

# What is the Back End?

This lesson gives an overview of where your website will finally live: web servers.

## WE'LL COVER THE FOLLOWING ^

- What are web servers?
- Web hosting services
- Quick quiz on web servers
- Web server operating systems
  - Linux
    - CentOS
    - Debian
    - Ubuntu
  - Windows Server 2019
  - Mac OS X Server
  - Solaris

The back end of a website loosely consists of a server, databases, and APIs.

## What are web servers? #

A web server is a system that delivers content and services to users over the Internet. Web servers are exactly like regular computers except that they are more powerful and robust. Also, most servers don't have a display like a monitor or a screen that most PCs do, but you can connect to them with SSH. To put it simply, SSH is a way to get another machine's terminal on your own and is discussed in detail in our [course on web deployment](#). A web server can 'host' a website, i.e., the webserver will have all the code for the website on it: front and back and anyone with an Internet connection can access it with their machine to view the website.

Technically, you can open up port 80 on your PC and host your website there. However, this is usually never done because a regular PC would not be able to handle the load of potentially thousands of client connections, it would put your personal data at risk, and you would have to keep it on with the server running 24/7. So web hosting services solve this problem.

## Web hosting services #

Web hosting companies provide space on a server that is owned or leased for use by clients, as well as providing Internet connectivity, usually in a data center. They typically charge a monthly fee for this service. A data center is a building that houses multiple servers. Data centers usually require extensive cooling and maintenance to keep the temperature of their machines down, which reduces crash rates and so increases profits. Facebook, for example, has some of the largest data centers in the world!



Rack servers in a data center

Selecting the appropriate web hosting service plays a crucial role in web deployment, however, and is a critical decision. You can learn more about what kinds of web hosting services are available, in again, our course on [website deployment!](#)

## Quick quiz on web servers #

Web servers contain code for the front-end of the website

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## Web server operating systems #

Just like your personal computer has an operating system, Windows, Mac OS, or Linux, servers require an operating system to function too. Although, most server operating systems are specialized for servers and so slightly different from desktop operating systems.

### Linux #

Linux is not one operating system. It is a group of free and open-source operating systems. Typically, Linux is packaged in a form known as a Linux distribution (or distro for short) for both desktop and server use. There are many flavors or distros of Linux for server use. For example,

### CentOS #

The benefit of using CentOS is that it is stable and seldom crashes. It is also the most popular distro for servers as of now, so it also has the benefit of great support from the web, which means you won't be stuck on any issue for long.

Furthermore, most Linux distros update regularly, but CentOS does not. The benefit of this is that once you get your server up and running, it will be in good shape for a long time without having to upgrade to a newer version regularly.

As for the cons, you will have difficulties running newer packages and making use of the latest technologies. If you are looking to use the latest technology, CentOS might not be for you.

## Debian #

Like CentOS, Debian does not update as frequently as well. Debian is also a community distro, which means that new versions of Debian are released only when the community arrives at a consensus. So every Debian release is thoroughly tested and reliable. There is only one kind of Debian available for you to download and install, which works on both server and desktop.

## Ubuntu #

Ubuntu is the most popular Linux distro for the desktop. You might want to go with Ubuntu on your server if you want the advantage of being familiar with it!

Here are some others that you might want to consider,

[Windows Server 2019](#) #

[Mac OS X Server](#) #

[Solaris](#) #

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In the next lesson, we'll look at what a backend engineer is expected to know and do!