Regulatory Sequence Analysis Tools
Web server installation

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Contents

1 Description

This documents describes the installation procedure for the web server of the **Regulatory Sequence Analysis Tools** (*RSAT*).

It assumes that you already installed the perl scripts and the genomes, as described in the *RSAT* installation guide.

2 Installing a local web server

The Regulatory Sequence Analysis Tools include a web server, which offers a user-friendly interface for biologists. The main server is available for academic users at *http://rsat.ulb.ac.be/rsat/*. A few additional mirrors have been installed in different countries.

2.1 Web server pages

The web pages are located in the directory *rsa-tools/public_html*. This directory contains both the HTML pages, and the CGI scripts.

2.2 Configuration of the Apache server

In order to provide web access to the rsa-tools, you need to adapt the configuration of your web server. This requires root privileges (system administrator).

The detailed settings depend on your web server program. We provide here an example of typical settings for the Apache server (the most widely used web server).

In summary, the configuration includes the following steps.

1. Open the apache configuration file */etc/httpd/httpd.conf*

2. Specify an alias for rsa-tools in the appropriate section.

   ```
   Alias /rsa-tools "/home/myaccount/rsa-tools/public_html/"
   ```

3. Associate .cgi extension to CGI scripts

   Make sure the following line is present in the config file. If the server has not yet been configured, the line is commented, and you need to remove the # character before it.

   ```
   AddHandler cgi-script .cgi
   ```

4. Give authorization to execute CGI scripts in the rsa-tools directory

   ```
   ScriptAlias /rsa-tools/ "/home/myaccount/rsa-tools/public_html/
   ```

5. Specify the access options for the rsa-tools directory.

```
<Directory "/home/myaccount/rsa-tools/public_html">
    AllowOverride None
    Options ExecCGI Indexes
    Order allow,deny
    Allow from all
</Directory>
```

These are the basic steps to configure the web access to **RSAT**. Depending on your operating system, you probably need to specify some additional settings. For example, on the Max OSX version of Apache server allows to define a user-specific configuration in the directory */etc/httpd/users*.

Note that you need to restart the werb server for these changes to take effect.

2.3   Editing the configuration file for the *RSAT* server

If you want to install a web server, you need to edit two variables on the file *RSA.config*. Open this file with a text editor, and specify the variables $config\_site$ and WWW_RSA according to your local configuration.

2.4   testing the web server

To test the werb server, open a web browser and connect your **RSAT** server
http://www.myserver/rsa-tools/
(of course you need to adapt the URL according to your IP address).
If the connection works, try to execute the demonstration of the following pages.

retrieve-seq to test the correct installation of genomes.

oligo-analysis to test the correct installation of background oligonucleotide frequencies.

feature-map to test the correct installation of the graphical librairies.

3   Managing a local web server

3.1   Access logs

Each time a script is executed via the **RSAT** server, some basic information is stored in a log file. This information is minimal: it is restricted to the time, name of the script executed, and the IP address of the client machine. We do not want to store any additional information (e.g. selected organism, lists of genes), for obvious confidentiality reasons.

The log files are saved in the directory *rsa-tools/logs*. There is one file per month.

3.2 Cleaning the temporary directory

The web server stores result files in a temporary directory *$RSAT/public_html/tmp/*.
These files should remain 3 days on the server, in order to allow users to consult their
results.

3.2.1 Manual cleaning

The **RSAT** package includes a make script to clean old files in the temporary directory.

```
cd rsa-tools
make -f makefiles/server.mk clean_tmp
```

This command cleans all the files older than 3 days. You can clean more recent
files by modifying the variable CLEAN_DATE.

```
make -f makefiles/server.mk clean_tmp  CLEAN\_DATE=1
```

This will clean all files older than 1 day.

3.2.2 Automatic cleaning

The automatic management of the temporary directory can be greatly facilitated the
crontab command. For this, you need to add a command to your personal `crontab`
configuration file.

1. Start to edit the crontab command file

   ```
   crontab -e
   ```

   This will open your *crontab* file with your default text editor (this default editor
   can be specified with the environment variable EDITOR or VISUAL).

2. Add the following line to the *crontab* file.

   ```
   02 04 * * * make -f /home/myaccount/rsa-tools/makefiles/server.mk clean_tmp
   ```

   This will execute the make script *server.mk*, with the target `clean_tmp`, every
   day, at 04:02 AM.

3. Save the modified crontab file and close your text editor.

In principle, you will receive an email from **crontab** each time the command is
executed.