

Web Presence Workshop

Domain name registration and hosting a web site

What is a domain name? How does this system work?

Internet Addressing

The Internet uses two addressing schemes

- Number-based Internet Protocol (IP) addresses
- Text-based Domain Name System (DNS) names.

An IP address consists of four numbers ranging from 0 to 255, separated by periods. Each machine on the Internet must have a unique IP address. A domain name is a textual address for a location on the Internet. It corresponds to the actual alphanumeric address, which the Internet computers can read.

Why domain names?

Although IP addresses provide a convenient, compact representation for locating machines, on the internet, users prefer to assign machines pronounceable, easily remembered names. A domain name can also create an expectation about who is at that location because it is often a shorthand naming term, or even a trademark or descriptive term with secondary meaning.

Further more, the use of domain names has the advantage of shielding network changes from users. Names are often given to machines according to the services that they offer. For example, www normally denotes the name of the web server on the network. Users remember such names rather than specific IP address.

In the event that the web server is shifted from one machine to another, only the IP addresses change but not the name. Hence, users can still access the web server using the same name and the change in machines is transparent to the users.

What is DNS?

The Internet Domain Name System (DNS) is a set of distributed databases containing IP addresses and their corresponding domain names. Each domain name is mapped to a particular numeric address.

DNS, with servers located all over the Internet, performs the translation back and forth between names and numbers. This scheme enables users to invoke an easy-to-remember name (e.g. www.nic.net.sg) instead of a more mysterious string of numbers (e.g. 160.96.7.25) when using the Internet.



In the beginning, the original set of machine names used throughout the Internet formed a flat name space. A central site, the Internet Network Information Centre (NIC), administered the namespace and determined whether a new name was appropriate (i.e. it prohibits obscene names or names that conflicted with existing ones).

As the Internet grew, this system was no longer appropriate. Hence, a hierarchical naming scheme is used and the name system is decentralised by delegating authority for parts of the namespace and distributing responsibility for the mapping between names and addresses.

How to read a domain name

A simple domain name, `www.myexample.com.sg`, is read from left to right (most specific to least specific), the first item (`www`) is the name of the host computer itself, or the hostname. The next item (`myexample`) is the third-level domain name, and is registered by the organisation with SGNIC.

The second last item (`com`) is a second-level domain name, and describes the purpose of the organization that owns the third-level name. A domain name may include other components between the hostname and the second-level domain name; these are called subdomains.

Singapore Domain Names

COM.SG

This category is for commercial entities which are either registered or are about to be registered with the Registry of Companies and Businesses, IE Singapore or any professional body. A foreign company, which is not so registered, may only apply for such a domain name if it has a representative in Singapore, which shall be a legal entity that is similarly registered by any of the afore-mentioned organisations, and is duly authorised by the foreign company to apply for the registration of the domain name.

NET.SG

This category is for network providers and info-com operators in Singapore. Applicants for names under this category must be info-com operators or network providers in Singapore for example those possessing a valid licence issued by the Info-Communications Development Authority (IDA). Please see these detailed guidelines on requirements.

ORG.SG

This category is for organisations, which are either registered or are about to be registered with the Registry of Societies (ROS) including other miscellaneous organisations (eg. Town Councils, Community Centres, People's Association and Embassies and any other organisations not classified elsewhere.)

GOV.SG

This category is for all government organizations. Applicants for domain names under this category must be members of the Singapore Government, which include Ministries, Organs of State, and Statutory Boards.

EDU.SG

This category is for educational institutions. Applicants for domain names under this category must be educational institutions registered with the Ministry of Education (MOE), Singapore. All primary and secondary schools on the list (given by MOE) must register and obtain their domain name from MOE.

PER.SG

This category is for the registration of personal domain names.

SG

This category is open for all with a valid Singapore postal address. A foreign applicant may apply for a domain name in this category provided that it appoints a local agent having a valid Singapore postal address as the Administrative Contact.

Source:

http://sgnic.com.sg/sub_links/dns_basics.html#05

http://sgnic.com.sg/sub_about/sg_domains.html

Choose a suitable domain name

You should choose a suitable domain name for your web site.

Keep your domain name as short as possible and keep it simple. Your domain name needs to be memorable, and preferably not contain hyphens.

It is possible that your web site may grow into different areas of interest, or even change its direction altogether. For this reason, it may be a good idea not to make your domain name too specific to one area of your expertise.

Your domain name should be chosen to best represent your research or educational interests rather.

Domain names can only contain letters, numbers, and dashes. Spaces and symbols are not allowed. Domain names are not case sensitive.

You should ensure that your domain name is not a commonly known brand name or trademark. Something like "Microsoftresearch.com.sg" would not be a good choice.

Make sure you keep your contact information up-to-date. Although your domain name supplier is bound to contact you when a domain name comes up for renewal, it is your responsibility in the end.

Choose a reputable domain name supplier. A company that has been around a while and is well known is a good choice. A number have been listed below. It is recommended choosing a company that provides a user interface so that you can manually edit your domain name details (email forwarding, transferring your domain name elsewhere)(See page 8 below)

If you intend to buy a sizeable number of domains, try to 'park' them with one single domain name company. Domains are far easier to administrate and keep up-to-date if they are in a single place you trust.

Where to explore for domain names?

You should start your research here:



<http://sgnic.com.sg/>

The Singapore Network Information Centre has a lot of helpful advice and the links to authorised domain name resellers. These are listed below.



<http://www.adicio.net/>



<http://www.ipmirror.com/>



<http://www.pacific.net.sg/business/>



http://www.singnet.com.sg/product/value_added/value_persg/



<http://www.vooju.com/>



<http://www.webvisions.com/>



<http://www.cybersite.com.sg/>

What does a Domain name account look like?

This is the console at MelbourneIT for my two domain names.

MELBOURNE IT | 'Trusted for Online Success'

HOME MY ACCOUNT

DOMAIN NAMES EMAIL SERVICES WEBSITE HOSTING

Home » My Account » Console

My Account Console

Domain Names

Easily manage and keep track of all your Domain Names and Online Services provided by Melbourne IT .

- » [View / Manage Domain Names](#)
- » [Add Domain Names](#)
- » [Register Domain Names](#)
- » [Domain Name Pricing](#)

Account Information

Keep your account information up-to-date and manage the information that's used for your Domain Name registrations.

- » [View / Change - Contact Information](#)
- » [View Terms and Conditions](#)

Security

Keep your account secure at all times.

- » [Change your Password](#)
- » [Change your Challenge Question](#)

You can alter your contact details and update your password.

When you click on the View/Manage Domain Names link you will come to a screen where your registered domain names are listed.

Click on the Domain Name to make any changes e.g. update, contacts details, redelegate, change hosting or renew.

Hide Inactive Domains Showing 1-2 of 2 domains 1 - 2 [CONTINUE](#)

Domain Name ^	Space	Expiry Date	Status	Services
larkin.id.au	id.au	21 May 2008	Registered	Add Web Services :: Check other spaces
larkin.net.au	net.au	11 Jul 2007	Registered	Add Web Services :: Check other spaces

- » [Register a Domain Now](#)
- » [Add an existing domain to My Account](#)
- » [Transfer a Domain to Melbourne IT from another Registrar](#)

If you click on the domain name you will see the following details.

Domain Details

Domain Name	larkin.id.au
Status	Registered
Registration Date	Thu May 27 10:42:24 GMT+10:00 2004
Expiry Date	Wed May 21 09:59:59 GMT+10:00 2008

- » [Change .AU Domain Name Password \('AuthInfo'\)](#)
- » [Renew Domain Name](#)

More importantly you can set or 'delegate' the **address of the name server** where your web site is being hosted. The company that you use to physically host or store the actual files that make up your web site will give these address details to you. You can then 'point' your domain name to the address of the site where your web files are located by entering the details here.

Name Server Details

Primary	ns1.webmachine101.com
Secondary	ns2.webmachine101.com

- » [Change Delegation Details](#)

MelbourneIT allows me to update the details for my domain names. I can also renew the domain names and "point" the domain names to the server where my web site is hosted.



What does a web hosting control panel look like?

Some web hosting companies allow you to manage your web site to a great extent. This is not a bad idea, as some countries would charge a fee each time you approached them to make an administrative change to your web site.

I am hosting my web site at ICDSOFT. This is an American company with web hosting servers in the USA and Hong Kong. I have chosen the Hong Kong servers, as they are located in a similar time zone to myself. Help is more likely to be available in the event I need assistance. ICDSOFT have excellent deals that are much cheaper than anything offered by Australian web hosting companies.

When I log into the web hosting company I see the following control panel.



The settings that I access from time to time include:

- Mail Manager
- Redirect URL
- FTP Manager
- Subdomains
- Scripts
- File Manager

Mail Manager

With the mail manager you can add additional email accounts. It is an easy task. You can also apply filters to the email accounts. This can assist with the management of spam.

Control Panel » Mail Manager

<input type="checkbox"/> E-mail account	Auto respond	Forward	Quota	Usage	Manage
<input type="checkbox"/> john@larkin.net.au	No	No	100 MB	0%	Filters Passwd
<input type="checkbox"/> postmaster@larkin.net.au	No	No	100 MB	0%	Filters Passwd
<input type="checkbox"/> shao_ping_yeh@larkin.net.au	No	No	100 MB	0%	Filters Passwd

• Edit global mail filters

Create New Account: @larkin.net.au
Password:
Confirm password:

Redirect URL

There are times when an Internet address or URL that you created becomes redundant or is superseded by another URL. You can use this control panel to redirect anyone that visits the redundant URL. This is a powerful feature.

Control Panel » Redirect URL

URL	Redirect Target	Manage
http://www.larkin.net.au/pow	http://pow.larkin.net.au/	Remove
http://www.larkin.net.au/tech	http://tech.larkin.net.au/	Remove

Directory:

Go To:

FTP Manager

You can use this control panel to give specific individuals ftp access to dedicated areas of your web hosting space. You may allocate a student or colleague some of the space on your web site. They then become responsible for updating those pages.

The screenshot shows the 'FTP Manager' section of a control panel. At the top, it says 'Control Panel >> FTP Manager' and has a '<< BACK' button. Below this is the title 'FTP SUBACCOUNTS MANAGER'. A table titled 'List of your ftp subaccount(s)' contains the following data:

user	dir	actions
teacher	/www/podcast	[pass] [del]

Below the table is a form titled 'Add a new ftp subaccount'. It has two input fields for 'Username' and 'Password'. Below these is a 'Directory' label and an input field containing '/www'. There are 'Locate' and 'Add' buttons next to the directory field.

Scripts

ICDSoft provides a few easily implemented scripts that you can copy and paste into your web site to give it added functionality and interactivity. These include a Form Mail facility, a Search Engine for your site and a Guestbook.

The screenshot shows the 'Scripts' section of a control panel. At the top, it says 'Control Panel >> Scripts' and has a '<< BACK' button. Below this is the title 'SCRIPTS'. There are three rows of script options, each with an 'Install' button and an 'Info' button:

- FormMail
- Search Engine
- Guestbook (new)

Subdomains

I have created a number of subdomains for my domain. These sub domains relate to specific areas of interest. I have used the following control panel to set these up.

The screenshot shows a web control panel interface for managing subdomains. At the top, it says "Control Panel » Subdomains" and has a "« BACK" button. The main heading is "SUBDOMAINS" with a sub-message: "You have 3 subdomains of 30 maximum allowed". Below this is a table with columns: Subdomain, Action, FrontPage, and Status. The table lists three subdomains: http://podcast.larkin.net.au, http://pow.larkin.net.au, and http://tech.larkin.net.au, each with a "Delete" button, "disabled" FrontPage, and "active" Status. Below the table is a form titled "Creating a new subdomain" with a text input field containing "http://www." and ".larkin.net.au", and a "Create" button.

Subdomain	Action	FrontPage	Status
http://podcast.larkin.net.au	Delete	disabled	active
http://pow.larkin.net.au	Delete	disabled	active
http://tech.larkin.net.au	Delete	disabled	active

Creating a new subdomain

Subdomain: .larkin.net.au

Create

File Manager

The file manager allows you to upload files to your web hosting space. You can also create directories and delete files.

The screenshot shows a web control panel interface for a file manager. At the top, it says "Control Panel » File Manager" and has a "« BACK" button. The main heading is "FILE MANAGER" and the location is "/www". Below this is a table with columns: Select, Type, Permission, User, Group, Size, Date, and Filename. The table lists four directories: "podcast", "pow", "tech", and "www", each with a folder icon, "drwxrwxr-x" permission, "root" user, "larkin" group, "4096" size, and a date.

Select	Type	Permission	User	Group	Size	Date	Filename
<input type="checkbox"/>	Folder	drwxrwxr-x	root	larkin	4096	Apr 10 20:15	podcast
<input type="checkbox"/>	Folder	drwxrwxr-x	root	larkin	4096	Apr 08 22:06	pow
<input type="checkbox"/>	Folder	drwxrwxr-x	root	larkin	4096	Mar 31 17:43	tech
<input type="checkbox"/>	Folder	drwxrwxr-x	root	larkin	4096	Apr 11 07:10	www

When you click on one of the filename links you are taken to this screen.

The screenshot shows a web-based File Manager interface. At the top, it says "Control Panel >> File Manager" with a "«BACK" button. Below that is the title "FILE MANAGER" and the location "/www/www/outtram_park_hdb". A table lists files and directories:

Select	Type	Permission	User	Group	Size	Date	Filename
<input type="checkbox"/>	Folder	drwxrwxr-x	larkin	larkin	4096	Jun 30 2005	image
<input type="checkbox"/>	Folder	drwxrwxr-x	larkin	larkin	4096	Jun 30 2005	preview
<input type="checkbox"/>	Folder	drwxrwxr-x	larkin	larkin	4096	Jun 30 2005	source
<input type="checkbox"/>	HTML	-rw-rw-r--	larkin	larkin	8961	Jun 30 2005	index.htm

Below the table are links for "Select All" and "Deselect All", a "Delete Selected" button, and several management options:

- Upload File: Choose File (no file selected), Multi, Upload
- Create Directory: [input field], Create Dir
- Create File: [input field], Create File
- Rename Directory: image [dropdown], to [input field], Rename Dir
- Rename Files: index.htm [dropdown], to [input field], Rename File
- Permissions: 0775 [dropdown], for image [dropdown], Update

You are able to upload files, create directories and rename the contents of the web site. You can also set permissions. Setting permissions allow files to be seen online. You can also use permissions to ensure that scripts that form a part of your web site will function.

Other areas of the Control Panel

I have not tapped into all of the power of the Control Panel. I have not used the database or the software pre-installed on the site by ICDSOFT. I will utilise some of those features when I have the time to sit down and try out the various possibilities.

Having access to this Control Panel to manage my web site is extremely helpful. I can make changes to the web site and add email accounts for example without directly contacting the hosting company. Prior to hosting my web site with ICDSOFT I had to contact the hosting providers via email or phone so that their Webmaster could make changes to the configuration of my web site.