_HOME = C:\RogueWave\HydraExpress\2019
Starting Rogue Wave Agent (minimized)...
```

The server is now running, and has loaded the `DayOfWeek` service. You can verify this by looking at the command window in which the HydraExpress Agent is running, which should display text something like this:

```
INFO | Loading context: /dayofweek/
INFO | Loading context: /examples/
INFO | Locale directory set to [C:\RogueWave\HydraExpress\2019\conf\locale]
INFO | Default locale set to [en_US]
INFO | Loading locale [en_US], catalog [messages_en_US.xml]
INFO | Starting 'AJP 1.3' connector...
INFO | Starting 'HTTP/1.1' connector...
INFO | Starting 'HTTPS (HTTP/1.1)' connector...
```

The line in bold indicates that the `DayOfWeek` service has been loaded.

Now all that remains to do is test the service through the client.

8. Change to the project `bin` directory:

```
prompt> cd bin
```

9. Run the client:

```
prompt> DayOfWeekPortClient
```

This service prompts for a date, and then returns the day of week for that date. Here is one possible invocation:

```
Enter date: 9/12/2002
9/12/2002 was a Thursday
```

If you are seeing something like the above, HydraExpress is properly configured and functioning as expected. To shut down the HydraExpress Agent:

```
prompt> rwsfserver stop
```

You should see something like this:

```
*****
RWSF (TM) - Server Control Script
Copyright (C) Rogue Wave Software Inc. 2001-2020. All rights reserved.
*****
RWSF_HOME = C:\RogueWave\HydraExpress\2020
Stopping Rogue Wave Agent...
INFO| Shutdown successful.
```

Conclusion

Congratulations! You have exercised the basic functionality of HydraExpress. By going through this process you can be confident that your system is configured correctly for such projects as creating Web services, developing SOA applications, and extending the useful life of legacy applications. You are now ready to pursue your evaluation.

HydraExpress includes an extensive documentation set, as well as numerous examples and code samples. Studying these materials is one of the best ways to learn how to use HydraExpress. For single-point access to the HTML documentation for all installed HydraExpress tools, navigate to `<installdir>\docs\index.html`.