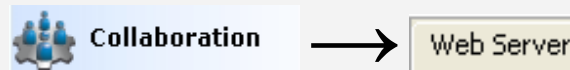




## How to Configure edgeBOX as a Web Server



## Introduction:

The “Web Server” panel allows the simple creation of multiple web sites using the Apache web server.

Each website hosted on the edgeBOX shares a single public IP (WAN) or/and private Intranet (LAN) IP address.

These sites can be accessed via two “types” of URL depending upon the option you choose when creating them.

- URL’s which reference particular users. These are used to allow personal web pages to be created (eg <http://myedgebox.com/users/jane> )
- URL’s which use a domain. These are used for websites which are available to the Internet or for intranet use within an organization. (eg <http://www.mycompany.com> or [sales.critical-links.com](http://sales.critical-links.com) )

## FAQ's

**H**ow many websites can Apache serve from a single edgeBOX?

Certainly 1000's, but there are practical limits imposed, depending upon network bandwidth, CPU, memory resources and disk speed/space.

**W**hat file types does edgeBOX recognize?

EdgeBOX is configured to support (by default) HTML and PHP files. It also supports a number of image formats such as gif, png, jpeg and bmp.

**C**an I use a dataserver for a dynamic website?

You can make use of the edgeBOX Postgres dataserver which is installed on edgeBOX.

However, you may affect edgeBOX performance if you do excessive reads/writes and you will be responsible for maintaining the users/databases you create. You will also be responsible for backing up you data (and restoring, if necessary).

Information regarding access to the dataserver is beyond the scope of this document.

**C**an I use https to access my websites?

All websites you create may be accessed via http or https (the encrypted form of http)

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## Configuring edgeBOX to act as a corporate website server

To configure the web server for Global access for your new website, you need to register a domain (eg critical-links.com – **NOT** [www.critical-links.com](http://www.critical-links.com)) and reference this URL to the IP address of the edgeBOX WAN.

**Note:** The domain is (for example) critical-links.com. Once this is registered and references the edgeBOX WAN IP address, you can then create domains such as sales.critical-links.com and [www.critical-links.com](http://www.critical-links.com), without having to register more domains.

You basically have three choices on how to host your domain. You can either host your domain:

- With your ISP
  - Advantages: It is being hosted in a datacenter with a highly resilient infrastructure and with detailed knowledge and comprehensively configurable DNS servers.
  - Disadvantages: You are not in control of the DNS server and thus have to make requests to your ISP every time you want a change made, also there may be an additional cost for such changes.
- On the edgeBOX
  - Advantages: Free to host, easy to configure and you are in control, thus changes can be made immediately.
  - Disadvantages: Not in a highly resilient datacenter. You only have one DNS server. Some options (eg some record types are not available via the GUI, Only LAN or ALL query access is allowed)
- On your corporate DNS servers
  - Advantages: Essentially the advantages of both of the above (full control and highly available)
  - Disadvantages: You need to install DNS services on at least 2 servers and manage them.

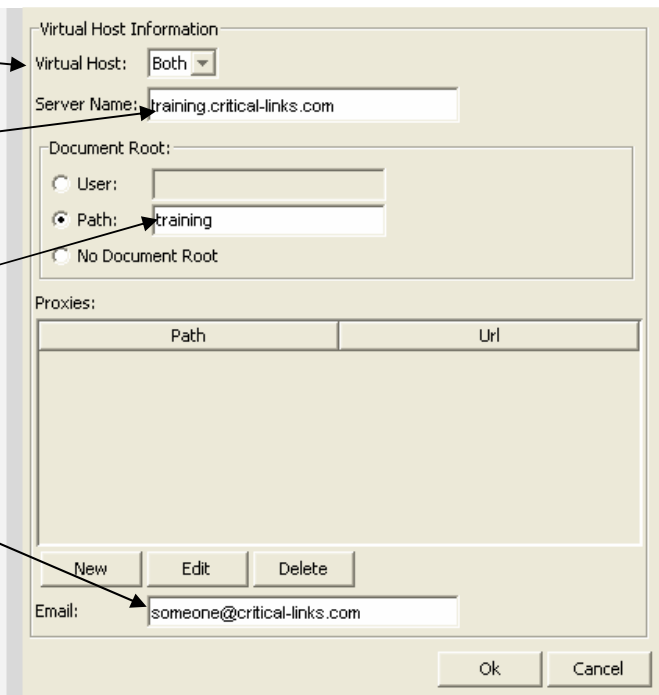
### Example 1

Assume we have already registered the [critical-links.com](http://critical-links.com) domain and we have a public IP address for the edgeBOX WAN, also that we wish to create a website with a URL of [training.critical-links.com](http://training.critical-links.com), which will be accessible from the internet and our LAN.

### Configuration

1. Go to the “Collaboration” → “Web Server” and Start the web server (if it is not running)
2. Press the New button and enter the “values” as shown in the following image

- Defines where access is allowed from for this website: LAN, WAN or Both
- The name of this website. Note that an A or CNAME record has to be added (in this case, for training) to the DNS server for this setup to be complete.
- The location of the files in the file system. All websites will be located under /home/wwwhost, For example, we will need to create a directory /home/wwwhost/training (The directory does not have to match the path)
- Proxies allow you to specify a proxy server. If configured, a request which is sent to the edgeBOX for the proxy domain will be forwarded to the proxy server. We will not be using proxies in this document.
- The email address of the person responsible for this website



3. Press OK and Apply to create this entry.

Service State: **RUNNING**

Max. Access:

User Directories: Yes

Virtual Hosts

Virtual Host	Server Name	Document Root	Email	Proxies
LAN	local	/home/wwwhost/intra	root@localhost	No
LAN	local.voipplan.pt	/home/wwwhost/intra	root@localhost	No
LAN WYAN	training.critical-links.com	/home/wwwhost/training	someone@critical-links.com	No

We now need to create the directory (training in this example). The directory that is created must match the text entered in the “Path” field in the previous image. Also note that the directory name is case sensitive.

4. To create the directory and to place content into the directory you need to ftp to the edgeBOX as user webmaster.

**Change webmaster password:**

New Password:

Confirm Password:

You can set the password for the webmaster account by going to the “Collaboration” → ”Web Server” menu and enter a new password for the webmaster account.  
Press “Change” to apply the new password

5. Use webmaster credentials to login (note if you cannot access the ftp server, make sure access is allowed (“Security” → “Firewall” → “General” tab. FTP should be checked for internal)
6. Create the new “training” directory (mkdir training)

You now need to upload the files into this directory so that this website has appropriate content

7. Change directory to move into the new (training) directory (cd training)
8. Add the content (put or mput your files)
  - a. Note that you can use a GUI based client (such as WS\_FTP Pro) to create the directory and upload the files (using the webmaster account)

A simple index.php file which you could upload to test the website is as follows:

```
<html>
<h3>TEST PHP Program</h3>
<? echo "Hello world!"; ?>
</html>
```

If we upload the above file to the critical directory (as filename index.php) and open up a browser and use the following url:  
<http://training.critical-links.com>

We obtain “Server not found”. This is because, we and the world at large, know where critical-links.com is, but the DNS servers do not know where [training.critical-links.com](http://training.critical-links.com) is.

To correct this, we need to add a reference to the edgeBOX for the “training domain”.

If the domain is hosted by our ISP, we need to request that they add a **training** “A” record for the **critical-links.com** domain which “points” to the WAN IP address of the edgeBOX.

The following image assumes that the edgeBOX is the DNS server for the critical-links.com domain.

9. Add an “A” record to the DNS server for training in the critical-links.com domain

The screenshot shows the 'DNS Configuration' window in edgeBOX. The 'Service State' is 'RUNNING'. The 'Domain Name' section shows a table with one entry: 'critical-links.com' with 'Domain Type' 'Master' and 'Access Type' 'External'. Below this is a 'Hosts' button. The 'Servers to forward to:' section lists '194.65.3.21' and '194.65.3.20'. The 'Transfer Format:' is 'Many', 'Max. Transfer Time:' is '120', and 'Lookup Directly:' is 'Yes'. A 'DNS Host' dialog box is open, showing a table of DNS records:

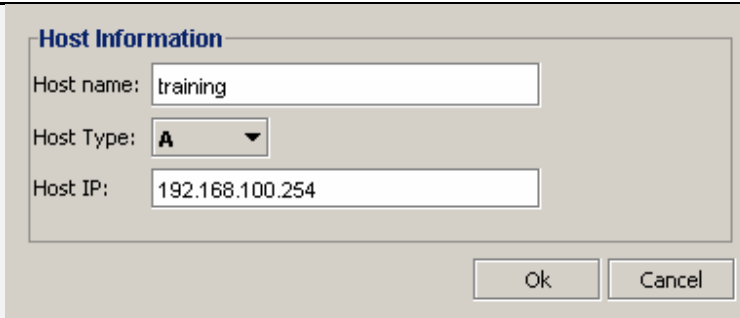
Name	IP/Host	Type
training	192.168.100.254	A
mail	192.168.100.254	A
	mail.critical-links.com	MX
ns	192.168.100.254	A
	ns.critical-links.com	NS
pc-\$	192.168.100.100-200	A

Annotations with arrows point to the 'critical-links.com' domain in the main window, the 'Hosts' button, and the 'Add' button in the 'DNS Host' dialog box.

If we are hosting the domain on the edgeBOX, we simply go to the Router → DNS → General panel and highlight the critical-links.com domain.

We then press the hosts button, which opens up a new panel.

This panel is already populated by entries automatically added when the domain was created (For example, the MX record). We should now add an “A” Record type with



The image shows a 'Host Information' dialog box with the following fields:

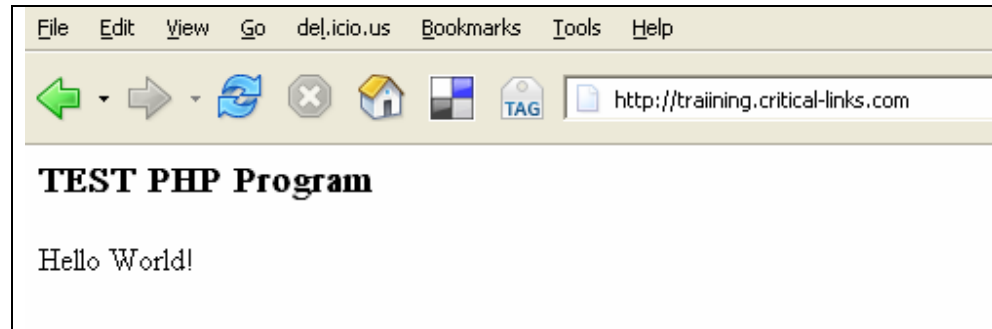
- Host name: training
- Host Type: A (selected in a dropdown menu)
- Host IP: 192.168.100.254

At the bottom right of the dialog box are two buttons: 'Ok' and 'Cancel'.

- Host name = training
- Host Type = A
- Host IP = WAN IP address of edgeBOX
  
- Press OK to add the Host Information
- Press OK to close the DNS Host panel
- Press Apply to apply the changes

10. Test the website functionality by opening a browser and entering the following url: <http://training.critical-links.com>

If you used the index.php example (step 7), you should see a result similar to the one below:



**Note:** Should you wish to add other web sites (eg sales.critical-links.com and [www.critical-links.com](http://www.critical-links.com)), simply repeat steps 1-10, replacing “training” for “sales” or “www”

Note: If you wish to create an Intranet site (a website for internal access only), the procedure is similar. The differences are:

- Step2: The Virtual Host should be LAN, rather than Both
- Also you can host the domain on the edgeBOX (even if your other domains are hosted at ISP'S). For example, you could create a domain called “critical-links.loc” and add “A” records to your local DNS domain and access the websites via URL's such as:  
[www.critical-links.loc](http://www.critical-links.loc)
- The “A” record you create should refer to the LAN IP address (rather than the WAN IP) of the edgeBOX

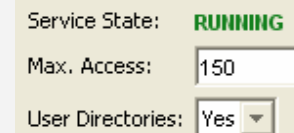
You can of course still use the ISP to create the “A” records as in the Corporate website example

## Example 2

edgeBOX is located in a school where the students are to be allowed to have personal web pages

## Configuration

- A. Go to the “Collaboration” → “Web Server” menu and make sure the Web Server is running
- B. Set “User Directories” to Yes and press the Apply button (if it was set to No”



Service State: **RUNNING**  
Max. Access:   
User Directories:

**Note:** A default webpage is created for all users when the users are created.

- If the edgeBOX has a LAN IP address of 192.168.90.193, the URL to access a webpage for a user, whose username is “user1”, would be: <http://192.168.90.193/users/user1>

or you can access it via:

- <http://myedgebox.com/users/user1>
- You may also access the webpage externally (via the WAN IP address or a registered domain – If one has been registered). For example <http://231.13.13.167/users/user1> (if 231.13.13.167 is the WAN IP of the edgeBOX)

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Access to a default personal web address would result in a page in your browser as follows:



A user may alter their default web page by creating the appropriate html/php and image files and uploading these files to their home directory.

This is achieved via FTP. You may use an FTP client to assist, or simply upload files from a command window.

**Note1:** The initial directory you enter after logging in to the edgeBOX via ftp, is the root web directory for the user. This is where you should place your index.html or index.php file.

**Note2:** Unix (the operating system which edgeBOX uses) is case sensitive. Thus if you upload a file called INDEX.HTML, it will NOT overwrite the index.html file.

## **A**ppache Log Files

There are two log files for Apache, they are:

**/var/log/httpd/access-standard.log**

**/var/log/httpd/error-standard.log**

If you have problems accessing an edgeBOX website, or obtain an error, login to the edgeBOX shell and examine the files (eg `tail -f access-standard.log` or `tail -f error-standard.log`).

Whilst you are viewing the logs (via tail), try to access the website and examine the error messages.

## **D**NS Issues

If you are using the edgeBOX to host DNS records, the current version of edgeBOX has a restriction if you want to host multiple corporate websites.

edgeBOX DNS server only allows for the addition of one master external domain and one master internal domain. Thus if you have two (or more) websites configured on the edgeBOX, you will not be able to host more than one domain on the edgeBOX! How can we solve this?

When you create the domain, simply use a different “Network Address” to ones which have already been used. For example, if you create an internal master domain for the network 192.168.100.0, use 192.198.99.0 for the next one and 192.168.98.0 for the third.