

# How the Internet Works

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## From the server to you: How the internet works

Ofentimes when reading an article about the internet, it is depicted as a cloud. This is because it is a vast network of sites each with anywhere from a couple to thousands of connections to other sites. At a basic level, however, the internet works much like a giant phone system. Your web browser is the phone and the site you enter into your address bar is the person who you are trying to call.

**Looking it up: How you computer finds the site** When a person wants to access a site, they enter a url, <http://www.pickingawebhost.com/index.aspx> for example, in the address bar and hit enter. When they hit enter they are telling the browser to "call" the web server for [www.pickingawebhost.com](http://www.pickingawebhost.com). They are also telling it that they want to see whatever page they entered after the domain name (`/index.aspx`). In order for the person's browser to contact the server at [www.pickingawebhost.com](http://www.pickingawebhost.com), it needs to find out where it is. This is where the parts of the internet that most people take for granted come in. To make a connection to [www.pickingawebhost.com](http://www.pickingawebhost.com), the computer needs to use something called an IP Address. In our analogy, an IP Address is similar to a phone number. It basically tells the person's computer where to send the electronic packets that allow it to communicate with the server for [www.pickingawebhost.com](http://www.pickingawebhost.com). To find the IP Address for [www.pickingawebhost.com](http://www.pickingawebhost.com) the server needs to look it up at a Top Level Domain Server. For our analogy we will call this a phone book. Examples of top level domains are `.com` `.org` and `.net`. The top level domains are usually three letters long and are always at the end of the domain portion of the URL. In our phone system analogy, when the computer looks up a domain name it is given the location of another phone book to look at, not the IP address ("phone number") that it is looking for. The server can't give the computer the IP address because the internet is so large and so dynamic that it would be too much work for one set of servers to keep track of all the updates. Instead they let the people who are responsible for domains keep the addresses that their domains point to up to date on their own. Getting to the site Once it is told the new "phone book" to look in for the domain's IP address, the computer immediately goes to that "phone book" or DNS Server and again requests the IP Address for the domain it is looking for. This time the DNS Server will return the address. The person's computer now has the "phone number" or IP Address that it needs to be able to contact the server. Now that it has the IP Address, the person's computer connects to the server and, using a series of commands, tells it that it wants to get the page entered after the domain name (`/index.aspx` in this case) under the directory that cooresponds to the domain entered in the URL ([www.pickingawebhost.com](http://www.pickingawebhost.com)). Each slash in a path refers to a directory that is on the computer. The initial slash specifies the directory that the web server is set to point at when someone comes in requesting a given domain. Every slash after that indicates that whatever proceeds it is a directory. For example, say the server for [www.pickingawebhost.com](http://www.pickingawebhost.com) is setup to point at the directory `C:\inetpub\pickingawebhost.com` when it gets requests for [pickingawebhost.com](http://www.pickingawebhost.com). If someone wants to go to the URL <http://www.pickingawebhost.com/test/index.aspx>, the server will return the html code for the file `c:\inetpub\pickingawebhost.com\test\index.aspx`. Once the server is told what page it needs to get content for, it will get that page and then return the content to the browser of the requesting person in a format called HTML. The person's browser, reads the HTML, displays it on the screen in a human readable format, and then waits until a link is clicked at which point the whole process starts again!