

How to Tar Untar and Zip Files

- [How to Install the Needed Tools](#)
- [Working with TAR Files](#)
 - [Put a Directory into a TAR File](#)
 - [Put a Directory into a TAR file and Compress it with GZIP](#)
 - [Put a Directory into a TAR file and Compress it with BZIP2](#)
 - [Extract Items from TAR Files](#)
 - [Extract Items from GZIPPED Tarball File](#)
 - [Extract Items from BZIPPED Tarball File](#)
- [Working with Zip Files](#)
 - [Compress a Directory Full of Files into a ZIP File](#)
 - [Uncompress a ZIP file Into the Current Directory](#)

This article will help you understand how you can handle the common file formats TAR, GZIP, BZIP and ZIP on Linux operating systems (including CentOS, Ubuntu) and even some Unix-based OSes like MacOS (OS X) via the command line either via SSH or a local terminal session.

How to Install the Needed Tools

On many Linux-like operating systems the command line tools for working with TAR, GZIP, BZIP and ZIP files are already installed, so you almost certainly don't need to install anything, but if you are running a minimal installation of your OS or if you've removed the tools in the past, follow the directions below to install what you need. Select the tab for the OS you are running:

CentOS/RHEL/Fedora Ubuntu/Debian/Mint MacOS/OS X

The directions below assume you are running as the root user. If you are running as an another user, you may need to prepend the commands with *sudo*.



Example: *sudo yum install ...*

1. Pull up a terminal session or log into your server/computer via SSH.
2. The base repositories for these OSes have the packages we need. Execute the following command:

```
yum install tar gzip zip unzip bzip2
```

3. If any of those are already installed, you will be informed. If any are missing, you will be asked if you want to install them. Answer *y* if everything looks ok.
4. The system will download the needed packages and install them.

Now you should be able to follow the rest of the directions in this article.

The directions below assume you are running as the root user. If you are running as an another user, you may need to prepend the commands with *sudo*.



Example: *sudo apt-get install ...*

1. Pull up a terminal session or log into your server/computer via SSH.
2. The base repositories for these operating systems have the packages we need. Execute the following command:

```
apt-get install tar gzip zip unzip bzip2
```

3. If any of those are already installed, you will be informed. If any are missing, you will be asked if you want to install them. Answer *y* if everything looks ok.
4. The system will download the needed packages and install them.

Now you should be able to follow the rest of the directions in this article.

The needed command line tools ship with every version of MacOS/OS X since at least 10.6 Snow Leopard (and may also be installed in earlier versions we were unable to test).

To work with files via the command line, open the **Terminal** application located in /Applications/Utilities/Terminal(.app).

Once the terminal is open, you will be able to follow the rest of the directions in this article.

Remember, you can drag and drop files or folders into the terminal application and the full path to those items will be pasted automatically into the command line.

Working with TAR Files

The TAR file format is a very early archiving format that doesn't include any active compression by default. Often on Linux, items are tarred and then gzipped to compress them. TAR files typically end in .tar.

Put a Directory into a TAR File

Execute the following to create a single .tar file containing all of the contents of the specified directory:

```
tar cvf FILENAME.tar DIRECTORY/
```

Replace FILENAME with whatever filename you want and DIRECTORY with the path to the directory you want to make into a tarball.

Command Flags Explanation

c: Create a TAR file.
v: Output verbosely (you'll be told exactly what is happening in detail).
f: Specify a filename for the resulting TAR file.

Put a Directory into a TAR file and Compress it with GZIP

Execute the following to create a single .tar.gz file containing all of the contents of the specified directory:

```
tar cvfz FILENAME.tar.gz DIRECTORY/
```

Replace FILENAME with whatever filename you want and DIRECTORY with the path to the directory you want to make into a compressed tarball.

Tarred files compressed with GZIP sometimes use the .tgz file extension.

Command Flags Explanation

c: Create a TAR file.
v: Output verbosely (you'll be told exactly what is happening in detail).
f: Specify a filename for the resulting TAR file.
z: Compress the TAR file with GZIP

Put a Directory into a TAR file and Compress it with BZIP2

Execute the following to create a single .tar.bz2 file containing all of the contents of the specified directory compressed with BZIP. (BZIP typically produces smaller files than GZIP, at the cost of more processing time.):

```
tar cvfj FILENAME.tar.bz2 DIRECTORY/
```

Replace FILENAME with whatever filename you want and DIRECTORY with the path to the directory you want to make into a compressed tarball.

Command Flags Explanation

c: Create a TAR file.
v: Output verbosely (you'll be told exactly what is happening in **detail**).
f: Specify a filename for the resulting TAR file.
j: Compress the TAR file with BZIP2

Extract Items from TAR Files

Execute the following command to extract files and directories from an uncompressed .tar file:

```
tar xvf FILE.tar
```

Replace FILE with the filename of the file you are trying to uncompress. The file will uncompress into the current directory.

Command Flags Explanation

x: Extract the contents from the file specified.
v: Output verbosely (you'll be told exactly what is happening in detail).
f: Specify a filename to uncompress.

Extract Items from GZIPPED Tarball File

Execute the following command to extract files and directories from a GZIP compressed TAR file:

```
tar xvfz FILE.tar.gz
```

Replace FILE with the filename of the file you are trying to uncompress. The file will uncompress into the current directory.

Command Flags Explanation

x: Extract the contents from the file specified.
v: Output verbosely (you'll be told exactly what is happening in detail).
f: Specify a filename to uncompress.
z: Uncompress the tarball via GZIP.

Extract Items from BZIPPED Tarball File

Execute the following command to extract files and directories from a BZIP compressed TAR file:

```
tar xvfj FILE.tar.bz2
```

Replace FILE with the filename of the file you are trying to uncompress. The file will uncompress into the current directory.

Command Flags Explanation

x: Extract the contents from the file specified.
v: Output verbosely (you'll be told exactly what is happening in detail).
f: Specify a filename to uncompress.
j: Uncompress the tarball via BZIP2.

If you'd rather specify a different directory to extract files to rather than just dumping everything in the current directory add `-C /PATH/TO/DIRECTORY/` to the commands above. Replace `/PATH/TO/DIRECTORY/` with the actual path to the directory where you want the files to be placed.

Working with Zip Files

Zip is probably the most common compressed archiving format in the world. Zip files usually end in `.zip`.

Compress a Directory Full of Files into a ZIP File

Execute the following command to place everything inside a specified directory into a compressed ZIP file.

```
zip -r FILE.zip DIRECTORY/
```

Command Flags Explanation

-r: Recursively compress all files and directories contained within DIRECTORY/ in the zip file (otherwise you only get the top level files).

Uncompress a ZIP file Into the Current Directory

Execute the following command to uncompress the items in the ZIP file into the current directory.

```
unzip FILE.zip
```