

# **BitNami LAPPStack 1.2-0**

## **Quick Start Guide**

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# Acknowledgements

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BitNami LAPPStack is based on a number of open source components:

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

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

PostgreSQL. The world's most advanced open source database.

<http://www.postgresql.org>

PHP. The widely used scripting language.

<http://www.php.net>.

The open source browser-based PostgreSQL management tool phpPgAdmin.

<http://phppgadmin.sourceforge.net>

jpegsrc. Software developed by the The Independent JPEG Group.

<http://www.ijg.org>

The gd graphics library.

<http://www.boutell.com/gd/>

The zlib data-compression library.

<http://www.zlib.net>

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

# BitNami LAPPStack Overview

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BitNami LAPPStack is an easy to install and easy to use open source Web Platform. It combines leading open source projects, such as Apache, PostgreSQL and PHP with BitNami's extensive open source expertise to provide a consistent, painless way to deploy LAPP in any Linux environment.

## Components

BitNami LAPPStack includes **Apache 2.2.13**, **PostgreSQL 8.4.0**, **PHP 5.2.10** and **phpPgAdmin 4.2.2**.

**Apache** is the most popular HTTP server on the Internet. It provides a secure, efficient and extensible web platform. It is maintained by the Apache Software Foundation. You can find more information about Apache at <http://www.apache.org>.

**PostgreSQL** is a powerful, open source relational database system. It has more than 15 years of active development and a proven architecture that has earned it a strong reputation for reliability, data integrity, and correctness. You can find more information about PostgreSQL at <http://www.postgresql.com>.

**PHP** is a web development scripting language that can be embedded into HTML. Powerful and easy to use, it is the most popular Apache module. It is maintained by the PHP Group. You can find more information about PHP at <http://www.php.net>.

**phpPgAdmin** is a tool written in PHP intended to handle the administration of PostgreSQL through a web interface. It allows you to manage anything from a single database to a complete PostgreSQL server. You can find more information about phpPgAdmin at <http://phppgadmin.sourceforge.net/>.

## Requirements

To run BitNami LAPPStack you will need:

- Intel x86 or compatible processor
- Minimum of 256 MB RAM
- Minimum of 150 MB hard drive space
- An x86 Linux operating system
- TCP/IP protocol support

# Installation Guide

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This section describes where to download BitNami LAPPStack and the different installation modes that are available.

## Downloading BitNami LAPPStack

You can download the BitNami LAPPStack binary file from <http://bitnami.org>. It will be named `bitnami-lappstack-1.2-0-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 bitnami-lappstack-1.2-0-linux-installer.bin
```

## Installing BitNami LAPPStack

You can install BitNami LAPPStack 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:

```
$ ./bitnami-lappstack-1.2-0-linux-installer.bin
```

You will be greeted by the 'Welcome' screen. 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/lappstack-1.2-0`, if you are running the installation as root. If the destination directory does not exist, it will be created as part of the installation.

After selecting the installation directory you will be asked for the password to the initial PostgreSQL root and postgres accounts. This password cannot be empty.

The default listening port for Apache is 8080 and for PostgreSQL is 5432. If those ports are 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.

Finally, the installer will ask you for the initial password to access the your phpPgAdmin installation through the web. This password cannot be empty.

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 launch the browser 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 BitNami LAPPStack in `/home/user/lappstack-1.2-0` and that you use port 8080 for Apache and 5432 for PostgreSQL.

## 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:

```
$ ./bitnami-lappstack-1.2-0-linux-installer.bin --mode text
```

You will be greeted by the 'Welcome' message. 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/lappstack-1.2-0`, if you are running the installation as root. If the destination directory does not exist, it will be created.

After selecting the installation directory you will be asked for the password to the initial PostgreSQL root and postgres accounts. This password cannot be empty.

The default listening port for Apache is 8080 and for PostgreSQL is 5432. If those ports are 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.

Finally, the installer will ask you for the initial password to access the your phpPgAdmin installation through the web. This password cannot be empty.

You are now ready to begin the installation process, which will start when you press 'Enter'. Once the installation process has been completed, you will see the 'Installation Finished' message.

## 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.

However you will need to pass to the installer the values of the password to the initial PostgreSQL postgres account and the initial password to access phpPgAdmin. You can do that using the options `--rootpasswd` and `--phppgadminpasswd`. For example:

```
$ ./lappstack-1.2-0-linux-installer.bin --mode unattended --rootpasswd postgresqlpasswd --phppgadminpasswd ppapasswd
```

You can also 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 and PostgreSQL the port 5432. You can change those values as well using the command line options `--dbport` and `--webport`:

```
$ ./lappstack-1.2-0-linux-installer.bin --mode unattended --rootpasswd postgresqlpasswd --phppgadminpasswd ppapasswd --dbport 5432 --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 BitNami LAPPStack in `/home/user/lappstack-1.2-0` and that you use port 8080 for Apache and 5432 for PostgreSQL.

## Directory Structure

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

- `apache2/`: Apache Web server.
- `php/`: PHP Scripting Language.
- `postgresql/`: PostgreSQL Database.
- `common/`: common libraries.
- `licenses/`: Licenses of the components included in LAPPStack.
- `apps/phpPgAdmin/`: Management tool for PostgreSQL.

# Uninstalling BitNami LAPPStack

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As part of the installation, an uninstall program will be created at `/home/user/lappstack-1.2-0/`. 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/lappstack-1.2-0/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/lappstack-1.2-0/ctlscript.sh start apache
```

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

```
Syntax OK
```

```
lappstack-1.2-0/ctlscript.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/lappstack-1.2-0/ctlscript.sh stop apache
```

After a moment you should see a message similar to:

```
Syntax OK
```

```
/home/user/lappstack-1.2-0/ctlscript.sh : httpd stopped
```

## Apache Basic Configuration

The main Apache configuration file is called `httpd.conf` which you can find at `/home/user/lappstack-1.2-0/apache2/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/lappstack-1.2-0/apache2/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/lappstack-1.2-0/apache2/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/lappstack-1.2-0/apache2/htdocs/manual` directory.

# PostgreSQL Database

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This section describes how to start the PostgreSQL database and gives you a few basic security tips. You can find the PostgreSQL technical documentation at <http://www.postgresql.org/docs/>.

## Securing Your Installation

PostgreSQL's grant tables are created during the BitNami LAPPStack installation process. The grant tables define the initial PostgreSQL user accounts and their access privileges. The default configuration consists of:

- A privileged account with a username of 'root'. The initial password for this account is the one that you specified in the setup wizard.
- A postgres-user account. The initial password of this account is the one that you specified in the setup wizard.

It is strongly recommended that you do not have empty passwords for any user accounts before using the server for any production work.

## Starting PostgreSQL

After installing BitNami LAPPStack you can start the PostgreSQL server issuing:

```
$ /home/user/lappstack-1.2-0/ctlscript.sh start postgresql
```

You can verify that PostgreSQL is up and running using psql, for example, issuing:

```
$ /home/user/lappstack-1.2-0/postgresql/bin/psql
```

You will then be asked for the postgres user password you set during the installation process.

## Stopping PostgreSQL

You can shutdown PostgreSQL with the following command:

```
$ /home/user/lappstack-1.2-0/ctlscript.sh stop postgresql
```

# PHP

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This section describes how to test your PHP installation. You can find the PHP technical documentation at <http://www.php.net/manual/en/index.php>

## Testing Your Installation

The easiest way to test your PHP installation is to create a test script using the `phpinfo()` function. Open your favorite text editor and type:

```
<?php phpinfo(); ?>
```

Save the file as `phptest.php` in `/home/user/lappstack-1.2-0/apache2/htdocs/`. Make sure Apache is up and running, open a browser and type `http://127.0.0.1:8080/phptest.php`. You should then see a screen showing detailed information about the PHP version you are using.

# phpPgAdmin

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This sections describes how to access your phpPgAdmin installation. You can find more information about phpPgAdmin in <http://phppgadmin.sourceforge.net/?page=faq>

phpPgAdmin is an easy to use management tool for PostgreSQL that allows you to create and drop databases, create, drop and modify tables, delete, edit and add fields, execute SQL statements, manage keys on fields, manage privileges and export data in various formats through a web-based interface.

## Access to phpPgAdmin

To test your phpPgAdmin installation first make sure that your Apache and PostgreSQL servers are up and running. You can access your phpPgAdmin installation by opening a browser and typing `http://127.0.0.1:8080/phpmyadmin`. You will then asked for a username and password. As user name, use "**administrator**" and as password use the value specified during installation.

Initially only requests from 127.0.0.1 will be allowed access to that section. You can change this behavior editing the Apache main configuration file located at `/home/user/lappstack-1.2-0/apache2/conf/httpd.conf`.

# Troubleshooting

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This section describes some of the most common problems you may find when installing BitNami LAPPStack.

## 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.

### Installation does not complete and hangs at the end forever.

You are probably overwriting a previous LAPPStack installation and therefore a previous PostgreSQL with a different PostgreSQL root password. Remove or move your previous LAPPStack installation and try to install LAPPStack again.

## 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/lappstack-1.2-0/apache2/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/lappstack-1.2-0/apache2/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/lappstack-1.2-0/apache2/logs/error_log` for a message similar to this:

```
[Mon Oct 9 19:52:10 2007] [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 Oct 9 20:09:50 2007] [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.

## PostgreSQL

If you encounter any problems starting PostgreSQL, the first place to look in is the "Problems and Common Errors" section of the PostgreSQL manual, which you will find at <http://www.postgresql.org/docs/>

The following are some common problems:

### **Access denied when trying to connect to PostgreSQL.**

If you get an `Access Denied` message while trying to connect to PostgreSQL, make sure you are using the correct username and password.

### **"Can't connect to server" message.**

Make sure the PostgreSQL daemon is up and running.