

# Raspberry Pi Server Tutorial Further Reading

A companion to "Web Server & HTML Tutorial"  
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[www.cotswoldjam.org](http://www.cotswoldjam.org)



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## Public IP Addresses

To make your website visible to people outside your network (for example, in other buildings or other towns or countries), you will need a Public IP address. Read the manual for your router to find out how to set up Port Forwarding for port 80. You can find your public IP address by searching Google for "what is my ip". Your public IP address can change; ask your internet service provider for a Static Public IP address. You can then buy a domain name and associate it with your static public IP address. For some ISPs, you might already have a subdomain, for example Plusnet gives every customer *accountname.plus.com* .

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## Stopping and starting server programs

From the terminal:

```
sudo systemctl stop apache2
```

Reload **localhost** in the browser. Note the error message - the web server has been stopped.

```
sudo systemctl status apache2
```

Shows "Active: inactive (dead)" – it's not running.

```
sudo systemctl start apache2
```

Reload the browser. It works again.

```
sudo systemctl status apache2
```

Shows "Active: active (running)"

```
sudo systemctl status bing-bong-pop
```

Shows "Loaded: not-found". This means bing-bong-pop doesn't exist, isn't installed, or you spelt it wrong. Of course it doesn't exist, I made it up as an example

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# Controlling automatic starts

Reboot the machine with Pi menu - Shutdown... – Reboot.

Once the machine has restarted, browse to **localhost**. Note how the web server is started automatically on boot. From the terminal:

```
sudo systemctl disable apache2
```

Reboot again and, once restarted, try browsing to **localhost**. You get an error message – the web server didn't automatically start when you rebooted.

You can start it manually with:

```
sudo systemctl start apache2
```

or you can reenable it to start automatically every reboot with:

```
sudo systemctl enable apache2
```

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# Removing installed programs

```
sudo apt remove apache2  
sudo apt-get autoremove
```

Remember those “dependencies”, extra programs which Apache needed to install so that it would work? We use the **autoremove** directive to uninstall them after we’ve uninstalled Apache.

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# Updating and installing other programs

```
sudo apt update  
sudo apt upgrade
```

...to get the latest versions of the software you already have.

You can find names and descriptions of other packages to install on this website:

<http://www.raspberryconnect.com/raspbian-packages-list>

Once you've done an apt update , you can install new software with:

```
sudo apt install packagename
```

...where *packagename* is the name of the software you want to install.

Be wary of anything that asks to install lots and lots of other packages. Learn how to make a backup of your SD card, for example with Win32DiskImager on a Windows laptop.