

# Working With TFTP



# Basics of TFTP

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Simple UDP based file transfer protocol

Wikipedia:

[http://en.wikipedia.org/wiki/Trivial\\_File\\_Transfer\\_Protocol](http://en.wikipedia.org/wiki/Trivial_File_Transfer_Protocol)

RFC 1350

(all of this means it's quick and dirty...)

# Enabling TFTP in FreeBSD

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Most modern UNIX based systems have a built-in tftp server. In the case of FreeBSD which we are using in the class the easiest way to activate the inbuilt tftp server is to enable and run (re)start the service called inetd (which in turn controls the tftp service)

First: make sure inetd is set to start so:

```
# vi /etc/rc.conf
```

Add the line (if it doesn't exist) that says:

```
# inetd_enable="YES"
```

This will make sure that the service restarts if your server is rebooted.

# Enabling TFTP in FreeBSD

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Find, and uncomment the appropriate line in /etc/inetd.conf

```
# vi /etc/inetd.conf
```

In FreeBSD you will find two lines; one starting with UDP and the next with UDP6. That simply means that you can choose to have the service listening on just IPv4 or IPv6. **Please uncomment both!**

(re)Start inetd, enabling the TFTP daemon

```
# /etc/rc.d/inetd start
```

Check that TFTP is actually running.

```
# netstat -an | grep "*.69"
```

# Enabling TFTP in FreeBSD

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Create a directory for tftp to operate with

```
# mkdir /tftpboot
```

If you're going to write to a config file, the file needs to exist, and you need to have write permission to it; 'touch' will create the file for you

```
# touch /tftpboot/sie-config
```

Now, you need to allow world-write permission to the file you've created above:

```
# chmod 666 /tftpboot/sie-config
```

BE AWARE THAT THIS IS DANGEROUS !

# Directory Structure

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TFTPd will use the base directory that you specified in `inetd.conf` to store your files. In most cases that is `/tftpboot/`. If you are in doubt, check the `inetd.conf` file that you edited earlier.

When you reference this by reading/writing to `tftp`, you do not need to specify the base directory (on the `tftp` client) when asked for the destination.

# Using TFTP to manage your router

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```
router# copy start tftp
```

```
router# copy tftp start
```

```
router# copy flash tftp
```

```
router# copy tftp flash
```

```
router# copy run tftp
```

# Using TFTP to manage your router

---

```
router# copy start tftp
```

Copies your startup configuration to the tftp server. This is typically what you will use to backup your (router) saved configuration to an external tftp server.

```
router# copy tftp start
```

Copies your configuration from a tftp server, to your router's startup configuration. Useful for restoring configuration from an external backup.

# Using TFTP to manage your router

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When would you use the following:

```
router# copy flash tftp
```

```
router# copy tftp flash
```

```
router# copy run tftp
```

# Things to remember

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## Keep your server secure!

Your TFTP server will typically have stored router configs and IOS images.

Therefore it's important that you restrict access to your server.

Setup integrity checking (even simple md5)

For large file transfers, consider using SCP/RCP for more reliable transport.