

Administrators guide to the **Matrix Control Panel**



Linux

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Setting up your server

Introduction

Your Linux dedicated server is a separate, stand alone unit installed within our data centre. This allows you to configure your server in any way that best suites your business needs. To help you along the way, your server comes with an installed copy of our domain management control panel, known as the Matrix Control Panel.

The matrix control panel allows you to administer domains and associated services, while also giving you the freedom to allow your customers access to your server in an controlled environment at your discretion. This guide will explain how to get the best out of the Matrix Control Panel, and show you how it interacts with your server in the background.

Logging into the matrix control panel

Using a web browser, enter the following URL in the address line: *http://ip-address:5555*, where *ip-address* should be one of the IP addresses allocated to your server. You will be presented with a login screen where you should enter the administrator username and password, as advised in your signup email.

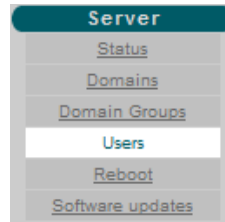


Quick tip: Usernames and passwords are case-sensitive.

Setting yourself up as a user

While you can access the Matrix Control panel using the admin username and password, it is good practice to create yourself a new user account, and only use the admin user when needed.

Step 1 Click on **users** in the *Server* section of the left hand navigation bar.



Step 2 Click **Add new user**. The new user form will open. Enter your chosen username, then enter and confirm your password in the text boxes provided.

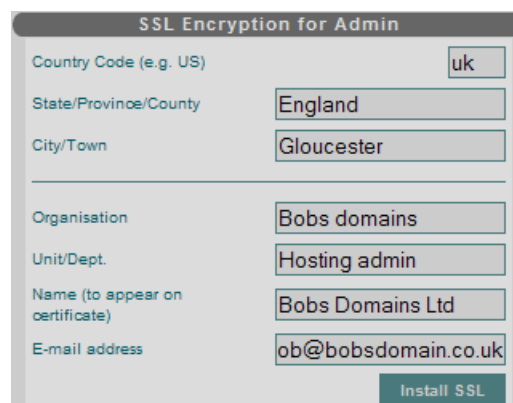
Step 3 Once done, ensure that the *System Administrator* box is ticked, and click Add.

Securing the Matrix control panel

You can ensure that your connection to the Matrix Control Panel is secured by encrypting your connection to it with SSL. It is strongly recommended that you enable SSL encryption, since you are passing sensitive passwords and other information across the internet whilst using the web interface.

Step 1 Click **SSL** in the *Configuration* section of the left hand navigation bar.

Step 2 Click **Install SSL**. A new form will appear.

A screenshot of a web form titled 'SSL Encryption for Admin'. The form contains several input fields for personal and organizational information. The fields are: 'Country Code (e.g. US)' with a dropdown menu showing 'uk'; 'State/Province/County' with a text box containing 'England'; 'City/Town' with a text box containing 'Gloucester'; 'Organisation' with a text box containing 'Bobs domains'; 'Unit/Dept.' with a text box containing 'Hosting admin'; 'Name (to appear on certificate)' with a text box containing 'Bobs Domains Ltd'; and 'E-mail address' with a text box containing 'ob@bobsdomain.co.uk'. At the bottom right of the form is a button labeled 'Install SSL'.

Quick tip: If SSL is already installed you can un-install it by pressing the Uninstall SSL button. The change will take effect next time you restart the web admin service.

Organisation

This should be your company's full legal name.

Unit/Dept

This should be a department name, such as 'support' or 'sales'.

Name (to appear on certificate)

This should be the fully qualified domain name (primary domain name) of the appliance. It is also possible to use the IP address. This name must match the name used in URL requests otherwise your browser will complain about a certificate mismatch.

E-mail address

This should be a point-of-contact email address for the certificate owner.

Step 3

Click **Install SSL** to generate the SSL certificate and private key file. SSL will not actually be enabled until you restart the web administration service.



Note: When SSL is set up, you will need to use the https:// URL prefix when accessing the web interface.

Troubleshooting

If there are any problems with the SSL setup then the special Apache server (httpd-matrixsa) used as a front end to the web administration service may not start. To identify the cause of any such problems you should look in the httpd-matrixsa error log, `/var/log/matrixsa/error_log`. To restart the httpd-matrixsa server, use the command:

```
/etc/init.d/httpd-matrixsa restart
```

Behind the scenes

The SSL certificate and private key files are stored as `/etc/httpd-matrixsa/conf/ssl.cert` and `/etc/httpd-matrixsa/conf/ssl.key`.

Adding your primary domain name

Adding a domain to your server has been made as simple as possible. The first domain added will become the server's *primary domain*. The primary domain is the domain that will be used for the appliance's DNS server, so that `ns1.primary-domain-name` will be the DNS server for all the domains on the appliance. With this in mind, you may wish to choose a primary domain representing your hosting company, e.g. 'myhost.co.uk'. The domain name does not have to be registered with a naming authority at this time. Although this can be changed at a later date it is best to set it up with your chosen domain at the start.

For example: When Bob sets his domain names up on his server he would like to use the nameservers `ns1.bobsdomain.co.uk` and `ns2.bobsdomain.co.uk`, so this domain name will be the first one he adds to his server.

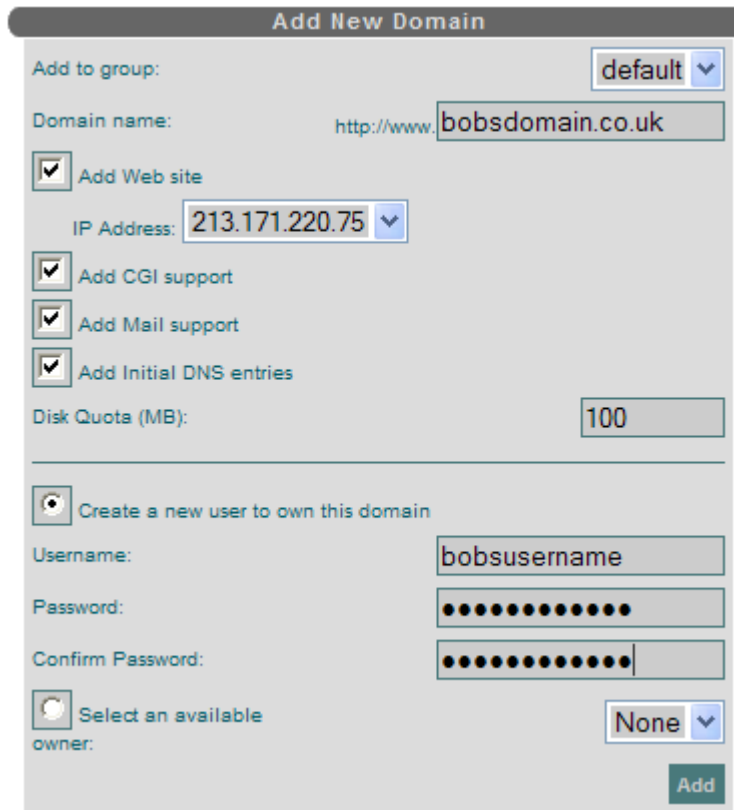
Step 1 Select the **Domains** button in the *Server* section of the menu bar.

Step 2 Click the button marked **Add New Domain**



Step 3

The add domain screen will appear, this will ask for certain details needed to configure the domain as you want.



The screenshot shows the 'Add New Domain' form. It has a title bar 'Add New Domain'. Below it, there are several fields and checkboxes. The 'Add to group:' field is a dropdown menu with 'default' selected. The 'Domain name:' field is a text box with 'http://www.bobsdomain.co.uk' entered. Below this, there are four checkboxes, all of which are checked: 'Add Web site', 'Add CGI support', 'Add Mail support', and 'Add Initial DNS entries'. The 'IP Address:' field is a dropdown menu with '213.171.220.75' selected. The 'Disk Quota (MB):' field is a text box with '100' entered. Below these fields, there is a section for creating a new user. It starts with a radio button and the text 'Create a new user to own this domain'. Below this, there are three text boxes: 'Username:' with 'bobsusername' entered, 'Password:' with a masked password, and 'Confirm Password:' with a masked password. Below these, there is another radio button and the text 'Select an available owner:'. To the right of this is a dropdown menu with 'None' selected. At the bottom right of the form is an 'Add' button.

Add to group

Leave this as 'Default' and the domain will be put into the Default group. If you do not wish to make use of the domain grouping facility you can put all domains into the Default group.

Domain name

The domain name you wish to add; do not include 'www' as this is added for you automatically.

Add website

Leave this box checked if you want the domain to have a web site. Additional website features such as SSL can be set up after the domain has been created.

IP Address

If this domain includes a web site, this drop-down box lets you select which IP address(es) the site will respond on. If you choose **All** multiple DNS entries will be created for 'www', 'ftp', and 'mail'. Traditionally, most domains can be left on the default IP address.

Add CGI Support

If this box is checked then the domain will be able to run CGI scripts and programs that are located in the `htdocs/cgi-bin` directory of the web site.

Add mail support

If you want the domain to be able to receive mail make sure this box is checked. Without mail support, the domain owner will not be able to create mail boxes.

Add Initial DNS entries

If this box is checked then a DNS zone will be created on the server for the new domain. If you are using your own nameservers then you should choose this option.

Disk Quota (MB)

You can limit the space each domain can use on your server, by changing the quota limits shown in this text box. You can set this to any reasonable value in mega-bytes. Set the quota to 0 for unlimited disk space for the domain.



Note: If disk quotas are not available on your server then 'N/A' will be shown in the text box.

Create a new user to own this domain

Add the details of a user who will be able to upload files and manage this domain's web and email settings. As a system administrator you will also be able to manage this domain. In most cases you will want to create a new user to own the domain.



Note: Usernames should contain alphanumeric characters and periods only, and must not begin with a number. Usernames must be unique across this server.

Select an available owner

The drop-down list will contain all domain-level users that are not currently assigned to any role. You can choose one of these users to own the new domain. If you choose **None** the domain will be owned by the system. It is also possible later to assign an administrator or domain group administrator to be the owner of a 'system' domain. This will allow several domains to be controlled and accessible by one user, which can be useful when running sites which need to share files. This option is also useful if you have a customer with multiple domain names.

Step 4

Click the **Add** button; the web interface will return to the domain list which should now have an entry for the newly added domain. If this is the first domain added you will be informed that it has been set as the primary domain for the appliance.

You have now created a domain which includes a web site responding to '*http://domain-name/*' and '*http://www.domain-name/*'.



Note: These addresses will not be valid on the internet until you have pointed them to your server.

Setting up DNS

Every domain name on the internet has at least one name server (DNS server) associated with it, but usually two are used in the event that one fails. A name server is a server that translates domain names into IP addresses. The IP address can then be used to connect directly to the server hosting the domain name.

Every domain added to the server (excluding test domains) will have to be registered with a naming authority. There are many internet-based companies offering domain name registration. When domains are registered, one piece of information that is always required is the primary and secondary name servers responsible for the domain. These often take the form:

- Ns1.primary-domain-name.com
- Ns2.primary-domain-name.com

To mimic the existence of two name servers (e.g. ns1 and ns2), both of the server's IP addresses can be used, one for ns1, the other for ns2.

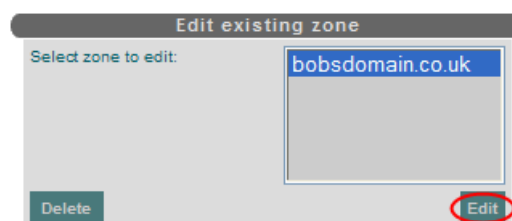
The primary domain name is automatically assigned nameserver records within the DNS of your server when set up.

Step 1

Click **DNS** in the left hand menu, then click **Configure DNS**.

Step 2

In the *Edit existing zone* section, select your primary domain name and click **Edit**.



In the *Addresses (A)* section, you will see a list of all the DNS records that have been set up. Here you will see the IP addresses for both ns1 and ns2.domain-name.com.

Addresses (A)			
Host (optional)	IP		
ubuntu	213.171.220.75	Change	Delete
ns1	213.171.220.75	Change	Delete
ns2	213.171.220.76	Change	Delete
	213.171.220.75	Change	Delete
www	213.171.220.75	Change	Delete
ftp	213.171.220.75	Change	Delete
mail	213.171.220.75	Change	Delete
		Add	

Step 3

To register your name server on the internet, you will need to contact the company that registered the primary domain and ask them to add two host records ('ns1' and 'ns2') to the domain. You will need the host names and IP addresses of your server:

Ns1.primary-domain-name.com - the first IP address assigned to your server

Ns2.primary-domain-name.com - the second IP address assigned to your server

For example, with the primary domain bobsdomain.co.uk, and using the details shown in the screenshot above. We would request the records to be set as follows:

- ns1.bobsdomain.co.uk 213.171.220.75
- ns2.bobsdomain.co.uk 213.171.220.76

These changes can take up to 48 hours to become active across the internet, due to DNS propagation and caching.

Once all steps have been completed, and time has been allowed for DNS changes to propagate, the web and mail server for the primary domain should now be accessible. Visiting `http://<primary-domain>:5555` in a web browser should take you to the web admin pages.

Turning on services

Your server comes with a number of services useful for hosting websites. By default these services are disabled, although it is quick and easy to enable all the services that your server will need at the click of a button.

Web Service

To view the status of your web services, click on **Web** in the *Services* section of the left hand navigation menu.

This screen shows the status of the main Apache web server and the web administration interface server. It also allows these services to be restarted.



The number of Apache child processes currently running is displayed next to the Apache status. Child processes are used to respond to individual web page requests. The number of child processes gives an indication of how busy the webserver is. The default maximum number of child processes is 150.

Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart Apache. The Web Admin server can only be restarted.

Troubleshooting

If for some reason the web administration server is not running you will not be able to access the Matrix web interface. If this situation occurs you can log in as root using SSH and restart the service manually. The commands you will need to use are:

```
/etc/init.d/httpd-matrixsa restart
/etc/init.d/matrixsa restart
```

The httpd-matrixsa and matrixsa services must both be running for the web interface to work.

If the web interface cannot be restarted this may be because there are some 'stuck' processes running. To fix this you can kill these processes and then attempt the restart again. This should only be done if all else fails. To kill all web administration processes use the command:

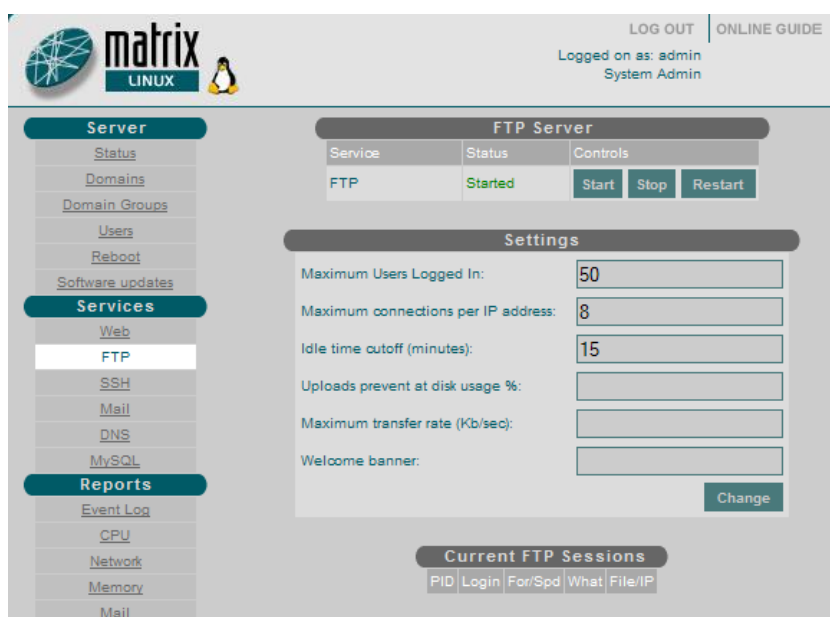
```
killall -p python2
```

If you are still having problems you can find more information on possible causes of error in the files `/var/log/matrixsa/error_log` and `/var/log/matrixsa/webkit`.

FTP Service

To configure your FTP service, click **FTP** in the *Services* section of the left hand navigation menu.

Using this screen you can start, stop or restart the FTP server on your appliance (Pure-FTPd). You can also edit FTP settings.



Note: The FTP server can be restarted (to pick up new configuration settings for example) without disconnecting any current sessions.

Current FTP sessions can be viewed in the *Current FTP Sessions* table at the foot of the screen.

Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart the FTP server.

Maximum Users Logged In:

Use this setting to limit the total number of connections to the FTP server. (Default 50).

Maximum connections per IP address:

This setting can be used to limit the maximum number of connections a single

user can make to the FTP server. (Default 8).

Idle time cutoff (minutes):

This sets how long a user connection can remain idle before being automatically disconnected. (Default 15 minutes).

Uploads prevent at disk usage %:

This is a safety feature that can be used to prevent the disk partition holding domain directories from filling up completely. File uploads will be disallowed when the disk partition is `input-value` % full. (Default 99%).

Maximum transfer rate (Kb/sec):

If this value is left blank the maximum transfer rate is unlimited. Set it to a value in Kb/second to limit the maximum throughput rate per connection. (Default unlimited).

Welcome banner:

This is the welcome message that users receive when they log in to the FTP server on the appliance.

Click the **Change** button to apply new settings.



Note: You must restart the FTP server before the new settings will take effect. Doing so will not interrupt any current sessions.

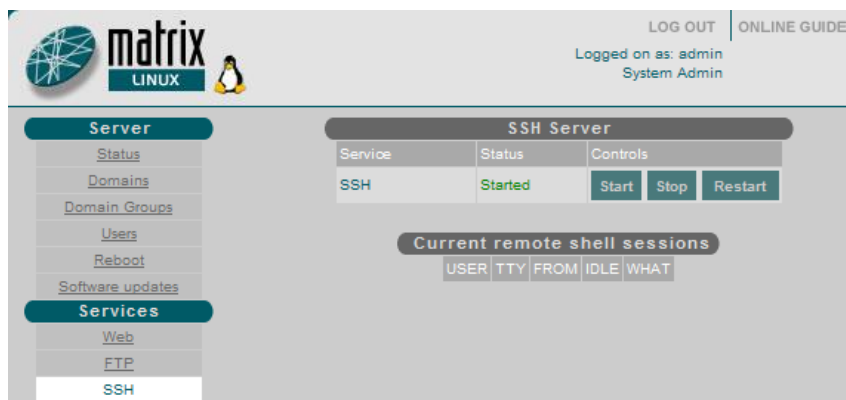
Behind the scenes

The configuration file for the FTP server is `/etc/pure-ftpd.conf`.

SSH Service

Click **SSH** in the *Services* section of the left hand navigation menu to configure your servers SSH service.

Using this screen you can start, stop or restart the SSH server on your appliance.



Quick tip: The SSH server can be restarted without disconnecting current sessions.

Current remote SSH sessions can be viewed in the *Current remote shell sessions* table.

Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart the SSH server.

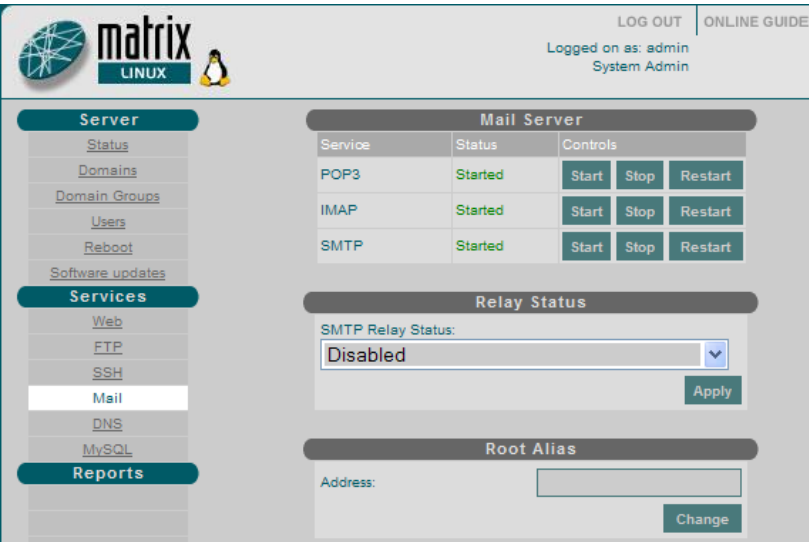


Quick tip: It is good practice to disallow direct root logins using SSH. Instead, you would log in as another system user (e.g. admin) and then use the command `su -` to switch user to root (as long as you know the root password). To achieve this, edit the ssh server configuration file `/etc/ssh/sshd_config` and add the line

```
PermitRootLogin no
```

Mail Service

There are three components to the mail service running on your Dedicated server. These are the SMTP, POP3, and IMAP services. Using this screen you can view the status of each of these services and stop or start them individually. You can also adjust the SMTP relay status of your server and set an alias to receive system emails addressed to the 'root' user.



Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart any of the individual email services. If the SMTP server is stopped the server will not accept incoming email. If the POP3 or IMAP servers are stopped then users may not be able to retrieve their email.

SMTP Relay Status:

Should normally be set to allow local domains to relay mail through the server.

Disabled: Stops SMTP traffic

Enabled (local domains only. unauthorized): Will allow only mailboxes hosted on the server to send emails.

Enabled (local domains only. Authorized): Is a more secure option for your server as customers will also have to provide their mailbox username and password to send email through your server.

Click the **Apply** button to update relay status.

While in use, the operating system may generate system emails for the root user. These emails can contain important status information or warnings. You should set an alias for

root to receive these system messages. The alias can be a local user or an external email address. Enter your email address in the text box provided and click the **Change** button to set a new root alias.

Behind the Scenes

The SMTP server is Postfix. Postfix configuration files are kept in `/etc/postfix`. The web administration tool maintains two Postfix tables: `transport`, which holds a list of all domains on the appliance that have email capability, and `virtual` which defines mailboxes and aliases. The `virtual` table is generated by combining the individual domain tables kept in the `/etc/postfix/virtual_domains` directory.

Postfix is set to use the Courier 'maildrop' delivery agent to deliver mail to user MailDir folders. The maildrop agent is defined in `/etc/postfix/master.cf`.

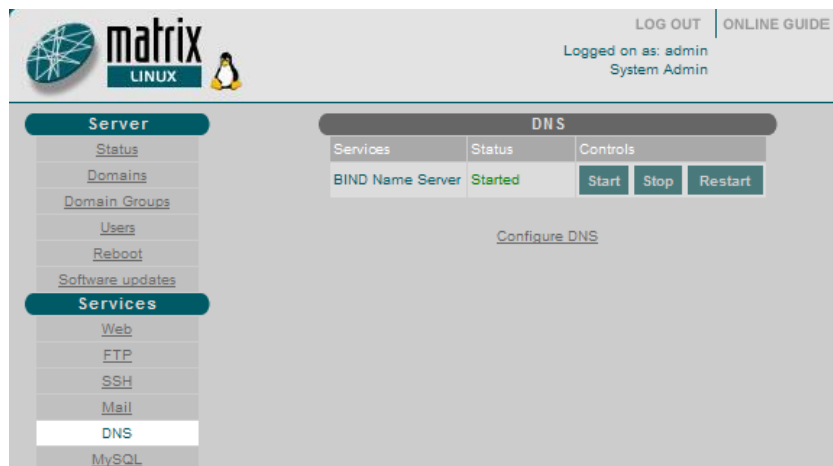
The POP3 and IMAP server capabilities are provided by the Courier suite of services. Courier configuration is kept in `/etc/courier`. The web administration tool maintains the mailbox user files in the `/etc/courier/userdb` directory. There is one file per domain, and each file contains a mapping between mailbox name and the password, mailbox location, etc.

Note that individual Courier daemons are not controlled from scripts in `/etc/init.d`. Instead, scripts in `/usr/lib/courier/sbin` are used to stop or start the IMAP or POP3 services. To turn the services permanently on or off, the files `/etc/courier/pop3d` and `/etc/courier/imapd` are edited and the variables `POP3DSTART` and `IMAPDSTART` set appropriately.

DNS Service

To view or edit your DNS service, click **DNS** in the *Services* section of the left hand navigation menu.

This screen allows you to start, stop or restart the DNS server on your appliance. There is also a link to the configuration screen for DNS zones.



Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart the DNS server.



Important: When the DNS server is stopped, some system services may not work correctly as they will not be able to resolve domain names.

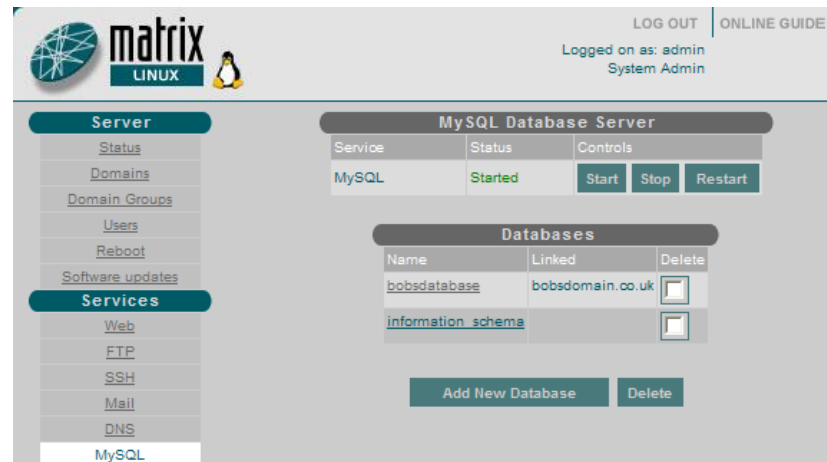
Click on the **Configure** DNS link to go to the main DNS configuration screen.

More details on configuring the DNS service can be found later in this article on pages 56 and 57.

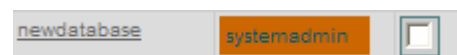
MySQL Database Server

To view or edit your MySQL database service, click **MySQL** in the *Services* section of the left hand navigation menu.

This screen allows you to start, stop or restart the MySQL server. If the server is already running, a list of databases is shown along with the option to create a new database.



Databases can be linked to domain groups or domains. Links are shown in the database listing table. Domain group links are indicated by an orange background.



Use the **Start**, **Stop** or **Restart** buttons to start, stop or restart the MySQL server. The server must be running before databases can be managed.

If you are starting this service for the first time you may be prompted for your MySQL admin username and password. Initially, this will be identical to your root username and password.



Quick tip: The MySQL 'root' user is separate from the server root user and the two should not be confused. You should use different passwords for the two users.



Important: By Default, MySQL installs with a blank password for the root user to connect locally on the server. If you want to offer shell or scripting access on your server to customers then you *must* set a MySQL root password. This can be done using the `mysqladmin` command via SSH, using the command:

```
mysqladmin -u root password new_password
```

To edit database properties or manage users click on a database name in the database listing table.

To delete one or more databases, check one or more checkboxes in the list then click on the **Delete** button.

To create a new database click on the **Add New Database** button.

Behind the scenes

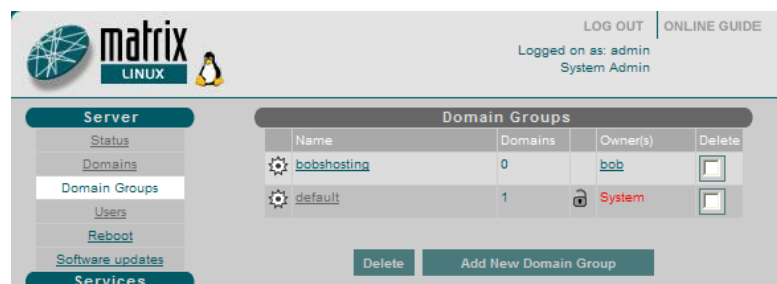
The web administration tool stores the MySQL root user password in the file `/etc/matrixsa/webadmin.ini`. This file also contains the default privileges granted to new database owners and users. The default privileges can be edited if required using a text editor.

Customisation options for the MySQL server are set in `/etc/my.cnf`. For example, you can set the maximum number of connections to the server, or the wait timeout for idle connections. For more information see the section 'my.cnf' Option Files in the online MySQL documentation at mysql.com.

Managing users and groups

You can view, add and configure domain user groups by clicking **Domain groups** in the *Server* section of the left hand navigation menu.

This screen shows a listing of all the domain groups set up on the appliance. Domain groups are collections of domains. They help to split up large numbers of domains into logical groups. A group administrator can only modify, add and remove domains within their group.



If you have not yet set up any new domain groups then the only group listed will be the Default group.

For each group listed there are links to configure group features and to jump to the administration level for the group. The owner(s) of each group are also shown.



Note: The maximum number of domain groups is limited to 31. This is an operating system limitation.

Setup

To add a new domain group, click on the **Add New Domain Group** button. To remove one or more domain groups, select the relevant checkboxes in the list then click on the **Delete** button.



Important: When you remove a domain group, all the domains it contains are also removed. This includes all of the web and email content for those domains.

Behind the scenes

The Matrix Control Panel obtains the list of domain groups by querying the list of system groups that administrator users belong to.

Administrators have a primary group of 'matrixadmin' and, additionally, are members of all the domain groups on the system.

Domain group administrators have a primary group of 'matrixgrpadmin' and also belong to the system group representing their domain group.

Adding a domain group

This screen allows you to add a new domain group to the server. You can also create a new user to own the group or select an existing available owner.

Add New Domain Group

Group Name:

☐ Create a new user to own this domain group

Username:

Password:

Confirm Password:

☐ Select an available owner: None ▾

Group Name:

The name that you want to give the new group. The name cannot be the same as any other domain group name, and it cannot be the same as any administrator user's name.



Note: Group names must be between 4 and 16 characters long.

Create a new user to own this domain name:

In most cases you will want to create a new user to own the domain group.



Note: Usernames should contain alphanumeric characters and periods only, and must not begin with a number. Usernames must be unique across the server.

Select an available owner:

The drop-down list will contain all unassigned domain-group level users. You can choose any of these users to own the new domain group. The contents of their current home directory will be moved to their new home directory within the new domain group.

When you have completed all of the required fields press **Add** to set up the domain group.

Behind the scenes

When a new domain group is added, the following steps occur:

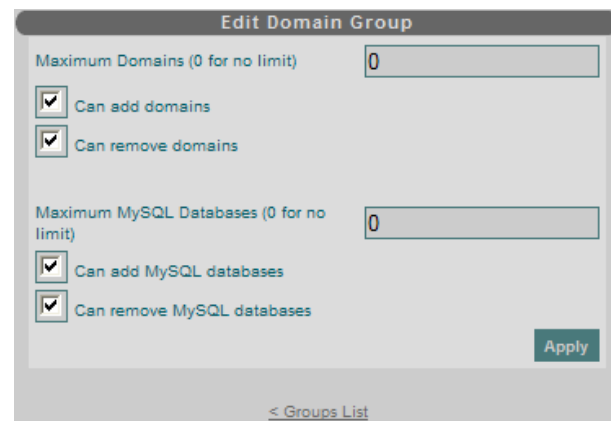
- Step 1** A new system group is created for the domain group.
- Step 2** All appliance administrators are made members of the new system group.
- Step 3** A top-level directory is created for the domain group, under `/home`. This directory is given group ownership set to the new group.
- Step 4** The default domain web filesystem skeleton is copied into the domain group's directory, from where it can be customised if required. It is available under `_domain_skel`. You may also set default permissions for files and directories here.
- Step 5** A new section is created in the domain group settings ini file, `/home/_domainGroup.ini`, to hold resource restrictions for the new domain group.

Step 6

If a new user has been selected to own the domain, the user is created on the system and their home directory is placed within the domain group directory. The user's primary group is set to 'matrixgrpadmin' and they are also made a member of the system group representing the new domain group.

Domain Group Settings

This screen allows you to limit certain resources that are available to a domain group.



Maximum Domains (0 for no limit)

Set this value to a number greater than 0 to limit the maximum number of domains that can be added to a domain group. No domains will be removed if you set the number to a value lower than the number of domains already in the group.

Can add domains

Select this box to allow new domains to be added to the domain group.

Can remove domains

Select this box to allow domains to be removed from the domain group.

Maximum MySQL Databases (0 for no limit)

Set this value to a number greater than 0 to limit the maximum number of MySQL databases that the domain group can set up. Databases will not be removed if you set the number to a value lower than the number of databases already linked to the group.

Can add MySQL databases

Select this box to allow group administrators to create new MySQL databases.

Can remove MySQL databases

Select this box to allow MySQL databases to be removed by domain group administrators.

Behind the scenes

Domain group restrictions are stored in the ini file `/home/_domainGroup_.ini`.

Users

This screen lists of all the users on the server. For each user there are links to alter user properties and to the domain or domain group they are responsible for (if any).

Enabled Users			
Name	Access Level	Owns	Delete
admin	System		<input type="checkbox"/>
bob	Group	bobshosting	<input type="checkbox"/>

Available Users		
Name	Access Level	Delete
fntest	Domain	<input type="checkbox"/>

The list is divided into *Enabled Users* who are system administrators or assigned to a domain group or domain, and *Available Users* who are not currently assigned to a domain group or domain.



Quick tip: *Available Users* cannot log into the web control panel until they are assigned a role.

To add a new user, click on the **Add New User** button at the bottom of the page.

To remove one or more users, select one or more checkboxes in the list then press the **Delete** button.



Quick tip: If you remove an 'Enabled User' the domain group or domain they were responsible for will not be removed but may become owned by the system.

To edit user properties, click on a username.

Behind the scenes

The Matrix control software lists only users created using the Matrix Control Panel. It ignores other users on the server. Matrix users belong to one of four primary groups: 'matrixadmin', 'matrixgrpadmin', 'matrixdomain', and 'matrixnone'.

The different types of users

There are three distinct access levels within the Matrix Control Panel. They each have different configuration options and form the base logon screen for each of the three different security levels.

System administrators log into the Matrix Control Panel at the 'home' level (coloured green). From here, the user can start and stop core services such as the web server, FTP or email. Major configuration tasks which affect the entire server are only accessible to system administrators.

The screenshot displays the Matrix Control Panel interface. On the left is a sidebar menu with categories: **Server** (Status, Domains, Domain Groups, Users, Reboot, Software updates), **Services** (Web, FTP, SSH, Mail, DNS, MySQL), **Reports** (Event Log, CPU, Network, Memory, Mail, System), and **Configuration** (SSL, Network, Date and Time, Alerts). The main content area is divided into several sections:

- Services**: A table showing the status of various services.

Name	Status
Web	Stopped
FTP	Stopped
Mail (POP3/IMAP/SMTP)	Stopped/Stopped/Stopped
DNS	Stopped
- CPU Usage**: A table showing CPU usage for User and System.

Type	Used	
User	0.00%	<input type="text"/>
System	0.00%	<input type="text"/>
- Memory Usage**: A table showing memory usage for Physical and Virtual memory.

Type	Used		Available
Physical	11.07%	<input type="text"/>	441MB Free (496MB Total)
Virtual	0.00%	<input type="text"/>	488MB Free (488MB Total)
- Drive Space Usage**: A table showing drive space usage for /, /home, and /var.

	Used		Available
/	16.59%	<input type="text"/>	3.8GB Free (4.6GB Total)
/home	5.27%	<input type="text"/>	62.0GB Free (65.5GB Total)
/var	12.08%	<input type="text"/>	4.0GB Free (4.6GB Total)
- Server**: A section showing system uptime and load average.

Up time: 77 days, 3 hours 21 mins, 48 processes, load average: 0.00, 0.00, 0.00

This user interface can be locked to prevent further changes to the existing configuration

Domain group administrators log into the web interface at the 'domain group' level (coloured orange). The domain group level allows administration of an individual domain group and the domains within it. Depending on the privileges of the domain group, domains can be added and removed from the group using the Domains menu option. Domain group administrators can navigate down to domain level but not up to the 'home' level available only to system administrators.

The screenshot shows the Matrix Linux control panel interface. The top navigation bar includes 'LOG OUT' and 'ONLINE GUIDE'. The user is logged in as 'admin' (System Admin) for the group '[bobshosting]'. The left sidebar has an orange 'Server' menu with sub-items: Status, Domains, Users, Services, Web, FTP, Mail, DNS, and MySQL. The 'Services' menu item is highlighted. The main content area displays the 'Services' table, CPU Usage, and Memory Usage.

Name	Status
Web	Stopped
FTP	Stopped
Mail (POP3/IMAP/SMTP)	Stopped/Stopped/Stopped
DNS	Stopped

Type	Used	
User	0.00%	<input type="text"/>
System	0.00%	<input type="text"/>

Type	Used	Available
Physical	11.07%	441MB Free (496MB Total)
Virtual	0.00%	486MB Free (486MB Total)

Up time: 77 days, 3 hours 18 mins, 48 processes, load average: 0.00, 0.00, 0.00

Domain administrators log into the web interface at the 'domain' level (coloured blue). Settings which affect a single domain can be configured, allowing the starting and stopping of individual web sites, configuration of web directory security, email settings and other domain-specific attributes.

The screenshot shows the Matrix Linux control panel interface at the domain level. The top navigation bar includes 'LOG OUT' and 'ONLINE GUIDE'. The user is logged in as 'admin' (System Admin) for the domain '[bobdomain.co.uk]'. The left sidebar has a blue 'Server' menu with sub-items: Status, User, Services, Web, FTP, Mail, MySQL, Web Config, Error Docs, Security, Reports, Usage, and Error Log. The 'Web Config' menu item is highlighted. The main content area displays the 'Domain Status' and 'Services' table.

Name	Status
Web	Stopped
FTP	Stopped
Mail (POP3/IMAP/SMTP)	Stopped/Stopped/Stopped

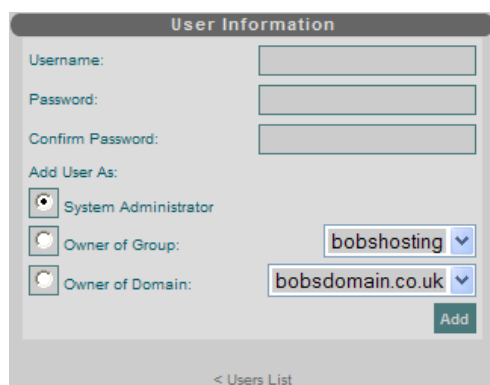


Note:

- The server can have several system administrators.
- Each domain group can have several domain group administrators.
- Each domain can have only one owner.

Adding a new user

You can add a new user by clicking **Users** in the *Server* section of the left hand navigation menu. At the foot of the screen listing all users, click the **Add new user** button to start the new user wizard.



The screenshot shows a web form titled "User Information". It contains the following fields and options:

- Username:** A text input field.
- Password:** A text input field.
- Confirm Password:** A text input field.
- Add User As:** A section with three radio buttons:
 - ☒ System Administrator
 - ☐ Owner of Group: A dropdown menu showing "bobshosting".
 - ☐ Owner of Domain: A dropdown menu showing "bobsdomain.co.uk".
- Add:** A green button at the bottom right.
- < Users List:** A link at the bottom left.

Username

Username must be unique across the server and cannot begin with a number.

Password

Passwords are case-sensitive and must contain a minimum of 5 characters.

Add User As

Select the radio button corresponding to the access level of the user you wish to add. For domain group or domain level, you must also choose the domain group or domain that you want the user to be responsible for. If there are no un-owned domains on the system you will not be able to add a user at domain level, this is indicated by N/A instead of a drop-down list.

User Settings

Overview

This screen allows the setting of user attributes such as passwords and SSH/FTP access rights (for enabled users). It also allows the overall role of a user to be changed.

Change Password - bob

New Password: [masked]
Confirm New Password: [masked]
Apply

Access Level and Ownership

☒ System Administrator
☐ Owner of Group: bobshosting
☐ Owner of Domain: None
Apply

SSH/FTP Access

☐ SSH access allowed
☒ FTP access allowed
Change

[< Users List](#)

Change Password

The password set here is required for access to the Matrix Control Panel and for SSH/FTP (if enabled).



Note: Passwords are case-sensitive and must contain a minimum of 5 characters.

Access level and ownership

You can change the access level of a user by selecting the appropriate radio button. The drop-down lists allow you to select which domain group or domain you wish to associate the user with. If you select **None** the user will become *unassigned* and the domain group or domain they were previously associated with may become owned by the system. Click **Apply** to enable changes.



Quick tip: The contents of the home directories of system administrators or domain group administrators are preserved when they are re-associated with a new domain group or domain. When a system administrator or domain group administrator is made a domain owner, their old home directory is preserved as `/home/domain-group/domain-name/username_home`.

SSH/FTP Access (assigned users only)

This section only applies to domain group administrators and domain administrators who are currently associated with a domain.

SSH access allowed

Select the radio button if you wish the user to be allowed SSH access to the server.



Important: You should only allow SSH access to trusted users for security reasons. When a user has SSH access they have full login rights to the system (their access is limited by the permissions system, but they may do anything within the areas to which they have access).

FTP access allowed

Select the radio button if you want to allow the user FTP access so that they can upload files to their web space. A user's access to the filesystem via FTP is restricted by their role. Domain administrators must remain within their own domain directory. Domain group administrators are allowed to access any domain within their group but are not allowed to access any other directories or files.



Note: You cannot have SSH access without FTP access. If SSH access is enabled then FTP access is always allowed.

Behind the scenes

Access rights

Control over which services users can log in to is determined by their login shell. A user's login shell is stored in the last field of their `/etc/passwd` entry. The login shell is set to one of the following values:

No access at all (user with no role) - `unlinked`

web administration access only - `/bin/false`

web administration and FTP access - `/sbin/nologin`

web administration, FTP and SSH access - `/bin/bash`

FTP “jailing”

By default, the FTP service used on your server, 'Pure-FTPD', limits users to their home directory. This feature is used to automatically constrain domain administrators to their own domain.

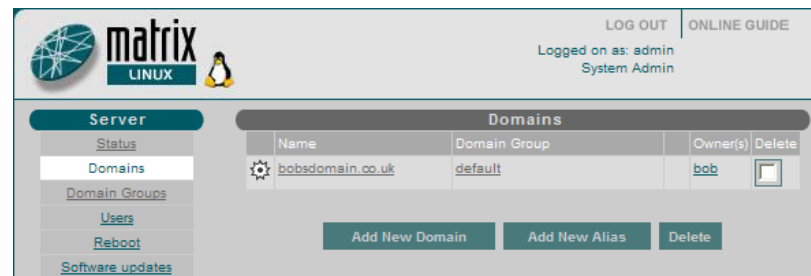
Domain Group administrators are allowed access to their whole domain group; this is enabled by placing a `./.` marker within their home directory at the domain group level.

System administrators are allowed access to the whole appliance. This is because their primary group, 'matrixadmin', is defined as a 'trustedgid' in `/etc/sysconfig/pure-ftpd`.

Setting up your customers domains

Domains


This screen shows a listing of all the domains and domain aliases on your server. For each domain there are links to alter domain features and configure domain settings. The domain group and domain owner each domain is associated with is also shown.



To add a new domain, click on the **Add New Domain** button.

To add a new domain alias, click on the **Add New Alias** button.

To remove one or more domains or domain aliases, check one or more checkboxes in the list then click on the **Delete** button.

To alter the features available to a domain click on the . To go to a domain level administration screen, click on a domain name in the list.

To jump to a domain group administration screen, click on the domain group name next to a particular domain.

To view or change the attributes of a domain owner, click on the *Owner* name corresponding to the domain.



Quick tip: If a domain is not appearing in the listing, and it is an unowned domain or it is owned by a domain group administrator, it may be that the domain's 'marker' file is missing. To fix this, log in as root using ssh, then issue the following commands:

```
cd /home/domain-group/domain-name
touch ._MATRIXA_DOMAIN_DO_NOT_DELETE_
chmod 600 ._MATRIXA_DOMAIN_DO_NOT_DELETE_
```

Behind the scenes

The Matrix Control Panel obtains a list of domains on the server in the following manner.

First of all, it examines all system users whose primary group is 'matrixdomain'. These users

are linked to domains by their home directory path.

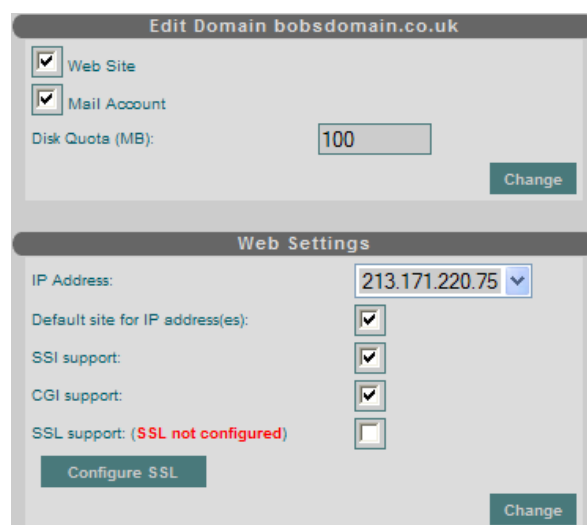
Domains owned by administrators or domain group administrators, who are not members of the 'matrixdomain' group, are found by traversing the directories contained within each domain group on the system, and looking for a 'marker' file.

The marker file is a hidden file called `._MATRIXSA_DOMAIN_DO_NOT_DELETE_`. Immediate sub-directories of domain group parent directories which contain the marker file are taken to be domains and their filesystem ownership is used to determine their owner.

Domains without an owner (i.e. owned by 'system') are found in a similar manner; their filesystem owner is set to the 'nobody' user.

Domain settings

Depending on whether the domain has web and/or email facilities, this screen allows you to configure various domain options. If the domain is 'unowned' (i.e. owned by the system) you also have the option of assigning an owner to the domain.



Edit domain

Here you can choose whether you want the domain to have website and/or email facilities. You can also set the domain's disk quota in MB, if quotas are available.



Important: If you remove the mail account from a domain all mailboxes and content will be deleted. If you remove the web site from a domain all website files will be deleted.

Web settings

IP address:

This drop-down box lets you select which IP address(es) the domain's web site will respond on.

Default site for IP address(es):

This feature lets you select the domain to be the default site for its IP address(es). Normally on a hosting server it does not matter which site is considered the default. However, there are some cases where setting a default may be useful:

- You would like to test a site when DNS has not been set up or has not propagated. Using this feature you could visit `http://123.123.123.50` to view the site.
- You would like to provide an 'error' site that responds when a request is made for a site that has been temporarily suspended or is not on the server any more. The default site is the site that Apache will serve in either of these cases.

You would like to allow a site to be visited using its IP address(es).

SSI support:

Check this box if you want the domain to be able to use SSI (Server Side Includes) directives in .shtml files.

CGI Support:

Check this box if you want the domain to be able to run CGI scripts and programs located in the `htdocs/cgi-bin` directory of the web site.

SSL support:

If the label reads *(SSL not configured)* then you will need to click on **Configure SSL** before you can enable SSL support. If the label reads *(SSL configured)* then a SSL certificate and private key have already been generated for the domain and you can enable SSL support.



Quick tip: Due to the way SSL works, you can only have one SSL site per IP address. You will get a warning if you try to enable SSL on more than one domain sharing the same IP address.

When you have chosen the options you require press Change to apply the new settings.

Trouble Shooting

CGIs are not working

If you have enabled CGI support but a script is not working, then there may be a problem with the script itself or a suEXEC issue.

To check for a script error, go to the domain-level configuration pages for the domain (blue background) and click on Error Log in the Reports section of the left-hand menu. Here you will see error output from the script itself which should indicate what is wrong (e.g. a Perl syntax error).

To check for a suEXEC error you will need to view the suEXEC log that is written by Apache. This can be done easily by choosing the Event Log entry on the left-hand menu and then selecting 'suEXEC' from the drop-down list. Look for entries which indicate unsafe file permission errors.

Behind the scenes: Custom apache configuration directives

If you would like to add custom Apache configuration directives then you will need to edit either `/etc/httpd/conf/httpd.conf` (for server-wide customisation) or `/etc/httpd/conf/vhost.conf` (for per-virtual-host customisation).

To ensure your commands will not be overwritten by changes made through the Matrix Control Panel, if you want to customise a domain's Apache configuration you must put the commands within the

```
# Begin user directives <--  
# --> End user directives
```

Section of the <VirtualHost> container for the domain.

For example, to allow the use of features such as URL re-writing from .htaccess files within a domain, you could add the following lines to a <VirtualHost>:

```
# Begin user directives <--
```

```
<Directory /home/Default/domain-name.com/user/htdocs>
    AllowOverride FileInfo
</Directory>
# --> End user directives
```

Adding an email account

If the web interface is not already displaying the screen for the new domain (denoted by a blue background), then navigate there by clicking on the Domains menu item then clicking on the name of the domain.

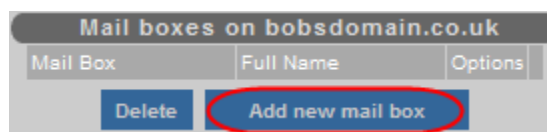
Step 1

Click the Mail option from the menu bar. As well as the status of the mail servers on the appliance, all of the mail boxes and aliases for this domain are listed. Initially, the lists will be empty.



Step 2

Click the button marked **Add a new mailbox**.



Step 3

Enter the following information;



Quick tip: All settings, except for the mailbox name can be altered at a later date.

Box name:

The name entered here will form part of the email address before the @ (*i.e box-name@domain-name.com*).

Full owner name:

This name is for reference purposes only and is not used by the mail server. Usually this is used as the real name of the person for whom the mailbox is being created.

Password:

Enter, then confirm, a password in the text box provided. This password will be needed when using a mail client (such as outlook) to access the box's email messages.



Note: The password is case sensitive

Step 4

Click the **Add** button to create the new mailbox. When using an email client to access messages, the following login information should be used.

POP3 server:

mail.domain-name.com (or the servers IP address)

SMTP server:

mail.domain-name.com (or the servers IP address)

Username:

Mailbox-name@domain-name.com

Password:

The password entered when setting up the mailbox.

Adding a database

This screen allows you to create a new database and optionally link it with a domain group or domain.

Add Database

Database Name:

Database Username:

Password:

Confirm Password:

Database Type: MySQL

Database Location: /var (default) (3.9GB Free)

☐ Link with Group: None

☐ Link with Domain: None

Add

Database name:

The database name must be unique across the database server. This field can contain only alphanumeric characters and underscores. The maximum length is 64 characters.

Database Username:

This is the username of the database owner. This user will be given full access to the database and can grant privileges to other users of the same database. This field can contain only alphanumeric characters, underscores, dashes and dots. The maximum length is 16 characters.

Password:

This is the password used for local and remote access by the database owner. It is case-sensitive.

Database Type:

Currently this is always MySQL.

Database Location:

By default, MySQL database files are stored under `/var/lib/mysql`. However, the `/var` partition is also used to store system log files and mail spool directories, so it can become full. You can choose to relocate the database files onto the `/home` partition instead. If you do, database files will be stored in `/home/_matrixsa_/mysql/database-name`.

Link with Group:

Selecting this radio button will enable you to choose a domain group from the drop-down list. Linking a database to a group makes it visible to group administrators and allows them to manage users and delete the database if it is no longer required.

Link with Domain:

Selecting this radio button will enable you to choose a domain from the drop-down list. Linking a database to a domain makes it visible to the domain owner. The domain owner can create and delete database users and modify user privileges.



Note: When a database is linked to a domain it is also visible to administrators of the domain group containing the domain.

Press the **Add** button to create the new database.

Behind the Scenes

The links between databases and domain groups/domains do not affect the operation of

the databases in any way. The links are maintained in two tables within the database `_matrixsa_`. This database should not be deleted. If it does not exist it will be re-created empty and the links between domain groups, domains and databases will have to be manually re-instated.

Database Properties

This screen allows you to modify database link properties and to add a new user. Current users are listed and clicking on a user name will take you to the user properties screen.

Database 'bobsdatabase' Properties

☐ Link with Group: None

☒ Link with Domain: bobsdomain.co.uk

Change

Add User

Username:

Password:

Confirm Password:

Add

Database 'bobsdatabase' Users

Name	Delete
bobsusername	<input type="checkbox"/>

< Databases

Link with Group:

If you select this radio button you can choose a domain group from the drop-down list. Linking a database to a group makes it visible to group administrators and allows them to manage users and remove the database if it is no longer required. To remove a group link, choose **None** from the drop-down list.

Link with Domain:

If you select this checkbox you can choose a domain from the drop-down list. Linking a database to a domain makes it visible to the domain owner. The domain owner can create and delete database users and modify user privileges. To remove a domain link, choose **None** from the drop-down list.



Note: When a database is linked to a domain it is also visible to administrators of the domain group containing the domain.

Add a new database user

You may wish to have more than one database user if you need to give several applications access to the same database. Each user can have individual access privileges.

Username:

The new user name. This field can contain only alphanumeric characters, underscores, dashes and dots. The maximum length is 16 characters.

Password:

This is the password used for local and remote access by the new user. It is case-sensitive.

Database Users

This table lists database users. Click on a username to go to the user properties page where you can alter privileges and change the user's password.

To delete one or more users select the relevant checkboxes and press **Delete**.

Database User Properties

On this screen you can change the user's password, allow or deny remote access to the database, and change the user's privileges.

The screenshot shows a web interface for managing database user properties. It is divided into three main sections:

- Change Password - bobsusername**: Contains two password input fields labeled "New Password:" and "Confirm New Password:", both masked with dots. An "Apply" button is located to the right of the second field.
- User bobsusername Properties**: Contains a checkbox labeled "Allow remote access" which is currently checked. A "Change" button is located to the right.
- User bobsusername Privileges**: A table of checkboxes for various SQL privileges. The "Check All" and "Clear All" links are at the bottom left, and a "Change" button is at the bottom right.

User bobsusername Privileges		
<input checked="" type="checkbox"/> SELECT	<input checked="" type="checkbox"/> INSERT	<input checked="" type="checkbox"/> UPDATE
<input checked="" type="checkbox"/> DELETE	<input checked="" type="checkbox"/> CREATE	<input checked="" type="checkbox"/> DROP
<input checked="" type="checkbox"/> GRANT	<input type="checkbox"/> REFERENCES	<input checked="" type="checkbox"/> INDEX
<input checked="" type="checkbox"/> ALTER	<input checked="" type="checkbox"/> CREATE TMP TABLE	<input checked="" type="checkbox"/> LOCK TABLES
<input type="checkbox"/> CREATE VIEW	<input type="checkbox"/> SHOW VIEW	<input type="checkbox"/> CREATE ROUTINE
<input type="checkbox"/> ALTER ROUTINE	<input type="checkbox"/> EXECUTE	

< Database 'bobsdatabase'

To change the user's password type it into both password boxes and press **Apply**.

Selecting this radio button will allow users to connect to the database from other computers. Deselecting the radio button will restrict database access to users and applications running on this server only. Click **Change** to apply the new settings.

To alter the types of SQL operation that the user can perform select the required privileges and press **Change**. For more information on what the privileges mean see the chapter `GRANT` and `REVOKE` Syntax in the MySQL online manual.

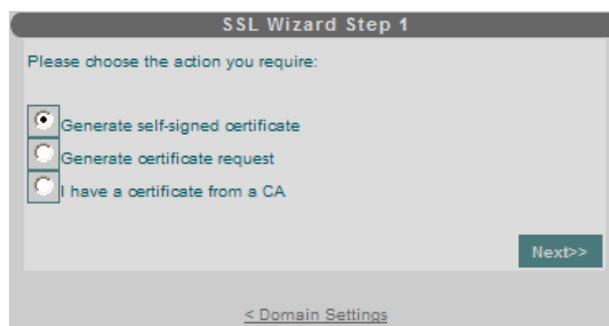
Adding SSL to a domain name



Important: Due to the way that SSL certificates work, you will need a separate IP address for each SSL certificate installed on your server.

Using this screen you can choose which type of SSL certificate you want to work with.

If you do not have a commercial certificate you can choose to generate a certificate request, which is the first step to obtaining one.




You can access this screen by going to your domain list, clicking on the cog next to the domain name, then clicking **Configure SSL**.

If you want to test SSL operation then you can generate a self-signed certificate. This may generate browser warnings about the Certificate Authority not being recognized but it will still work correctly.

Choose the option you require then press **Next**.

Creating a self signed SSL Certificate

On this screen you can enter the information required to generate a self-signed SSL certificate.



After you have filled in the required details press **Create** to generate the certificate and private key file. You will be taken back to the domain settings page.



Quick tip: To enable SSL for the domain, you will also have to select the SSL support radio button, located on the domain Web Settings panel.

Behind the scenes

The certificate and key files are stored in the `user/cert` directory of the domain the certificate was created for. Any existing key and certificate files are preserved with a '.bak' extension.

Creating a SSL Certificate signing request

You will need to generate a certificate signing request (CSR) before you can purchase a SSL certificate from one of the commercial vendors. Using this screen you can easily generate a CSR from the information entered. The vendor's instructions will explain how to send the CSR along with your application.

After you have filled in the required details press **Create** to generate the CSR.

Create Certificate Signing Request

Country Code (e.g. US)

State/Province/County

City/Town

Organisation

Unit/Dept.

Name (to appear on certificate)

E-mail address

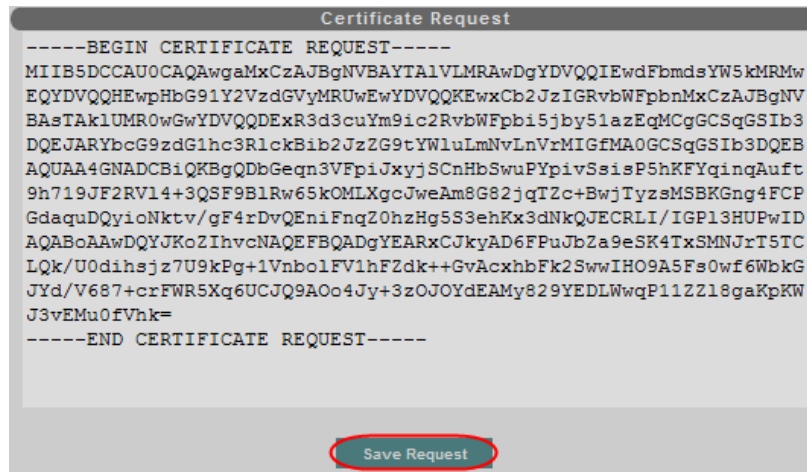
[< SSL Wizard](#)

After the CSR has been generated you will be taken to a screen where the *Certificate Request* and *Private Key* are displayed. You will need to send the CSR to your certificate authority.



Important: Your private key will be needed to enable SSL when you obtain your certificate.

Press **Save Request** to open a dialog box allowing you to save the certificate request file on your local machine.



Press **Save Key** to open a dialog box allowing you to save the private key file on your local machine.



Behind the scenes

The certificate request file and the private key are also written to the `user/cert` directory of the domain the certificate request was created for.

Installing a certificate from a certificate authority

This screen allows you to easily apply a server certificate bought from a certification authority (CA) to enable SSL for the domain.



Quick tip: Before you start you must have the private key used to generate the CSR, the server certificate, and (optionally) a chained certificate to identify the issuing authority.

Using a standard text editor such as notepad, paste the private key into the *Private Key* text box.



Important: The text must begin with -----BEGIN RSA PRIVATE KEY----- and end with -----END RSA PRIVATE KEY-----.

Paste the server certificate you have received from your CA into the *Certificate* text box.



Important: The text must begin with -----BEGIN CERTIFICATE----- and end with -----END CERTIFICATE-----.

If the certification authority you purchased the certificate from requires a "chained root" certificate to identify itself as a trusted authority, then you will need to paste the chained certificate into the *Root Certificate Chain (Optional)* text box.



Important: The text must begin with -----BEGIN CERTIFICATE----- and end with -----END CERTIFICATE-----.

When you have inserted the key and certificate(s), press **Apply** to setup the certificates. You will be taken back to the domain settings page.



Quick tip: To actually enable SSL for the domain, you will have to check SSL support: on the domain Web Settings panel and press **Change**.

Behind the scenes

The certificate and key files are stored in the `user/cert` directory of the domain the certificate was created for. Any existing key and certificate files are preserved with a '.bak' extension.

DNS Configuration

This screen allows you to manually add a new DNS zone, to edit an existing zone (e.g. to add new host entries) and to set default parameters for the creation of new zones.

The screenshot displays the DNS Configuration interface with three main sections:

- Add new zone (domain):** Contains a text input for 'Zone name (domain):', a text input for 'IP for default entries:' with the value '213.171.220.75', and an 'Add' button.
- Edit existing zone:** Features a 'Select zone to edit:' dropdown menu showing 'bobsdomain.co.uk' and 'another.domain.com'. Below the menu are 'Delete' and 'Edit' buttons.
- DNS Defaults:** Includes text inputs for 'Primary name server:' (ns1.bobsdomain.co.uk), 'Secondary name server (optional):' (ns2.bobsdomain.co.uk), and 'Administrator e-mail:' (root@jonisokisuppose.). A 'Change' button is located at the bottom right of this section.

At the bottom of the interface, there is a link labeled '< DNS Status'.

Add new zone (domain)

When you add a new domain to your server, a DNS zone will be automatically created. You can manually add a new zone to this domain if required. For example if you wish to provide DNS service for a domain hosted elsewhere.

Zone name (domain):

Is the name of the domain you wish to create the zone for, e.g. *domain-name.com*.

IP for default entries:

Is the IP address to use for the default entries in the new zone. The default entries are host records for the domain itself, 'www', 'ftp' and 'mail'.

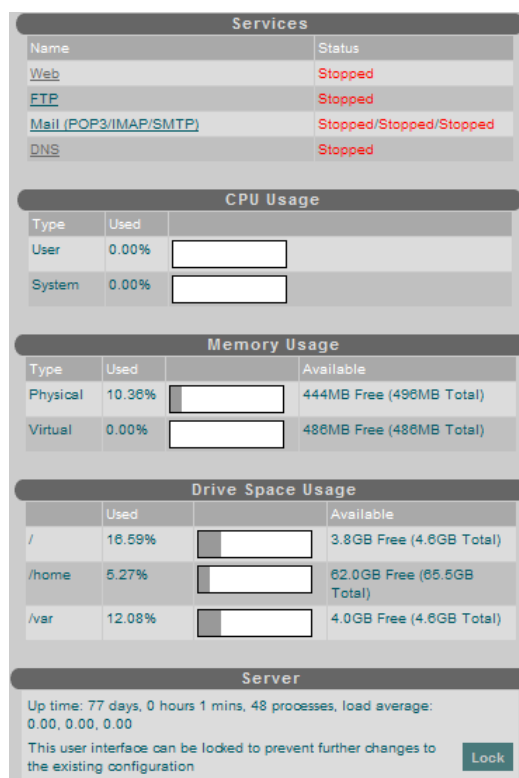
Edit existing Zone

To alter an existing zone, choose the zone name from the drop-down list and click Edit. To remove a zone, use the **Delete** button.

Administering your server

Server Status

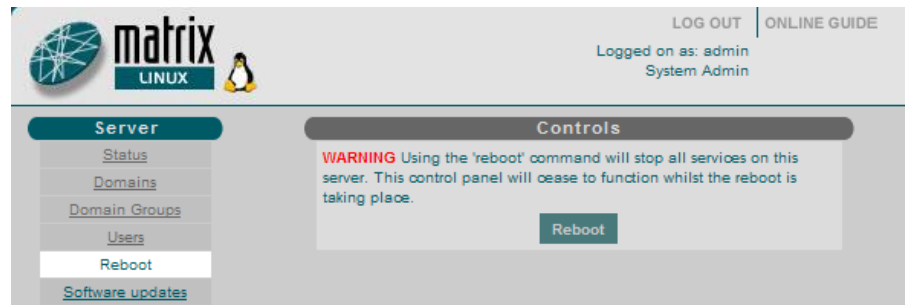
This screen provides a view of the status of the main internet services on the server (Web, FTP, Mail and DNS), CPU and Memory usage, as well as free disk space.



The user interface can be locked or unlocked using the button in the bottom right hand corner of the page. When the interface is locked, no changes can be made to the server configuration using the Matrix Control Panel. However, users can still log in and view status information.

Rebooting your server

Although there are a number of ways of rebooting your server, one method is through the Matrix control panel. If you need to reboot your server to fix a fault, or after an update, then it can be done from this page.



Press the **Reboot** button to reboot your server. You will be asked to confirm that you wish to reboot.

The Matrix Control Panel and all the other services on the appliance will be unavailable for a couple of minutes or so during the reboot process.

Software updates

From time to time, software updates will become available for your Matrix Control Panel. The Matrix Control Panel may be updated to provide new features, or certain core services may require security patches. Updates are automatically available from a central updates server.

As your server is based on Linux, most of the installed packages are standard Linux packages. The only exceptions are the following packages, which have been renamed with the suffix 'matrix' added to the package version:

Apache:

Apache has been built with suEXEC support under /home and with a small modification to allow suEXEC to work with Frontpage. The default httpd.conf file has been modified to load the Frontpage module if present.

kernel:

The Linux kernel has been rebuilt with ACPI support to allow your appliance to be easily and cleanly shutdown or rebooted by support staff.

pure-ftpd:

Although this is not a standard Linux package, the RPM available from pureftpd.org has been modified to include a default configuration file suitable for the Matrix Control Panel.

In addition the following packages are not available from standard Linux distributions:

matrixsa:

This is part of the Matrix control panel installed on your server.

apache-matrixsa:

This is a separate instance of Apache, built to be as small as possible and running on port 5555. It provides web access to the Matrix Control Panel.

Apart from the packages listed above *we will not normally supply errata or security updates for your appliance. For other packages, you should subscribe to the relevant Linux network or make your own arrangements for obtaining and installing updates.*



Important: You should exclude all apache* and kernel packages from being automatically updated.

It is very important to make sure your server is kept up-to-date with security patches, especially if you are allowing untrusted users to have SSH or CGI access.

Setup

At the top of the screen you will see the *Latest update information* panel. Here you can find up-to-date information on the latest packages available.

The screenshot shows the Matrix control panel interface. At the top, there is a header with the Matrix logo, a 'LOG OUT' button, and an 'ONLINE GUIDE' link. Below the header, there is a 'Logged on as: admin System Admin' status bar. The main content area is divided into two sections. On the left, there is a 'Server' section with links for 'Status', 'Domains', 'Domain Groups', 'Users', 'Reboot', 'Software updates', and 'Services'. On the right, there is a 'Latest update information' section with a message: 'Matrix control panel update available. Apache Matrix SA update available.' Below this, there is a 'Software Updates' table.

Group Name	Package Name(s)	Installed Version	Available Version	
Matrix SA	Web Admin	2.0-25	2.0-25	Re-install
Apache Matrix SA	Apache Matrix SA	1.3.37-1	1.3.37-1	Re-install

The *Software Updates* table lists all available packages. Individual packages are combined into groups (sometimes there may be only one package in a group) to satisfy installation dependencies. Sometimes one package may depend on another; for example the php-

mysql RPM depends on the php RPM and the mysql RPM. When you install or upgrade a package group using the web interface you can be sure that all dependencies have been satisfied.

There are two possible actions for a package group. These are:

Upgrade:

Indicates that newer versions of the packages in the group are available on the updates server, or that this is a new package not currently installed on the appliance. Press the **Upgrade** button to upgrade/install the packages.

Re-install:

Indicates that the packages in the group are already installed. If you are having a problem with a package in the group then choosing this option may fix it, as the original package files will be re-installed. Press the Re-install to action the process.

Troubleshooting

Sometimes you may need to use the command-line RPM tool to resolve issues or provide support information. Here are some useful rpm commands. They all assume you are logged into the appliance as root using SSH.

To find out if a certain package is installed on your server

```
rpm -qa | grep -i package-name
```



Quick tip: *package-name* should be the name of a package without any version information, e.g. *apache* and not *apache-1.3.27*.

To find out which package a file belongs to

```
rpm -qf /full/path/to/file
```

To list all the files installed by a package

```
rpm -ql package-name | less
```

To remove a package

```
rpm -e package-name
```

Sometimes when you want to remove a package you will get an error message saying that to do so would break dependencies. If you are certain you want to remove the package even if this means temporarily breaking another package, you can use

```
rpm -e --nodeps package-name
```

To install a new package from local storage

```
rpm -ivh package-name.rpm
```

To install a new package directly from the internet

```
rpm -ivh http://www.URL-of-package.rpm
```

DNS Defaults

These are the default parameters used in the SOA header records of newly added zones.

Primary name server:

The primary name server should be a host within the primary domain of this server.

Secondary name server (optional):

If you have access to a secondary name server which can be used to provide backup DNS for the domains on this appliance enter it here.

Administrator e-mail:

This should be a mailbox that is frequently read by the person responsible for maintaining DNS on the appliance. Any mail regarding the domain will be sent here.

DNS Zone editing

This screen allows you to easily edit a single DNS zone. Records can be added, modified or deleted using the GUI interface.

SOA (Start Of Authority)

Edit the values as required and then press **Modify** to apply changes.

another.domain.com SOA

Primary name server:	<input type="text" value="ns1.bobsdomain.co.uk"/>
Administrator e-mail:	<input type="text" value="root@jonisokisuppose."/>
Refresh Interval:	<input type="text" value="3H"/>
Retry Interval:	<input type="text" value="1H"/>
Expire:	<input type="text" value="1W"/>
TTL:	<input type="text" value="1D"/>

Modify

Name Servers(NS)

You can add, remove or edit the name servers for this zone.

Name Servers (NS)

<input type="text" value="ns1.bobsdomain.co.uk"/>	<input type="button" value="Change"/>	
<input type="text" value="ns2.bobsdomain.co.uk"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
<input type="text"/>	<input type="button" value="Add"/>	

Addresses

Use this table to add, remove or edit A record entries in the DNS zone.

Addresses (A)

Host (optional)	IP		
<input type="text"/>	<input type="text" value="213.171.220.75"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
<input type="text" value="www"/>	<input type="text" value="213.171.220.75"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
<input type="text" value="ftp"/>	<input type="text" value="213.171.220.75"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
<input type="text" value="mail"/>	<input type="text" value="213.171.220.75"/>	<input type="button" value="Change"/>	<input type="button" value="Delete"/>
<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>	

Aliases (CNAME)

Use this table to add, remove or edit CNAME entries in the DNS zone.

Aliases (CNAME)

Alias Host	Target	
<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>

Mail Exchangers (MX)

You can choose to have multiple MX records for a domain name. Choose a priority from the drop-down list when adding or modifying a MX record.

Behind the Scenes

The master configuration file for the DNS server (BIND) is `/etc/named.conf`. Individual zone files are kept in `/var/named`.

If you wish to modify zone files by hand any changes made should be picked up by the Matrix Control Panel. However, if you need to add entries not understood by the Matrix control panel, you can add them between the lines marked `; Start custom entries` and `; End custom entries` in the zone files.

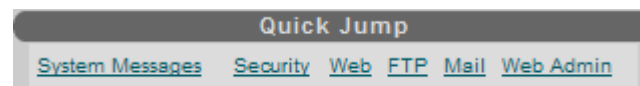
Event logs

This screen allows you to select and view system event logs. These logs can contain important information about the status of your server appliance and are useful for troubleshooting.

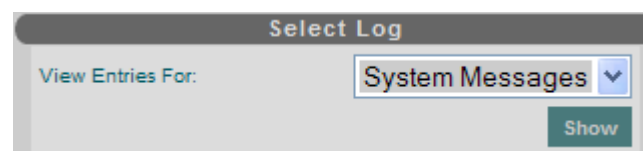
The *Web Admin* log keeps a record of actions performed on your Matrix server. For each entry the *Web Admin* log shows a timestamp, category, level (usually INFO), the user who performed the action and the action itself.

Setup

To jump straight to one of the common logs, click on one of the *Quick Jump* links. Logs are displayed with the newest entries at the top.



For a full selection of log types, use the drop-down list in the Select Log panel. Click on the name of the log you wish to view then press **Show**.



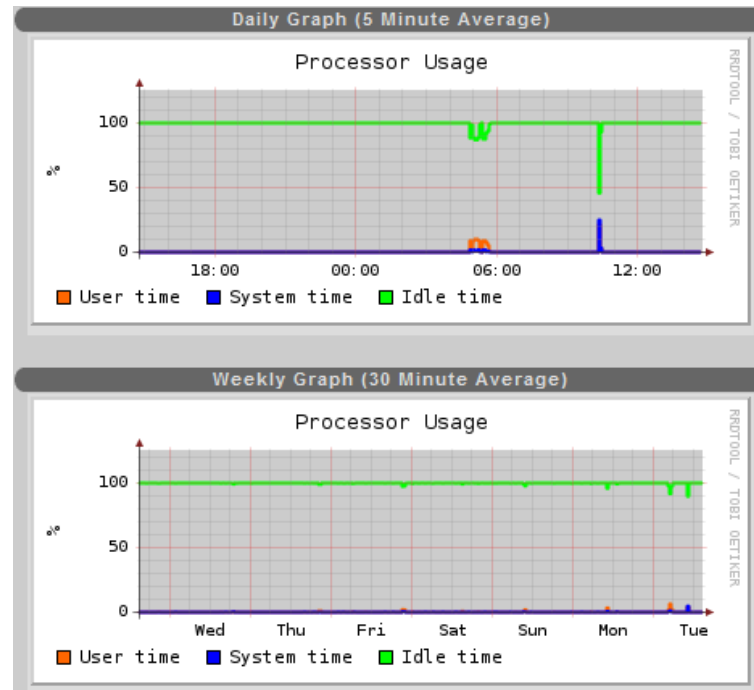
Behind the scenes

If you need to view historic log information or search across logs, you will find them in the `/var/log` directory on your appliance. System Apache logs are held in the `/var/log/httpd`

directory (domain Apache logs are held in the `user/logfiles` directory of each domain).

CPU Usage Graphs

These graphs allow you to see processor usage on your server. Current usage is shown along with historical data for trend analysis.



There are four graphs covering one day, one week, one month and one year. Current time is at the right-hand edge of the graphs.

Usertime:

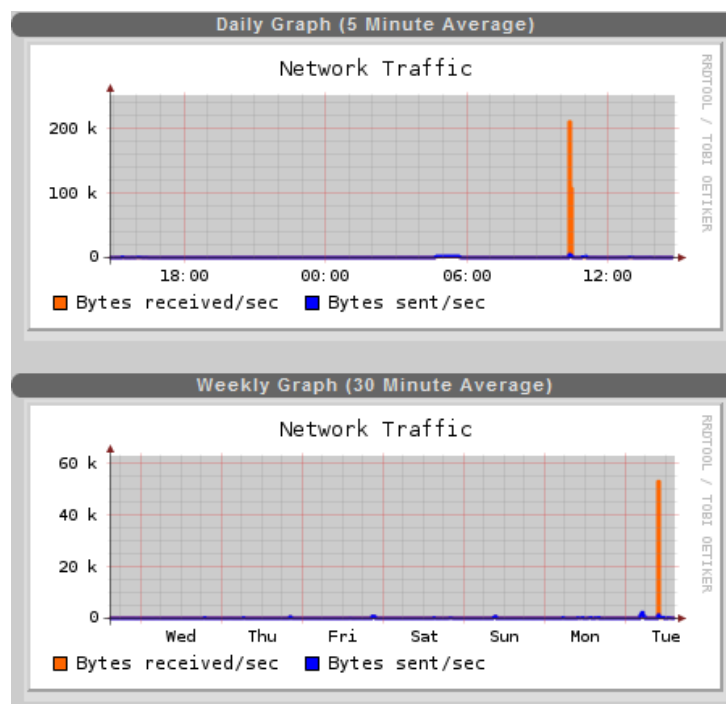
The percentage CPU utilisation by user programs. If the *User time* value is constantly 100% this could indicate that the appliance is overloaded or that a process has become 'stuck' looping and may need to be manually killed.

System time:

The percentage CPU utilisation by kernel/system operations, usually file or network I/O.

Network usage graphs

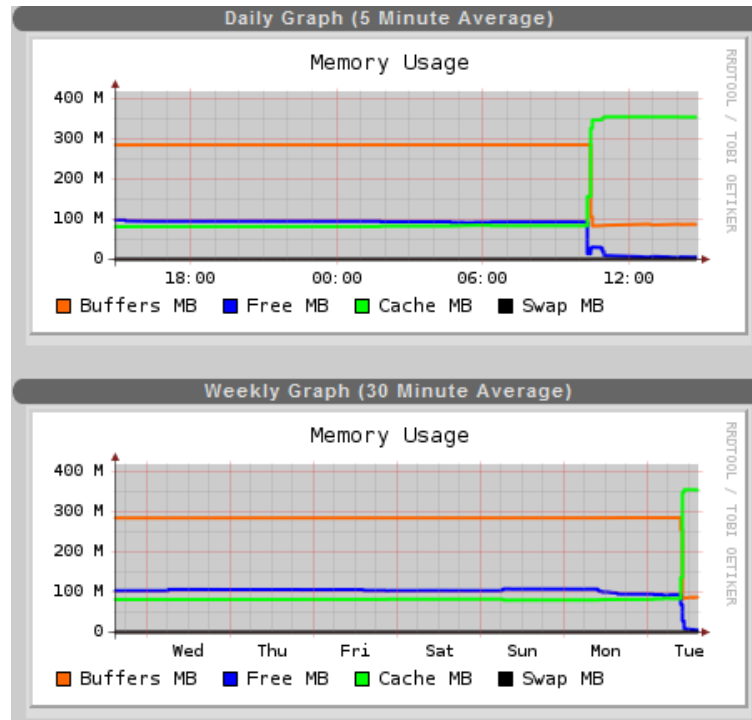
These graphs allow you to see how many bytes have been sent and received through the network interfaces on your appliance. Current usage is shown along with historical data for trend analysis.



There are four graphs covering one day, one week, one month and one year. Current time is at the right-hand edge of the graphs.

Memory usage graphs

These graphs allow you to see how memory is being used on your appliance. Current usage is shown along with historical data for trend analysis.



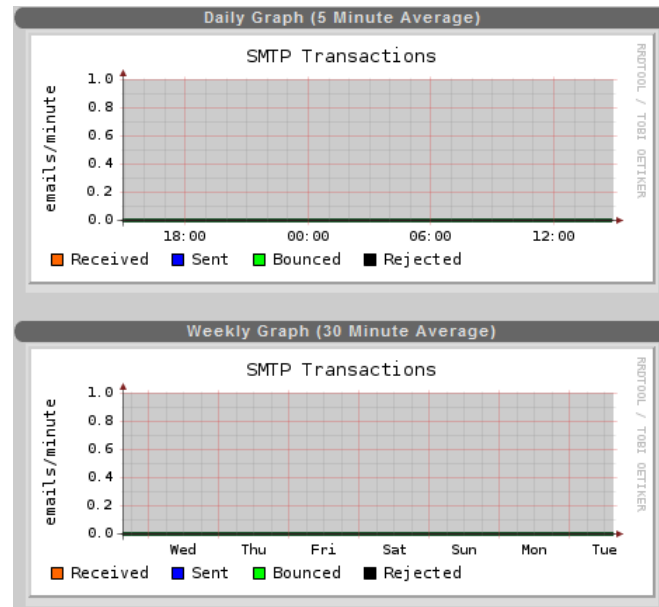
There are four graphs covering one day, one week, one month and one year. Current time is at the right-hand edge of the graphs.

The Linux kernel tries to use memory not required by programs to cache files and for internal buffers. This means it is normal for the amount of free memory to be small, but have significant memory used for buffers and cache.

If you see a lot of swap memory in use then it is possible that your appliance is running too many processes.

Mail usage graphs

These graphs show SMTP server usage. Current usage is shown along with historical data for trend analysis.



There are four graphs covering one day, one week, one month and one year. Current time is at the right-hand edge of the graphs.

The plots show the following types of transaction:

Received

The number of emails received by the SMTP server.

Sent

The number of emails sent out by the SMTP server.

Bounced

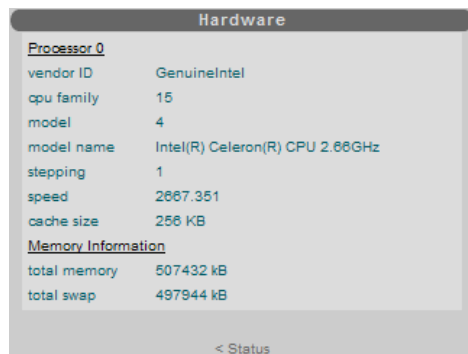
Bounced emails are those that cannot be delivered by the server, perhaps because a mailbox is full or because the next server in the chain has rejected the message.

Rejected

Emails are rejected when they are sent from or to a domain that has relay access denied.

System Information

This screen displays information about the CPU and memory installed in your server.



The screenshot shows a window titled "Hardware" with two sections: "Processor 0" and "Memory Information".

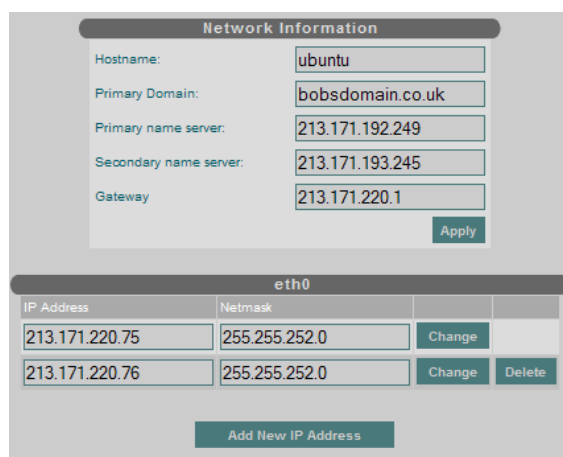
Processor 0	
vendor ID	GenuineIntel
cpu family	15
model	4
model name	Intel(R) Celeron(R) CPU 2.66GHz
stepping	1
speed	2667.351
cache size	256 KB

Memory Information	
total memory	507432 kB
total swap	497944 kB

At the bottom left of the window is a link "< Status".

Network Configuration

This screen lets you set the main network configuration parameters for the appliance.



The screenshot shows a window titled "Network Information" with several input fields and a table for IP addresses.

Fields:

- Hostname: ubuntu
- Primary Domain: bobsdomain.co.uk
- Primary name server: 213.171.192.249
- Secondary name server: 213.171.193.245
- Gateway: 213.171.220.1

An "Apply" button is located to the right of the Gateway field.

Below these fields is a section titled "eth0" containing a table:

IP Address	Netmask		
213.171.220.75	255.255.252.0	Change	
213.171.220.76	255.255.252.0	Change	Delete

At the bottom of the "eth0" section is a button "Add New IP Address".



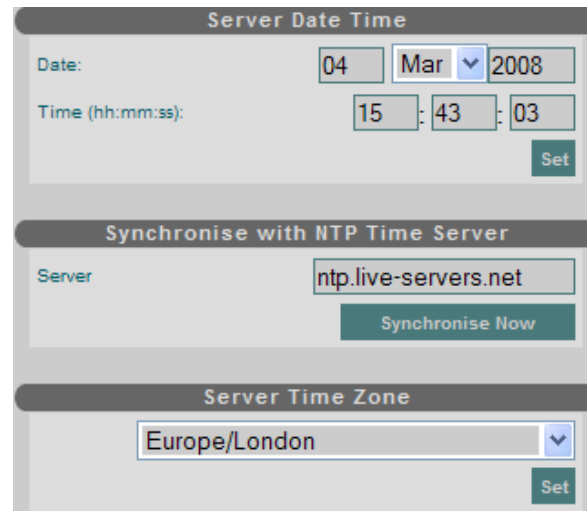
Important: The network interface and gateway settings should not be changed without authorisation from your ISP.

The *Primary Domain* field should match the domain of the DNS server host being added to DNS records. Both the primary domain and the name server host domain will default to the first domain added to the appliance and should not need to be changed.

The (optional) *Secondary name server* can be set to point to a DNS server which will be used for DNS lookups by system services should the primary DNS server be unavailable.

Date and time configuration

Through this screen you can set the date, time and timezone for your dedicated server.



The screenshot shows a web interface for configuring the server's date and time. It is divided into three sections: 'Server Date Time', 'Synchronise with NTP Time Server', and 'Server Time Zone'. In the 'Server Date Time' section, the date is set to 04 Mar 2008 and the time is 15:43:03, with a 'Set' button. The 'Synchronise with NTP Time Server' section has a text box for the server address containing 'ntp.live-servers.net' and a 'Synchronise Now' button. The 'Server Time Zone' section has a dropdown menu showing 'Europe/London' and a 'Set' button.

The easiest and most accurate way to ensure your server is always at the correct time is to use NTP. To specify a NTP server, enter its hostname or IP address in the *Server* box and press Synchronise Now. Lists of public time servers are available on the internet, at <http://www.eecis.udel.edu/~mills/ntp/servers.html>

Troubleshooting

You should set your server time to be approximately correct before setting up NTP, as NTP will not correct large initial errors.

To check if NTP is working properly, log in using SSH and issue the following command:

```
/usr/sbin/ntptrace
```

If NTP is set up correctly you should see a chain of servers listed, starting with the local host, and leading to a stratum 1 server. It is normal to see the output `0.0.0.0: *Not Synchronized*` for up to an hour after setting a new NTP server, while synchronization takes place.

Alerts

Your Matrix server allows you to set up alerts which send out emails if warning or failure conditions occur on the appliance.

Name	Status	Reset	Enable
CPU usage	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Memory usage	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Disk space on /	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Disk space on /home	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Disk space on /var	N/A	<input type="checkbox"/>	<input type="checkbox"/>
web server	N/A	<input type="checkbox"/>	<input type="checkbox"/>

Alert EMail Addresses

Apply

This screen lets you turn alerts on or off individually, view current alert status and reset alerts.

To activate or de-activate one or more alerts use the checkboxes next to the desired alert type(s) and press **Enable**.

Each alert will fire only once per day unless it is reset. To reset an active alert (indicated by a yellow exclamation mark in the status column), click the Reset checkbox next to it and press the Reset button.

Some alerts have configurable parameters, for example you can set the minimum free space for disk space alerts. To change parameters, click on the *Name* of the alert you wish to modify.

Alert Email Addresses

Should be entered one-per-line in the edit box. The addresses can be local to the appliance or remote. Alert messages will be sent to all of the addresses listed.