



Specimen Image Database

Install Instructions

The following install instructions are suitable for both windows and UNIX machines. SID uses relatively little processing power and should thus work on the vast majority of modern processors. If using a machine capable of multi threading, you may be able to install multiple versions of Imagemagick to allow for much quicker image production.

SID requires the following to be installed on your machine:

- A web server.
- PHP (>4.3.0, although with slight modification will work with earlier versions).
- MySQL (>3.23.54, not tested on earlier versions).
- Imagemagick (Latest version recommended).
- Ghostscript (GNU Ghostscript >7.06).

If you already have all of the above installed you may skip to section 2.

Installing Required Components

Apache

During development of SID which was done on a machine running Windows NT and a machine running Red Hat 8, an apache web server was used. This is a very reliable server that is open source and free to use.

1. Download the latest version of Apache from <http://www.apache.org>, choose between version 1.3 or 2.0.
2. Install this on the computer that you intend to use for serving SID. There is no need to alter any of the default settings with this.

PHP

PHP has been used for its power and speed in producing dynamic HTML content and also for its ease of programming to exchange data with the MySQL server.

Windows instructions:

1. Download the latest version of PHP from <http://www.php.net>. Download the zip package and NOT the installer (This installs the CGI version of PHP and not the required module version).
2. Extract the archive to a suitable directory, I recommend c:/php/
3. Move the file 'php4ts.dll' to the %WINDOWS%/system32 directory.
4. Create the directory 'c:\php\session'
5. Move the file 'php.ini-dist' to the %WINDOWS% directory and rename it 'php.ini'
6. Edit the created 'php.ini' with the following information:

```
doc_root = "c:\program files\Apache Group\Apache\htdocs\  
extension_dir = "c:\php\sapi\  
session.save_path = "C:\php\session"
```

Both of these depend upon the exact install of Apache, and where you placed the PHP directory.

7. Locate the 'httpd.conf' file, which should be located in the following directory:

```
c:\program files\Apache Group\Apache2\conf\
```

Add the following two lines to the file.

```
LoadModule php4_module c:/php/sapi/php4apache2.dll  
AddType application/x-httpd-php .php
```

Also, change the directive for htaccess files to: AllowOverride All. (Just search for the first occurrence of htaccess in the file).

8. Set the SMTP server to the SMTP server of your local LAN or ISP. If you are running an SMTP server on the install computer, use that.

```
SMTP = [your smtp server]  
sendmail_from = sid@[your domain]
```

9. If Apache was already started, restart it. It is a good idea to now test the PHP and Apache install. Copy the provided 'test.php' script into the doc_root directory, and then access the server from a web browser (<http://localhost> or 127.0.0.1 from the install computer). You should see a number of tables with details about the installed versions of PHP and your web server etc.

UNIX instructions:

Because of the different flavours of UNIX available, I recommend referring to the PHP website for exact install instructions. It will also be necessary to set the values as above.

MySQL

MySQL has again been used due to the fact that it is open source software and thus completely free. It is not a perfect relational database, but is more than adequate for our purposes. We have tested SID with versions of MySQL as early as 3.23.54, which means if you already have MySQL you may not have to upgrade.

1. Download the latest version of MySQL from <http://www.mysql.com>.
2. Install this fully using the installer.
3. There is no need to change this from the standard install.
4. Run the file C:\mysql\bin\winmysqladmin.exe or mysqladmin.exe, and follow the prompts.
5. I recommend you change the root password IMMEDIATELY. This is a potential source of attack for the website.
 - a. Open a command prompt in the mysql/bin directory.
 - b. At the prompt type the following: `mysql -u root mysql`
 - c. This should start the MySQL monitor, where you can type the following to set a password:

```
SET PASSWORD FOR root@localhost =PASSWORD('[new_password]');
```

Imagemagick

Imagemagick is again a freely available program. It offers very diverse facilities for image manipulation, conversion and displaying. I recommend installing the latest version of Imagemagick in order to get the full performance benefits (image conversion is one of the slower aspects of the sites functionality).

1. Download the latest version of Imagemagick from <http://www.imagemagick.org>. If using windows I recommend downloading the Q16 package. This will ensure full compatibility with all images uploaded to your website (Scientific images often have colour depths greater than 32 bit – 48 or 64 bit TIFFs are readily produced by many microscope cameras).
2. Install this fully using the installer.
3. Ensure that the convert path is set. This is done by the installer. However, if using an earlier version you may have to do this manually. Information on this can be found at:

<http://www.annoyances.org/exec/forum/win2000/t1044990943>

Ghostscript

Ghostscript is required by Imagemagick for the annotation of images and also for the addition of copyright text. Exact details can be found on the Imagemagick website.

1. The GNU version of Ghostscript is required. This can be downloaded from http://sourceforge.net/project/showfiles.php?group_id=1897.
2. Install this and the provided fonts.

All the software should now be installed and ready to use.

Setting up the database

MySQL once installed has a default user with all privileges allowed. You MUST change this and add a password before commencing. Without doing this your database and other databases you put on the MySQL server could be open to attack from malicious users. The process for doing this is outlined above.

Once this has been done you can set up the tables using the 'setup.sql' file provided.

1. Start the MySQL monitor from the command prompt (Assuming you have set the password you will have to type `mysql -u root -p`).
2. Copy the file 'setup.sql' to the `mysql/bin` directory.
3. Enter the following at the `mysql` prompt:
`source setup.sql`
4. This should set up the tables as required.
5. If you are setting up a new database go to step 6 else carry out the following
 - a. Copy the file with the sql data in it (probably `dump.sql`) to the `mysql/bin/` directory
 - b. Enter the following at the `mysql` prompt:
`source dump.sql`

6. Next the 'user.sql' file must be altered to the desired details of you the administrator. Open the file and change the settings for password, username, e-mail, forename, surname, institution and address. These are the values between the square brackets (You should also remove the square brackets).
7. Copy the file to mysql/bin/.
8. Enter the following at the mysql prompt:
source user.sql

This should have successfully setup the database with the administrator.

PHP Scripts

1. Copy the contents of the directory www to the web_root (or to the intended directory for SID).
2. Open the file include/variables.inc and change the details within it (Full instructions are given in the file).
3. Open the file id/.htaccess and change the first line (again instructions are given)

Finished

Your database should now be setup and ready to use. I recommend that you add extra mage types before commencing.