

# **BitRock MonoStack 1.1.16.1**

## **Quick Start Guide**

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# ASP.NET Examples

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To check MonoStack was correctly installed in your system, you can test the Mono XSP examples by **clicking here**.

For security reasons, this link is only accessible from the localhost address.

# Acknowledgements

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Bitrock MonoStack is based on a number of open source components:

The Apache HTTP server, developed by The Apache Software Foundation.

<http://www.apache.org/>.

mod\_mono, xsp software developed by the Mono Project.

<http://www.mono-project.com>

You can find the individual licenses for the above projects as part of the installation.

# BitRock MonoStack Overview

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BitRock MonoStack is an easy to install distribution of Apache, mod\_mono and xsp that complements an existing Mono runtime installation and provides the means to run ASP.NET pages on Linux.

## Components

BitRock MonoStack includes:

- **Apache 1.3.37**
- **mod\_mono 1.1.16.1**
- **xsp 1.1.16.1**

## Requirements

To run BitRock MonoStack you will need to have the 1.1.16.1 version of the Mono runtime installed in your system. You can download the binary version of the Mono installer from [the Mono Project website](#)

BitRock MonoStack has been tested and in the following distributions:

- Red Hat 9
- Red Hat Enterprise 3, 4.
- Fedora Core 1, 2, 3, 4.
- Suse 9.x series.
- Ubuntu 5.04.

It is also known to work in different versions of Debian, Slackware, Gentoo and Mandrake.

# Installation Guide

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This section describes where to download BitRock MonoStack and the different installation modes that are available.

At the end of the installation process, if you are running Gnome or KDE, an icon will be created in your Desktop. Double-clicking on it will take you to the BitRock MonoStack installation directory. There, you will find links to the documentation for the installed software and to other useful information.

## Downloading BitRock MonoStack

You can download the BitRock MonoStack binary file from [www.bitrock.com](http://www.bitrock.com). It will be named `monostack-1.1.16.1-linux-installer.bin`. The same binary file will work on any Linux distribution.

Once you have downloaded the file, make sure it has read and executable permissions: From your Desktop environment, right-click on the file, select "Properties" and then set the appropriate permissions. Alternatively, you can issue the following shell command:

```
$ chmod 755 monostack-1.1.16.1-linux-installer.bin
```

## Installing BitRock MonoStack

You can install BitRock MonoStack in graphical, text and unattended modes. By default the graphical mode will be used.

### Graphical Mode

To begin the installation process, double-click on the file from your Desktop environment or invoke it directly from the command line with:

```
$ ./monostack-1.1.16.1-linux-installer.bin
```

You will be greeted by the 'Welcome' screen. Pressing 'Next' will take you to the 'License Agreement' page. You must accept the agreement to continue the installation. The next step is to select the installation directory. The default installation path will be a folder on your home directory if you are running the installer as a regular user, or `/opt/monostack-1.1.16.1`, if you are running the installation as root. If the destination directory does not exist, it will be created as part of the installation.

The next step is to select the location of your existing Mono 1.1.16.1 installation. The installer will check for the presence of the `bin/mono` Mono executable under the selected directory.

The default listening port for Apache is 8080. If that port is already in use by other applications, you will be prompted for alternate ports to use. Remember that if you plan to run both applications as a regular user you should select port numbers above 1024.

You are now ready to begin the installation, which will start when you press 'Next'. Once the installation process has been completed, you will see the 'Installation Finished' page. You can choose to view the README file at this point.

If you receive an error message during installation, please refer to the Troubleshooting section.

The rest of this guide assumes that you installed BitRock MonoStack in `/home/user/monostack-1.1.16.1` and that you use port 8080 for Apache.

## Text Mode

This installation mode is designed for remote installation or installation on servers without X-Window support. It is started by default when a graphical environment is not available or by issuing the following command:

```
$ ./monostack-1.1.16.1-linux-installer.bin --mode text
```

## Unattended Mode

It is possible to perform an unattended or silent installation using the `--mode unattended` command line option. This is useful for automating installations or for inclusion in shell scripts, as part of larger installation processes. You will not be asked for anything during the installation.

You can modify the default installation directory by passing the `--prefix /path/to/installdir` command line option to the installer.

Apache will use by default the port 8080. You can change those values as well using the command line option `--webport`:

```
$ ./monostack-1.1.16.1-linux-installer.bin --mode unattended --webport 8085
```

Please make sure that the ports you specify are not already in use by other applications and remember that if you plan to run both applications as a regular user, you should select port numbers above 1024.

If you receive an error message during installation, please refer to the Troubleshooting section.

The rest of this guide assumes that you installed BitRock MonoStack in `/home/user/monostack-1.1.16.1` and that you use port 8080 for Apache.

## Testing

To test that Monostack has been installed correctly, start Apache and access the following URL:  
`http://127.0.0.1:8080/test/`

If everything went well, you should see a page listing Mono ASP.NET example pages

## Directory Structure

The installation process will create several subfolders under the main installation directory:

- `apache/`: Apache Web server.
- `common/`: common libraries.
- `licenses/`: Licenses of the components included in MonoStack.
- `xsp/`: the Mono System.Web classes and examples.

# Uninstalling BitRock MonoStack

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As part of the installation, an uninstall program will be created at `/home/user/monostack-1.1.16.1/`. The uninstallation can also be performed in graphical, text and unattended modes. You can run the uninstaller by double-clicking on the uninstall application or through the command line:

```
$ /home/user/monostack-1.1.16.1/uninstall
```

# Apache Web server

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This section describes how to start Apache for the first time and gives a basic introduction to the Apache configuration and log files.

## Starting Apache

You can start Apache from the command line by issuing:

```
$ /home/user/monostack-1.1.16.1/monoctl.sh start apache
```

If no error is found, you will see a message similar to:

```
Syntax OK
```

```
monostack-1.1.16.1/monoctl.sh : httpd started
```

This indicates the server is up and running. You can test so by opening a browser and accessing the following URL `http://127.0.0.1:8080`, which will take you to the test page.

If you receive an error message, the server cannot start or you cannot see the test page, please refer to the Troubleshooting section.

## Stopping Apache

You can stop Apache from the command line issuing:

```
$ /home/user/monostack-1.1.16.1/monoctl.sh stop apache
```

After a moment you should see a message similar to:

```
Syntax OK
```

```
/home/user/monostack-1.1.16.1/monoctl.sh : httpd stopped
```

## Apache Basic Configuration

The main Apache configuration file is called `httpd.conf` which you can find at `/home/user/monostack-1.1.16.1/apache/conf/httpd.conf`.

Once Apache starts, it will create two log files, the `access_log` and the `error_log`. You can find both files at the `/home/user/monostack-1.1.16.1/apache/logs` directory.

The `access_log` file is used to track client requests. When a client requests a document from the server, Apache records several parameters associated with the request in this file, such as: the IP address of the client, the document requested, the HTTP status code, and the current time.

The `error_log` file is used to record important events. This file includes error messages, startup messages, and any other significant events in the life cycle of the server. This is the first place to look when you run into a problem when using Apache.

If you already have a web page and you want to serve its content with Apache, you can do so simply by copying your files to the default document root directory: `/home/user/monostack-1.1.16.1/apache/htdocs/`

With the default configuration, Apache will wait for requests in the port 8080. You can change that by editing

the `httpd.conf` file and modifying the value specified in the `Port` directive.

You can find more information about Apache in the technical documentation that is located in the `/home/user/monostack-1.1.16.1/apache/htdocs/manual` directory.

# Troubleshooting

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This section describes some of the most common problems you may find when installing BitRock MonoStack.

## Installer

### Installer Payload Error

You may get the following error while trying to run the installer from the command line:

```
Installer payload initialization failed. This is likely due to an incomplete or corrupt downloaded file.
```

The installer binary is not complete, likely because the file was not downloaded correctly. You will need to download the file and repeat the installation process.

## Apache

If you find any problem starting Apache, the first place you should look at is the error log file that will be created at `/home/user/monostack-1.1.16.1/apache/logs/error_log`. There you will likely find useful information to determine what the problem may be. For issues not covered in this Quick Start guide, please refer to the Apache documentation included as part of the installation, which is located at `/home/user/monostack-1.1.16.1/apache/htdocs/manual`.

### Test page is not working

If the server seems to start correctly (i.e. you can see the `./apachectl start: httpd started` message) but you cannot see the test page when you type `http://127.0.0.1:8080/` in your browser, it may be that there is already a server running in that port.

Search `/home/user/monostack-1.1.16.1/apache/logs/error_log` for a message similar to this:

```
[Mon Jan 9 19:52:10 2005] [crit] (98)Address already in use: make_sock: could not bind to port 8080
```

This means that the port 8080 is already being used by another program. You can either stop the program that is using that port or edit the `httpd.conf` configuration file and change the port Apache will listen for requests in.

### Cannot bind to port 80

If you change the default listening port for Apache and get the following error in `error_log`:

```
[Mon Jan 9 20:09:50 2005] [crit] (13)Permission denied: make_sock: could not bind to port 80
```

you do not have enough permissions to bind to that port.

On Unix, to be able to bind to a port below 1024, you need to be a privileged user. Log in as root or issue the 'su' command and try to start the server again.