



# Wacs Programming Guide

Eleventh Edition

for WACS 1.0.0

B "Beaky" King

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by B "Beaky" King

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## Abstract

WACS is a tool for building Adult Web Sites; it is equally suitable for managing a private collection or building a commercial web site. It has many best of breed features including dynamic filtering, model catalogs, automatic download and powerful search engine. It comes with a powerful API (application programming interface) implemented in both Perl and PHP5 languages to allow web developers to leverage it's facilities from their own programs.

This book describes the application programming interface provided by WACS, and how to utilise it from perl and Php languages. It provides an extensive introductory tutorial with a large number of worked example programs as well as a complete API reference manual. Additionally it provides a schema reference for the WACS database tables as understanding the fields available to you is central to writing programs that utilise it. The intended audience is web developers and WACS site managers who wish to tailor an existing WACS installation to meet their precise requirements; people merely wishing to use or manage an existing WACS installation may well find the default configurations provided suffice.

The WACS source code and other documentation and support tools can all be found at the WACS website at Sourceforge [<http://wacsip.sourceforge.net/>] and on the WACS page at Launchpad.net [<https://launchpad.net/wacs/>]. The WACS demonstration site can be found at PinkMetallic.com [<http://www.pinkmetallic.com/>] - the site will initially be free but a charge maybe applied later to help fund additional content. Commercial add-ons and support options can be purchased from Bevttec Communications Ltd, see their website at Bevttec Communications [<http://www.bevteccom.co.uk/>].

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# Part I. WACS API Programming Tutorial

This part of the WACS Programming Guide is designed to introduce you to programming using the WACS API - examples will be given in both Perl and PHP5 dialects so you can choose to work in either language.

Chapter 1, *Introduction*

Chapter 2, *Basics: Getting Started*

Chapter 3, *Using More Database Fields*

Chapter 4, *Set Display Routines*

Chapter 5, *Making The Right Selections*

Chapter 6, *The User Interface Toolkit*

Chapter 7, *Wacs-PHP: The Skins*

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# Chapter 1. Introduction

## Overview

Welcome to WACS, Web-based Adult Content Server, a free software package for the management of material of an "Adult Nature" (or basically whatever euphemism for porn you prefer). It is web-based and can be used for the management of an existing collection, as a download manager, or as a back-end system for running a commercial adult web site. It is dramatically different from most other image gallery systems in that it understands photo sets and video clips as basic concepts, instead of single photographs. It also includes far more specialised tagging, source, relationship and attribute marking concepts than other more generalised systems. WACS' abilities in the areas of searching and dynamic filtering are really industry-leading in their power and flexibility.

## About This Book

This electronic book, the WACS Programming Guide, is designed to act both as an introduction to programming with the WACS API in either perl or PHP, and as a reference volume for both the API itself and the database schema. This book assumes you already have a basic knowledge of programming in your chosen language (PHP5 or perl5) and have some understanding of databases and in particular SQL (Structure Query Language). Some familiarity with WACS at a user level would also be a distinct advantage, and I'd strongly recommend working through the companion user guide first - who knows it might give you some ideas about neat extra features you can add to your own site. All documentation for WACS is available both within the distribution and from the WACS Web Site at Sourceforge.net [<http://wacsip.sourceforge.net/>].

It is important to stress that *ALL* of the collection management tools are implemented in Perl and the PHP interface is an optional addition to, not an alternative to, the core Wacs system which is perl based. Given the relative youth of the WACS system, php5 has been selected for the implementation to save future porting efforts as it is expected that php5 or later will be the minimum common standard by the time Wacs reaches 1.0. There is no intention to support older dialects of php at this point.

As the WACS software package is Open Source, we're always looking for contributions; if you create a site design (or prototype for one) which you don't end up using, maybe you would consider donating it to the repository of sample *WACS Skins*. We can always substitute our own artwork into already written web application code.

## About The Examples

For copyright/licensing reasons, the example images feature sets from photoshoots by the main developer of WACS (Beaky) and a friend of his. These sets are available for download from the WACS demonstration site at PinkMetallic.com [<http://www.pinkmetallic.com/>] - *CAUTION: contains adult material!* Access to this site is currently free but we may have to levy a small charge in the future if referral and donations don't reach the hoped-for amount.

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# Chapter 2. Basics: Getting Started

## Outline

In this chapter we're going to talk about the basic first steps in making use of the WACS API from your own programs. We're going to assume that you've got a WACS server you can use up and running; that you know where things are on it and that you have appropriate write access to the web document tree (if you're working in PHP) or the cgi-bin directory (if you're working in Perl). Hopefully you'll have both some models and a few image sets known in the WACS system to work with. For these first code examples, you could merely load the sample model profiles we've provided in the `samples` directory of the WACS distribution.

While the finished code of the sample programs featured here is available in the `samples` directory of the WACS Core distribution (for the Perl version) or the WACS-php distribution (for the PHP5 version), you may wish to type it in as you go along as an aid to learning how to use the interface. If you do, we'd recommend calling this file `mysimple` for perl, or `mysimple.php` for PHP. For consistency, we're going to put the PHP dialect first and then the Perl dialect in each of the examples.

The basic structure of your first WACS application will consist of five steps; these are:

1. import the WACS API modules
2. read configuration and check access rights
3. initialise the database connection
4. run an appropriate database query
5. retrieve records and display them

## A First WACS Program

### Modules: Importing

The very first step is to import the WACS API modules into your program file along with those standard modules needed to access the database. These files should be in the right location already and should just be found without any additional specification of where they are.

#### Example 2.1. WACS Module Import

```
require_once "wacs.php";  
  
$wacs = new Wacs;
```

The same code segment implemented in perl looks like:

```
use Wacs;  
use DBI;
```



### Tip

The PHP interface requires an *Object Handle* to use when accessing the WACS module which we're simply calling `$wacs`. Perl doesn't need such a construct - there is simply the one instance.

You will note that in Perl we import a database abstraction library called **DBI** that allows us to make connections to and ask questions of an external relational database. In **Php** there is a very similar system available called **PDO** (Php Data Objects) but it is normally included by default and is installed as a part of the language itself using the *extensions mechanism*.



### Note

In past times, we used to use an external module called **DB.php** but this had become unreliable and we have re-written all the code to use **PDO**. You might still find occasional examples that reference it.

## Configuration And Security

The second step is to read the standard WACS configuration file to find out where everything is, and then check that this user is allowed to access the WACS system. This is a two step process, and the reading of the configuration file must be done first; otherwise WACS doesn't know where to look for the security files it needs to determine whether this user should be given access or not.

### Example 2.2. Config and Security

```
// read the Wacs configuration files  
$wacs->read_conf();  
  
// check the auth(entication and authorisation) of this user  
$wacs->check_auth( $_SERVER['REMOTE_ADDR'], 1 );
```

and here is the same thing again in the perl dialect:

```
# read the Wacs configuration files  
read_conf;  
  
# check the auth(entication and authorisation) of this user  
check_auth( $ENV{"REMOTE_ADDR"}, 1 );
```

## Initialising Database Connection

The third step is to initialise the database connection. Since some databases require an environment variable to determine where their configuration files have been stored, this needs to be set first. Wacs provides

for this and this code will create that environment variable, if needed, and then proceed to establish the database connection itself.

### Example 2.3. Database Connection Initialisation

```
// database initialisation
// - establish environment variable
$dbienv = $wacs->conf_get_attr("database","dbienvvar");
if( ! empty( $dbienv ) )
{
    putenv($dbienv."=".$wacs->conf_get_attr("database","dbienvvalue"));
}
// - connect to the database
try {
    $dbhhandle= new PDO(
        $wacs->conf_get_attr("database","phppdoconnect"),
        $wacs->conf_get_attr("database","dbuser"),
        $wacs->conf_get_attr("database","dbpass" ) );
}
catch( PDOException $e )
{
    die("Can't connect to database\nReason:". $e->getMessage. "\n");
}
```

and here's how we do it in perl:

```
# database initialisation
# - establish environment variable
$dbienv = conf_get_attr( "database","dbienvvar" );
if( $dbienv ne "" )
{
    $ENV{$dbienv}= conf_get_attr( "database","dbienvvalue" );
}
# - connect to the database
$dbhandle=DBI->connect( conf_get_attr("database","dbiconnect"),
    conf_get_attr("database","dbuser"),
    conf_get_attr("database","dbpass" ) ||
die("Can't connect to database\nReason given was $DBI::errstr\n");
```

OK, let's just study this code for a moment. It first calls the WACS API function **conf\_get\_attr** with the section parameter of *database* as it wants database related configuration information, and an argument of *dbienvvar*. The WACS API function **conf\_get\_attr** is short for *configuration get attribute* and returns the value of the configuration file parameter of that name or it's default value. The *dbienvvar* means *database interface environment variable*. A typical value for this might be something like `ORACLE_HOME` which is the environment variable that Oracle 10g and 11i requires to be set in order to find it's current configuration.

The next line of the code checks to see if we got back an actual variable name (eg `ORACLE_HOME`) or an empty string (ie nothing). If we were given a valid variable name, then we're going to need to set it the value it should be, which again we can get from the configuration file, this time called *dbienvvalue* which is short for *database interface environment value* (as distinct from the *variable* name we just looked

up). A likely value for this might be `/usr/local/oracle`. Obviously if we're given no variable name to set, there's no point looking for a value for it! Conversely we are assuming that having bothered to name the variable in the configuration file, also put in a valid value for it - this code could break if the variable name is specified but not its value.

The second section of these code segments is to do with the establishment of a connection to the database and is a little different between the two versions. Both systems use a handle for the database connection, which we call `$dbhhandle` - imaginative name huh? In both cases the respective database APIs provide a way to open the connection to the database and return us the handle we will use for future actions. In the Php case, we create a new *object* of type PDO with the necessary three parameters to make the connection. In Perl we simply call the **DBI connect** function with those same three pieces of information.

These three pieces are: the database specification, the username and finally the password. The configuration file knows these as `phppdoconnect` or `dbiconnect`, `dbuser` and `dbpass` respectively.

The final bit copes with putting out some kind of error message, at least showing the point of failure, if we are unable to establish a connection to the database. The methods are very slightly different, but the effect is very much the same between the two versions.



### Tip

Note that you might wish to have completed the output of the HTML header section and started the body by this point so that should the database connection fail, the error message will be visible. We will show you how to present the error to the user in a better way later on.

## Fetching Some Records

The next step in the process is to use the database connection we've established to actually make a request of the database. For now don't worry about what that request is or how we've written it - we'll come back to that topic in detail later in this chapter.

Look at the mechanics of how we're issuing the request and getting back the results. What we're going to ask the database for is a list of those girls who are marked as *Favourite Solo* models. We chose this because all three of the models in our current samples directory are marked as this and so even if you only have our sample records loaded, you should find some matches.

### Example 2.4. Database Query

```
// do db select
//           0         1         2         3
$query = "select mname, modelno, mbigimage, mimage from ".
        $wacs->conf_get_attr("tables", "models").
        " where mflag = 'S' order by mname";
$cursor = $dbhhandle->prepare( $query );
$cursor->execute();
```

And the perl version pretty much the same:

```
# do db select
#           0         1         2         3
```



```
$query = "select mname, modelno, mbigimage, mimage from ".
         conf_get_attr("tables", "models").
         " where mflag = 'S' order by mname";
$cursor = $dbh->prepare( $query );
$cursor->execute;
```

In both cases we're putting together an SQL query that reads:

```
select mname, modelno, mbigimage, mimage
from models
where mflag = 'S'
order by mname
```

This query asks the database to fetch the four named items: `mname`, `modelno`, `mbigimage`, and `mimage` from the database table called `models` where the field `mflag` has a value of the capital letter `S` and to sort the results it returns to us by the value in the field called `mname`. It may not surprise you to learn that `mname` is the model's name, `modelno` is our reference number for her, `mbigimage` is the (location of the) large size headshot of her and `mimage` is the (location of the) smaller size headshot of her.

You may have noticed that the only part of this that wasn't copied verbatim from the code is the `from models` bit and that there we've used the WACS API call `conf_get_attr` to get the actual name of the database table concerned from the main WACS configuration file. This is actually important and it's strongly recommended that you do use this form when creating SQL queries. If you really insist on knowing why, take a look at the section on the tables part of the `wacs.cfg` configuration file in the WACS configuration guide.

Once we've created the SQL query, we feed it to the database routines. The first step is to pass in the SQL query and have the database perform that search on the database. Once the query has been executed, we want to pull back the matching records (or rows in database parlance) for each model. In both Php and Perl we're calling a routine that returns to us a single row from the database (a single model's record in this case) each time it's called. When we run out of records, a null return is given and our while loop ends. In Php, the function to do this is called `fetch` which returns the next row in the way we request. Here we ask for it to be returned to us as an array of values by specifying `PDO::FETCH_NUM`. We assign this array of values into the variable `$results` each time. In Perl, the function we're using is called `fetchrow_array` because perl gives us the choice of how we want the data returned to us in the name of the function. There are other function names in perl that provide other layouts of the data - a `PDO::FETCH_ASSOC` argument to `fetch` in php is much the same as using `fetchrow_hashref` in perl.



### Note

There are other approaches to getting back the data, including having it returned in one big lump - this has been avoided as some WACS installations have tens of thousands of matching records for some queries. It is good practice and perfectly OK to handle one record at a time and the database routines can cope well with this.

## Showing The Results

The final step is to actually generate some output from the data we've fetched from the database. We're going to do this as an unordered list in HTML, so we're going to be adding a little formatting to the output as we retrieve each record.

## Example 2.5. Outputting The List

```
print "<ul>\n";
while( $results = $cursor->fetch(PDO::FETCH_NUM) )
{
    print "<li>";
    print "<a href=\"". $wacs->conf_get_attr("server", "cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    print $results[0]. "</a></li>\n";
}
print "</ul>\n";
```

and here's the perl version...

```
print "<ul>\n";
while( @results = $cursor->fetchrow_array )
{
    print "<li>";
    print "<a href=\"". $conf_get_attr("server", "cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    print $results[0]. "</a></li>\n";
}
print "<ul>\n";
```

We start off by printing out the HTML instruction to start an unordered list (<ul>) in a line on it's own. We then start a while loop which goes through each entry until it's done them all. Both versions use the database cursor object (\$cursor) to fetch the next record (aka row) from the database using the **fetch(PDO::FETCH\_NUM)** or **fetchrow\_array** method and assigning it into the array \$results (or in perl @results). The act of the assignment fails when there are no more records to fetch and the while loop will terminate. The construct here is based upon the fact that both languages have seperate operators for assignment (=) and comparison (== and eq) and so the code is unambiguous (at least to the php and perl interpreters it is!).

Once inside the body of the while loop we print out the start of list entry tag (<li>) and start in on making use of the data. In the quest to make this example a little bit more satisfying, we've tried to make sure this application does something vaguely useful. A simple list of names is all well and good, but we wanted it to actually *do* something! So what we've done here is to create a link around each models name that points to her model page as displayed by the standard WACS tools. The raw HTML to achieve this would look like:

```
<a href="http://www.mywacsserver.com/cgi-bin/wacsmphthumbs/123">
Sarah</a>
```

So we're left with a slight problem here in that we don't know in advance (trust me on this) what the WACS server is called, we don't know what the models are called and we don't know what their numbers are. We have no idea if we have a model number 123 or not and whether she's called Sarah; but the WACS system should be able to fill in all the blanks for us.

The first part of the code merely prints out the start of the HTML <a href=" "> and then we ask the WACS configuration system what it's externally visible URL for cgi-bin programs is. We do this using the **conf\_get\_attr** call again, telling it we want an answer in the section *server* of the URL for cgi scripts aka *cgiurl*. On the next line of the example we put the name of the WACS application we want to link to, in this case **wacsmphthumbs**. Since the way we tell **wacsmphthumbs** what we want it to look up is to add a slash and then the model number to the URL, we add a slash (/) on the end and then the number.



## Tip

You may have noticed that we added a comment on the line above the SQL select statement with 0,1,2,3 with each number above the field name in the query. This was a shorthand to ourselves to remind us what the index number in the array is for each of those database fields.

Since the order of the fields we asked for was `mname`, `modelno`, `mbigimage` and then `mimage`, the results in the array will be the same - element 0 will be the `mname`, element 1 will be the model number, and so on. In both cases we're dealing with a single-dimensional array. The first field we want to go into the URL for `wacsmodelthumbs` is the model number, so that will be element 1 (not zero) therefore we write `$results[1]`. We then finish off the URL reference by closing the quotes (") and the `>` tag.

We then want to print the model's name which will be element 0 in our arrays, put out the closing anchor tag (`</a>`) and then finish off the unordered line entry with the end line tag (`</li>`). We then print out a new line so the generated page is easier to read. The moving on to the next record will be done as a by-product of the test for the next iteration around the while loop. Once we exit the loop, we finish off the HTML unordered list.

## Finishing Off

To just finally finish it off, we need to add a few more pieces just to make it work. For the PHP version, we need to declare it as being a PHP program with `<?php` at the very start of the file, with a matching `?>` at the very end. For Perl, we need to declare it as a Perl script with the very first line being just `#!/usr/bin/perl`. Additionally for Perl, we need to output the mime content type declaration so that the web browser knows what kind of object it's being passed - this is done simply with:

```
print "Content-Type: text/html\n";
print "\n";
```

Next we need a couple of lines of HTML preamble near the beginning (as mentioned before, just before the database connection code so we could see any error message that appears):

```
<html>
<head>
<title>MySimple: Index Of Favourites</title>
</head>
<body>
```

Similarly at the end, we just need to finish the page off with the HTML tail piece:

```
</body>
</html>
```

## Putting It All Together

With all the components in place, let's review the new MySimple WACS program in its entirety. We include the modules, initialise the configuration system, check the authorisation, connect to the database, draft the query, submit it and then loop through the results. Not really that complex now we know what each part does. Anyway here's the finished code....

**Example 2.6. Php: Complete Simple Program**

```
<?php
// MySimple - sample WACS API program (PHP5)
require_once "wacs.php";
$wacs = new Wacs;
// read the Wacs configuration files
$wacs->read_conf();
// check the authentication and authorisation of this user
$wacs->check_auth( $_SERVER['REMOTE_ADDR'], 1 );
// start the HTML document
print "<html>\n";
print "<head>\n";
print "<title>MySimple: Index Of Favourites</title>\n";
print "</head>\n";
print "<body>\n";
// database initialisation
// - establish environment variable
$dbienv = $wacs->conf_get_attr("database","dbienvvar");
if( ! empty( $dbienv ) )
{
    putenv($dbienv."=".$wacs->conf_get_attr("database","dbienvvalue"));
}
// - connect to the database
try {
    $dbhandle= new PDO(
        $wacs->conf_get_attr("database","phppdoconnect"),
        $wacs->conf_get_attr("database","dbuser"),
        $wacs->conf_get_attr("database","dbpass" ) );
}
catch ( PDOException $e )
{
    die("Can't connect to database\nReason:".$e->getMessage()."\n");
}
// do db select
//           0         1         2         3
$query = "select mname, modelno, mbigimage, mimage from ".
        $wacs->conf_get_attr("tables","models").
        " where mflag = 'S' order by mname";
$cursor = $dbhandle->prepare( $query );
$cursor->execute();
// output the results
print "<ul>\n";
while( $results = $cursor->fetch(PDO::FETCH_NUM) )
{
    print "<li>";
    print "<a href=\"".$wacs->conf_get_attr("server","cgiurl");
    print "wacsmphumbs/".$results[1]."\>";
    print $results[0]."</a></li>\n";
}
print "</ul>\n";
// finish off
print "</body>\n";
```

```
print "</html>\n";
?>
```

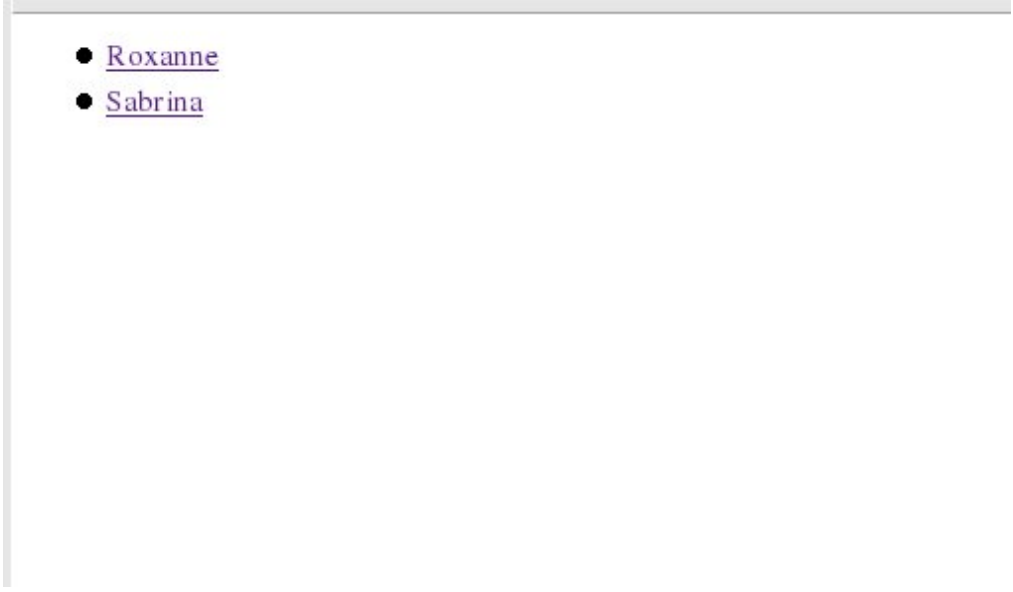
### Example 2.7. Perl: Complete Simple Program

```
#!/usr/bin/perl
#
# MySimple - Sample WACS Program (Perl)
#
use Wacs;
use DBI;
# read the Wacs configuration files
read_conf;
# check the auth(entication and authorisation) of this user
check_auth( $ENV{"REMOTE_ADDR"}, 1 );
# output the HTML headers
print "Content-Type: text/html\n";
print "\n";
print "<html>\n";
print "<head>\n";
print "<title>MySimple: Index Of Favourites</title>\n";
print "</head>\n";
print "<body>\n";
# database initialisation
# - establish environment variable
$dbienv = conf_get_attr( "database","dbienvvar" );
if( $dbienv ne "" )
{
    $ENV{$dbienv}= conf_get_attr( "database","dbienvvalue" );
}
# - connect to the database
$dbhandle=DBI->connect( conf_get_attr("database","dbiconnect"),
                        conf_get_attr("database","dbuser"),
                        conf_get_attr("database","dbpass" ) ||
die("Can't connect to database\nReason given was $DBI::errstr\n");
# do db select
#           0           1           2           3
$query = "select mname, modelno, mbigimage, mimage from ".
        conf_get_attr("tables","models").
        " where mflag = 'S' order by mname";
$cursor = $dbhandle->prepare( $query );
$cursor->execute;
print "<ul>\n";
while( @results = $cursor->fetchrow_array )
{
    print "<li>";
    print "<a href=\"".conf_get_attr("server","cgiurl");
    print "wacsmphumbs/". $results[1]. "\">";
    print $results[0]. "</a></li>\n";
}
print "<ul>\n";
```

```
# finish off
print "</body>\n";
print "</html>\n";
```

## Running MySimple

Our first WACS application is now complete, so copy the file into the either the web server document tree (for Php) or the web server cgi-bin directory (for perl). When you call up the URL, you should see something like this....

- 
- [Roxanne](#)
  - [Sabrina](#)

Granted it's fairly plain, but the names are in alphabetical order and there are links on each name to that girl's model page. If you didn't see any output, or got an error, you need to check the error log for the server you're using. With Apache on linux, the usual location of this is `/var/log/httpd/www.mywacserver.com-errorlog` or something similar to that.

## Reviewing The First Program

This has been a fairly long and intense chapter, but we obviously had a lot of ground to cover and we really wanted to achieve a usable program before the end of it. This hopefully we've done. We've seen how to include the WACS module and the Database interface module. We've seen how to use `read_conf` and `check_auth` to read the configuration files and check the user's credentials. We've then made multiple uses of `conf_get_attr` to get all of the information together we need to make a connection to the database.

After all that setup procedure, which will become a very familiar template as you program with the WACS API, we looked at creating and sending a query to the database, retrieving the results and formatting those results as a simple web page. In the next chapter, we'll look at how to make use of other information stored within the database.

---

# Chapter 3. Using More Database Fields

## Adding Model Icons

In the simple example in the last chapter, we saw how to create a list of model's names with hypertext links on each name to that model's standard WACS model page. Obviously that's not a particularly presentable page by itself, so the next step is to add a head shot for each model to the links.

We actually already paved the way for doing this by including the two headshot image fields in the results we asked for from the SQL query - if you remember, we put:

```
select mname, modelno, mbigimage, mimage
```

Since we have the data already, all we need to do now is to add a few extra statements to the output section to output an appropriate image tag and we'll have included the model's headshot too. We have a configuration attribute in the **server** section of the configuration file called **siteurl** that tells us where the site specific WACS web elements area can be found on the WACS server. Standard size model headshots are conventionally found in the `modicons/` directory directly below the top level. So all we need to do is add in a call to `conf_get_attr` to get it and build the appropriate HTML `img` tag. In PHP we'd write:

```
print "<img src=\"".$wacs->conf_get_attr("server","siteurl");  
print "modicons/".$results[3]."\\" alt=\"[".$results[0]."]\">";
```

and in perl we'd write:

```
print "<img src=\"".$conf_get_attr("server","siteurl");  
print "modicons/".$results[3]."\\" alt=\"[".$results[0]."]\">";
```

this needs to be done just below the line that establishes the link to the model's WACS model page, but before her name (you could put it after if you prefer) and closing `</a>`.

### Example 3.1. Modified Output Loop with Model Headshot Code

```
while( $results = $cursor->fetch(PDO::FETCH_NUM) )  
{  
    print "<li>";  
    print "<a href=\"".$wacs->conf_get_attr("server","cgiurl");  
    print "wacsmphumbs/".$results[1]."\\">";  
    print "<img src=\"".$wacs->conf_get_attr("server","siteurl");  
    print "modicons/".$results[3]."\\" alt=\"[".$results[0]."]\">";  
    print $results[0]."</a></li>\n";  
}
```

and in perl this now looks like:

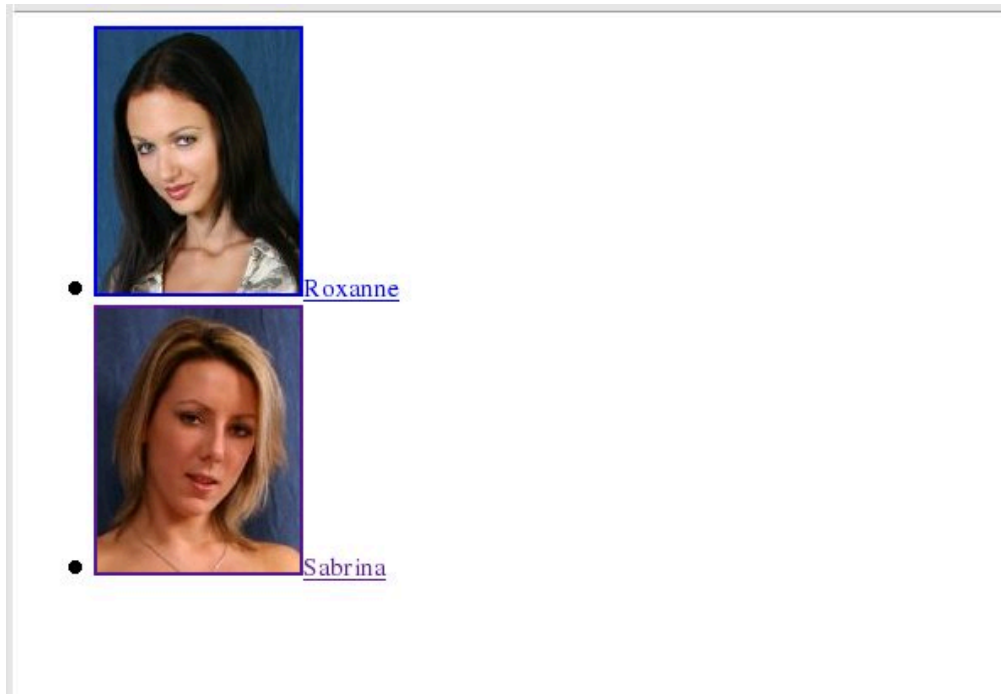
```
while( @results = $cursor->fetchrow_array )  
{  
    print "<li>";
```

```

print "<a href=\"".conf_get_attr("server","cgiurl");
print "wacsmphumbs/". $results[1]. "\">";
print "<img src=\"".conf_get_attr("server","siteurl");
print "modicons/". $results[3]. "\" alt=\"[".$results[0]."]\">";
print $results[0]. "</a></li>\n";
}

```

We then copy up the modified version of the program and run it and we should see something like this:



## More Model Information

The WACS database does of course carry far more information about the model than just her name and icons, so for the next step we're going to look at adding a few basic pieces of information about her to each entry. The first step is to add some additional fields to the list of what we want returned by the SQL query. Initially we're going to add another five fields: they are `mhair`, `mlength`, `mtitsize`, `mnsets` and `mnvideos`. These database fields give us her hair colour, length, the size of her breasts and the number of images sets and videos we have by her respectively. The modified version of the query looks like:

### Example 3.2. Modified SQL command for more Model Info

```

// do db select
//           0         1         2         3         4
$query = "select mname, modelno, mbigimage, mimage, mhair, "
//           5         6         7         8
//           "          mlength, mtitsize, mnsets, mnvideos from ".
//           $wacs->conf_get_attr("tables","models").
//           " where mflag = 'S' order by mname");
$cursor = $dbh->prepare( $query );
$cursor->execute();

```



in php.



## Note

We've added a second line of comments with the element numbers within the array that the returned database field will appear in; mlength will be index 5 for instance.

The same code in perl will look like:

```
# do db select
#           0       1       2       3       4
$query = "select mname, modelno, mbigimage, mimage, mhair, ".
#           5       6       7       8
#           "           mlength, mtitsize, mnsets, mnvideos from ".
#           "           conf_get_attr("tables","models").
#           " where mflag = 'S' order by mname";
$cursor = $dbh->prepare( $query );
$cursor->execute;
```

## Using HTML tables

The next step is to modify the display loop to include the extra details and in this case it probably makes sense to switch to using an HTML table cell to contain and manage the entry. We'll start off by simply re-writing the existing display loop to build the results into an HTML table instead - once we have that working, we'll restyle the table to include the extra fields we just added to the query. There is no actual requirement to make use of all the fields we've requested.

Lets have a look at the structure of the HTML document we're outputting here: First we need to open the new table, then each model will have her own row as we go through with the headshot image on the left and her name on the right, and finally we'll finish off the table. The HTML (minus the links) to do this will look something like:

```
<table>
  <tr>
    <td></td>
    <th>Kaz B</th>
  </tr>
  <tr>
    <td></td>
    <th>Roxanne</th>
  </tr>
  <tr>
    <td></td>
    <th>Sabrina</th>
  </tr>
</table>
```

Of course the next step is to re-write the code to actually recreate the necessary HTML; the start and end of the table simply replace the unordered list (<ul> and </ul> ) tags outside the loop that iterates through the list of models returned by the database. The list element (<li> and </li>) tags get replaced by the row start and end tags (<tr> and </tr>). Since we're putting the headshot icon and the name in separate elements and want a link to the appropriate model page on both of them, we need to double up the code

that creates the hypertext link to wacsmphthumbs. We then include the icon (with alignment attributes) in a standard table tag ( `<td>` and the name in a heading (`<th>`) table tag so it comes out in bold and is centred.

The mysimple example thus re-written will look like:

### Example 3.3. New version of the loop using tables

```
// output the results
print "<table>\n";
while( $results = $cursor->fetch(PDO::FETCH_NUM) )
{
    // start the HTML table row
    print "<tr><td valign=top align=center>\n";
    // link around the headshot image
    print "<a href=\"". $wacs->conf_get_attr("server","cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    // head shot image
    print "<img src=\"". $wacs->conf_get_attr("server","siteurl")";
    print "modicons/". $results[3]. "\"[" . $results[0]. "]" "\"></a>\n";
    // end this cell and start the next
    print "</td><th>\n";
    // link around name
    print "<a href=\"". $wacs->conf_get_attr("server","cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    // the name
    print $results[0]. "</a>\n";
    // end the HTML table row
    print "</th></tr>\n";
}
print "</table>\n";
// finish off
```

and re-writing the same function in perl gives us something like:

```
# output the results
print "<table>\n";
while( @results = $cursor->fetchrow_array )
{
    # start the HTML table row
    print "<tr><td valign=top align=center>\n";
    # link around the headshot image
    print "<a href=\"". conf_get_attr("server","cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    # head shot image
    print "<img src=\"". conf_get_attr("server","siteurl")";
    print "modicons/". $results[3]. "\"[" . $results[0]. "]" "\"></a>\n";
    # end this cell and start the next
    print "</td><th>\n";
    # link around name
    print "<a href=\"". conf_get_attr("server","cgiurl")";
    print "wacsmphthumbs/". $results[1]. "\">";
    # the name
```

```

        print $results[0]."</a>\n";
        # end the HTML table row
        print "</th></tr>\n";
    }
    print "</table>\n";
    # finish off

```

When run, this modified version of the script should produce the following:



As you can see, this has improved the layout somewhat over the previous version using just unordered list elements. These days we would probably actually use an extensive structure of `div` elements to identify the various parts and then style and lay them out using the CSS (Cascading Style Sheets) file. Although old, the tables mechanism is a much simpler way to start out with laying out data. Now to add those extra fields....

## Adding The Model Details

To display some more details about the model, we're going to span the headshot on the left hand side over several rows, and add the model details themselves as additional table rows on the right hand side. Our first change therefore is to add `rowspan=4` to the options on the image container `<td>` tag. The resulting php code is:

```

// start the HTML table row
print "<tr><td rowspan=4 valign=top align=center>\n";
// link around the headshot image

```

and in perl reads:

```

# start the HTML table row

```

```
print "<tr><td rowspan=4 valign=top align=center>\n";
# link around the headshot image
```

Next we add the second row which will include her hair colour and length, then a third row which will describe her breast size and the fourth row that gives the number of image sets and the number of videos we have for her.


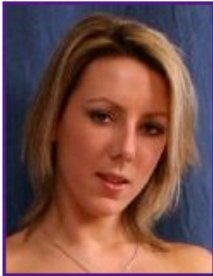
### Example 3.4. Adding Model Information

```
// end the HTML table row
print "</th></tr>\n";
// do the second row (her hair)
print "<tr><td>hair: ";
print $results[5]." ".$results[4];
print "</td></tr>\n";
// do the third row (her breasts)
print "<tr><td>breasts: ";
print $results[6]."\n";
print "</td></tr>\n";
// do the fourth row (her sets)
print "<tr><td>sets: ";
print $results[7];
if( $results[8] > 0 )
{
    print " videos: ".$results[8];
}
print "</td></tr>\n";
```

and the same implemented in perl would look like:

```
# end the HTML table row
print "</th></tr>\n";
# do the second row (her hair)
print "<tr><td>hair: ";
print $results[5]." ".$results[4];
print "</td></tr>\n";
# do the third row (her breasts)
print "<tr><td>breasts: ";
print $results[6]."\n";
print "</td></tr>\n";
# do the fourth row (her sets)
print "<tr><td>sets: ";
print $results[7];
if( $results[8] > 0 )
{
    print " videos: ".$results[8];
}
print "</td></tr>\n";
}
```

With these changes made, if you now run this version of the program, which is called **mysimple4** in the `samples/programming` directory, you should see something like this:

	<p><u><a href="#">Roxanne</a></u></p> <p>hair: Long Dark Hair</p> <p>breasts: Small</p> <p>sets: 8 videos: 1</p>
	<p><u><a href="#">Sabrina</a></u></p> <p>hair: Shoulder B londe</p> <p>breasts: Small</p> <p>sets: 5</p>

There's obviously a lot more room for using many more of the fields within the model schema for further improvement of our model index, and we'll return to this subject in a later chapter (Chapter 6, *The User Interface Toolkit*). Before we leave the topic of models and move on to sets, we will cover just one more topic, that of adding rating icons.

## Adding Other Icons

One of the significant features of WACS is its ability to include various attribute icons within pages to make specific aspects and attributes easier to recognise. While many of them need some additional logic to handle their display, a few of them like the model's rating and country of origin are actually fairly simple to use. We're going to take a quick look at how we'd use the WACS API to include the rating icons before moving on to look at how we handle sets. We will return to the more complex cases later when we look at the User Interface toolkit API.

For the model's rating, we need the field called `mrating` so the first step is to add this to the list of fields that we select from the database:

```
// do db select
//           0           1           2           3           4
$query = "select mname, modelno, mbigimage, mimage, mhair, ".
//           5           6           7           8           9
//           "          mlength, mtitsize, mnsets, mnvideos, mrating ".
//           "from ".$wacs->conf_get_attr("tables","models").
//           " where mflag = 'S' order by mname";
$cursor = $dbhandle->prepare( $query );
$cursor->execute();
```

and in perl the change makes this section read:

```
# do db select
#           0         1         2         3         4
$query = "select mname, modelno, mbigimage, mimage, mhair, ".
#           5         6         7         8         9
#           "          mlength, mtitsize, mnsets, mnvideos, mrating ".
#           "from ".conf_get_attr("tables","models").
#           " where mflag = 'S' order by mname";
$cursor = $dbh->prepare( $query );
$cursor->execute;
```

With the rating field now in the data returned to us by the database, we can move down and update the display section to make use of it. The first step needed is to change the `rowspan` setting from 4 to 5 to accommodate the extra line of output.

```
// start the HTML table row
print "<tr><td rowspan=5 valign=top align=center>\n";
// link around the headshot image
```

and in perl...

```
# start the HTML table row
print "<tr><td rowspan=5 valign=top align=center>\n";
# link around the headshot image
```

The final step is to add the processing of the `mrating` field. All WACS icons are typically stored in the `glyphs/` directory which is within the web server document tree. To find its exact URL, you use the `conf_get_attr` function to retrieve the value `iconurl` in the section `server`. Within this directory, you will find five files called `rating-1.png` through `rating-5.png` which look like this:



To make use of this we need to first test our data to see if we have a valid ratings value at all, then merely concatenate a string to create the necessary icon reference. In perl, this will look like this:

### Example 3.5. Adding A Rating Icon

```
print "</td></tr>\n";
// add the rating icon (if we have a value)
print "<tr><td align=center valign=top>";
if( $results[9] > 0 )
{
    print "<img src=\"";
    print $wacs->conf_get_attr("server","iconurl");
    print "rating-".$results[9].".png\">";
    print " alt=\"[".$results[9]." out of 5]\">";
}
else
{
    print "no rating";
}
print "</td></tr>\n";
```



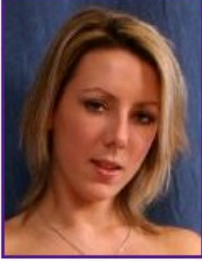

while the same example in perl, would look like this:

```

print "</td></tr>\n";
# add the rating icon (if we have a value)
print "<tr><td align=center valign=top>";
if( $results[9] > 0 )
{
    print "<img src=\"".conf_get_attr("server","iconurl").";
    print "rating-".$results[9].".png\"";
    print " alt=\"[".$results[9]." out of 5]\>";
}
else
{
    print "no rating";
}
print "</td></tr>\n";
}

```

Once you've put in these three changes, you can run the resulting script and expect to get an output something like this:

	<p><b><u>Roxanne</u></b></p> <p>hair: Long Dark Hair</p> <p>breasts: Small</p> <p>sets: 8 videos: 1</p> 
	<p><b><u>Sabrina</u></b></p> <p>hair: Shoulder Blonde</p> <p>breasts: Small</p> <p>sets: 5</p> 

At this point we're hopefully beginning to get a rather more satisfying display of model details. Obviously there are many other tweaks we might like to add, and we'll return to some of those later on when we look at the User Interface Toolkit and the routines that provides. There is however one more thing we really should cover now - what happens when something goes wrong.



### Note

One final point to make before we leave this topic is that although we have kept things simple by putting the name of the target application in the HTML code we create, this will not actually work in all cases. It is therefore better to use **conf\_get\_attr** to ask for where

each application is rather than just assume. We will cover this later on but it is an **apps** area request and we want to know the URL of **wacsmthu** which is an abbreviated name for **wacsmphthumbs**. We will cover this again in the chapter on the UI module (Chapter 6, *The User Interface Toolkit*).

## Improving Error Reporting

One of the most important things in good website engineering is ensuring that when things fail, it's handled gracefully with some kind of reasonable error message returned to the user, and that the event is logged properly in the system error logs. There are basically four ways in which a WACS application is likely to fail - authentication, failure to parse the configuration files, and failure to connect to the database, and failure to find the content.

The authentication failure is pretty conclusively covered by the core WACS `check_auth` function and it's partners. The parser is rather more tricky to cope with, and the XML parse routines tend to just abort - it's also very all or nothing; the file parses or it doesn't. Additionally once a configuration file is in place, it's unlikely to become corrupted; if it's merely disappeared the defaults will be used and the system will most likely have problems at the next stage of connecting to the database. The third is connecting to the database, which we'll deal with in a moment. The fourth, failure to find content, doesn't result in completely blank screens and should get reported to you quite quickly. Additionally there are so many places it could be (raid partition, lvm volume, remote fileserver) that we can't really do much in a general way.

Where we can get some traction is with decent reporting of database connection problems, and this where the `dberror` function comes into play. Previously, if we failed to connect to the database we did the following in php:

```
try {
    $dbhhandle = new PDO(
        $wacs->conf_get_attr("database", "phppdoconnect"),
        $wacs->conf_get_attr("database", "dbuser"),
        $wacs->conf_get_attr("databsae", "dbpass") );
}
catch( PDOException $e )
{
    die("Can't connect to database\nReason:".
        $e->getMessage()."\n");
}
```

and the similar steps in perl were:

```
$dbhhandle=DBI->connect( conf_get_attr("database","dbiconnect"),
                        conf_get_attr("database","dbuser"),
                        conf_get_attr("database","dbpass") ) ||
die("Can't connect to database\nReason given was $DBI::errstr\n");
```

To improve this, we're going to change this (called **mysimple6** in the example code) to use the `dberror` function instead. This is a routine that uses named parameters, a technique we'll see a lot more of later as we use the `WacsUI` programming library. Basically we pass it up to five arguments or parameters, but we tell it what each one is, thus the order doesn't matter and if any of them are missing, it doesn't affect the values of the others. The `dberror` routine expects parameters called: **header**, **message**, **error**, **dbuser** and **dbhost**.

The **header** is to tell the routine how early in the proceedings we are and whether we still need to start the HTML of the web page. Setting **header** to `y` says we do want a header added, setting it to `n` says we



don't. The next one, **message** is the message that the end user will see. The next three are the error message returned by the database routines, the username it was trying to use, and the database connect string it was trying to use. Here is the code for doing this in PHP:

### Example 3.6. Calling `dberror` for better error reporting

```
...
catch( PDOException $e )
{
    $wacs->dberror( array(
        "header"=>"y",
        "message"=>"MySimple6: Can't connect to database",
        "error"=>$e->getMessage(),
        "dbuser"=>$wacs->conf_get_attr("database", "dbuser"),
        "dbhost"=>$wacs->conf_get_attr("database", "phppdoconnect")
    ));
}
```

while the same basic code in perl looks a little simpler because the parameter names don't need to be *packaged up* into an array before they're passed:

```
$dbhhandle=DBI->connect( conf_get_attr("database", "dbiconnect"),
                        conf_get_attr("database", "dbuser"),
                        conf_get_attr("database", "dbpass") ) ||
dberror( header=>'n',
        message=>"Can't connect to database",
        error=>$DBI::errstr,
        dbuser=>conf_get_attr("database", "dbuser"),
        dbhost=>conf_get_attr("database", "dbiconnect") );
```

With the error reporting improved, we'll move on to other things. We'll continue to use the short form version of the error message for brevity in the later examples, but you'll know that you probably want to actually use `dberror` in most cases.

Additionally if you look at the `mysimple6/mysimple6.php` example code in the `samples` directory, you will find that this final example uses `conf_get_attr("apps", "wacsmthu")` to get the URL for the **wacsmphumbs** page. Next up, we'll take a look at displaying set details rather than those of models....

---

# Chapter 4. Set Display Routines

## About Set Display

So far we've looked at displaying the information in the models table in the database, but of course there is also the small matter of sets without which whole thing wouldn't have much point. In this chapter we're going to look at displaying details of the sets, and then towards the end of the chapter, how to tie models and sets together.

In most of these examples, we're going to use the standard WACS tools to actually display the details of the sets themselves, but you should be aware that there are several special functions within the WACS User Interface toolkit that do this rather better. We will meet these, which are called **iconlink**, **thumblink** and **contentlink** in a later chapter. You can of course write your own web apps or functions to do this should you wish to as well. In most cases we'll throttle the examples to only show a first few sets from the databases and assume you'll develop your own strategies for paginating and sub-dividing the sets in real world applications.

## Sets: The Basic Bones

Since we're starting a new application, we'll start from scratch with the basic bones which we'll call **setdisp**. Much of the basic structure of this program should be getting quite familiar by now. The same five basic steps are to be found here - bring in the modules, initialise them, set up the database connection, submit the query and loop through the results outputting them.

What we're setting out to do in this script is to display a list of the latest additions of image sets marked as being of category flag type T which means they're solo sets involving toy usage. This we achieve by requesting only sets of type I which means image sets and of category flag type T.



### Tip

The full lists of recommended values for the type and category flag can be found in the schema reference section at the back of this book in Chapter 13, *Schema Reference: Sets*.

The basic format is that we once again create an HTML table with a row for each record. There's a link on the name of the set that leads to the standard WACS page display program **wacsindex**. This takes a number of URL arguments but the one we're using here is to prefix the set number with `page` which puts it into paged display mode and appended with a `.html` so that it saves correctly and in some cases will get cached. We're shrinking the font in which it's displayed as it can be quite a long line of text in it's stored form (but more on that topic later).



### Tip

**wacsindex**'s URL is given by the **apps** section of the configuration attributes under the name **wacsindex**.



### Note

The SQL query itself looks after the ordering of the output; the `order by sadded desc` retrieves the entries in the reverse order in which they were added - the database field `sadded` being the date the set was added to the database, and the `desc` (meaning descending) puts the biggest value first. In this case that is the most recent date...

**Example 4.1. The Basic SetDisp Program**

```

<?php
// setdisp - set display program
require_once "wacs.php";
$wacs = new Wacs;
$wacs->read_conf();
$wacs->check_auth( $_SERVER['REMOTE_ADDR'], 1 );
// start the document
print "<html>\n";
print "<head>\n";
print "<title>SetDisp - List of Sets</title>\n";
print "</head>\n";
print "<body>\n";
// connect to the database
$dbienv = $wacs->conf_get_attr("database","dbienvvar");
if( ! empty( $dbienv ) )
{
    putenv($dbienv."=".$wacs->conf_get_attr("database","dbienvvalue"));
}
try {
    $dbhhandle = new PDO(
        $wacs->conf_get_attr("database","phppdoconnect"),
        $wacs->conf_get_attr("database","dbuser"),
        $wacs->conf_get_attr("database","dbpass") );
}
catch( PDOException $e )
{
    die("Can't connect to database\nReason:".$e->getMessage()."\n");
}
// do the query
//          0          1          2          3          4          5
$query = "select setno, stitle, stype, scatflag, simages, scodec ".
        "from ".$wacs->conf_get_attr("tables","sets")." ".
        "where stype = 'I' and scatflag = 'T' ".
        "order by sadded desc ";
$cursor = $dbhhandle->prepare( $query );
$cursor->execute();
// output the results
print "<table>\n";
$setcount=0;
while( (($results = $cursor->fetch(PDO::FETCH_ROW)) &&
        ($setcount < 25 ) ) )
{
    // start the row
    print "<tr><td align=center>\n";
    // create the link
    print "<a href=\"".$wacs->conf_get_attr("apps","wacsindex");
    print "/page".$results[0].".html\">";
    // print out the set name
    print "<font size=-2 face=\"arial, helv, helvetica, sans\">";
}

```

```

        print $results[1]."</font></a>\n";
        // end the row
        print "</td></tr>\n";
        $setcount++;
    }
    print "</table>\n";
    print "</body>\n";
    print "</html>\n";
?>

```

and implementing the same code in perl gives us:

```

#!/usr/bin/perl
# setdisp - set display program
use Wacs;
use DBI;
read_conf();
check_auth( $ENV{'REMOTE_ADDR'},1 );
# output the HTML headers
print "Content-Type: text/html\n";
print "\n";
print "<html>\n";
print "<head>\n";
print "<title>SetDisp - List of Sets</title>\n";
print "</head>\n";
print "<body>\n";
# connect to the database
$dbienv = conf_get_attr("database","dbienvvar");
if( $dbienv ne "" )
{
    $ENV{$dbienv}= conf_get_attr( "database","dbienvvalue" );
}
$dbhandle=DBI->connect( conf_get_attr("database","dbiconnect"),
                        conf_get_attr("database","dbuser"),
                        conf_get_attr("database","dbpass") ) ||
die("Can't connect to database\nReason given was $DBI::errstr\n");
#           0         1         2         3         4         5
$query = "select setno, stitle, stype, scatflag, simages, scodec ".
        "from ".conf_get_attr("tables","sets")." ".
        "where stype = 'I' and scatflag = 'T' ".
        "order by sadded desc ";
$cursor = $dbhandle->prepare( $query );
$cursor->execute;
# output the results
print "<table>\n";
$setcount=0;
while( (($results = $cursor->fetchrow_array ) &&
        ($setcount < 25 )) )
{
    # start the row
    print "<tr><td align=center>\n";
    # create the link
    print "<a href=\"".conf_get_attr("apps","wacsindex");

```

```

        print "/page".$results[0].".html\>";
        # print out the set name
        print "<font size=-2 face=\"arial, helv, helvetica, sans\>";
        print $results[1]."</font></a>\n";
        # end the row
        print "</td></tr>\n";
        $setcount++;
    }
    print "</table>\n";
    print "</body>\n";
    print "</html>\n";

```

When we run this set against our demonstration web server, we get the following output which is a list of the sets containing dildo use in most-recent first order.

```

Sabrina BlackTopGreySkirtPinkBraPanties WhiteBedDildoPussyClip
Roxanne RedWhiteTuftsSeeThruBabyDollDressMatchingPanties WhiteSofaRopeLightsChristmasTreeDildo
Sabrina CyanSeeThruLingerieTopWhiteStockingsNoPanties WhiteSofaDildo
Roxanne BrownLeopardPrintBraMatchingPanties WhiteDoubleBedDildo

```

## Adding Icons

While it works and is usable, it's not exactly the greatest web page ever, so let's try and brighten it up a little. It'd be quite nice to be able to include an icon, and of course wacs has the infrastructure to do this for us. In fact, it offers us three different options of what size of icons we'd like: `set`, `std` and `mini`. In this case since we're trying to get a fair number of entries shown, we'll opt for the `mini` version. We get this by calling the `wacsimg` command and specifying that we'd like the `mini` version.

To make this happen we need to add another cell to the table with the HTML `img` tag pointing at `wacsimg`. As before we'll specify both `align` and `valign` properties for this table cell. So if we modify the code, much as we did before for the model icons, we get the following in php:

### Example 4.2. Adding A Set Icon

```

// start the row
print "<tr><td valign=top align=center>\n";
// create the link for the icon
print "<a href=\"".$wacs->conf_get_attr("apps", "wacsindex");
print "/page".$results[0].".html\>";
// add the icon itself
print "<img src=\"".$wacs->conf_get_attr("apps", "wacsimg");
print "/mini".$results[0].".jpg\" alt=\"[icon for ";
print $results[0]."]\>";
// end cell, next cell

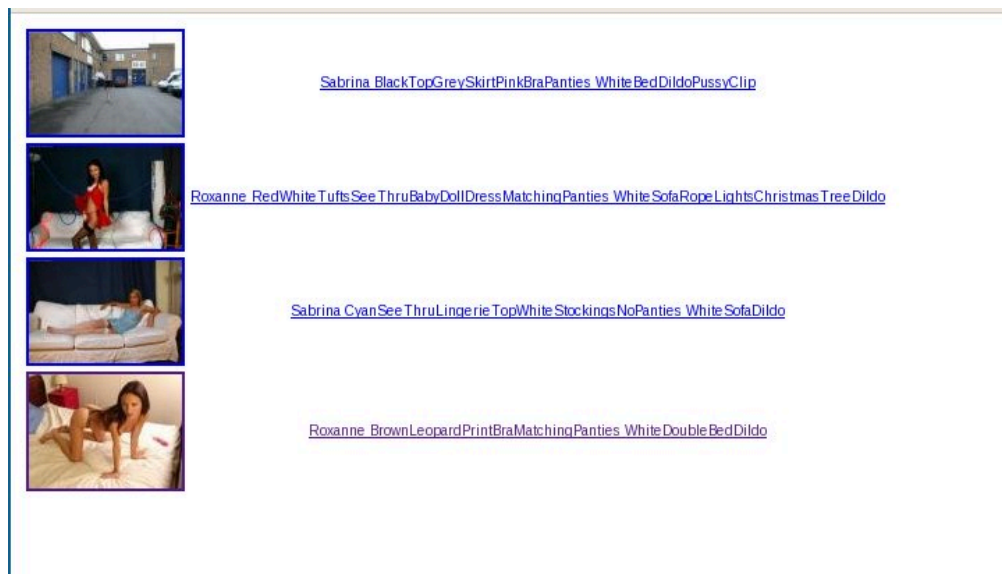
```

```
print "</td><td align=center>\n";
// create the link
```

and of course the same example in perl looks like:

```
# start the row
print "<tr><td valign=top align=center>\n";
# create the link for the icon
print "<a href=\"".conf_get_attr("apps", "wacsindex");
print "/page".$results[0].".html\">";
# add the icon itself
print "<img src=\"".conf_get_attr("apps", "wacsimg");
print "/mini".$results[0].".jpg\" alt=\"[icon for ";
print $results[0]."]\">";
# end cell, next cell
print "</td><td align=center>\n";
# create the link
```

and if we run the resulting program, we get something like this:



## Making The Text More Readable

One of the design decisions taken when designing WACS was to encourage directory names to be the same as the set names, and to make those more usable outside of the WACS system, to make them not include spaces. Instead the so-called *Camel Technique*, so named because of all the humps in it, where an upper case letter signifies the start of each new word. This is used along with a technique where underscores (\_) act as the transitions between the three sections of the set name: these are:

1. Model or Models name(s)
2. Her Clothing
3. Location and Action

However the underscore aspect is only used in the directory name and not in the set title (field `stitle`) as stored in the database which has spaces instead. Amongst our tasks, we will need to replace the spaces with the appropriate HTML table tags.



## Note

A future direction for Wacs is to move away from this approach and have separate fields for these three things and a fourth which describes the action taking place in the set. The Camel Style text will remain an option in the current fields for a long time to come.

Fortunately we can use a regular expression to convert the *Camel-Style* text back into something a little bit more readable. This next group of changes to the code are to do exactly that. We're going to take a slightly different approach from before as we're not going to make the split off parts into separate HTML table cells. This is because that makes both the font setting and HTML link creation much more complex - we're merely going to insert a forced line break `<br>` tag into the places where we want a new line to start. Then we're going to break up the Camel-Style text into separate words. We do this with:

Our first substitution is going to be to replace the spaces (the section dividers in the `stitle` field) with the appropriate HTML directives. The second and third ones actually break up the words at the points the case changes:


### Example 4.3. Making Camel-Style Text Readable

```
// print out the set name
print "<font size=-2 face=\"arial,helv,Helvetica,sans\">";
$prettytext = $results[1];
$prettytext = preg_replace('/\s/','<br>', $prettytext );
$prettytext = preg_replace('/(\w)([A-Z][a-z])/','$1 $2', $prettytext );
$prettytext = preg_replace('/([a-z])([A-Z])','$1 $2', $prettytext );
print $prettytext."</font></a>\n";
// end the row
```

To implement the same functionality in perl actually uses exactly the same regular expressions (aka *regex*) but looks very different as it's all done in assignment operations without any explicit function call. There's no `preg_replace` used here. Anyway here is exactly the same functionality in perl:

```
# print out the set name
print "<font size=-2 face=\"arial,helv,Helvetica,sans\">";
$prettytext = $results[1];
$prettytext =~ s/\s/<br>/g;
$prettytext =~ s,(\w)([A-Z][a-z]),$1 $2,g;
$prettytext =~ s,([a-z])([A-Z]),$1 $2,g;
print $prettytext."</font></a>\n";
# end the row
```

With these changes in place, we can once again copy over the code and we have a much more presentable output from the program; here's an example:

	<p><a href="#">Sabrina</a>  <a href="#">Black Top Grey Skirt Pink Bra Panties</a>  <a href="#">White Bed Dildo Pussy Clip</a></p>
	<p><a href="#">Roxanne</a>  <a href="#">Red White Tufts See Thru Baby Doll Dress Matching Panties</a>  <a href="#">White Sofa Rope Lights Christmas Tree Dildo</a></p>
	<p><a href="#">Sabrina</a>  <a href="#">Cyan See Thru Lingerie Top White Stockings No Panties</a>  <a href="#">White Sofa Dildo</a></p>
	<p><a href="#">Roxanne</a>  <a href="#">Brown Leopard Print Bra Matching Panties</a>  <a href="#">White Double Bed Dildo</a></p>

Hopefully with this we've got the output presentation of the sets list looking a whole lot better than it was in the first example. There are of course many more fields within the set database that we could also make use of in our pages. We will return to them when we look at the WACS User Interface Toolkit in Chapter 6, *The User Interface Toolkit*. For now, before we finish our look at sets, we're just going to look at how we find the model or models featured in a given set.

## Connecting Sets And Models

### Understanding The Data Architecture

One of the things that often confuses people about true relational databases is that they are unable to do a one-to-many or many-to-many relationship directly. While many so called *easy-to-use* databases do offer field types that purport to offer such linking, they are problematic and do not fit into any sensible logical model for how things should be structured. Worse, each vendor's implementation (those who do implement it at all) is different and incompatible. However with a sensible schema design, this limitation really isn't a problem at all.

One such instance of this need to link one-to-many is the concept of linking a set with a model within WACS. In the easy case, you'd have thought that you'd simply put the model number into one of the fields in the set schema and the job would be done. But what do you then do when you have two models featuring in a set; easy you might say - one is the main model, the other is a secondary model, so just add a second field for the additional model and put the second number there. Of course that then makes the SQL query more complex each time as you've got to check both fields before you know if a model is in a set or not. It still might work, but it's already getting cumbersome. You might discover a set first by virtue of the additional model and only afterwards identify the *official* primary model.

Just about every adult site we've encountered does feature at least a few sets with three models, so suddenly we're looking at a second additional model field and having to check that as well. And believe me, there are a few sites of which Sapphic Erotica comes to mind in particular where sets with three, four, five or even six models in a single set are relatively common. Simply put, adding models to the sets table just doesn't scale. So we take the proper relational database approach and add an additional schema called **assoc** for



associations which gives us these relationships. It's a very simple schema, basically containing a primary key, a model number and a set number.

## Using Relationships With Assoc

The process of finding out who is in a set becomes very simple and straight forward - you simply search the `assoc` table for the set number you're looking at. If we're looking for who is in set no 123, we simply use the following SQL query:

```
select amodelno from assoc
where asetno = 123
```

We then merely loop through the results of the above query and each record we find is another model involved in this set. If we don't get any results returned, then there aren't any models associated with this particular set. Of course we probably want more than just the model number(s), but that too is relatively simple. Consider the following query:

```
select modelno, mname, mimage, mbigimage
from models, assoc
where modelno = amodelno
    and asetno = 123
```

This query simply retrieves the model details for each model who is involved with this particular set, one record at a time. Due to the way relational databases are engineered, this is actually a very quick and efficient process. The first line of the `where` clause does what is known as a *relational join* and establishes the necessary connection between the `assoc` and `models` tables necessary for what we're trying to do. Additionally it's a very logical and elegant solution that will cope with none, one, two, three, four or as many models as you like within a single simple action.



### Note

Although we make use of the `assoc` table, we don't actually use any results from it - we don't need to - it has silently taken care of handling the connection we needed to make.

## An Example Using Assoc

If we go back to our example program displaying sets, we can modify it to include this activity as a sub-routine. What we're going to do is to divide the right hand side of the output into the two cells, one with the title, and the other with the model(s) featuring in the set. The icon will remain on the left. First step is to add the `rowspan` attribute to the left hand side cell so the icon spans it.

### Example 4.4. Modified Icon Cell

```
// start the row
print "<tr><td rowspan=2 valign=top align=center>\n";
// create the link for the icon
```

and in perl, it'll look very similar:

```
# start the row
```

```
print "<tr><td rowspan=2 valign=top align=center>\n";
# create the link for the icon
```

The next step is to create a new function to handle the query to look up the entries in the assoc table. We're going to call this function simply `getmodel` and it'll take just one argument, the set number for which we want the model(s) details. It will return to us a potentially quite long string variable containing all the model names that matched surrounded by a link to each model's WACS model page.



### Note

So long as we use a different cursor variable to the database routines we can quite happily run another query and loop through it's results while inside an outer loop looking at the results of a completely different query. This is where the whole concept of a cursor becomes really useful.

### Example 4.5. `getmodel` Subroutine

```
function getmodel ( $setno ) {
    global $dbhhandle;
    global $wacs;
    $gmresult='';
    //           0           1           2           3
    $modelquery="select modelno, mname, mimage, mbigimage ".
                "from ".$wacs->conf_get_attr("tables","models").
                ", ".$wacs->conf_get_attr("tables","assoc")." ".
                "where modelno = amodelno ".
                " and asetno = ".$setno." ".
                "order by mname ";
    $modelcursor=$dbhhandle->prepare( $modelquery );
    $modelcursor->execute();
    // loop through the results
    while( $modelresults = $modelcursor->fetch(PDO::FETCH_NUM) )
    {
        // do we need a divider?
        if( ! empty( $gmresult ) )
        {
            $gmresult.="<br>";
        }
        // add the model link
        $gmresult.="<a href=\"".$wacs->conf_get_attr(
                    "apps","wacsmthu")."/".
                    $modelresults[0].\">";
        // add her name and close link
        $gmresult.=$modelresults[1]."</a>";
    }
    // return the complete string
    return( $gmresult );
}
```

and the same code implemented in perl looks like this:

```
sub getmodel( $ )
```

```

{
    my( $setno )=@_;
    my( $gmresult, $modelquery, $modelcursor, @modelresults );
    $gmresult='';
    #
    $modelquery="select modelno, mname, mimage, mbigimage ".
        "from ".conf_get_attr("tables","models").
        ", ".conf_get_attr("tables","assoc")." ".
        "where modelno = amodelno ".
        " and asetno = ".$setno." ".
        "order by mname ";
    $modelcursor=$dbh->prepare( $modelquery );
    $modelcursor->execute;
    # loop through the results
    while( @modelresults = $modelcursor->fetchrow_array )
    {
        # do we need a divider
        if( $gmresult ne "" )
        {
            $gmresult.="<br>";
        }
        # add the model link
        $gmresult.="<a href=\"".conf_get_attr("apps","wacsmthu").
            "/" . $modelresults[0]. "\">";
        # add her name and close link
        $gmresult.=$modelresults[1]. "</a>";
    }
    # return the complete string
    return( $gmresult );
}

```

The final step of this process is to add into our main loop going through the retrieved set records a call to the `getmodel` function. This looks like:

#### Example 4.6. Calling The `getmodel` Function

```

// next right hand cell
print "<tr><td align=center><font size=-1>\n";
print getmodel( $results[0] );
print "</font></td></tr>\n";
// increment set count

```


and in perl this looks like

```

# next right hand cell
print "<tr><td align=center><font size=-1>\n";
print getmodel( $results[0] );
print "</font></td></tr>\n";
# increment set count

```

With these changes incorporated into the code, we now have the finished version of the `setdisp` program (**`setdisp4.php`** or **`setdisp4`** in the samples directory. If we now copy this script up to the web server and run it, we should see something like this:

	<p><u>Sabrina</u> <u>Black Top Grey Skirt Pink Bra Panties</u> <u>White Bed Dildo Pussy Clip</u></p>
	<p><u>Sabrina</u> <u>Roxanne</u> <u>Red White Tufts See Thru Baby Doll Dress Matching Panties</u> <u>White Sofa Rope Lights Christmas Tree Dildo</u></p>
	<p><u>Roxanne</u> <u>Sabrina</u> <u>Cyan See Thru Lingerie Top White Stockings No Panties</u> <u>White Sofa Dildo</u></p>
	<p><u>Sabrina</u> <u>Roxanne</u> <u>Brown Leopard Print Bra Matching Panties</u> <u>White Double Bed Dildo</u> <u>Roxanne</u></p>

Once again we've gradually developed a program up to the point where it is now offering quite reasonable functionality and layout making use of the WACS programmers toolkit API. Hopefully this has given you an insight into what WACS is capable of and the basics of how to make use of it's API. In due course, we hope to have a respository of WACS skins, or mini-site scripts, which you can download and tailor to your own needs. If in the course of learning the WACS API you write some programs you'd be happy to share with others, please send them to us and we'll include them in the respository.

---

# Chapter 5. Making The Right Selections

## Why Discuss Selections?

In the last few chapters we've taken a look at how you use the WACS API and SQL commands in your code in unison to build an application using WACS. As we've gone along, we've introduced you to some of the commonly used database fields from the various schemas that form the core of the WACS environment. While there are many fields, all of which are documented in the schema reference section towards the end of this guide, there are a few that have implicit uses that you should be aware of before you start building applications in earnest.

In this chapter, we're going to look at several short code segments that should be added to the SQL queries you form to use WACS within your own programs. These code segments ensure that you don't accidentally show records that you shouldn't, have large numbers of duplicate records or fail to support some of the standard WACS facilities. All that we will discuss here are things you can choose to leave out if you *know* you're not going to use the related facility but in general you do need to be aware of them and it's generally good practice to support them.

We are going to be looking at three main areas of concern - hiding model records marked as *Placeholder*s, hiding set records marked as *Secondary*, *Tertiary* and *Continuation* records and supporting the preference exclusions mechanism whereby certain types of sets are not shown to people who don't want to see them.



### Note

Placeholder model records and preference exclusions are longstanding WACS concepts; Secondary and Continuation sets were introduced in Wacs 0.9.0 and that code is not applicable to earlier releases. Tertiary sets are new in Wacs 1.0.0 as a way of suppressing display of archived content. Adding support for Secondary and Continuation sets requires presence of the database Schema introduced in WACS 0.8.5; using an older schema than that will cause SQL errors.

## Avoiding Placeholder Models

One of the fields in the model schema is called *mflag* and this is used to indicate that this particular model record is of a special type. Mostly this is used for things like favourite lists and is pretty unimportant to the selection process - the exception to this is if this field has the value *P* which stands for placeholder.

As you would guess from the name, Placeholder model records are not normally to be displayed - they exist to be a convenience on which to hang download and association records or to allow records to be added for new models prior to the release of any of their sets. It is therefore normal to create your SQL queries that select model records so that they explicitly do not select placeholder models.

The following SQL code segment that goes in the where clause of the SQL query will do the correct selection:

```
( mflag != 'P' or mflag is null )
```

As an example, if you were selecting all Blonde haired models you would write a query like this to get the valid models you want shown:

```
select modelno, mname, mflag, mrating
from models
where mhair = 'Blonde' and ( mflag != 'P' or mflag is null )
order by mname
```

## Avoiding Duplicate and Alternative Sets

There are some set records within the WACS system that you probably only want to show under a very limited range of circumstances. These are sets that are marked as *Secondary*, *Tertiary* or *Continuation* sets. Sets marked in this way offer nothing different or significant from the viewpoint of the end user but are useful to us as developers and site managers. Examples of these are different resolution versions of an existing set or a second part of a video clip that has been split into multiple smaller clips. For instance you might want to offer a reduced resolution image set for web site users to download to their mobile phones, or a choice of resolutions of a video clip.

The *Tertiary* type you might use for an obsolete codec version of a video file (MPEG-1 for instance), but where you don't want to invalidate saved searches, blog posts or download records but no longer which to show material in that format.



### Warning

The concept of Secondary and Continuation sets was introduced in WACS 0.9.0 - prior to that such sets were marked with a set type of `Duplicate` which proved cumbersome and difficult to make use of. Duplicate records were typically hidden using the preference exclusions mechanism we'll describe in the next section. It is intended to remove the Duplicate type in the near future.

## Understanding Link Relations

This mechanism is implemented through the `srank` database field. This currently is defined to four possible values or no value - normal sets that should appear are described as primary sets and they will have an `srank` of *P* indicating it is a primary record. Where a record has no `srank` value, it should be assumed to be a Primary record for backwards compatibility with earlier WACS records.

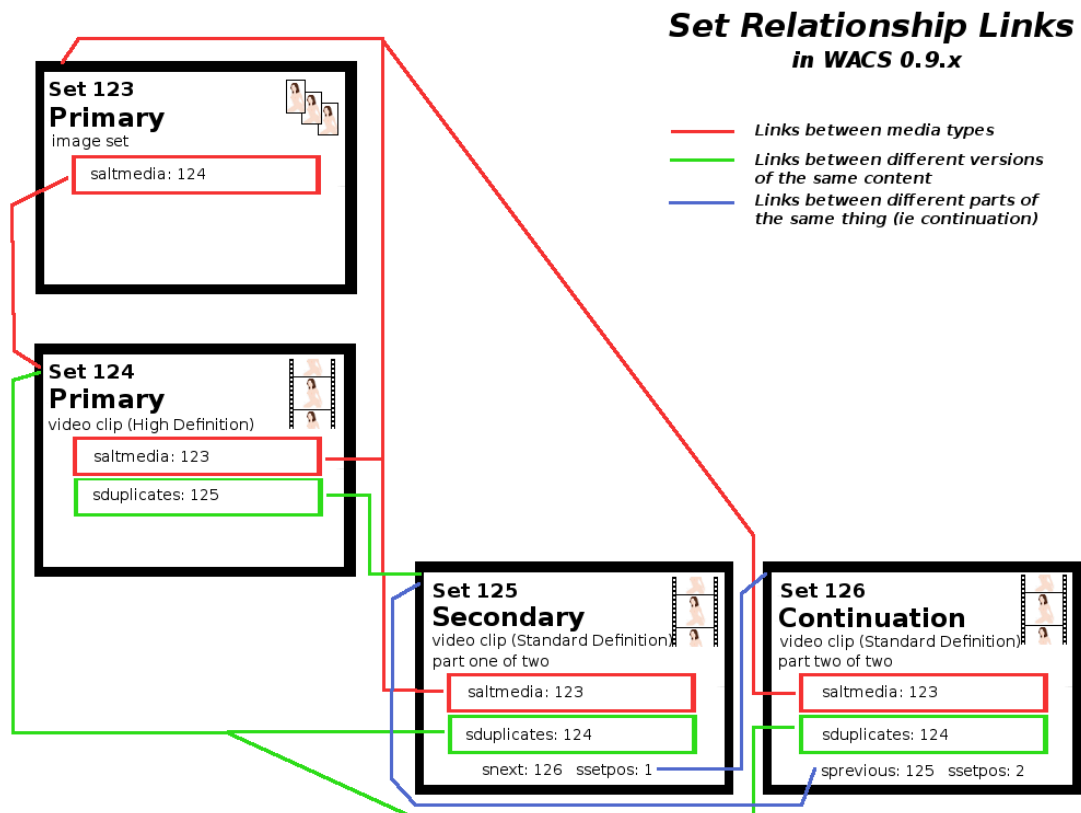
In the case where a record is an alternative version of a set that already exists, it should be given the `srank` of *S* indicating it is a secondary record. In addition to this, the `sduplicates` field for this record should contain the set number of it's primary version and the `sduplicates` field of the primary version should point to this secondary set. Where there are three or more variants of the same thing, this should be a circular chain taking you to the next such set and at the final duplicate, back to the primary set. The set administration tools do not currently support setting up a three or more way chain of links, but the code shouldn't be broken by that existing within the database.

The third and final of the four cases are those of Tertiary records and of a continuation record. Tertiary records are given an `srank` of *T* and are ignored by almost all search and display functions. Where possible, *Tertiary* should have the same `sduplicates` links as secondary sets do. This allows applications which manipulate searches and the like to try and present a current version of the set concerned. Continuation records will be given the `srank` of *C* indicating a continuation record. This `srank` will only be set on the second and subsequent set records of this conceptual chain - the first set in a chain with continuations will be either a *Primary* or *Secondary* set. In addition to the set being of

the *Continuation* type, it will have a number of other fields set to help in navigation. The first of these is that the second such set, eg the first continuation, will have the `sprevious` field set to the set number of the first set in the sequence. If there is a second continuation set (ie third part of the whole set), the `sprevious` will be set to the number of the first set, and the `snext` will be set to the number of the third (second continuation) set.

## Illustrating How Link Relations Work

Since this is a fairly complex concept, here's a diagram to try and help you understand what is going on here:



In the diagram we're dealing with four separate sets that effectively contain exactly the same scenario with the same model in the same location. The first of these in the diagram is *set 123* which is a straightforward image set - nothing special about it except that it does have a corresponding video clip. It uses only one of the relationship links to link to the best quality (and therefore chosen to be the *Primary*) version of the video clip which is *set 124*. This is the `saltmedia` link as Video is an alternative media to a still image set.

Moving on to the video clips, note that all three of them say that their alternative media is the single, only version of the image set. Therefore the `saltmedia` on each of the videos mentions the image set, namely *set 123* as their direct alternative. This is fine - it doesn't have to be a symmetric relationship, just true! These links are shown by the red line on the diagram.

We have three video clips and this is obviously the most complex part of the diagram and the relationships we're trying to explain. For the sake of argument we're going to say that the first video clip, *set 124* is a High Definition MPEG-4 movie file weighing in at a massive 1920 x 1280 pixels and 700MBytes. It's

HUGE. The other two video clips are Standard Definition WMV movie files containing the same movie at DVD resolution of 720 x 480 pixels and weighing in at 90MBytes and 82MBytes respectively. These sizes are far more appropriate for people using media players on their mobile phones, tablet computers or just simply older PCs without the power to play High Definition video properly. The movie has been broken into two approximately equal size video clips to make downloading them easier when on the move or with a limited bandwidth connection.

Starting off with the big High Definition movie clip, we can see that this is the *Primary* version of this set and therefore the one we want to appear in searches, new release highlights and on the simpler model pages. The other versions are no different in what they contain in terms of subject matter and the choice between them can be made once the set itself has been selected. We also don't want all three versions appearing multiply in any selection the user makes.

The first of the Standard Definition video clips contains the start of our movie and so that's always going to be the one that anything else refers to when looking for the smaller version. It's therefore classed as the *Secondary* version and it has links back to the primary version by way of the `sduPLICates` link because it contains the very same footage as the *Primary* version does, just in a reduced size format. These are the green links on the diagram.



### Note

Note that the second part of the video, namely *set 126* also links back to *set 124* as it's primary as the longer complete High Definition clip contains the same scenes as the second half of the Standard Definition clip does. Of course if the High Definition clip was also split into two parts, the second half of the Standard Definition clip would link via `sduPLICates` to the second half of the High Definition clip.

The final group of links on the diagram, those in blue, concern linking together the two sequential halves of the Standard Definition clip. Therefore *set 125*'s `snext` field says "my movie continues in *set 126*" and *set 126* uses `sprevious` to point back to *set 125* a preceding it. In addition the `ssetpos` field is set to 1, 2, 3, etc to indicate a given clip's place within the overall movie.



### Note

It's important to note that the `sprevious` and `snext` link chains are NOT circular. The `sprevious` of the first (Primary or Secondary) set will be null, as will the `snext` of the final set in the chain.

While it's not really what we're discussing here, there are various utility functions in the `WacsStd` perl module to aid and abet in maintaining these links if you are writing your own collection maintenance tools. Take a look at `linkfromprevious` and `linkrelated` for more information on these.

## Coding For Link Relations

Hopefully after the last few sections, you now understand why the Link Relations mechanism was added and how it should work. Obviously we now need to feed this back into how we write SQL code to retrieve sets. There are two main things we're going to want to do - the first is to tailor our main retrieval pages to ignore these various alternative versions, and the second is on some occasions to detect where there might be additional icons and links we need to add to our set display code.

The code to ignore *Secondary* and *Continuation* records from our normal set index selections. This can be done with this SQL code segment:

```
( srank not in ('C','S','T') or srank is null )
```



As an example, if you want to select Lesbian sets in a Countryside location, you'd create a query something like:

```
select setno, stitle, stype, srating from sets
where slocation = 'Country' and scatflag = 'L'
and ( srank not in ('C','S','T') or srank is null );
```



### Note

At this point we've been using the `srank` variable for a while and have just added the fourth *Tertiary* to the previous three values of *Primary*, *Secondary* and *Continuation*. As we just found cause to add an additional value and may at some time in the future add even more, you may wish to define a variable at the top of your files - `$rankfilt` to set which ones you're trying to filter. At present this would be `$rankfilt=" 'C' , 'S' , 'T' "` and would be used within the brackets of the `in ( )` clause in the SQL.

## About Preference Exclusions

If you've spent a little time already familiarising yourself with WACS as a user, you may have encountered the WACS preference exclusion mechanism. We believe this is a pretty unique feature to WACS which allows a user to specify that they really don't like a certain type of set and to have those sets hidden from them by default whenever they use the WACS system. Thus if a user of a WACS site, for example, doesn't like Lesbian or Behind The Scenes sets, they can set it so those won't appear in their normal browsing or searching unless they explicitly search for them.

To enable this mechanism to work, once again you need to include a small extra code segment in your SQL query. Once again it's a fairly simple bracketed expression that specifies what to exclude and protects against `null` (no value) as well. Taking the example above of excluding the Lesbian (scatflag of *L*) and Behind The Scenes (scatflag of *B*), we would add the following code:

```
( scatflag not in ('L','B') or scatflag is null )
```

## Fetching The Preference Exclusions Information

Of course, it's not quite as simple as this because we don't actually know what a given users preference exclusions are at the time of writing the code. We've therefore got to retrieve that information from their authentication record, be it a lease or a permanent address-based authentication. In earlier chapters we encountered the `conf_get_attr` function that can be used to get answers from the configuration file. There is an almost identical mechanism for getting access to the authentication file called `auth_get_attr`.

To make use of the `auth_get_attr` function, we need to provide it with a key with which to look up the authentication record we want. At present we're keying this on the IP version 4 address of the client computer to which we're talking although additional methods are due to be added in time. When running under the Apache 2 web server, we are provided with the address of the client computer via an environment variable called `REMOTE_ADDR`. We pass this to the `auth_get_attr` function with the prefix "ipv4-" to indicate the type of address we're passing. The object we need to request from the authentication record is called `prefexcl`.

Assuming that our client machine is has the IP Version 4 address of `192.168.1.136` we'd therefore effectively pass the request to `auth_get_conf` as:

```
$exclusions = auth_get_conf( "ipv4-192.168.1.136", "prefexcl" );
```

Of course in fact we're not going to hard code the IP address into our Perl or PHP script, so the actual code we write will look more like this in perl:

```
$exclusions = auth_get_conf( "ipv4-".$ENV{"REMOTE_ADDR"}, "prefexcl" );
```

and in PHP it'll look like this:

```
$exclusions = $wacs->auth_get_attr( "ipv4-".$_SERVER['REMOTE_ADDR'],  
    "prefexcl" );
```

Once we've executed this function call, the variable `exclusions` will contain something like "L,B" - the more observant amongst you will realise that while being what we need to know, it's not yet phrased in a way that SQL will accept as a list to be passed to an `in()` clause. We need to quote each of the values independantly and separate them by commas.

## Using The Preference Exclusions

Now that we have the preference exclusions list for our current user, we need to translate this into a form that SQL will accept as a query condition. The following code segment in perl does this for you:

```
$exclusions =~ s/\s//g; # remove excess spaces  
$exclusions =~ s/,/,','/g; # quote them  
$sqlquery .= "and (scatflag not in ('".$exclusions."') or ".  
    "scatflag is null) ";
```

You will see that we're here appending to a variable called `sqlquery` which is assumed to already contain the necessary `select`, `from` and `where` clauses for the search we wish to carry out. The same basic code implemented in PHP will look like:

```
$exclusions = preg_replace( '/\s/', '', $exclusions );  
$exclusions = preg_replace( ',/,/,', "','", $exclusions );  
$sqlquery .= "and (scatflag not in ('".$exclusions."') or ".  
    "scatflag is null) ";
```



### Note

One optimisation you can, probably *should* make, is to do this at the start of your program if you're going to write multiple database queries and place it in a global variable. The answer to the authentication file query is going to be unchanged for the time that this program will be drawing it's web page or whatever it does.

There are of course occasions when you don't want to make use of the preference exclusions mechanism, in particular when you're handling saved searches where you assume that if the set is included within the results returned that that is what the user desires. It's also generally a good idea to indicate somewhere on the page you generate that preference exclusions have been applied when displaying this particular group of sets. While the user can change their preference exclusions at any time, it's unlikely to be that prominent that all of them will realise how to do so immediately.

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# Chapter 6. The User Interface Toolkit

## Introducing WacsUI

In this chapter, we're going to take a slightly different tack, we're going to just look at code segments you could choose to include within your application, primarily user interface components taken from the User Interface toolkit, WacsUI. This is not going to be an exhaustive review of what is available as that is covered in detail in the reference section, Chapter 9, *WACS API: User Interface Module*. Instead this is just a quick taster of just a few of the calls provided by the **WacsUI** toolkit.

So far we've been dealing with the various routines that are provided by the Core Wacs module - and these relate primarily to configuration parameters and security. There is a second module available for you to use called WacsUI, the WACS User Interface Toolkit. This concerns itself primarily with providing utility functions to ease the tasks of formatting and preparing data from the database into a form more suitable for use in web pages.

## Including WacsUI support

To include support for the WACS User Interface (WacsUI) toolkit within your application, you need to add the following extra lines to your code, ideally just after the Wacs core module.

### Example 6.1. WacsUI initialisation

```
require_once "wacsui.php";
```

```
$wacsui = new WacsUI;
```

and here's the perl dialect of the same activity...

```
use Wacs::WacsUI;
```



### Note

NB: From Wacs 0.8.6, the WacsUI module now lives in a Wacs sub-directory and so needs to be called as **Wacs::WacsUI** instead of just **WacsUI**.

## WacsUI: DescribeHer

The first function from WacsUI that we're going to look at is called **describeher** and it is designed to take the output of the very regemented values of the model attributes fields of the database and turn them into something much more readable. Although not implemented yet this provides a good mechanism for doing other translations or providing an attribute table rather than a textual description.

### Example 6.2. Using WacsUI: describeher

```
print $wacsui->describeher(  
    array( 'hair'=>$results[4],  
          'length'=>results[5],  
          'titsize'=>results[6],  
          'pussy'=>results[7],  
          'race'=>results[8],  
          'build'=>results[9],  
          'height'=>results[10],  
          'weight'=>results[11],  
          'occupation'=>results[12])) . "\n";
```



## Note

We have to *package up* our parameter list as an array in order to pass it in Php; perl is somewhat simpler with a simple sequence of named parameters.

```
print describeher(  
    hair=>$results[4],  
    length=>$results[5],  
    titsize=>$results[6],  
    pussy=>$results[7],  
    race=>$results[8],  
    build=>$results[9],  
    height=>$results[10],  
    weight=>$results[11],  
    occupation=>$results[12] ). "\n";
```

The above example is based upon modifying the MySimple example program from in the second chapter (Chapter 2, *Basics: Getting Started*) to add the following extra fields into the query: `mhair`, `mlength`, `mtitsize`, `mpussy`, `mrace`, `mbuild`, `mheight`, `mweight`, `moccupation` after the `mimage` (with a comma of course) and before the `from` clause.

## The `whatshedo`s function

As with the previous `describeher`, `whatshedo`s is designed to make a readable sentence from a number of fixed format database fields. In this case however, it's a little different as the values passed in are typically either Y for yes, or N for no, and they are translated to a text phrase based upon what they're value is. This also means that if you're using array subscripts to fetch the database field values you need to be careful about positioning. Give a yes to the wrong field and the error will not be as obvious - while “blonde breasts” would be easy to spot, the fact that each model who did masturbation scenes was listed as doing straight scenes would be less apparent.

For the purposes of this example, we're adding yet more fields to the select statement in the original MySimple program shown in the second chapter (Chapter 2, *Basics: Getting Started*). In this case `msolo`, `mstraight`, `mlesbian`, `mfetish`, `mtoys`, `mmast` and `mother`.

### Example 6.3. Using WacsUI: `whatshedo`s

```
print $wacsui->whatshedo(  
    array( 'solo'=>$results[13],  
          'straight'=>$results[14],
```

```
'lesbian'=>$results[15],  
'fetish'=>$results[16],  
'toys'=>$results[17],  
'masturbation'=>$results[18],  
'other'=>$results[19] ) )."\n";
```

The same function works just the same in perl without the need for the array declaration wrapper:

```
print whatshedoesh(  
  solo=>$results[13],  
  straight=>$results[14],  
  lesbian=>$results[15],  
  fetish=>$results[16],  
  toys=>$results[17],  
  masturbation=>$results[18],  
  other=>$results[19])."\n";
```

## The addkeyicons function

Both the `models` and `sets` schemas feature fields that contain a space separated list of keywords that mark certain attributes found within that set. These can be quickly turned into a small HTML table of icons using the routine `addkeyicons`. The fields suitable for use with this are `scatinfo` from the `sets` table and `mattributes` from the `models` table. These are passed as the first attribute; the second being the displayed size of the icons which for the default icons would be a maximum of 48 x 48 pixels. The function is called simply with:

### Example 6.4. Using AddKeyIcons

```
addkeyicons( $results[16], 24, $dbhandle );
```



#### Note

In WACS 0.9.0 and later, `addkeyicons` should be passed a third parameter which is the *handle* to the current active database connection. The act of passing this allows the `addkeyicons` routine access to the `attrib` database table which contains the extended range of icons and the ability to add locally defined additional icons. Without this being supplied, any of the extended and locally defined icons will appear as a broken image.



#### Warning

Where possible please update your existing code to pass the `dbhandle` parameter as well.

## The Link Family

There are three really important functions available to you within the WACS UI API which you really should get to know well. They will do a huge amount of legwork for you and are the easiest way to use the extensive content caching features built into WACS since release 0.9.1. Only **iconlink** existed in previous versions, and the other two **thumblink** and **contentlink** are new. In all cases these functions will automatically fall back to using the **wacsimg**, **wacsthumb** and **wacszip** methods if they can't do it smarter.

## iconlink: WacsUI's Most Important Function

We're now going to take a look at **WacsUI** module's most important function, `iconlink`. Its job is simply to display an icon with an appropriate link around it. Sounds simple enough, doesn't it? Unfortunately it isn't - there's a lot of work that needs to be done relating to permissions, access methods, checking caches and resizing which actually makes it fairly complex. The good news is that the `iconlink` function will do it all for you!

The `iconlink` function takes quite a few arguments which control how it works, but they are reasonably straightforward. In most cases parameters are optional and sensible defaults will be used instead if they are not given - obviously things like set number and the location fields (`sarea`, `scategory` and `sdirectory`) are necessary.

### Example 6.5. Using the `iconlink` function

```
print $wacsui->iconlink(
  array( 'type'=>$setdetails[1],
        'setno'=>$setdetails[0],
        'sarea'=>$setdetails[2],
        'scategory'=>$setdetails[3],
        'sdirectory'=>$setdetails[4],
        'model'=>$moddetails[1],
        'resize'=> 0,
        'silent'=> 'y' ))."\n";
```



### Note

Note the `silent` attribute being set to `'y'` - this tells the function not to print the result to stdout. If you set `silent` to `'n'` you don't need to use `print iconlink()` you can just call `iconlink()` within your code. Generally it is considered better practice to print the return value from the function call, but with these three functions that choice is yours.

The perl dialect is again very much the same:

```
print iconlink( type=>$setdetails[1],
               setno=>$setdetails[0],
               sarea=>$setdetails[2],
               scategory=>$setdetails[3],
               sdirectory=>$setdetails[4],
               model=>$moddetails[1],
               resize=> 0,
               silent=> 'y' )."\n";
```

## Using the `thumblink` function

The `thumblink` function works very much the same as `iconlink` does and provides a way to produce thumbnail images from a photoset or any of a number of additional icon images (typically thumbnails from a movie) for a video clip. It is slightly different from `iconlink` in that since the cache of set thumbnails is organised by set number and not area, category, etc, it needs on the set number, image number and type to function.

### Example 6.6. Using the `thumblink` function

```
print $wacsui->thumblink(  
    array( 'setno'=>$setdetails[0],  
          'stype'=>$setdetails[1],  
          'imgno'=>$imgnumber,  
          'resize'=>1,  
          'silent'=>'y' ))."\n";
```

And of course using it in Perl is much the same:

```
print thumblink( setno=>$setdetails[0],  
                stype=>$setdetails[1],  
                imgno=>$imgnumber,  
                resize=>1,  
                silent=>'y' )."\n";
```

## Using the `contentlink` function

The final one of the three link functions, again joining the WACS API repertoire in release 0.9.1, is `contentlink`. Once again this is similar to `thumblink` in not needing the full path within the collection as the cache mechanism it refers to is organised by set number. As with the other two members of the link family, it falls back gracefully to the old methods of content delivery if it cannot find a cached version of the desired content, so you can and should use it at all times for content link delivery.

As usual we specify both the set number and the set type, plus you also have the option by using the `silent` parameter as to whether it should print out the link text it creates or merely return the necessary text as the return variable from the function call. It's also good practice to specify the desired name for the download file using the `archive` parameter. Normally this name can simply be taken from the `sdownload` field in the sets database. If this variable is empty, it will default to `set1234.zip` or `set1235.wmv` as appropriate.

We do usually specify the `srank` parameter too, although it will function without it, to clarify the relationship of this set to other things. The `ext` (for extension) is the file name extension of this file - ie `.zip`, `.wmv`, `.mov` and `.mpg`. As shown in the example below, passing the `scodec` field from the database via the `getvideoext` function should work right for videos.

The one rather odd parameter here is `serve` - this specifies which type of file you would like on those occasions where there is a choice. For some sets, the cache system holds both an original version and a compilation or edited version comprising either the combination of a number of separate parts of a video clip, or a video clip with the leading declarations trimmed so as not to disturb the viewing experience. In these cases, if you want the compilation or edited version where are available, you set `serve` to `cooked` and where you want the vanilla unaltered file you set `serve` to `raw`.

### Example 6.7. Using the `contentlink` function

```
print $wacsui->contentlink(  
    array( 'setno'=>$setdetails[0],  
          'stype'=>$setdetails[1],  
          'srank'=>$setdetails[2],
```

```
'ext'=> $wacsui->getvideoext( $setdetails[3] ),
'serve'=>'cooked',
'archive'=>$setdetails[4],
'silent'=>'y' ))."\n";
```

As usual, the perl dialect version of this command is almost identical in how you call it:

```
print contentlink( setno=>$setdetails[0],
  stype=>$setdetails[1],
  srnk=>$setdetails[2],
  ext=> getvideoext( $setdetails[3] ),
  serve=>'cooked',
  archive=>$setdetails[4],
  silent=>'y' )."\n";
```



### Note

The content cache, unlike the icons or thumbnail caches, is *NOT* self-maintaining. You need to take actions to create the cached versions in the first place - please see the administration manual for more information about how to use **wacscahectl** to do this

## WacsUI: Other Functions

Another example of using the wacsui module can be found in the **newssets.php** application in the samples directory. This is a more "real world" worked example showing a new releases index page; it makes use of both the iconlink and addkeyicons functions.

Detailed documentation on each call available and how it works can be found in the API reference section Chapter 9, *WACS API: User Interface Module*. Another good source of examples of how to utilise these functions is to be found in the the section called "Wacs-PHP: The Simple Skin" provided as part of the Wacs-PHP API library. And of course don't forget that you can always look at how the main WACS user environment applications themselves make use of these functions.

## Conclusions

We've now come to the end of the basic WACS API tutorial, at least for this edition of the WACS Programmers Guide. It is our intention to expand this section in future editions. Still, it has hopefully introduced you to the key concepts in making use of the WACS Programming API and given you some useful simple programs to build on when creating your own applications. The rest of this book consists of the WACS API reference manual and the WACS Database Schema Reference. If these do not provide sufficient information, please contact us via the methods listed on the WACS web site at SourceForge [<http://wacsip.sourceforge.net>].



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# Chapter 7. Wacs-PHP: The Skins

## Introduction To PHP Skins

In previous chapters we've mentioned that the WACS Application Programming Interface (API) is available in both Perl and PHP. We've also mentioned that many commercial web sites will choose to design their own web pages and will make use of the extensive WACS database infrastructure and utilities via the API from such pages. Other people may simply be interested in using it to tailor the presentation of their WACS site to their personal preferences.

With the Skins project, we go a step further by providing an alternative WACS-based web site written using the Wacs API for PHP5. This can serve one of two purposes - to provide a more complex set of example programs for web designers to study in order to familiarise themselves with how the APIs are used, or it can simply be restyled and personalised to provide a turn-key porn web site quickly and easily. In due course we hope people will contribute some sample pages of their own and there may be a choice of components to make the process easier. Initially we are providing just one skin known as *simple*. To aid both understanding and the ease of restyling, the Simple Skin is implemented using an external cascading style sheet separate from the HTML output generated by the php programs.



### Note

The Wacs-PHP Simple Skin is still very much an under development project and only just became fully functional at 0.8.5. You can always dive in and help us make it even better!

## Wacs-PHP: The Simple Skin

The provided simple skin consists of a number of small PHP5 programs and a single large style sheet shared by all the applications. The php programs are:

**Table 7.1. Simple Skin: Components**

Name	Description
<b>index.php</b>	The main menu of the simple skins site - equivalent to <b>wacsfp</b> in WACS itself
<b>latest.php</b>	The simple skins combined new models, new sets and new videos page - no direct WACS equivalent
<b>girlie.php</b>	The model page of the simple skins site - very loosely equivalent to <b>wacsmphumbs</b> in WACS itself
<b>directory.php</b>	The Alphabetic directory of models - similiar to just one of the modes of <b>wacsmodelthumbs</b> in WACS itself
<b>galleries.php</b>	The index of galleries - a rather different approach from <b>wacsshow</b> in WACS itself. Focuses on indexing all the entries in a given top level area (sarea); to index the toplevels themselves, use <b>movies.php</b> below.
<b>gallery.php</b>	An individual gallery display - similiar to that produced by <b>wacsimglist</b> in WACS itself.
<b>movies.php</b>	A top level view of the galleries. Works for either images or videos despite the name.

Name	Description
<b>photos.php</b>	A photo set front page - similiar to <b>wacsindex</b> in info mode.
<b>videos.php</b>	The video clip version of the above.
<b>search.php</b>	The search system for the simple skin. This takes a very different approach from the search system in WACS core as it amalgamates both model and clip attributes into a single search engine.

## Styling Wacs-PHP Skins

One of the design objectives of the Wacs-PHP skins project was to make it easy to restyle the pages to look very different without touching the code itself purely through use of Cascading Style Sheets. To this end each page has a large number of named `<div>` and `<span>` directives placed throughout the generated pages to provide a framework for this to happen.

The first of these is that every page has a standard core structure to it which consists of three div elements with the following ids: *pagebanner* for the top heading, *navigation* for the menu links and *maincanvas* for the content itself. They will also always be featured in this order. You can of course choose to make them invisible or use javascript to toggle their visibility to make pull down menus and the like.

In addition to the core layout detailed above, there are also a number of div classes (because they often repeat) that are set on each type of icon that may be displayed. For set-based content, these are *normmovietile* and *normimagetile* for regular standard sized icons and for the smaller ones (but which are used heavily in the simple skin) *imagesettile* and *moviesettile*. For generic styling of the small icons there is also a span class of *miniicon* around the icon itself.

Moving on to Models, here too there are standard div wrappers around all instances of model icons allowing them to be styled. For the normal model headshot icon, there is a div of class *modeltile* around the icon block itself, with spans of classes *iconmodel* and *iconmodelname* around the icon itself and the text of her name respectively. Around the large model headshot you will find a div with the id of *headshot* in the **girlie.php** program which is the only place that Wacs-PHP uses the large format headshot.

## WACS and Web 2.0

There's a lot of buzz in the IT industry at the moment about dynamic content on the web - also known as Web 2.0. This is where the web page changes what it displays immediately with each selection that you make. So far we've not seen much application of the technology on adult web sites, but as we rather pride ourselves on having the capabilities of the very best, we decided to go ahead and prove we can do it with WACS. The **modelsel.php** application introduced way back in WACS 0.8.4 is the first example of this. This application simply displays various icons related to hair colour, length, breast size, pubic hair style, complexion, body type and other attributes. As you click on these, the page updates with a selection of model headshots that match the specified criteria.

The **modelsel.php** application itself is fairly simplistic and it's use of the underlying AJAX architecture has been re-engineered recently to use the industry standard jQuery libraries. We've also used it as a showcase of how realitively easy it is to integrate php-based applications into the main perl based Wacs infra-structure as it shares the look and feel of the perl based apps.

We also have the **setsel.php** application that does a similar dynamic search thing for sets. Both of these applications have been written in the house style of the main WACS system with the same menus and look. Although these are written in Php, they integrate fully into the main Wacs system.

We do intend to expand on this theme in coming releases with similar dynamic search mechanisms with other cool features.

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# Part II. WACS API

## Programming Reference

This is the API (Application Programming Interface) reference manual for the WACS environment. It documents the main API calls in both Perl and PHP dialects. There are now six operational modules available as part of the WACS system, plus a utility module used by the installers.

**Table 2. The Key WACS Modules**

WACS Module List		
<i>name</i>	<i>part of</i>	<i>description</i>
<b>Wacs.pm</b>	Core	the main Wacs module
<b>WacsUI.pm</b>	Core	the Wacs User Interface module
<b>WacsStd.pm</b>	Core	the Wacs Standardised Components module
<b>WacsID.pm</b>	Core	the Wacs Identification module
<b>wacs.php</b>	wacs-php	the main Wacs module, Php dialect
<b>wacsui.php</b>	wacs-php	the Wacs user interface module, Php dialect



### Note

From Wacs 0.8.6 the perl **WacsUI**, **WacsStd** and **WacsId** modules have been relocated into a Wacs subdirectory for greater clarity and so now need to be used with `Wacs::` prefixes.

Chapter 8, *WACS API: Core Module*

Chapter 9, *WACS API: User Interface Module*

Chapter 10, *WACS API: Standard Components Module*

Chapter 11, *WACS API: Identification Module*

Chapter 12, *WACS API: Downloading Module*

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# Chapter 8. WACS API: Core Module

## Core Module: Summary

**Table 8.1. Function Summary: Core Module**

<b>function</b>	<b>description</b>
read_conf	locate and read the XML based configuration file
check_auth	check that this is an authorised access
auth_error	report an authentication error and suggest remedies
auth_user	return the registered username for this IP
add_auth	add a new authentication token to access control system
update_auth	update the external content cache .htaccess files
find_config_location	try to locate the specified XML config file
conf_get_attr	get the requested configuration attribute
conf_dosubs	do substitutions for the standard wacs configuration variables
auth_get_attr	get the requested access control list attribute
dberror	produce a more helpful error page when db connections fail
gettoday	get today's date as a string suitable for the current DB
timecomps	break a date down into component parts
cacheloc	provide expected location of the cache files for specified set
vendlink	provide a link to the vendors site
loadattrvalues	load attribute values from the database
getvaluename	takes a single character flag and converts to string
geticonlist	gets the icon array for the specified object type
gettypecolour	get the prevailing colour scheme for the set type
divideup	make a directory name more readable
checkexclude	check for this file name being one to ignore/hide
checkindex	check for what might be an index file
makedb-safe	try to make the returned string safe for use in the database
addheadercss	add standard preamble to enable javascript menus
setgroupperms	set the appropriate group permissions for co-operative updating
treemkdir	create a tree of directories (mkdir -p equiv)

## Core Module: Reference

## Core Module: Reference

The following pages contain the \*nix style reference pages for each function call in the WACS core module. These detail what the function does, what parameters it takes, what it returns and which versions of the core library it is available in.

## Name

`read_conf` — read Wacs core config modules

## Synopsis

```
use Wacs;
```

```
read_conf
```

## Summary

The `read_conf` causes the standard WACS XML configuration file, `wacs.cfg` to be parsed and the contents read into internal memory structures in the WACS module for later use by other WACS routines. The main interface to accessing this information is the call `conf_get_attr`.

`read_conf` is sensitive to the environment variable `WACS_CONFIG` which specifies a directory containing an alternative `wacs.cfg` configuration file.

## Availability

`read_conf` is available in both perl and php.



## Name

`check_auth` — check if this IP address is authorised for access

## Synopsis

```
use Wacs;
```

```
check_auth(ip_address, vocal_error);
```

```
scalar ip_address;
```

```
scalar vocal_error;
```

## Summary

`check_auth` checks whether the passed IP address is authorised for access to this Wacs server at this time. This authorisation may be by either permanent or lease permission based upon the calling IP address. This IP address is specified by the first parameter to the function. The second parameter controls what will be done about it: if the value is 0 (zero), the call will merely terminate the session by exiting the program; if the value is 1 (one), an authorisation error HTML page will be displayed offering the user the option to log in. In the Perl version, an additional option of 2 (two) is available which outputs a failure icon in the case of an expired lease and a request for an image file - this is not possible in PHP as the content type of text/html has already been determined.

## Availability

`check_auth` is available in both perl and php.

## Name

`auth_error` — create a reasonable HTML error page with reason and link to remedy

## Synopsis

```
use Wacs;
```

```
auth_error(message);
```

```
scalar message;
```

## Summary

`auth_error` creates a reasonable HTML error page with reason and link to remedy if applicable (ie login page). The message parameter will be placed in a bordered box near the bottom of the message and can be used to convey additional information. `check_auth` sets this to `Sorry, your lease has expired.` when that is the case.

## Availability

`auth_error` is available in both perl and php.

## Name

`auth_user` — return the account name of the user associated with IP address

## Synopsis

```
use Wacs;

scalar auth_user(ip_address);

scalar ip_address;
```

## Summary

`auth_user` returns the account name of the user associated with the specified IP address.

## Availability

`auth_user` is available in both perl and php.

## Name

`add_auth` — add a new authentication token to the access control list

## Synopsis

```
use Wacs;
```

```
add_auth(...);
```

## Parameters

parameter	description
<code>ipaddr</code>	The IP Address of the host being authorised.
<code>user</code>	account name of the user being registered
<code>type</code>	type of registration being undertaken - currently <code>lease</code>
<code>role</code>	level of access granted currently: <code>viewer</code> , <code>power</code> or <code>admin</code>
<code>date</code>	date at which this lease should expire
<code>prefexcl</code>	preference exclusions: the <code>scatflag</code> values not to be shown by default
<code>usedirect</code>	whether to use the <code>usedirect</code> function if supported by the server - can be <code>yes</code> or <code>no</code>
<code>imagepage</code>	whether to create links to framed page or raw ones - should be <code>frame</code> or <code>raw</code>
<code>scaling</code>	when to use image scaling - can be <code>none</code> , <code>slide</code> , <code>slide+page</code> and <code>all</code>
<code>size</code>	size of scaled images when applicable in the format <code>1024x768</code>
<code>quality</code>	jpeg quality setting used when scaling images
<code>delay</code>	desired delay before next image in slideshow

## Summary

`add_auth` adds a new authentication token to the access control list, ie the leases file. This is the action taken by the `wacslogin` command after it has authenticated the user. It can also be used to update the user preferences - it is used by `wacslogin`, `wacspref` and `wacslogout`.

## Availability

`add_auth` is currently available only in perl. A php implementation is possible in a future release if required.

## Name

update\_auth — update the external content cache .htaccess files

## Synopsis

```
use Wacs;

scalar update_auth(...);
```

## Parameters

parameter	description
<b>source</b>	The comma seperated list of files to use for deriving the auth information - if not specified, defaults to the wacs.acl permanent file and the leases.acl temporary leases files.
<b>dest</b>	The comma seperated list of directories in which to place the generated authorised IP addresses list. If not specified, it checks the configuration variable <i>cachelist</i> in the security section of the configuration file, and if that's empty, it finally uses the values for <i>contenti</i> and <i>contentv</i> in the <i>fsloc</i> section.
<b>format</b>	The desired output format - a present the only acceptable value is <i>apache2_htaccess</i> (which is the default) but other options might be available in future.

## Summary

The `update_auth` function reads the current values in the authorisation files and writes suitable `.htaccess` files into the top level of the content cache directories to allow direct HTTP access to the content cache to authorised users.

## Availability

The function `update_auth` is only available in perl as all authorisation update functions are currently offered only in perl, and is only available in WACS 0.9.1 and higher.

## Name

`find_config_location` — return the location of the requested config file

## Synopsis

```
use Wacs;
```

```
scalar find_config_location(configuration_filename);
```

```
scalar configuration_filename;
```

## Summary

`find_config_location` returns the location of the requested config file. It first checks the directory specified by the `WACS_CONFIG` environment variable, and then tries the built-in list of possible WACS configuration file locations. This list is normally: `/etc/wacs.d`, then `/usr/local/etc/wacs.d` and finally `/opt/wacs/etc/wacs.d`. If the specified file is not found in any of these locations, a null string is returned.



### Note

The location specified by the environment variable `WACS_CONFIG` takes precedence, if and *only if* the requested file is present there. The normal directories are searched afterwards if the file is not found in the directory specified.

## Availability

`find_config_location` is available in both perl and php.

## Name

`conf_get_attr` — get the specified attribute from the config file values

## Synopsis

```
use Wacs;
```

```
scalar conf_get_attr(configuration_section, configuration_attribute);
```

```
scalar configuration_section;
```

```
scalar configuration_attribute;
```

## Summary

`conf_get_attr` returns the specified attribute from the config file or its default value if not specified there. The WACS configuration files are divided into a number of logical sections; the first parameter specifies which of these is required: amongst those defined are `database`, `tables`, `fsloc`, `server`, `security`, `download`, `colours`, `layout`, `precedence` and `debug`. Please see the WACS configuration guide and sample `wacs.cfg` files for more information on what information is available.

## Availability

`conf_get_attr` is available in both perl and php.

## Name

`conf_dosubs` — do substitutions for the standard wacs configuration variables

## Synopsis

```
use Wacs;  
  
scalar conf_dosubs(...);
```

## Parameters

parameter	description
string	The string on which the substitutions should take place.
options	For passing in the options passed to the routine when called, will be substituted for #OPTIONS# within the configuration string.
optdesc	For a matching description for the above, will be substituted for #OPTDESC# within the configuration string.

## Summary

The `conf_dosubs` function makes substitutions for the standard wacs configuration variables within configuration files. It is used by various function calls within the WacsUI module including the menu handling functions, generalised from the previous `menu_dosubs` function. It is functionally compatible with `menu_dosubs` so if you did make use of the original (private) function, you can use this as a direct replacement.

In addition to substituting #OPTIONS# and #OPTDESC# with the matching parameters, it will also substitute the appropriate variables from the configuration files: #BASEURL#, #CGIURL#, #ICONURL#, #SITEURL#, #WACSURL#, #WACSMMAIN#, #WACSALLM#, #WACSMODP#, #WACSMTHU# and #NEWPERIOD#.

## Availability

`conf_dosubs` is only available in Wacs 0.9.0 and later and is available in both perl and php.



## Name

`auth_get_attr` — get the specified attribute from the authorisation file values

## Synopsis

```
use Wacs;
```

```
scalar auth_get_attr(ip_address, authorisation_attribute);
```

```
scalar ip_address;
```

```
scalar authorisation_attribute;
```

## Summary

`auth_get_attr` returns the specified attribute from the authorisation file or it's default value if not specified there. These look ups are based on the IP address of the host - typical attributes include the user name, the preference exclusions, the role, and the various preference settings - see `add_auth` for more info.

## Availability

`auth_get_attr` is available in both perl and php.

## Name

`dberror` — produce a more helpful error page when db connections fail

## Synopsis

```
use Wacs;
```

```
dberror( . . . );
```

## Parameters

parameter	description
header	Whether to add an HTML preamble or not: n for no, y for yes.
message	The message the end-user should receive
error	The error message returned from the database routines; logged in the web server error log
dbuser	The database user account with which the access was being attempted, from the config file's <code>dbuser</code> entry.
dbhost	The host specification of the database that it was trying to access, from the config file's <code>dbconnect</code> entry when using perl, and the <code>phpdbconnect</code> entry when using PHP

## Summary

The `dberror` function provides a detailed and hopefully helpful error message when the WACS subsystem cannot connect to the database server. It also logs details of the failure to the web server error log.

## Availability

`dberror` is available in both perl and php. It was introduced in Wacs 0.8.1.

## Name

gettoday — get todays date and various relations thereof

## Synopsis

```
use Wacs;
```

```
scalar gettoday(...);
```

## Parameters

parameter	description
format	which format to return date in (DD-MON-YYYYY or YYYY-MM-DD) - default is native format for the current database
epoch	the actual date to convert in Unix seconds since 1970 format.
offset	number of days different from today - assumed to be historical if postive, future if negative - thus yesterday will be 1, a week ago will be 7, tomorrow will be -1.

## Summary

The `gettoday` function returns either todays date or various deviations thereform - yesterday, a week ago, two weeks ago, etc.

## Availability

`gettoday` is available in both perl and php.

## Name

timecomps — return seperated time components

## Synopsis

```
use Wacs;
```

```
array timecomps(date_in_db_format);(format);
```

```
scalar date_in_db_format;
```

## Summary

The `timecomps` breaks a database format date up into year, month and day components. The optional **format** parameter can specify a non-native date format for conversion purposes.

## Availability

`timecomps` is available in both perl and php.

## Name

`cacheloc` — provide the expected location of the cache files for specified set

## Synopsis

```
use Wacs;
```

```
scalar cacheloc(setno, prefix, filetype);
```

```
scalar setno;
```

```
scalar prefix;
```

```
scalar filetype;
```

## Parameters

parameter	description
<i>setno</i>	The set number
<i>prefix</i>	The pathname to prefix on the destination to be checked
<i>filetype</i>	The type of file to look for - can be a file type like <code>jpg</code> , or one of <code>/</code> , <code>:</code> or <code>?</code> . The <code>/</code> checks for a directory, <code>:</code> checks for a directory (like <code>/</code> ) but only returns a relative rather than absolute reply (suitable as a web URL component), and <code>?</code> returns what it <i>should be</i> with no actual existence test performed. Alternatively it can be a file type such as <code>wmv</code> or <code>jpg</code> or similar for a content file.

## Summary

The `cacheloc` function reports on the presence of a cache file of the type specified. This also can be a directory if the specified file type is `"/`, `":"` or `"?"`.

## Availability

The function `cacheloc` was introduced in Wacs 0.9.1 and is not available in earlier versions. It is available in both Perl and Php.

## Name

`vendlink` — provide (if possible) a link to the vendor's site for this model

## Synopsis

```
use Wacs;
```

```
scalar vendlink(...);
```

## Parameters

parameter	description
vendor	the vendor's reference (ie their vsite id)
page	which page to get: valid options are <code>directory</code> , <code>modelpage</code> , <code>bio</code> , <code>vidindex</code> , <code>vidpage</code> , <code>imgpage</code> , <code>altpage</code> , or <code>signup</code> .
name	the model's name
key	the model's key for this site
altkey	the model's alternative key for this site
setkey	the setkey if this request needs it (depends on the value of page above)
sessionkey	the session key (if required and known).
modelno	the WACS model number for this request (believe me we occasionally need this)
setno	the WACS set number for this request (see above - this too)
dbhandle	current handle to the database connection

## Summary

The `vendlink` provides (if possible) a link to a page on the vendor's site for this model or set. Specify the page you require using the `page` parameter - can link to any one of the many pages the vendor database knows about.

## Availability

`vendlink` is available in only in perl at present. If you need it in PHP, please put in a request for it on the sourceforge tracker.

## Name

loadattrvalues — load attribute values from the database

## Synopsis

```
use Wacs;
```

```
scalar loadattrvalues(...);
```

## Parameters

parameter	description
type	specifies the context of the attribute values to be returned - the common two are <code>sets</code> or <code>models</code> although a number of others for general searching ( <code>setsearch</code> and <code>modsearch</code> ) and detailed searching ( <code>setdetail</code> and <code>moddetail</code> ) are also supported. Fields within the attributes schema specify which attributes should be included within results for each of these requests.
dbhandle	The handle to the active database connection to be used for the queries needed.

## Summary

The `loadattrvalues` returns an hash (or array with alphanumeric keys) containing attribute keywords and their corresponding icons. This replaces the older static list of attributes with a dynamic and configurable mechanism driven from the database itself. Normally the keys themselves are keywords and the values are the corresponding icon name.

## Availability

`loadattrvalues` is available in both perl and php and was introduced in Wacs 0.9.0 - it was not present prior to that release.

## Name

`getvaluename` — provide the long name for the specified value of specified type

## Synopsis

```
use Wacs;
```

```
scalar getvaluename(...);
```

## Parameters

parameter	description
object	The object you want the mapping for - see <code>geticonlist</code> below
value	The value you want mapped to it's long format (often a single character).

## Summary

The `getvaluename` function returns the long (readable) name for the specified short value of specified fixed values attribute type. For instance, if you want to get the long name for type "M", you call `getvaluename` with `object=>"types"` and `value=>M` and `getvaluename` will return `Masturbation`.

## Availability

`getvaluename` is available in both perl and php.



## Name

`geticonlist` — return the array of attributes to filename/long name mappings.

## Synopsis

```
use Wacs;
```

```
hashref geticonlist(requested_object, database_handle);
```

```
scalar requested_object;
```

```
scalar database_handle;
```

## Summary

The `geticonlist` function returns an array/hashref of the legal values for the requested type object. In some cases this will be the filenames of the icon for the attributes; in other cases it'll be the single character legal values and their long form names. The second parameter is a database handle to use in querying the database for these values; without this a very basic hardcoded default will be provided. The requests currently using the database handle are `models` and `sets`.

Valid requests include: `models`, `sets`, `types`, `media`, `dstatus`, `regions`, `flags`, `pussy`, `build`, `rank` and `picon`, `hicon`, `ticon`, `bicon`.

## Availability

`geticonlist` is available in both perl and php. The `picon` attribute was added in Wacs 0.8.2. The `build` and `bicon` attributes were added in Wacs 0.8.6. The `rank` attribute was added in Wacs 0.9.0.

## Name

`gettypecolour` — return the background colour for this type of set

## Synopsis

```
use Wacs;
```

```
scalar gettypecolour(set_type);
```

```
scalar set_type;
```

## Summary

The `gettypecolour` returns the HTML colour specification for the background of the current set type. Pass it the set stype value `I`, `V`, etc.

## Availability

`gettypecolour` is available in both perl and php.

## Name

divideup — make Camel-style text more readable and add HTML markup

## Synopsis

use Wacs;

```
scalar divideup(original_text, divider, already_small_font);
```

```
scalar original_text;
```

```
scalar divider;
```

```
scalar already_small_font;
```

## Summary

The `divideup` function returns a more readable version of the so-called Camel Style wording used in creating WACS directories. It also embeds HTML directives to try and ensure that even long entries don't take up too much space. The first argument is the original text (typically the field stitle from the sets database), the second (`divider`) is typically the HTML break tag `<br>` but could be other things like a table divider sequence `</td><td>` . The third parameter signifies whether the font in use is already small - if set to 0 (zero), HTML tags to reduce the font size be based on using size is -1 for long lines; if it's set to 1 (one) it'll be assumed they were already using size is -2, and will therefore use size = -3. As from Wacs 0.8.5, -1 is also available which suppresses the resizing of long lines if required.

## Availability

`divideup` is available in both perl and php.

## Name

checkexclude — test for being a directory file or other reserved purpose name

## Synopsis

```
use Wacs;  
  
scalar checkexclude(filename);  
  
scalar filename;
```

## Summary

The checkexclude returns 1 if the file is one of those that should be excluded from consideration (ie . or .. or one of ours like .info or .unpack). If the file looks genuine, returns 0.

## Availability

checkexclude is available only in perl as it is just used for collection management tasks.

## Name

checkindex — try to guess if this is an index image file

## Synopsis

```
use Wacs;
```

```
scalar checkindex(filename);
```

```
scalar filename;
```

## Summary

The `checkindex` tries to guess if a given file name is likely to be an index file or a regular image file based upon its name. If it's a name associated with index files, it returns 1; if it isn't `checkindex` returns 0.

## Availability

`checkindex` is available in only perl as it is really only appropriate to collection management tools.

## Name

`makedbSAFE` — try to make the returned string safe for use in the database

## Synopsis

```
use Wacs;
```

```
scalar makedbSAFE(...);
```

## Parameters

parameter	description
string	the string of text to be considered
allow	characters to allow which are not normally acceptable: at present only forward slash (/) is recognised
deny	characters to deny which are normally acceptable: at present any space character (space, tab, newline) given here will cause any whitespace characters to be stripped out.

## Summary

The `makedbSAFE` function is designed to remove characters which are unsuitable for feeding to the database. It normally works with a default set of rules, which implicitly disallows forward slash (but this can be explicitly allowed with `allow=>'/'`). Similarly white space can be removed from a file name when required using the `deny` option. It will also remove harmful characters that are not legal in any reasonable database - the single quote mark `'` will be automatically replaced by the back quote ``` and greater than (`>`) and less than (`<`) will be stripped out.

## Availability

`makedbSAFE` is available in both `php` and `perl`. This function was added in `Wacs 0.8.1`.

## Name

`addheadercss` — prints out the header cascading style sheet preamble

## Synopsis

```
use Wacs;
```

```
addheadercss(css_preamble_type);
```

```
scalar css_preamble_type;
```

## Summary

The `addheadercss` prints out the required css preamble to support the appropriate pull down menu system. At present only one type, "csshoriz" is recognised, but additional options can be added.

## Availability

`addheadercss` is available in both perl and php.

## Name

setgroupperms — set group permissions to allow both command line and web management of sets.

## Synopsis

```
use Wacs;
```

```
setgroupperms( . . . );
```

## Parameters

parameter	description
target	pathname of the file or directory to update
group	the unix group to set permissions to (usually wacs, can be obtained with conf_get_attr on security -> admingroup.
mode	access mode that should be set - typically ug+rwX.

## Summary

The setgroupperms function sets the group permissions on the specified file to allow updating by both command line tools and the web interface. This is typically done by making all files group-writable to the wacs group of which both apache and the approved WACS administrative users should be members.

## Availability

setgroupperms is available only in perl as it is used only for collection management tasks.



## Name

`treemkdir` — Makes a descending tree of directories (equivalent to the `mkdir -p` command) which includes calls to `setgroupperms`.

## Synopsis

use `Wacs`;

```
treemkdir(...);
```

## Parameters

parameter	description
<code>origin</code>	The toplevel directory from which to start - this is required to already exist.
<code>path</code>	The path below the toplevel directory given above to be created (or partially created as necessary)

## Summary

The `treemkdir` function is the equivalent of the `-p` option to the `mkdir` command which is not supported by the internal `mkdir` call of `perl`. It makes each element of the path it is asked to make if it does not already exist. This is part of the effort to reduce the dependency on the system call to unix shell commands within WACS. Each directory created has it's permissions set using `setgroupperms`.

## Availability

`treemkdir` is available only in `perl` as it is used only for collection management and infrastructure tasks.

---

# Chapter 9. WACS API: User Interface Module

## User Interface Module: Summary

**Table 9.1. Function Summary: User Interface Module**

<b>function</b>	<b>description</b>
describeher	tries to make a sensible sentence out of model data
whatshedoes	describes the kind of sets this model appears in
addkeyicons	makes a little HTML table with the attribute icons
addratings	makes a little HTML table with the set ratings
addlinks	add standard top-of-the-page menus
iconlink	build a link around the icon for this set
contentlink	build a link to the content download (cache or wacszip)
thumblink	build a link to a specific thumbnail of a set image or video thumbnail
alsofeaturing	find and list any other models featured in this set
addrelicons	adds a small table containing icons from related sets
addconticons	adds icons from the continuation sets in a little box
read_menu	read the XML menu files and create menu record structure
menu_get_default	get the default link for the menu title
menu_get_title	get the menu title itself
menu_get_body	get the body of the menu
menu_get_entry	get a single entry from the menu
menu_get_handler	get the webapps name to handle a datatype
getrelated	get information on sets related to the set number given
getvideoext	returns the file name extension for the video format specified

## User Interface Module: Reference

The following pages contain the \*nix style reference pages for each function call in the WACS User Interface module. These detail what the function does, what parameters it takes, what it returns and which versions of the WacsUI library it is available in.

## Name

describeher — tries to make a sensible sentence out of model data

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar describeher(...);

```

## Parameters

parameter	description
name	Her name
hometown	Where she says she's from - might be place of birth or current home
country	The country she comes from
age	Her reported age
ageyear	The year in which that age was given
hair	The colour of her hair
length	The length of her hair
titsize	The size of her breasts
cupsize	The cupsize of her breasts if known
pussy	The usual style of her pubic hair
labia	description of her labia (New in 0.9.0)
race	Her race (in broad terms)
eyes	The colour of her eyes
distmarks	distinguishing marks - easy ways to recognise her
build	her physical build/body type
height	her height in centimetres (NB: field not suitable for imperial values)
weight	her weight in kilograms (NB: field not suitable for imperial values)
vitbust	her bust measurement in centimetres
vitwaist	her waist measurement in centimetres
vithips	her hips measurement in centimetres
starsign	her starsign if known
occupation	her occupation (if stated)
aliases	other names she's known by
bio	any additional biography text
units	override configuration file when giving units: imperial or metric

## Summary

The `describeher` tries to make a readable biography entry out of the various model attribute parameters in the `model` table. The result is returned as a string.

## Availability

`describeher` is available in both perl and php. The fields *name*, *hometown*, *country*, *age*, *ageyear*, *bio* and *units* were added in WACS 0.8.2.

## Name

whatshedoes — describes the kind of sets this model appears in

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
scalar whatshedoes(...);
```

## Parameters

parameter	description
solo	does she feature in solo sets (Y, N)
straight	does she feature in straight sets (Y, N)
lesbian	does she feature in lesbian sets (Y, N)
fetish	does she feature in any sets flagged as fetish
toys	does she use toys in any of her sets
masturbation	does she masturbate in any of her sets
other	does she do any activites marked as other

## Summary

The `whatshedoes` function takes the truth values for doing certain kinds of activities and makes it into a descriptive sentence which is returned as a string.

## Availability

`whatshedoes` is available in both perl and php.

## Name

`addkeyicons` — makes a little HTML table with the attribute icons in

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
addkeyicons(list_of_attribute_keywords, icon_size);  
  
scalar list_of_attribute_keywords;  
scalar icon_size;
```

## Summary

The `addkeyicons` function takes a space separated list of attribute keywords such as the sets table `scatinfo` field or the models table `mattributes` field and prints out the associated icons in a small HTML table. It scales the icons to the specified size in doing so.

## Availability

`addkeyicons` is available in both perl and php.

## Name

`addratings` — makes a little HTML table with the ratings icons in

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
addratings(...);
```

## Parameters

parameter	description
overall	The overall rating for the set (1 to 5)
variety	How unusual the content or action of the set is
techqual	The technical quality of the photography, lighting and set
size	How big the icons should be: normal or small
orientation	whether the table should be vertical or horizontal
title	display title on table: y for yes, n for no.

## Summary

The `addratings` function is similar to `addkeyicons` in that it outputs an HTML table with icons in. In this case, it's the ratings icons for each of the three main set ratings: overall, variety and techqual. It can display the table in two sizes, with or without a title and in a horizontal or vertical orientation.

## Availability

`addratings` is available in both perl and php. This function was introduced in Wacs 0.8.1

## Name

addlinks — add standard top-of-the-page menus

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsUI;
```

```
addlinks(...);
```

## Parameters

parameter	description
myname	name of the calling program
context	general area of the current page: possible values are <code>modelindex</code> , <code>models</code> , <code>search</code> , <code>tags</code> , <code>newimage</code> , <code>newvideo</code> or <code>admin</code>
title	Title of the menu (not currently used)
exclude	name of link to exclude (normally this apps name so it doesn't link to itself)
mode	menu mode: either <code>normal</code> for old-style simple top line menu or <code>csshoriz</code> to use javascript pull down menus
options	optional parameter list (array)
optdesc	matching descriptions for the above

## Summary

The `addlinks` function is a generalised interface to adding a top of the page menu - you specify a general category into which the page you're writing falls, and it adds an appropriate selection of the standard menus.

## Availability

`addlinks` has been available in perl for sometime and was newly added to the php implementation in Wacs release 0.8.4. In general, unless you're trying to create a php app that blends in with the standard Wacs tools, you'll probably want to use your own menu mechanism when using PHP.



## Name

iconlink — build a link around the icon for this set

## Synopsis

```
use Wacs;

use Wacs::WacsUI;

scalar iconlink(...);
```

## Parameters

parameter	description
type	set type value (I, V, etc)
setno	The set number
srank	The set rank - P-Primary, S-Secondary, C-Continuation
sarea	The toplevel area of the set
scategory	The middle level area of the set
sdirectory	The lower level area of the set
sformat	The format of the file (JPG,MPG,WMV,etc)
model	The model's name - used in the alt tag in the images
resize	Whether to resize or not - 0 is actual size, 1 is rescaled to standard size, 2 is rescaled to mini size, 3 is rescaled to large size. (Support for 3 is added in WACS 1.0.0)
silent	Set this to <i>y</i> or <i>yes</i> to suppress printed output
destloc	Which configuration variable or URL to use for location of link destination application - typically cgiurl for perl scripts, siteurl for php scripts, or wacsurl for wacs GUI elements (like glyphs, javascript files or stylesheets). If a full url starting http, it will be copied verbatim rather than looked up.
destapp	The stem of the URL to link to around the icon, something like wacsindex/page, needs to include any parameter introducers like page or setid=
destext	The extension of the URL to link to, or null, ie .html or .php. From Wacs 0.9.0 onwards this can also be <i>none</i> to leave it empty.
prefer	Which icons to use for preference when both an official and a standard icon are available. Set <b>prefer</b> to "official" to use the official icon in the generated HTML. Introduced in Wacs 0.9.1, not available prior to that.
archive	The name of the file to be linked to when offering a download link
download	If set to <i>y</i> adds the <i>download</i> flag to the generated link causing the video file to be downloaded rather than viewed (for supported media types).

## Summary

The `iconlink` function displays the icon for a set at the requested size surrounded by an appropriate link to the set concerned. Since WACS 0.9.1 it now returns the string that forms the link in the same style

as `contentlink` and `thumblink` do. The default is still to print the output to standard out as well, but this can be suppressed with the `silent` option.



### Note

It is a future direction to make `silent` output the default for this function, so it is strongly recommended that you specify the `silent` flag one way or the other whenever you're updating your code.

## Availability

`iconlink` is available in both `perl` and `php`. The `srnk`, `sformat`, `silent` and `archive` options are only available in 0.9.1 or later. The `destloc`, `destapp` and `destext` options are only available in 0.8.1 or later.

## Name

contentlink — provide suitable link for downloading media

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsUI;
```

```
scalar contentlink(...);
```

## Parameters

parameter	description
setno	The set number to provide
stype	The type of the set to provide (I,V,etc)
srnk	The rank of the set (P,S,C etc)
ext	The file name extension to use (zip, wmv, mpg, etc)
serve	How to serve the file: raw - the original file, cooked - edited and combined with any continuation files
silent	This function can either return the desired link as a string and optionally print it out. If silent is set to <code>y</code> or <code>yes</code> , then it will ONLY be returned and not printed.
archive	The name the resulting file should be delivered as - ie Jenny-12.zip. Defaults to set12345.zip as with earlier releases of Wacs.

## Summary

The **contentlink** function is used to create links to allow downloading of the actual content from WACS. This is designed to make a determination as to whether to simply provide a link to wacszip as in previous WACS releases, or to provide a link into the new content caching areas introduced in WACS 0.9.1.

## Availability

The **contentlink** function was introduced in Wacs 0.9.1 to compliment the new content caching mechanism and was not available in previous releases. It is not available in previous releases. It is available in both perl and php.

## Name

thumbblink — build a link to a specific thumbnail of a set image or video thumbnail

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
scalar thumbblink(...);
```

## Parameters

parameter	description
setno	The set number this thumbnail comes from
imgno	Which image number to show
stype	The set type (I,V, etc)
size	The size to show it at - std, mini, etc
silent	Set this to no to print link before returning
linkto	Link to a full frame version if required

## Summary

The `thumbblink` provides links to thumbnailed versions of member images of a set. For an image set, these are the scaled thumbnails of the images within the set itself, while for videos these are from any still thumbnails provided for the set. It will optionally add a link around the image to any full frame or scaled displayer application you wish to specify.

## Availability

The `thumbblink` function was introduced in Wacs 0.9.1 and is not available in previous releases. It is available in Perl and Php.

## Name

`alsofeaturing` — look for any other models also featuring in this set

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsUI;
```

```
scalar alsofeaturing(...);
```

## Parameters

parameter	description
<code>setno</code>	The set number of this set
<code>primary</code>	The model number we already know about for this set; exclude this model from the results. Leave blank if you want all models listed.
<code>staysmall</code>	stay in a small font - if this is set to <code>Y</code> font change specifications will not cause a size change.
<code>destloc</code>	the location of the destination application for the link. This defaults to <code>cgiurl</code> but can be <code>baseurl</code> or any of the url configuration values.
<code>linkto</code>	which wacs application to link to (assumed to be in <code>cgi-bin</code> ). If this ends in an equals sign (=) no slash will be added between the application name and the modelno. This allows <code>modelno=</code> and <code>L=</code> style arguments.
<code>skipbr</code>	tells the function not to output HTML breaks around the output it creates. This can be <code>first</code> or <code>all</code> as required.
<code>dbhandle</code>	current handle to the database connection

## Summary

The `alsofeaturing` function returns a list of models featured in this set along with links to an appropriate WACS application.

To aid CSS styling there is a span directive with a class of `alsofeattitle` around the Featuring or Also Featuring title output, and another with a class of `alsofeatmodel` around each model link output.

## Availability

`alsofeaturing` is available in both perl and php (from release 0.8.5); only in perl in the releases prior to that. It was moved to `WacsUI` in release 0.8.5 from the core `Wacs` module. The `skipbr` and `destloc` parameters were added in `Wacs` release 0.8.5.

## Name

`addrelicons` — adds a small table containing icons from related sets

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar addrelicons(...);

```

## Parameters

parameter	description
<code>setno</code>	The set number of this set
<code>stype</code>	The type of this set
<code>sformat</code>	The format of this set - mostly useful for videos
<code>layout</code>	How to layout the resulting output - specify <code>table</code> for HTML table, <code>div</code> for appropriate DIVs for CSS formatting.
<code>size</code>	Size of the icons to use - <code>mini</code> , <code>std</code> , etc.
<code>perrow</code>	Specifies how many icons should be included in each row of the table when displaying continuation icons (see <code>addconticons</code> below)
<code>destloc</code>	Which configuration variable to use for location of link destination application - typically <code>cgiurl</code> for perl scripts, <code>siteurl</code> for php scripts, or <code>wacsurl</code> for wacs GUI elements (like glyphs, javascript files or stylesheets)
<code>destapp</code>	The stem of the URL to link to around the icon, something like <b>wacsindex/page</b> , needs to include any parameter introducers like <code>page</code> or <code>setid=</code>
<code>destext</code>	The extension of the URL to link to, or null, ie <code>.html</code> or <code>.php</code> . From Wacs 0.9.0 onwards this can also be <code>none</code> to leave it empty.
<code>destinfo</code>	The stem of the URL to link around a link to more information, something like <b>wacsindex/info</b> , needs to include any parameter introducers like <code>page</code> or <code>setid=</code>
<code>dbhandle</code>	Handle to the current database connection for query

## Summary

The `addrelicons` function returns the HTML to generate a small table with icons with hyperlinks for duplicate and/or continuation sets. It arranges the duplicate sets it rows, adding any appropriate continuation icons within each row as needed. It calls the function `addconticons` to produce each row of icons. Various optional parameters control how this HTML segment is generated.

## Availability

`addrelicons` is available from Wacs release 0.9.0 onwards in both perl and php. It was not available prior to this release.

## Name

`addconticons` — adds a small table containing icons from continuation sets

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar addrelicons(...);

```

## Parameters

parameter	description
<code>setno</code>	The set number of this set
<code>stype</code>	The type of this set
<code>sformat</code>	The format of this set - mostly useful for videos
<code>layout</code>	How to layout the resulting output - specify <code>table</code> for HTML table, <code>div</code> for appropriate DIVs for CSS formatting.
<code>size</code>	Size of the icons to use - <code>mini</code> , <code>std</code> , etc.
<code>perrow</code>	Specifies how many icons should be included in each row of the table
<code>label</code>	Overrides the default part label if it does not contain an empty string.
<code>destloc</code>	Which configuration variable to use for location of link destination application - typically <code>cgiurl</code> for perl scripts, <code>siteurl</code> for php scripts, or <code>wacsurl</code> for wacs GUI elements (like glyphs, javascript files or stylesheets)
<code>destapp</code>	The stem of the URL to link to around the icon, something like <b>wacsindex/page</b> , needs to include any parameter introducers like <code>page</code> or <code>setid=</code>
<code>destext</code>	The extension of the URL to link to, or null, ie <code>.html</code> or <code>.php</code> . From Wacs 0.9.0 onwards this can also be <code>none</code> to leave it empty.
<code>destinfo</code>	The stem of the URL to link around a link to more information, something like <b>wacsindex/info</b> , needs to include any parameter introducers like <code>page</code> or <code>setid=</code>
<code>dbhandle</code>	Handle to the current database connection for query

## Summary

The `addconticons` function returns the HTML to generate a small table with icons with hyperlinks for continuation sets. Various optional parameters control how this HTML segment is generated. It supports a similar set of onwards link specifiers to `iconlink` to allow use with the likes of the PHP simple skin pages if preferred.

## Availability

`addconticons` is available from Wacs release 0.9.0 onwards in both perl and php. It was not available prior to this release.

## Name

`read_menu` — read the XML menu files and create menu record structure

## Synopsis

```
use Wacs;

use Wacs::WacsUI;

read_menu(menu_filename);

scalar menu_filename;
```

## Summary

The `read_menu` reads the specified menu XML file into the internal data structures of the `wacsui` object. It should be called before using any of the other menu routines. For the standard system menus, the collection management tools look up the configuration variable `mainmenu` in the **layout** section which by default tells them to use the file `menu.cfg` in the `wacs` config directory (usually `/etc/wacs.d`). You can edit the standard menu file to add your own additional menu definitions for use in specific applications. If your application wishes to use an alternate namespace, you could specify an alternate menu config name, something like `mysite.cfg` and also place it in the `wacs` config directory.

## Availability

`read_menu` is available in both perl and php. The use of configuration variable `mainmenu` is only used from Wacs 0.9.0 onwards, previously it was a hard coded default.



## Name

`menu_get_default` — get the default link for the menu title

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
scalar menu_get_default(...);
```

## Parameters

parameter	description
<code>name</code>	the menus name; typically in lower case (eg <code>navigation</code> )
<code>caller</code>	name of the calling application
<code>exclude</code>	applications to exclude from menus; typically the calling application itself
<code>options</code>	an array of options to be substituted.
<code>optdesc</code>	a matching array of descriptions

## Summary

The `menu_get_default` returns the default link for the top-of-the-page menu title before the menu pull-down is activated. Normal substitutions are applied to this option if specified.

## Availability

`menu_get_default` is available in both perl and php.

## Name

`menu_get_title` — get the menu title itself

## Synopsis

```
use Wacs;  
  
use Wacs::WacsUI;  
  
scalar menu_get_title(...);
```

## Parameters

parameter	description
name	Name of the menu whose title you want

## Summary

The `menu_get_title` function returns the readable title for the specified menu. This is typically what the link address returned by `menu_get_default` will surround.

## Availability

`menu_get_title` is available in both perl and php.

## Name

`menu_get_body` — get the body of the menu

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar menu_get_body(...);

```

## Parameters

parameter	description
name	name of the menu concerned
caller	name of the program calling it
exclude	name of program to exclude from menus
options	array of options to use
optdesc	array of matching descriptions for the options above
isarea	hashref/array of image-based sarea values
vsarea	hashref/array of video-based sarea values
mflags	hashref/array of model flags
vsites	hashref/array of vendor codes and names
pre	prefix for generated entries (eg <code>&lt;li&gt;&lt;a href=\"</code> )
intra	middle section for generated entries (eg <code>\ "&gt;</code> )
post	postfix for generated entries (eg <code>&lt;/a&gt;&lt;/li&gt;</code> )

## Summary

The `menu_get_body` function returns a big string containing the HTML formatted body of the requested menu. Using the `pre`, `intra` and `post` parameters you can include the correct entry pre-amble, mid-section and tail-section for your desired menu layout.

## Availability

`menu_get_body` is available in both perl and php.

## Name

`menu_get_entry` — get a single entry from the menu

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar menu_get_entry(...);

```

## Parameters

parameter	description
name	name of the menu concerned
caller	name of the program calling it
entry	hashref/array of the current entry object from menu tree
options	array of options to use
optdesc	array of matching descriptions for the options above
isarea	hashref/array of image-based sarea values
vsarea	hashref/array of video-based sarea values
mflags	hashref/array of model flags
vsites	hashref/array of vendor codes and names
pre	prefix for generated entries (eg <code>&lt;li&gt;&lt;a href=\"</code> )
intra	middle section for generated entries (eg <code>\ "&gt;</code> )
post	postfix for generated entries (eg <code>&lt;/a&gt;&lt;/li&gt;</code> )

## Summary

The `menu_get_entry` takes an individual menu entry (which may result in multiple menu entry lines) and processes it into a string that is returned. It is available separately as it can be called with custom parameters via `options` and `optdesc` to do specific non-standard parameters. All the usual substitutions are available including a special one called `#NEWPERIOD#` which provides a text representation of the current value of the `layout->newperiod` variable.

## Availability

`menu_get_entry` is available in both perl and php. The `#NEWPERIOD#` functionality was introduced in WACS 0.8.5.

## Name

`menu_get_handler` — get the webapps name to handle a datatype

## Synopsis

```

use Wacs;

use Wacs::WacsUI;

scalar menu_get_handler(...);

```

## Parameters

parameter	description
<i>for</i>	The type of data this is a handler for; usually this will be the table name, eg <i>models</i> but it can be any arbitrary name.
<i>options</i>	This is the primary key to be passed to the application specified in the lookup.

## Summary

The `menu_get_handler` function is there primarily to let you find the applications that mesh best with the menu tree currently being used. You pass to the function the table or activity name and the primary key (or other lookup parameter) and it will return the preferred application to handle that type of link for this menu/look and feel in use. If the menu configuration file does not include a specification of the handler for any of the standard database tables, the default Wacs application will be given as the reply. A null reply will be indicated by a single character reply of just the hash character.

Some Common Names
mainmenu
models
photographer
preferences
slideshow

## Availability

`menu_get_handler` is available from Wacs 0.8.5 onwards in both perl and php. It was not available prior to this release.

## Name

getrelated — get information on sets related to the set number given

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsUI;
```

```
scalar getrelated(...);
```

## Parameters

parameter	description
relation	gives the type of relation we're looking for. Available options are <code>continuation</code> , <code>primary</code> , <code>duplicates</code> or <code>altmedia</code> . If <code>continuation</code> is specified it gives an array of set numbers starting with this set and continuing for the length of the chain. Usually this will be two or four sub-parts of a video clip. If <code>primary</code> is specified it, returns an array of just the primary set numbers in this chain. It is possible that there can be more than one primary set in a chain, where for instance the clips came from a movie where there is loose connections between the scenes. The usual case is that it's the set number at the top of the chain of continuation files. (New in Wacs 1.0.0). If <code>duplicates</code> is given it follows the <code>duplicates</code> link of each set until it reaches the end of the chain or returns to the first set - it returns an array of these sets. If <code>altmedia</code> is specified an array of set numbers will be returned prefixed by their type and a hyphen.
stype	gives the type of the set we're dealing with - ie I or V.
setno	the set number to start from - most likely the first in the set but not necessarily. The progression will only be forwards however. For alternative media, this can be expected to be the start point that we don't want given back to us.
alternative	This is the first alternative number to look for when looking for alternative media. The chain continues until we get back to the set number given.
duplicates	This is the first number of a duplicate set to look for when finding alternatives. If you don't specify this option, the search will start with the set itself - sometimes this maybe what you want.
dbhandle	the database handle to use for submitting queries to the database

## Summary

The function `getrelated` provides a tool for finding a sequence of related sets based on the requested type of relation to look for and the set number given. If the relation specified is `continuation` it will return an array starting with the set itself in element zero and will then follow links in `snext` to find the chain of related sets and each subsequent element will be the `setno` of the next set in the continuation chain.

If the relation specified is `primary`, then it will only find the primary sets walking backwards through the chain. In the vast majority of cases, this will be a single set number at the top of the chain. It is possible for there to be multiple primary sets in a chain if there is a looser connection between two chains such as different scenes from a movie, or different parts of a series. This option is only available in Wacs 1.0.0 and later.

If the relation specified is *altmedia* it will return an array of all sets of other media types related to this set, but not the set's own details.

## Availability

`getrelated` is available from Wacs release 0.9.0 onwards in both perl and php. It was not available prior to this release. The *primary* is only available in Wacs release 1.0.0 and later.

## Name

`getvideoext` — returns the file name extension for the video format specified

## Synopsis

```
use Wacs;

use Wacs::WacsUI;

scalar getvideoext(format);

scalar format;
```

## Parameters

The `getvideoext` takes the name of the video format (ie MPEG, QuickTime, etc) as stored in the **sformat** database field.

## Summary

The `getvideoext` returns a file name extension (`mpg`, `wmv`, `mov`, `avi`, etc) appropriate to the type of file specified.

## Availability

`getvideoext` is available from Wacs 0.9.0 release onwards in perl and php. It was not available prior to this release



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# Chapter 10. WACS API: Standard Components Module

## Standard Components Module: Summary

**Table 10.1. Function Summary: Standard Components Module**

<b>function</b>	<b>description</b>
masthead	creates a top-of-the-page summary for any page handling set
modelmast	creates a model-focused top-of-the-page summary
modelheads	adds the icons with links for model(s) specified
findmodel	creates a table and choice box for models with a given name
findrecentsets	creates rows in a table managed form with pull-down menus containing details of recently added sets
findrecentmodels	creates rows in a table managed form with pull-down menus containing details of recently added models and a search box to be fed to <code>findmodel</code>
modelheadshot	creates a model headshot icon and basic info table contents
getgallery	work out the next available gallery slot when in gallery layout mode
callframe	create a suitable URL for page based navigation of the specified set
foundatsite	return a list of other sites where this model can be found
kwscore_reset	resets the keyword scoring system back to defaults
kwscore_process	process the provided string looking for keywords
kwscore_get	get the specified result from the processing of the strings provided previously
getcontinfo	get various pieces of information from the named set relevant for a continuation set
linkfromprevious	updates a previous set in a continuation with details of set just added
linkrelated	updates a related set with details of the set just added - works for duplicates and alternative media
removedups	remove duplicates from an attribute string
removeconflicts	remove items that contradict the set attributes from the model attributes
addassoc	Add a new model/set association record
related_set_info	Create a popup menu of possible related sets
wacsblogtodb	write a new blog entry into the specified database table
alloc_nextkey	Work out the next primary key value for the specified database table

## Standard Components Module: Reference

The `WacsStd` module contains standard components for building the standard WACS collection management tool interface. Since all these tools are written in perl, this module is only implemented in perl.

## Name

masthead — top of page banner for set-based apps

## Synopsis

```
use Wacs;

use Wacs::WacsStd;

masthead( . . . ) ;
```

## Parameters

parameter	description
setno	The set number
stype	The set type (single letter database format)
scatinfo	The attributes for the set
scatflag	The set type flag (single letter database format)
stitle	The assigned set title, aka standard description
sofftitle	The official title (usually from original site)
sarea	Toplevel directory entry
scategory	Middle level directory entry
sdirectory	lowest level - actual holding directory (filename for videos)
simages	Number of images in the set
sindexes	Number of index images for the set
saspect	aspect ratio (mainly for videos)
sformat	file format for this set (.jpg, .png, .mov, .wmv etc)
sdurhrs	video or DVD scene duration - hours value
sdurmin	video or DVD scene duration - minutes value
sdursec	video or DVD scene duration - seconds value
sphotog	photographer reference code (references pref in photographer)
sfoundry	organisation where the set came from
modelno	associated model number
downloadno	associated download record number
useicon	when working with a set number 0, attempt to get an icon by asking for a thumbnail of the first image
addlinks	add set browsing links to the masthead centre section
width	make the masthead table the specified width only
dbhandle	the current database handle object

## Summary

`masthead` generates a standard top-of-the-page banner heading for any page that is intended to document or amend a standard set record. It does a *best efforts* with whatever fields it has passed to it.

## Availability

`masthead` is only available in Perl.

## Name

`modelmast` — creates a model-focused top-of-the-page summary

## Synopsis

```
use Wacs;

use Wacs::WacsUI;

use Wacs::WacsStd;

modelmast(...);
```

## Parameters

parameter	description
<code>mname</code>	The model's name
<code>modelno</code>	The model's primary key (model number) in the WACS database
<code>modelicon</code>	The path relative to <i>siteurl</i> to the model's icon - can be the big or small icon or even body image.
<code>mrating</code>	The model's rating out of five
<code>mattributes</code>	The model's attribute list as used in <code>addkeyicons</code>
<code>mcountry</code>	Which country the model is from for the flag
<code>linkoptions</code>	Pre-formatted HTML string of the links you want to appear as alternatives to the current page - as used in the model page for other sizes of model page. This will appear in the right hand side of the masthead, towards the bottom.
<code>generalinfo</code>	Pre-formatted HTML string used for the upper part of the left hand box below the model's name. This is used for basic statistics and info in the model page.
<code>shedoos</code>	This is the preformatted HTML string for the middle part of the left had box below the model's name. This is used for what types of sets this model appears in in the model page.
<code>currentexcl</code>	This is another preformatted HTML string - this one is used to highlight exceptions and unusual circumstances. In the model page, this indicates if exceptions or filtering is active. Appears towards the bottom of the left hand box below the model's name.
<code>descher</code>	This is an HTML formatted string to go in the right-hand box below the model's name. In the model page, this is usually the output from the <code>describeher</code> function.
<code>iconsize</code>	The size of icons to use when displaying attributes, etc
<code>dbhandle</code>	The handle to the current database communication channel.

## Summary

`modelmast` is similar to the `masthead` function except that it is focused on the model rather than the set. Originally developed for use on the main WACS model page, it has now become a freestanding API call that can be used from a number of applications. It includes a number of parameters that take pre-formatted

HTML strings to increase the flexibility of how it can be used. All will be housed within a *td* element of an HTML table rendered in the configured masthead colours.

## **Availability**

`modelmast` is only available in Perl and only in Wacs 0.9.2 and later.

## Name

`modelheads` — adds the icons with links for model(s) specified

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
modelheads(lookup_method, set_number, dbhandle);  
  
scalar lookup_method;  
scalar set_number;  
scalar dbhandle;
```

## Summary

The `modelheads` function was originally written as part of the implementation of `masthead` but has broader uses. It provides a table of a model (or group of models) headshots with ratings and name. The *lookup\_method* can be one of `byset` (where it's the models featured in the specified set number) or `byno` (where the second argument is the *model number* rather than the set number). The default option in other cases is any models who've been added today - it is recommended you specify `bydate` and pass the date for this option.

## Availability

`modelheads` is currently only available in perl.

## Name

`findmodel` — creates a table and choice box for models with a given name

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
use Wacs::WacsUI;  
  
findmodel(...);
```

## Parameters

parameter	description
<code>mname</code>	the model name or beginning of the name to look for
<code>offeralt</code>	Whether to offer an alternative choice or not: y or n
<code>offervalue</code>	What the value returned for the alternative should be, eg <code>next</code>
<code>offercapt</code>	What the caption for the alternative value should be
<code>incsubmit</code>	Whether to include a submit button or not: y or n
<code>dbhandle</code>	pointer to the currently active database handle
<code>cgihandle</code>	pointer to the currently active CGI object

## Summary

The `findmodel` function takes the name of a model and searches the database for who it might conceivably be. It checks the model's name, her aliases and the name from each of her ID map entries. It presents a headshot, description, and a radio button to allow her to be chosen. It can optionally offer an additional radio button for another purpose. The chosen model's number or `next` will be returned in a CGI variable called `modelno`.

## Availability

`findmodel` is only available in perl at this time

## Name

`findrecentsets` — creates rows in a table managed form with pull-down menus containing details of recently added sets

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsStd;
```

```
findrecentsets(...);
```

## Parameters

parameter	description
offset	the number of days in the past to consider as recent. Defaults to the current value of <code>layout-&gt;newperiod</code> if not specified.
default	the default value for the set number if known.
dbhandle	pointer to the currently active database handle
cgihandle	pointer to the currently active CGI object

## Summary

The `findrecentsets` function creates rows in a table managed form with pull-down menus containing details of recently added sets. The method selected by the user for specifying their response will be stored in a CGI variable called `setmeth` which will have a value of one of `specify`, `image` or `video`. If their response is `specify` the setno will be in a CGI variable called `spec_setno`. If their response is `image` the setno will be in a CGI variable called `recent_img` and for `video` it'll be in `recent_vid`.

## Availability

`findrecentsets` is only available in perl at this time. This function was introduced in WACS 0.8.5.



## Name

`findrecentmodels` — creates rows in a table managed form with pull-down menus containing details of recently added models and a search box to be fed to `findmodel`

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
findrecentmodels(...);
```

## Parameters

parameter	description
offset	the number of days in the past to consider as recent. Defaults to the current value of <code>layout-&gt;newperiod</code> if not specified.
default	The default model number if known.
dbhandle	pointer to the currently active database handle
cgihandle	pointer to the currently active CGI object

## Summary

The `findrecentmodels` function creates rows in a table managed form with pull-down menus containing details of recently added models and a search box to be fed to `findmodel`. The method selected by the user for specifying their response will be stored in a CGI variable called `modmeth` which will have one of these values: `specify`, `recent` or `search`. If their response is `specify` the modelno will be in a CGI variable called `spec_modelno`. If their response is `recent`, the modelno will be in a CGI variable called `recent_mod`. If the value is `search` the `findmodel` function should be called passing the CGI variable `search` as the `mname` parameter.

## Availability

`findrecentmodels` is only available in perl at this time. This function was introduced in WACS 0.8.5.

## Name

`modelheadshot` — creates a model headshot icon and basic info table contents

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
modelheadshot( ... );
```

## Parameters

parameter	description
<code>modelno</code>	The model number - that is our model number for her.
<code>name</code>	The model's name that we're looking for - thus if we know the model as Jedda, but know she's known as Jana elsewhere, we'd put Jana here to build up a link along the lines of "Known as Jana at KPC" in the id description field.
<code>howcome</code>	How we came by this model - this can be <code>S</code> as the result of a name search or <code>I</code> if we're displaying her ID details for a specific site.
<code>where</code>	The site id or short name for where we found this model called this name
<code>key</code>	The model's key on the site we're talking about if specified.
<code>dbhandle</code>	pointer to the currently active database handle

## Summary

The `modelheadshot` is used to produce a basic headshot accompanied by name, attribute icons and optionally details of her identity on a given site. It is a component used in the `findmodel` function but directly exposed since Wacs 0.8.4 to allow it's use in other places too.

## Availability

`modelheadshot` is only available in perl at this time.

## Name

getgallery — get the next available slot in the named gallery

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar getgallery(...);
```

## Parameters

parameter	description
which	Specifies which area to substitute in - can be either scategory (middle level) or sdirectory (lower level).
stype	stype of the set concerned: typically I for image set, V for video.
sarea	Top level area in which to search for the next available gallery slot
scategory	The middle level directory entry (can be either simply specified or the subject of the substitution). This should include the variable pattern given in substitute below, as in gallery#NEXT#.
sdirectory	The lower level directory entry (if needed, otherwise blank).
substitute	The string to be substituted with the value determined by the routine. Typically this will be something like #NEXT#.
dbhandle	The Perl DBI handle to the current database

## Summary

The `getgallery` function returns the appropriate string for the next available slot in the gallery in the specified section. It can return either an `scategory` or `sdirectory` variable as requested via the `which` parameter. It is used to work out the placement of new sets within a gallery structure. What the next usable gallery is is determined by reference to the `layout` attribute `setspergallery` in the configuration file or the default value (usually 20) if not specified. Please see the configuration manual for more details on this configuration attribute.

## Availability

As a collection administration function, `getgallery` is only available in perl.

## Name

callframe — create a suitable URL for page based navigation of the specified set

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar callframe(...);
```

## Parameters

parameter	description
imgprefix	which size prefix to use - mini, std, set etc - when calling <b>wacsimg</b>
setno	The set number we're displaying
curing	What should be the current image number we're starting from
maximg	How many images there are in this set
models	Models specified as name, "-", model number. Comma seperated if there's more than one. For example: <i>Jane-231, Sara-78</i>
pagemode	If this is 1, it copies the application stem argument allowing use of alternative menu configurations for embedded use of <b>wacspage</b> . See the configuration manual and example code in the Php Simple Skins for an explanation of how this works.
appstem	This is the configuration menu to use with <code>pagemode</code> above. For example, if set to <code>simple</code> , the resulting wacspage set pages created by the framer will provide menus taken from <code>/etc/wacs.d/simple.cfg</code> instead of <code>/etc/wacs.d/menu.cfg</code>

## Summary

The `callframe` function returns a suitable URL for accessing the **wacsframe** single image framing application with the appropriate parameters to properly integrate it into the particular WACS environment from which it's called. The intended use of this function and it's interoperation with the standard wacs tools is really best understood by examining it in use by the Wacs-PHP simple skins. These show how this can be used to pass customization information between the various applications.

## Availability

As a function directly related to the standard wacs tools, `callframe` is only available in perl.

## Name

foundatsite — return a list of other sites where this model can be found

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar foundatsite(...);
```

## Parameters

parameter	description
modelno	The model number we want the results for
sitedesc	How the site should be described - initially only <b>ref</b> is accepted. In due course, other options like <code>shortname</code> should also be acceptable.
linkdest	The application to link to - for instance <b>wacsmodt</b>
itemsep	How to separate the items - ie <code>,</code> (comma, space) or more complex HTML like <code>&gt;/li&lt;&gt;li&lt;</code> to make them list items
textcolour	The colour to use for the link - typically a call to <code>conf_get_attr("colours", "mastheadforeground")</code> .
dbhandle	the database session object pointer

## Summary

The `foundatsite` function lists the sites where the specified model may be found. This is useful in describing the model and in linking to other similar models. This information is normally part of the masthead of a model page, but may well be used in other places too.

## Availability

This is a new function in Wacs 0.9.2 - it was an integral part of the code of `wacsmodelpage` in earlier versions. It is currently only implemented in perl.

## Name

`kwscore_reset` — resets the keyword scoring system back to defaults

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
kwscore_reset(scope);  
  
scalar scope;
```

## Summary

The `kwscore_reset` function resets the currently built attributes table. It is possible to run the `kwscore_process` function several times with different fields from the database and so it does not naturally reset the internal table of results - this call provides that facility and should always be called before each new set to consider. The `scope` parameter is currently ignored but may in future modify the behaviour.

## Availability

As keyword scoring is a collection administration activity, it is currently only implemented in perl.

## Name

`kwscore_process` — process the provided string looking for keywords

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
kwscore_process( ... );
```

## Parameters

parameter	description
string	the string to be processed against the keyword database
dbhandle	the database session object pointer

## Summary

The `kwscore_process` function allows you to submit a string to the keyword scoring system for consideration. It's scores will be stored allowing both retrieval of results and modification of those results by subsequent invocation of the `kwscore_process` with alternative strings. It is perfectly possible to consider both the title (field `stitle`) and the official title (field `soffttitle`) if that is appropriate. It could also be run on the description of the set if that is present.

## Availability

As a collection administration function, `kwscore_process` is currently only available in perl.

## Name

`kwscore_get` — get the specified result from the processing of the strings provided previously

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
kwscore_get(...);
```

## Parameters

parameter	description
what	which result you are requesting: valid ones are: <code>cat</code> , <code>loc</code> , <code>det</code> , <code>attr</code> or <code>other</code> .
default	a default value you want returned if nothing is found for this request

## Summary

The `kwscore_get` function retrieves the results from any `kwscore_process` calls made since the last `kwscore_reset`. The `what` argument specifies what to return:- `cat` returns a category flag (`scatflag` etc.), `loc` returns a location (`slocation`), `det` returns a detailed location (`slocdetail`), `attr` returns the attributes (`scatinfo` and `other` is available for future expansion).

## Availability

As a collection administration function, `kwscore_get` is currently only available in perl.



## Name

`getcontinfo` — get various pieces of information from the named set for the continuation

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar getcontinfo(...);
```

## Parameters

parameter	description
setno	The set number for which the information is required.
dbhandle	Database handle for the current connection to the database.

## Summary

The `getcontinfo` returns a hashref containing those set schema values for the specified record that would make sensible defaults for use in the creation of a continuation set.

## Availability

As a collection administration function, `getcontinfo` is currently only available in perl. This function was introduced in Wacs 0.9.0 and is not available in previous versions.

## Name

`linkfromprevious` — updates a previous set in a continuation with details of set just added

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
linkfromprevious(...);
```

## Parameters

parameter	description
setno	The set number for set just added.
previous	The set number for the older set now being referred to as the previous one in a connection series.
setpos	The position of this set in a sequence of sets (must not be 1!).
dbhandle	Database handle for the current connection to the database.

## Summary

The `linkfromprevious` updates the previous record with the forward pointer to the just added record to allow a link chain sequence to be built up.

## Availability

As a collection administration function, `linkfromprevious` is currently only available in perl. This function is new in Wacs 0.9.0 and was not available in previous versions.

## Name

`linkrelated` — updates a related set's duplicates or alternative media links with details of a set just added

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
linkrelated(...);
```

## Parameters

parameter	description
setno	The set number for set just added.
relatedno	The older set to which this relationship connection should be made.
relationtype	The type of the relationship - <code>duplicate</code> or <code>altmedia</code>
dbhandle	Database handle for the current connection to the database.

## Summary

The `linkrelated` updates the related record with the appropriate pointer to the just added record to allow interlinking of related records. The relationship can be either that of a duplicate set (relation type: `duplicate`) that as come from an alternate vendor or at a different resolution, or an alternative media (relation type: `altmedia`) set such as the video of the same scenario and models as an existing image set.

## Availability

As a collection administration function, `linkrelated` is currently only available in perl. This function is new in Wacs 0.9.0 and is not available in previous versions.

## Name

removedups — remove duplicates from an attribute string

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar removedups(raw_attribute_list);  
  
scalar raw_attribute_list;
```

## Summary

The `removedups` function removes any duplicate entries from a space-separated list of attributes - this is typically necessary when merging more than one source of attribute information like that from the `kwscore_get` function and the result of fetching model attributes. Please also see `removeconflicts` function below.

## Availability

As a collection administration function, `removedups` is currently only available in perl.

## Name

`removeconflicts` — remove items that contradict the set attributes from the model attributes

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar removeconflicts(...);
```

## Parameters

parameter	description
<code>model</code>	The model's attributes ( <code>attributes</code> field)
<code>existing</code>	The existing combined attributes (ie those taken from the set <code>setinfo</code> field)

## Summary

The `removeconflicts` function is designed to stop contradictory overwriting of mutually exclusive model attributes - typically those relating to pubic hair trimming, as these can often vary between sets of the same model. It is provided with the model's attributes plus the existing set attributes - if the existing set attributes do not include a contradictory value, then the model's attributes are included. If there's a conflict, the model's pubic hair attribute is dropped in favour of that in the set. This is usually the correct behaviour. This if a model is normally considered to have a shaven pussy, but appears in a set before she's shaven it (or even as she does so), then the set may be marked with the hairy attribute. If that is there, the model's default of shaven will be removed and only her other attributes (tattoos, piercings, etc) will be imported.

## Availability

As a collection administration function, `removeconflicts` is currently only available in perl.

## Name

`addassoc` — add a new association record connecting a model with a set

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar addassoc(...);
```

## Parameters

parameter	description
setno	the set number to be associated with a model (see below)
modelno	the model number to be associated with the above set
asstype	the type of the association - currently only G for general but this might be changed in the future - see the schema reference for the <code>assoc</code> table for more information.
dbhandle	The open database handle for use in querying the database

## Summary

The `addassoc` function is designed to add association records between sets and models. To do this it creates a new record in the `assoc` database table using the next available primary key for that table. To call `addassoc` you need to provide a set number, a model number and a `dbhandle` to a currently open database session. Optionally you may also provide an association type although currently only one type, G for general is defined in the WACS database dictionary. `addassoc` protects against adding multiple associations between the same model and set.

## Availability

As a collection administration function, `addassoc` is currently only available in perl.

## Name

`related_set_info` — Create a popup menu of possible related sets

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
related_set_info(...);
```

## Parameters

parameter	description
<code>reltype</code>	The type of the relation we're dealing with - <code>rank</code> or <code>altmedia</code>
<code>modelnos</code>	A quoted, comma separated list of model numbers whose sets should be included in the list.
<code>type</code>	The set type of the type we're looking for for rank relations or the type we're <i>NOT</i> looking for for alternative media relations.
<code>rank</code>	The type of rank relation we're creating - <code>C</code> for Continuation records, <code>S</code> for alternative (duplicate) records
<code>setno</code>	The set number we're actually working on (if already known) to be left out of the selection made.
<code>default</code>	Allows specification of a set number to be the default - ideal for an update application
<code>dbhandle</code>	The handle to the open database connection
<code>cgihandle</code>	The handle to the CGI object we're creating a new popup menu using
<code>colspan</code>	The colspan attribute to use in the generated table line

## Summary

The `related_set_info` function outputs a single line of a table, designed to fit the Standard WACS collection management tools layout, that adds a pop-up menu using the **CGI.pm** library. The purpose of this popup menu is to establish connections between sets using the `saltmedia`, `snext/sprev` or `sduPLICATES` fields.

## Availability

As a collection administration function, `related_set_info` is currently only available in perl.

## Name

wacsblogtodb — write a new blog entry into the specified database table

## Synopsis

```
use Wacs;  
  
use Wacs::WacsStd;  
  
scalar wacsblogtodb(...);
```

## Parameters

parameter	description
title	Title of the blog entry (max 80 characters)
text	The text for the blog entry (max 4095 characters)
table	The database schema to write to - normally the result of doing a <code>conf_get_attr("table", "notes")</code> to get the real name of the notes schema. This is the default action if this parameter is not specified.
tablekey	Name of the primary key to the table specified above - typically <code>nentryno</code> for the notes table. This is the default action if this parameter is not specified.
bywhom	Name of the person/entity who made this blog entry. Defaults to <code>anonymous</code> if not specified.
type	Type of blog entry to create - <code>B</code> for standard Blog, <code>F</code> for Feature article.
method	Method of creation - <code>A</code> for Automatic when created by <code>updatestats</code> or similar, <code>M</code> for manual when uploading a file using <code>wacsblogctl</code> .
dbhandle	The open database handle for use in accessing the database

## Summary

The `wacsblogtodb` function writes text for a blog entry into the notes table with the correct formatting and splits it if necessary. At present it will accept blog entries up to 4095 bytes in length and these can include all of the standard WACS configuration substitutions (`#SITEURL#` et al) as handled by `conf_dosubs` to allow for icons and set links to be included quickly and efficiently.

It is provided with the ability to specify the destination table and key in case you wish to use a different database other than notes for the blog. The fields and the structures (with the exception of the primary key) have to be the same, but of course the permissions can be different on that table.

## Availability

As a collection administration function, `wacsblogtodb` is currently only available in perl.



## Name

`alloc_nextkey` — allocate the next new unique primary key for the database table specified

## Synopsis

```
use Wacs;

use Wacs::WacsStd;

scalar alloc_nextkey(table_name, primary_key_fieldname, dbhandle);

scalar table_name;
scalar primary_key_fieldname;
scalar dbhandle;
```

## Parameters

parameter	description
<code>table_name</code>	The name of the table in the Wacs database schema for which the new key should be allocated, eg <code>sets</code> , <code>models</code> or <code>assoc</code> .
<code>primary_key_fieldname</code>	The name of the primary (unique) key to that database table.
<code>dbhandle</code>	The open database handle for use in querying the database

## Summary

The `alloc_nextkey` function simply returns the next available value for creating a new record in the specified table. It's rather simplistic and can be caught out by race conditions, but it mostly gives you a valid numeric primary key for the table concerned.

## Availability

As a collection administration function, `alloc_nextkey` is currently only available in perl.

---

# Chapter 11. WACS API: Identification Module

## Identification Module: Summary



### Warning

In Wacs 0.9.2 the existing WacsId module was split into two - this part *WacsID* contains the good routines that are expected to remain as part of the Wacs API in the long term. Those routines that were more questionable and likely to be re-written have been moved to *WacsDnl*. You need to include both to replicate the pre-0.9.2 functionality

**Table 11.1. Function Summary: Identification Module**

function	description
<b>reset_attr</b>	reset the global attribute table
<b>id_get_flag</b>	get previously determined flag
<b>id_set_attr</b>	store specified attribute for reuse later
<b>id_get_info</b>	get previously determined catinfo (ssetflag)
<b>id_get_photog</b>	get previously determined photographer
<b>id_get_dnlidno</b>	get download record number
<b>id_get_modelno</b>	get the model number
<b>id_get_modelname</b>	get the model's name
<b>id_get_vendor</b>	get the vendor reference
<b>id_get_dbhandle</b>	get the current DB handle
<b>id_get_key</b>	get the current models id at the current vendor
<b>id_get_setkey</b>	get the set key at the current vendor
<b>id_get_setname</b>	get the name of the most recent set
<b>id_get_status</b>	get the status of the most recent set
<b>id_get_notes</b>	get the current value of the notes field
<b>id_get_setno</b>	get the current value of the setno field
<b>id_get_srank</b>	get the current value of the srank field (New in 0.9.0)
<b>id_get_sprev</b>	get the current value of the sprev field (New in 0.9.0)
<b>id_get_sduplicates</b>	get the current value of the sduplicates field (New in 0.9.0)
<b>id_get_saltmedia</b>	get the current value of the saltmedia field (New in 0.9.0)
<b>id_get_sdownload</b>	get the current value of the sdownload field (New in 0.9.0)
<b>id_get_attr</b>	get the specified attribute for the specified object (New in 0.9.2)
<b>info_addupdate</b>	adds or updates an existing info.xml file with the information provided (New in 1.0.0)
<b>info_setexists</b>	searches the info.xml file for the specified set number (New in 1.0.0)
<b>media_scan</b>	scan the specified media file for sizes, codecs, etc (New in 0.9.2)

<b>function</b>	<b>description</b>
<b>media_get_attr</b>	retrieve the requested parameter for the specified media file (New in 0.9.2)
<b>media_thumbs</b>	generate appropriate thumbnails for use with video sets (New in 0.9.2)
<b>media_settings</b>	provides the current settings for thumbnailing, dimension descriptions, etc (New in 0.9.2)
<b>dnld_markdone</b>	mark the download record as successfully done
<b>dnld_checkadd</b>	checks or adds a new download record
<b>dnld_update</b>	update the download record with new information
<b>vend_dnld</b>	return the download location for the specified vendor
<b>vid_getsize</b>	get the size of the specified video file
<b>find_namestem</b>	look for when known image naming conventions
<b>id_gen_proto2struct</b>	process a prototype link url and work out what tokens it contains.
<b>id_gen_tokenmatchstring</b>	looks for the specified token
<b>id_gen_trymatch</b>	iterates through trying to find matches for the tokens given
<b>id_vid_trymatch</b>	special version of id_gen_trymatch which looks only for videos
<b>id_gen_findobj</b>	find what the target object is actually called
<b>id_gen_getvarval</b>	generalised matching routine used in id_gen_findobj
<b>chk_vid_type</b>	check if type extension is a known video file type
<b>chkid_existing</b>	see if we already have this idmap for this model/site combination

## Identification Module: Reference

The following pages contain the \*nix style reference pages for each function call in the WACS ID module. These detail what the function does, what parameters it takes, what it returns and which versions of the WacsId library it is available in. This section is new in WACS 0.9.2 and is incomplete, documenting the most recently added API calls only.

## Name

`info_addupdate` — Updates the info for a set in the `.info.xml` file using the supplied hash of attributes - creates the file if not present

use `Wacs`;

use `Wacs::WacsId`;

```
scalar info_addupdate(...);
```

## Parameters

parameter	description
<i>filename</i>	Full path name of the desired <code>.info.xml</code> file
<i>setno</i>	The set number this entry refers to
<i>setinfo</i>	A pointer to a hash (hashref) containing the details for the desired set.

## Summary

The `info_addupdate` is used to create, add or update details about a set in the within filesystem information cache. This cache provides a safeguard against data corruption and is used to determine if new material has been added to the directory since the run of the indexer programs. It returns 1 if it creates a new `.info.xml` file, 0 if it has merely added to or updated an entry within an existing `.info.xml` file.

## Availability

`info_addupdate` is available in `Wacs 1.0.0` and later.

## Name

`info_setexists` — reads the `.info.xml` file and determines if the set number mentioned already has an entry in it or not

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsId
```

```
scalar info_setexists(...);
```

## Parameters

parameter	description
<code>setno</code>	The number of the set to be checked for.
<code>directory</code>	The directory which should contain the <code>.info.xml</code> file.

## Summary

The `info_setexists` is used to detect if a set has already been added to the database via a simple metadata file in XML format. This metadata file is called `.info.xml` and is intended to superceed the previous mechanism which used individual `.info` files within the actual photo set directory for this purpose. This second source of metadata provides an extremely useful tool in detecting relocations within the filesystem of the actually media assets being managed. At present it is primarily manipulated by the **wacsupdinfo** tool, which is in turn called by **wacsplacemgr** in most cases.

The `info_setexists` provides a number of return values depending on what it discovers:

return	description
<code>0 (SUCCESS)</code>	The set already exists in the <code>.info.xml</code> file
<code>1 (SUCCESS)</code>	The set does not exist yet within the <code>.info.xml</code> file but everything is OK
<code>-1 (FAILURE)</code>	The file does not exist yet.
<code>-2 (FAILURE)</code>	The file exists but cannot be written to - most likely permissions
<code>-3 (FAILURE)</code>	Failure - Unknown reason

## Availability

`info_setexists` is available in Wacs 1.0.0 and later.

## Name

`media_scan` — Scan the specified media file for attributes

## Synopsis

```
use Wacs;

use Wacs::WacsId;

scalar media_scan(pathname);

scalar pathname;
```

## Summary

The `media_scan` function initiates a scan of the specified file path for its detailed attributes. This should include height and width, codec, etc for all types of media, and additional information where appropriate like duration for video files. The initial implementation uses the perl `Image::ExifTool` library for this purpose but that may change in time. On completion of the scan, the filename is returned by the function - this can then be used as the parameter to `media_get_attr` to select the specific media object and attribute to query.

## Availability

`media_scan` is available in Wacs 0.9.2 and later.

## Name

`media_get_attr` — retrieve the requested parameter for the specified media file

## Synopsis

```
use Wacs;
```

```
use Wacs::WacsId;
```

```
scalar media_get_attr(filename, attribute);
```

```
scalar filename;
```

```
scalar attribute;
```

## Parameters

parameter	description
<i>height</i>	The height of the video/photo in pixels
<i>width</i>	The width of the video/photo in pixels
<i>format</i>	The format of the file: JPEG, PNG, TIFF for images; MOV, MPEG, WMV, for videos
<i>codec</i>	The Codec format used - Windows Media, MPEG-2, etc
<i>duration</i>	The running time of a video clip
<i>creation</i>	The creation date in the correx format for the current database
<i>resolution</i>	Text name of the resolution: LD, SD, ID, HD, UHD, Mobile etc
<i>aspectratio</i>	The actual numeric aspect ratio as a decimal number
<i>aspect</i>	The generalised aspect ratio expressed as a ratio: 4:3, 16:9, etc
<i>durhrs</i>	The video clip duration broken up into parts - the hours component
<i>durmin</i>	The video clip duration - the minutes component
<i>dursec</i>	The video clip duration - the seconds component
<i>framerate</i>	The video clip frame rate multiplied by 100 - thus 29.97 frames per second drop frame is 2997, and 30 frames per second non-drop is 3000. Divide by 100 before use in your applications. NB: added in Wacs 1.0.0.
<i>bitrate</i>	The video clip bit rate - defaults to the Average Bit Rate if given, if not it looks at the Maxmium Bit Rate. NB: added in Wacs 1.0.0.
<i>audiochannels</i>	Number of audio channels - typically 2 for normal stereo content. NB: added in Wacs 1.0.0.
<i>audiobitrate</i>	Bit rate of the audio channel. NB: added in Wacs 1.0.0.
<i>interlace</i>	Whether the video is progressive (P), interlace (I) or unknown (U) NB: added in Wacs 1.0.0

## Summary

The `media_get_attr` function fetches the specified result (attribute) of the media file named in the `filename` parameter. This is the filename provided by a previously run call to `media scan` to perform the actual scan itself. A number of different media scans can be queried at the same time so long as they do

not have the same file name. The results are all obtained and stored during the `media_scan` call and are simply retrieved from a results array when using `media_get_attr`.

## Availability

`media_get_attr` is available in Wacs 0.9.2 and later. The *framerate* request is only available in Wacs 1.0.0 and later.



## Name

`media_thumbs` — generate appropriate thumbnails for use with video sets

## Synopsis

```

use Wacs;

use Wacs::WacsId;

scalar media_thumbs(...);

```

## Parameters

parameter	description
mode	which mode to work in - usually "icons" or "thumbs" but can be anything - it is appended to the file path
start	The number of seconds into the video clip to start producing thumbnails from
number	The number of icons/thumbnails to produce for this file
step	How many seconds gap there should be between each icon
file	The video file to create thumbnails from
source	The source directory where the video file can be found
dest	The destination directory into where the thumbnails should be written
stem	Provides an alternative filename stem for the output thumbnail

## Summary

The `media_thumbs` function creates the specified number of thumbnails for the named video file using the external program **ffmpegthumbnailer**. Amongst other places, this is used by **wacsunpackmgr** to create some suggested icon screenshots for the video clip being unpacked.

## Availability

`media_thumbs` is available in Wacs 0.9.2 and later.

## Name

`media_settings` — provides the current settings for thumbnailing, dimension descriptions, etc

## Synopsis

```
use Wacs;  
  
use Wacs::WacsId;  
  
scalar media_settings(...);
```

## Parameters

parameter	description
<i>filename</i>	Name of the XML file to parse for settings info (Not active yet)

## Summary

The `media_settings` returns a data structure containing the configuration parameters for various media operations. The object `thumbs` within this data structure contains an array of settings for thumbnails for a given duration of video clip.

This contains `min` and `max` which determines the minimum and maximum number of seconds duration that this rule applies to. There is also `desc` which describes the rule and `number` which tells you how many thumbnail locations will be produced by the rule. There is then a `pos` object which describes what each location is, providing `start` and `tail` for each cluster of auto generated thumb nails. The value for `start` is between 0 and 1 and indicates where the thumbnail should be taken from - for instance `0.33` indicates this thumbnail should be taken 33% of the way through the video clip.

## Availability

`media_settings` is available in Wacs 0.9.2 and later.

---

# Chapter 12. WACS API: Downloading Module

## Downloading Module: Summary



### Warning

In Wacs 0.9.2 the existing WacsId module was split into two - this part *WacsDnl* contains the bad routines that are expected to be re-written and not to remain part of the Wacs API in the long term. Those routines that were more stable and likely to remain have been moved to *WacsId*. You need to include both modules to replicate the pre-0.9.2 functionality

**Table 12.1. Function Summary: Downloading Module**

function	description
<b>ident_img</b>	Identify characteristics of an image set from download info
<b>ident_vid</b>	Identify characteristics of a video clip from download info
<b>dnld_img</b>	retrieve a download record based upon the namestem
<b>id_mpage</b>	process a modelpage looking for links to suitable sets
<b>id_i_fetch</b>	
<b>find_cookies</b>	
<b>extractphotog</b>	

---

# Part III. WACS Database Schema

This is the Database Schema Reference Manual, or data dictionary, for the WACS environment. This documents the database tables in use, their contents, structure, relationships and assigned values.

The WACS database schemas are built with the convention that the first letter of the schema name is prefixed to all fields within that schema. Thus a field from the sets schema will start with the letter *s*, a field from the assoc schema will start with the letter *a* and so on. Generally related fields will have fundamentally the same name, such that the set number is *setno* in the sets schema, *asetno* in the assoc schema, *tsetno* in the tags schema, *dsetno* in the download schema, and so on. This makes performing relational joins much easier and more portable since one can do the likes of `where amodelno = modelno` without any ambiguity and without having to specify the table name explicitly.

Where possible fields with a limited set of possible values will be single character fields with a reasonably neumatic value for each possible value. Thus the media type (*stype*, *dtype*, etc) is **V** for Video Clip, **I** for Image Set, **D** for DVD scene, and so on. A lookup hash of the legal values will typically be available for programmers to use from the core *Wacs* module (see the Part II, “WACS API Programming Reference” for more details).

- Chapter 13, *Schema Reference: Sets*
- Chapter 14, *Schema Reference: Assoc*
- Chapter 15, *Schema Reference: Idmap*
- Chapter 16, *Schema Reference: Models*
- Chapter 17, *Schema Reference: Download*
- Chapter 18, *Schema Reference: Photographer*
- Chapter 19, *Schema Reference: Tag*
- Chapter 20, *Schema Reference: Vendor*
- Chapter 21, *Schema Reference: Conn*
- Chapter 22, *Schema Reference: Keyword*
- Chapter 23, *Schema Reference: Wacsuser*
- Chapter 24, *Schema Reference: Attrib*
- Chapter 25, *Schema Reference: Notes*

---

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# Chapter 13. Schema Reference: Sets

## Sets: Schema SQL



### Warning

As a general rule, schema changes are done at least one release prior to the point at which they are first used. Thus for schema changes made in the 0.8.5 release, none of these changes were used or accessed by applications in Wacs 0.8.5, so typically you can defer updating the Schema until the next Wacs release comes out if you wish to. There is a tool to update the schema supplied with Wacs 0.9.0 and later releases; this appeared in the wacs 0.8.6 release and is called **wacsschema**. It is integrated into the existing **wacssetup** tool which can now perform upgrades as well as first time initialisation. The newly added and currently not used fields are those in **bold** typeface below - if nothing is in bold, there are no new schema changes in the current release.

```
create table sets
( setno          number(9) primary key,
  stype          char(1) not null,
  sstatus       char(1) not null,
  srnk          char(1),
  sauto         char(1),
  srating       char(1),
  sflag         char(1),
  stechqual     number(2),
  svariety      number(2),
  svisits       number(2),
  sformat       varchar2(10),
  scodec       varchar2(40),
  stitle       varchar2(240),
  scast        varchar2(240),
  scostume    varchar2(240),
  sstage     varchar2(240),
  saction    varchar2(240),
  sofftitle     varchar2(240),
  sofficon     varchar2(160),
  saddicon     varchar2(160),
  sname        varchar2(80),
  shair        varchar2(80),
  smodelno     varchar2(40),
  slocation    varchar2(20),
  slocdetail   varchar2(40),
  sattire      varchar2(20),
  sfocus       char(1),
  sphotog     varchar2(6) references photographer,
  ssource     varchar2(80),
  sfoundry    varchar2(80),
  sbranding  varchar2(80),
  sproddate   date,
  sreldate    date,
```

```

suscattr          char(1),
snotes           varchar2(240),
sdesc            varchar2(2048),
sindexes         number(6),
simages         number(6),
sdurhrs          number(2),
sdurmin          number(2),
sdursec          number(2),
slandx           number(6),
slandy           number(6),
sportx           number(6),
sporty           number(6),
saspect          varchar2(10),
sfps             number(6),
sinter           char(1),
sskipfr          number(9),
sbytes           number(12),
sdvdno           number(6),
sdvddisc         number(2),
sdvdttitle       number(3),
sdvdstartch      number(3),
sdvdendch        number(3),
sidlogo          char(1),
serrors          char(1),
sduplicates      number(9) references sets,
saltmedia        number(9) references sets,
snext            number(9) references sets,
sprev            number(9) references sets,
ssetpos          number(2),
scatinfo         varchar2(160),
scatflag         char(1),
snamestem        varchar2(80),
sdownload        varchar2(160),
sarea            varchar2(160),
scategory         varchar2(160),
sdirectory        varchar2(240),
scomments        varchar2(240),
sadded           date,
samended         date
);

```

## Changes made in this release to be used later



### Note

These are changes in Wacs 1.0.0 which will not start being used until the next release, most likely Wacs 1.0.1, unless we have to rush out a rapid bug fix release.

sbranding is a new field which will separate the branding from the foundry as major content providers move to themed niche sites under a larger banner. The intention is to update the foundry field to the content provider: twistys, nublies, amkingdom, kink, ddf, 21sextury, etc, and to use the branding field for the various niche brand names like whengirlsplay, welivetogether, whipped ass, etc.

`sca`st is the first of four new fields to store the expanded set descriptions in the style in which they are usually displayed in the Wacs pages. Initially they will be populated from the current stitle field via the processing used for the pages themselves, then in due course stitle will become a process legacy field derived from these. This field is for the main cast list for the set.

`sco`stume is the second of the breakout fields for stitle. This one describes the outfits worn by the cast in the set.

`ss`tage is the third of the breakout fields - this one describes the setting in which the action takes place.

`sac`tion is the fourth field and a new one containing descriptions of any unusual actions or situations not currently covered by the tagging. It's contents will probably not be merged back into stitle although they will be used in keyword scoring mechanisms to pre-load the tagging system.

## Changes in recent previous releases

`sfps` is a new field made active in Wacs 1.0.0 which holds the frames per second value *multiplied by one hundred*. This is to allow the difference between NTSC-style drop frame (29.97 frames per second) and non-drop frame (30 frames per second) to be indicated. For 29.97, the value will be 2997; for 30, it will be 3000. Divide it by one hundred before use in your web apps.

`sattire` field was introduced into the schema in release 0.8.1; it came into use in WACS 0.8.2. It was historically scored using the other attribute of the keyword system, this changed to using `kiwear` in WACS 0.9.0.

The fields that were introduced in WACS 0.8.5 were `srank`, `sfocus`, `saltmedia`, `snext`, `sprev` and `ssetpos`. Additionally referential integrity is now enforced for `sduplicates` which shouldn't cause a particular problem if it's been used correctly.

## Sets: Defined Values

**Table 13.1. stype: Type of Set: defined values**

stype	
<b>I</b>	Image Set
<b>V</b>	Video Clip
<b>A</b>	Audio File
<b>S</b>	BluRay or DVD Scene

**Table 13.2. sstatus: Status of Set: defined values**

sstatus	
<b>M</b>	Manually Added, Details Not Checked
<b>A</b>	Automatically Added, Details Not Checked
<b>N</b>	Normal - Checked
<b>G</b>	Good - Thoroughly Checked
<b>U</b>	Unknown



**Table 13.3. sauto: Automatic Update of Set Allowed?: defined values**

sauto	
<b>N</b>	None (no auto updates)
<b>L</b>	(on-disk) Location only - all attributes manual
<b>A</b>	Append only - all existing entries stay
<b>F</b>	Fully auto-generated - all values can change

**Table 13.4. srating: Overall Rating For The Set: defined values**

srating	
<b>5</b>	Finest
<b>4</b>	Very Good
<b>3</b>	Good
<b>2</b>	Reasonable
<b>1</b>	Mediocre
<b>0</b>	None Specified

**Table 13.5. stechqual: Technical Quality Rating For The Set: defined values**

stechqual	
<b>5</b>	Finest - HD Video done well, Multi-megapixel stills
<b>4</b>	Very Good - Well lit SD or good HD Video, good megapixel + stills
<b>3</b>	Good - Well done low-res SD, good sub-megapixel stills; not quite so good but higher res
<b>2</b>	Reasonable - either very small, or bad equipment (flash on camera) used moderately well
<b>1</b>	Mediocre - lack of skill, bad equipment, poor composition
<b>0</b>	None Specified

**Table 13.6. svariety: Unusualness Rating For The Set: defined values**

svariety	
<b>5</b>	Very Unusual - look at the set scenario and think "What the F***!"
<b>4</b>	Unusual - unusual and very interesting - "Wow"
<b>3</b>	Neat - interesting and impressive but not quite "Wow"
<b>2</b>	Cute Twist - a slightly unusual twist, unusual pose etc
<b>1</b>	Ordinary - can still score very highly in overall and tech

<b>svariety</b>	
<b>0</b>	None Specified

**Table 13.7. sformat: Format of the File(s) In The Set: defined values**

<b>sformat</b>	
<b>JPEG</b>	JPEG image
<b>GIF</b>	GIF image
<b>PNG</b>	PNG image
<b>PNM</b>	PNM,PBM,PGM,PPM image
<b>WMV</b>	Windows Media Player Video
<b>AVI</b>	AVI Video (codec specified separately)
<b>QT</b>	QuickTime .mov Video (codec specified separately)
<b>MPEG</b>	MPEG Video (MPEG-1, 2 or 4)

**Table 13.8. sidlogo: Presence of Burnt-in Logo: defined values**

<b>sidlogo</b>	
<b>U</b>	Unknown
<b>Y</b>	Yes - image/video has burnt-in logo
<b>N</b>	No - image/video is clean of bugs

**Table 13.9. sinter: Progressive or Interlaced Video Structure**

<b>sinter</b>	
<b>I</b>	Video has interlaced frame/field structure
<b>P</b>	Video has progressive frames (atomic)
<b>U</b>	Unknown

**Table 13.10. serrors: Presence of Known Errors: defined values**

<b>serrors</b>	
<b>N</b>	None detected
<b>F</b>	Fixed - faulty images/video have been fixed - Quality may have been compromised - sizes/signatures not indicative of original
<b>E</b>	Encoding Only - causes message but renders OK
<b>C</b>	Some Corrupt Images/Segments of video


**Table 13.11. scatflag: Generalised type of the set: defined values**

scatflag	
<b>F</b>	Fuck - straight sex
<b>L</b>	Lesbian - lesbian sex
<b>3</b>	Threesome - sex between three people
<b>G</b>	Group - more than three people having sex, mixed-gender
<b>T</b>	Toy - Solo but uses toys such as dildo, vibrator, etc
<b>S</b>	Solo - Model on her own (possibly with a non-participatory audience)
<b>M</b>	Masturbation - Solo but includes masturbation activities
<b>N</b>	None - not determined yet
<b>B</b>	Backstage - Behind The Scenes set featuring this model
<b>C</b>	Clothed - non-nude set featuring this model
<b>D</b>	Duplicate - duplicate set - maybe from a different site - <i>DEPRICATED</i>
<b>I</b>	Interview - conversation with the talent

**Table 13.12. srnk: role and position of set: defined values**


srnk (defined values)	
<b>P</b>	Primary (Main) - a standard freestanding record
<b>C</b>	Continuation - a subsequent part of a set split over mulitple sets, most often a movie clip
<b>S</b>	Secondary (Alternate) - an alternative version of another set - a different resolution, a split media file, or the same set as distributed by another vendor.
<b>T</b>	Tertiary (Obsolete) - an old or irrelevant version of this set - typically used to mark low resolution or split part videos when we have the same version either as a compilation or in a better format. Not shown in any indexes or searches but retained for possible future re-encoding, etc. <i>New in WACS 1.0.0</i>

**Table 13.13. slocation: generalised description of locations: recommended values**

slocation (recommended values)	
	<b>Note</b> This is a <i>Recommended Values</i> list only; additional values can be added as appropriate
<b>Balcony</b>	Balcony or Terrace; outdoors but not part of Garden
<b>Bathroom</b>	Bathroom, Toilet or Shower Cubicle
<b>Bedroom</b>	Bedroom or other sleeping area
<b>Country</b>	Country - including Beach, Forest, and Fields
<b>Dining Room</b>	Dining Room or Eating Area
<b>Garden</b>	Garden or other private outdoor area

slocation (recommended values)	
<b>Hallway</b>	Hallway, Staircase or Entrance
<b>Kitchen</b>	Kitchen or Kitchen area of apartment
<b>Laundry</b>	Laundry, Cleaning or Utility Area
<b>Lounge</b>	Lounge, Sitting Room or Other Seating Area
<b>Office</b>	Office, including Home PC desk
<b>Other Room</b>	Any other room - (Domestic) Library, Junk Room, Garage, etc
<b>Specialised</b>	Specialised Location: Swimming Pool, Shop, Recording or TV Studio, Factory, Railway Station, etc; additional details can be placed in slocdetail.
<b>Sports</b>	Location associated with Sports and Exercise: Gym, Locker Room, etc.
<b>Studio</b>	White or other plain background Photographic Studio - but NOT Television or Audio recording studios as a feature of the set theme

**Table 13.14. sattire: generalised description of model's clothing: recommended values**

sattire (recommended values)	
	<b>Note</b> This is a <i>Recommended Values</i> list only; additional values can be added as appropriate
<b>Business</b>	A tidy business suit or other combination appropriate to an office environment.
<b>Casual</b>	A pretty general category - jeans, denim skirts, summer dresses
<b>Elegant</b>	Particularly stunning dresses or formal evening wear.
<b>Fantasy</b>	Fantasy costumes of all sorts.
<b>Glamorous</b>	A glamorous party dress or similar that is quite risqué and is likely to spontaneously reveal the woman's assets!
<b>Housewear</b>	The sort of clothing that is worn casually about the house but not normally in public.
<b>Hospitality</b>	Housemaids and Waitress Uniforms
<b>Law Enforcement</b>	Police and Security Guard Uniforms
<b>Medical</b>	Uniforms appropriate to the Medical Industry
<b>Military</b>	Uniforms appropriate to the Military Services
<b>Nightwear</b>	Pajamas, Baby Doll dresses, Nightshirts
<b>Nothing</b>	Nude!
<b>Partial</b>	Only partially clothed
<b>Retail</b>	Uniforms appropriate to the Retail and other service industries (but not Maids)
<b>Schoolwear</b>	Various uniforms associated with Schoolgirls including cheerleaders and gym slips
<b>Smart</b>	Smart or attractive clothes suitable for going to a party without being elegant or stunning.
<b>Sports</b>	Sportswear - track suits, sports bras, cycling outfit, etc

<b>sattire (recommended values)</b>	
<b>Swimwear</b>	Bikinis and other swimming costumes
<b>Underwear</b>	Just a bra and panties, or similar - BUT does not include a tank top plus panties which with the addition of a skirt or jeans would be presentable outdoor wear.

**Table 13.15. suscatr: how to generate the 18 USC 2257 declaration: defined values**

<b>suscatr</b>	
<b>V</b>	Vendor based - use vendor's USC declaration address
<b>E</b>	Exempt - for pure nude sites without sexual activity of any kind
<b>P</b>	Photographer based - use photographer's address for USC declaration
<b>N</b>	Suppress declaration - <i>NOT RECOMMENDED FOR US RESIDENTS</i>
<b>G</b>	Generic - include generic text with all vendor addresses

**Table 13.16. saspect: Descriptive Aspect Ratio and Resolution (Generalised)**

<b>Resolution</b>	<b>Aspect</b>	<b>Description</b>
<i>LD</i>	*	Low Definition - something less than normal TV definition
<i>SD</i>	*	Standard Definition - normal TV - 720x480(NTSC) or 720x576(PAL)
<i>ID</i>	*	Improved Definition - above Normal TV, eg 720p but short of full HD
<i>HD</i>	*	High Definition - typically 1080p30 and above - true HD
<i>UHD</i>	*	Ultra High Definition or 4K - typically 2160p60
*	4:3	Typical square TV aspect ratio
*	5:3	Compromise semi-widescreen TV aspect ratio
*	16:9	Typical widescreen aspect ratio

---

# Chapter 14. Schema Reference: Assoc

## Assoc: Schema SQL

```
create table assoc
( assocno          number(9) primary key,
  amodelno        number(6) references models,
  asetno          number(9) references sets,
  astatus         char(1),
  aadded          date,
  aamended        date
);
```

## Assoc: Defined Values

**Table 14.1. astatus: association status: defined values**

astatus	
<b>M</b>	Manually Added
<b>G</b>	Generated Automatically
<b>R</b>	Relationship entry - not the primary model for this set.

---

# Chapter 15. Schema Reference: Idmap

## Idmap: Schema SQL



### Note

A possible future direction is for this table to be relationally linked to the vendors table such that `idmap.isite = vendor.vsite`

```
create table idmap
( identryno          number(7) primary key,
  imodelno          number(6) references models,
  istatus           char(1),
  isite            varchar2(20) not null,
  ikey             varchar2(30),
  ialtkey          varchar2(30),
  iname            varchar2(30),
  inotes           varchar2(80),
  iactive          char(1),
  ichanged         date,
  ichecked         date,
  iadded           date,
  iamended         date
);
```

## Idmap: Defined Values


**Table 15.1. istatus: idmap status: defined values**

istatus	
<b>M</b>	Manually Added
<b>A</b>	Generated Automatically
<b>I</b>	Imported From Another WACS site

**Table 15.2. iactive: model activity status as this identity: defined values**

iactive	
<b>Y</b>	Yes - active model (refresh list with auto tools)
<b>D</b>	Dormant - no new sets for a while (don't bother checking)
<b>N</b>	No - inactive (id not known)
<b>O</b>	Obsolete - old reference (no longer there)

**Table 15.3. isite: Some recommended site abbreviations: recommended values**

isite (recommended values)	
 <b>Note</b> This is a <i>Recommended Values</i> list only; additional values can be added as appropriate	
<b>21SEX</b>	21sexury.com
<b>ALS</b>	ALSScan.com
<b>AMK</b>	AMKingdom.com (aka ATK Galeria)
<b>ATE</b>	ATKExotics.com
<b>ATKP</b>	ATKPremium.com
<b>AW</b>	AbbyWinters.com
<b>C17</b>	ClubSeventeen.com
<b>DDF</b>	ddfprod.com
<b>FJ</b>	FemJoy.com
<b>IFG</b>	infocusgirls.com
<b>ITC</b>	inthecrack.com
<b>JAFN</b>	jennyandfriends.net
<b>KPC</b>	karupspc.com (aka Karup's Private Collection)
<b>KHA</b>	karupsha.com (aka Karup's Hometown Amateurs)
<b>SE</b>	sapphicerotica.com
<b>TF</b>	teenflood.com
<b>PMET</b>	PinkMetallic.com, the WACS Demo site



---

# Chapter 16. Schema Reference: Models

## Models: Schema SQL

### Introduction to the Models Schema

This is the second most important schema element in the Wacs system as it is one of the key cornerstones to how collections are accessed and organised. It covers the models featured in the collections.



#### Warning

WACS 1.0.0 contains a significant number of additions to this schema ahead of the shift to the 1.0.x release series. None of these changes are used or accessed by applications in Wacs 1.0.0, so you can defer updating the Schema until Wacs 1.0.1 comes out if you wish to. There is a tool to update the schema (**wacsschema**) supplied with all releases since Wacs 0.9.0. The newly added and currently not used fields are those in **bold** typeface.

Please notice that the use of metric in the vital statistics is not intended to be a dig at the imperial measurements, merely that it reliably and consistently conveys the necessary information as sensible, manageable integers. Utility functions are planned to make it easier to convert and update in a future release of WACS. You try writing an SQL query to find models between 5ft 3ins and 5ft 6ins in height, as compared to between 160 and 168 cms in height. See what I mean?

### Changes made in this release to be used later

These are changes in Wacs 1.0.0 which will not start being used until the next release, most likely Wacs 1.0.1, unless we have to rush out a rapid bug fix release. We have added a **mgender** field to allow us to in due course add support for male and transgender models as well. We have added three new set type involvement flags - **morgy**, **mathreesome** and **minterview** - these are simply Y/N answers and will be set by **wacsupdstats** when support for these fields are added. Similarly **mnaudio** and **mnbddvd** indicate how many of these types of sets a given model has. Finally **moldest** and **mnewest** record the minima and maxima for the sets added for this model.

### Model Schema Listing

```
create table models
( modelno          number(6) primary key,
  mname            varchar2(40),
  mhair            varchar2(15),
  mlength          varchar2(20),
  mgender          char(1),
  mtitsize         varchar2(10),
  mcupsize         char(1),
  meyes            varchar2(15),
  mrace            varchar2(15),
  mattributes      varchar2(60),
  malias           varchar2(60),
  mdisting         varchar2(80),
  musual           varchar2(60),
```

```

mimage          varchar2(80),
mbigimage       varchar2(80),
mbodyimage      varchar2(80),
multimage       varchar2(80),
mstatus         char(1),
mrating         char(1),
mpussy          char(1),
mlabia          varchar2(80),
mflag           char(1),
mvideos         char(1),
msolo           char(1),
mstraight       char(1),
mlesbian        char(1),
mfetish         char(1),
mmast           char(1),
mtoys           char(1),
morgy          char(1),
mthreesome    char(1),
minterview    char(1),
mother          char(1),
mnsets          number(4),
mnimages        number(7),
mnvideos        number(4),
mnaudio       number(4),
mnbddvd       number(4),
mcountry        varchar2(30),
mhometown       varchar2(80),
mage            number(3),
mageyear        number(4),
mcstatus        char(1),
mvitbust        number(4),
mvitwaist       number(4),
mvithips        number(4),
mbuild          char(1),
mheight         number(3),
mweight         number(3),
mdress          number(2),
mstarsign       number(2),
moccupation     varchar2(30),
mcontact        varchar2(80),
mbirthdate      date,
moldest       date,
mnewest      date,
monfile         char(1),
magency         varchar2(80),
mnotes          varchar2(240),
mbio            varchar2(240),
madded          date,
mamended        date
);

```

## Models: Defined Values

**Table 16.1. mstatus: model record status: defined values**

<b>mstatus</b>	
<b>A</b>	Automatically Added, Details Not Checked
<b>M</b>	Manually Added, Details Not Checked
<b>N</b>	Normal - Checked
<b>G</b>	Good - Thoroughly Checked
<b>P</b>	Placeholder - Not Real Person

**Table 16.2. mrating: model rating: defined values**

<b>mrating</b>	
<b>5</b>	Finest (included in Q= searches and front page)
<b>4</b>	Very Good (included in Q= searches and front page)
<b>3</b>	Good (not included in Q= searches, included in front page)
<b>2</b>	Reasonable (not included in Q= searches or front page)
<b>1</b>	Mediocre (not included in Q= searches or front page)
<b>0</b>	None Specified (listed in U= searches)


**Table 16.3. mpusy: model's normal pubic hair style: defined values**

<b>mpusy</b>	
<b>H</b>	Hairy
<b>T</b>	Trimmed
<b>B</b>	Brazilian style shaved - very little hair above clit area
<b>S</b>	Shaven - completely
<b>V</b>	Varies (best avoided, try and pick one of above - her <i>usual style</i> )
<b>N</b>	Not Specified

**Table 16.4. mflag: special marking flag for models: defined values**

<b>mflag</b>	
<b>S</b>	Favourite Solo
<b>L</b>	Favourite Lesbian
<b>C</b>	Favourite Cutie
<b>F</b>	Favourite Straight
<b>M</b>	Current Featured Model
<b>P</b>	Placeholder (not a real person)

**Table 16.5. model activities flags: defined values**

model activities flags	
fieldname	possible values
	<b>Note</b> Automatically updated by <b>updatestats</b>
<b>mvideos</b>	Y - Yes, does this; N - No, doesn't do this
<b>msolo</b>	
<b>mstraight</b>	
<b>mlesbian</b>	
<b>mfetish</b>	
<b>mmast</b>	
<b>mtoys</b>	
<b>morgy</b>	
<b>mthreesome</b>	
<b>minterview</b>	
<b>mother</b>	

**Table 16.6. mcstatus: accuracy of home country field: defined values**

mcstatus	
<b>C</b>	Certain - country of origin stated in bio
<b>Q</b>	Quasi-authoritative - from third party site
<b>I</b>	Inferred - from location or other models seen with
<b>G</b>	Guess - based on photographer or building style
<b>N</b>	None

**Table 16.7. mrace: race of the model: defined values**

mrace	
<b>Caucasian</b>	Caucasian - European Descent aka White
<b>Oriental</b>	Oriental - Chinese, Japanese, SE Asian
<b>Asian</b>	Indian Sub-Continent - India, Pakistan, etc
<b>Negroid</b>	Negroid - of African Descent aka Black
<b>Aboriginal</b>	Aboriginal - indigenous peoples - First Nation, Polynesian, etc
<b>Latina</b>	Latin American - aka Hispanic
<b>Mixed</b>	Mixed race and others

**Table 16.8. mbuild: body type of the model: defined values**

<b>mbuild</b>	
<b>V</b>	Very Slim
<b>S</b>	Slim
<b>M</b>	Medium
<b>H</b>	Heavy

**Table 16.9. mlabia: about the model's labia: defined values**

<b>mlabia</b>	
<b>I</b>	Internal (No Projection)
<b>C</b>	Cameltoe
<b>T</b>	Thin Projection
<b>B</b>	Broad Projection

**Table 16.10. mstarsign: The models astrological star sign**

<b>mstarsign</b>	
null or "	Unknown
<b>Aries</b>	Aries (21 Mar)
<b>Taurus</b>	Taurus (21 Apr)
<b>Gemini</b>	Gemini (21 May)
<b>Cancer</b>	Cancer (21 June)
<b>Leo</b>	Leo (22 Jul)
<b>Virgo</b>	Virgo (23 Aug)
<b>Libra</b>	Libra (23 Sep)
<b>Scorpio</b>	Scorpio (23 Oct)
<b>Sagittarius</b>	Sagittarius (22 Nov)
<b>Capricorn</b>	Capricorn (22 Dec)
<b>Aquarius</b>	Aquarius (21 Jan)
<b>Pisces</b>	Pisces (20 Feb)

**Table 16.11. vital statistics: meanings**

<b>vital statistics</b>	
<b>mweight</b>	Weight in Kilos
<b>mheight</b>	Height in centimetres
<b>mvitbust</b>	Bust measurement in centimetres (vital stats part 1)

<b>vital statistics</b>	
<b>mvitwaist</b>	Waist measurement in centimetres (vital stats part 2)
<b>mvithips</b>	Hips measurement in centimetres (vital stats part 3)
<b>mdress</b>	Dress size given in European standard sizes

---

# Chapter 17. Schema Reference: Download

## Download: Schema SQL

```
create table download
( downloadno          number(7) primary key,
  dmodelno           number(6) references models,
  dsetno             number(9) references sets,
  dstatus            char(1),
  dtype             char(1),
  dsite              varchar2(20) not null,
  dkey               varchar2(30),
  dsetkey            varchar2(40),
  dsetname           varchar2(240),
  dsetflag           char(1),
  dnotes             varchar2(240),
  durl               varchar2(240),
  darchive           varchar2(240),
  dsignature         varchar2(82),
  dsize              number(12),
  dproddate          date,
  dreldate           date,
  dphotog            varchar2(6) references photographer,
  dbranding          varchar2(20),
  dpulled            date,
  dadded             date,
  damended           date
);
```



### Note

The **dsize** field was expanded from 9 digits to 12 digits in Wacs 0.9.2 to allow for video files larger than 1GB to be correctly described. **dbranding** was also added to use in conjunction with the sbranding field in the sets schema.

## Download: Defined Values

Table 17.1. dstatus: download status: defined values


dstatus	
U	Not Yet Attempted
F	Failed - Retry when possible
S	Successful - set registered in database, available
P	Pending - downloaded, awaiting unpacking

<b>dstatus</b>	
<b>A</b>	Aborted - don't download for some reason
<b>D</b>	Deferred - held back from being downloaded
<b>R</b>	Relationship Entry - a second model for a set
<b>L</b>	Liasion - a proto-Relationship Entry not yet linked
<b>E</b>	Error - not the right model, etc
<b>I</b>	In Progress - download currently in progress
<b>X</b>	Incomplete - record of it's existance but too little info to download it

**Table 17.2. dtype: download set type: defined values**

<b>dtype</b>	
<b>I</b>	Image Set
<b>V</b>	Video Clip
<b>A</b>	Audio File
<b>S</b>	BluRay/DVD Scene record

**Table 17.3. dsetflag: Suggested value for scatflag based on parsing result**

<b>dsetflag</b>	
	<p><b>Note</b></p> <p>Any valid value for scatflag from the sets table. This is a hint on the set type based upon the parsing process picking out keywords</p>



---

# Chapter 18. Schema Reference: Photographer

## Photographer: Schema SQL

```
create table photographer
( ppref          varchar2(6) primary key,
  pname          varchar2(40),
  paliases      varchar2(80),
  pgender       char(1),
  paddress      varchar2(120),
  pemail        varchar2(80),
  pwebsite      varchar2(80),
  pusual        varchar2(40),
  pregion       varchar2(20),
  pcountry      varchar2(50),
  plocation     varchar2(50),
  pstyledesc    varchar2(80),
  prating       number(2),
  phardness     number(2),
  psolo         char(1),
  ptoys         char(1),
  plesbian      char(1),
  pstraight     char(1),
  pgroup        char(1),
  pfetish       char(1),
  pdigital      char(1),
  pfilm         char(1),
  pvideo        char(1),
  phdvideo      char(1),
  pcamera       varchar2(40),
  pcamnotes     varchar2(80),
  pcomments     varchar2(240),
  pnotes        varchar2(240),
  pbiography    varchar2(1024),
  padded        date,
  pamended      date
);
```

## Photographer: Defined Values

**Table 18.1. pgender: gender of the photographer: defined values**

pgender	
<b>M</b>	Male
<b>F</b>	Female

<b>pgender</b>	
<b>U</b>	Unknown

**Table 18.2. pregion: geographical location of the photographer: defined values**

<b>pregion</b>	
<b>Europe</b>	Europe
<b>North America</b>	USA and Canada
<b>South America</b>	South and Central America
<b>Middle East</b>	Middle East (brave photographer!)
<b>Asia</b>	Asia (India and the Indian Sub-continent ONLY)
<b>Orient</b>	Orient (Asia excluding Indian Sub-continent)
<b>Australasia</b>	Australia and New Zealand
<b>Africa</b>	Africa
<b>Other</b>	Other

**Table 18.3. prating: overall rating of photographer: defined values**

<b>prating</b>	
<b>0</b>	None
<b>1</b>	Awful - poor equipment and technique
<b>2</b>	Poor - uninteresting and badly composed/exposed work
<b>3</b>	Reasonable - technically OK, but very unenterprising
<b>4</b>	Good - good technique, interesting compositions and direction
<b>5</b>	Excellent - Excellent technique, interesting and challenging compositions and direction

**Table 18.4. phardness: rating of how explicit this photographer can be: defined values**

<b>phardness</b>	
<b>0</b>	None - Not Rated
<b>1</b>	Soft-focus (very arty)
<b>2</b>	Glamour - sharp but no open leg, genital detail, etc
<b>3</b>	Normal - wide range of shots but not particularly strong
<b>4</b>	Hard (close-ups)
<b>5</b>	Fetish - pretty extreme, gaping, etc

**Table 18.5. photographer activities covered flags: defined values**

photographer activities covered flags	
fieldname	possible values
psolo	Y - Yes, does this; N - No, doesn't do this; O - Occasionally does this
ptoys	
plesbian	
pstraight	
pgroup	
pfetish	

**Table 18.6. photographer technologies used flags: defined values**

photographer technologies used flags	
fieldname	possible values
pdigital	Y - Yes, uses this technology; N - No, doesn't use this technology.
pfilm	
pvideo	
phdvideo	

---

# Chapter 19. Schema Reference: Tag

## Tag: Schema SQL

```
create table tag
( tagno                number(9) primary key,
  tmodelno            number(6) references models,
  tsetno              number(9) references sets,
  tstatus             char(1),
  tflag               char(1),
  tgroup              number(6),
  tdesc               varchar2(40),
  towner              varchar2(20),
  texpiry             date,
  tadded              date,
  tamended            date
);
```

## Tag: Defined Values

**Table 19.1. tstatus: tag entry status: defined values**

tstatus	
<b>T</b>	Temporary - expire as per expiry rules
<b>V</b>	Viewed, Temporary - expire as per expiry rules, hide from index
<b>P</b>	Permanent - don't expire, show in index
<b>A</b>	Archived - don't expire, don't show in normal indexes

**Table 19.2. tflag: tag content type status: defined values**

tflag	
<b>M</b>	Model-based tag entry
<b>S</b>	Set-based tag entry

---

# Chapter 20. Schema Reference: Vendor

## Vendor: Schema SQL


```
create table vendor
( vsite          varchar2(20) primary key,
  vname          varchar2(45),
  vshortname    varchar2(20) not null,
  vregion       varchar2(20),
  vcountry      varchar2(50),
  vweburl       varchar2(120),
  vsignup       varchar2(120),
  vrating       number(2),
  vtechrates    number(2),
  vuscdecl      varchar2(240),
  vcurrent      char(1),
  vshow         char(1),
  vsubscribed   char(1),
  vuntil        date,
  vusername     varchar2(80),
  vpassword     varchar2(30),
  vidting       number(2),
  vidtvid       number(2),
  vcomexcl      varchar2(240),
  vmdirectory   varchar2(240),
  vmdiruse      char(1),
  vmdirpages    number(3),
  vmpage        varchar2(240),
  vmpaguse      char(1),
  vmbio         varchar2(240),
  vmbiouse      char(1),
  vmvideos     varchar2(240),
  vmviduse      char(1),
  vvidpage     varchar2(240),
  vviduse       char(1),
  vimgpage     varchar2(240),
  vimguse       char(1),
  valtpage     varchar2(240),
  valtuse      char(1),
  vsrvimg      varchar2(240),
  vsrvvid      varchar2(240),
  vmultimg     char(1),
  vmultvid     char(1),
  vnotes       varchar2(240),
  vadded       date,
  vamended     date
);
```

# Vendor: Defined Values

**Table 20.1. vcurrent: vendor existence status: defined values**

<b>vcurrent</b>	
<b>Y</b>	Yes - still an active site
<b>N</b>	No - no longer trading at that web address

**Table 20.2. vshow: vendor index inclusion status: defined values**

<b>vshow</b>	
	<p><b>Note</b></p> <p>This option only really affects vendormode and vendor-based lists of models; if you don't use vendor mode, it's not likely to be relevant.</p>
<b>Y</b>	Yes - show in indices
<b>N</b>	No - hide from indices

**Table 20.3. vmdiruse et al: vendor URL auto-usuability status: defined values**

<b>vmdiruse et al</b>			
<i>fieldname</i>	<i>page purpose</i>	<i>possible values</i>	
<b>vmdiruse</b>	Model Directory	<b>Y</b>	link is (auto)usable
<b>vmpaguse</b>	Model Page	<b>N</b>	link is not (auto)usable
<b>vmbiouse</b>	Model Biography	<b>S</b>	link usable only with session key
<b>vmviduse</b>	Model's Videos Page		
<b>vviduse</b>	Video Set Page		
<b>vimguse</b>	Image Set Page		
<b>valtuse</b>	Alternate Image Set Page		

---

# Chapter 21. Schema Reference: Conn

## Conn: Schema SQL

```
create table conn
( centryno          number(9) primary key,
  cgroup           number(6),
  corder           number(3),
  cflag            char(1),
  cstatus          char(1),
  cmodelno         number(6) references models,
  csetno           number(9) references sets,
  cphotog          varchar2(6) references photographer,
  ctype            varchar2(20) not null,
  cdesc            varchar2(80),
  ccomments        varchar2(240),
  cpath            varchar2(160)
  cadded           date,
  camended         date
);
```

## Conn: Defined Values



### Warning

Conn (connections) is a recent addition and not all parts of the toolchain are in place yet. As the management tools are added, it is expected that at least the legal values for fields will change and be expanded.

**Table 21.1. cflag: connection type: defined values**

cflag	
<b>A</b>	Ad-Hoc - A casual index of some random theme
<b>G</b>	Gallery - A slightly more focused collection with a specific concept behind it.

**Table 21.2. cstatus: connection entry status: defined values**

cstatus	
<b>M</b>	Manually Added
<b>T</b>	Imported from a Tag set

---

# Chapter 22. Schema Reference: Keyword

## Keyword: Schema SQL

```
create table keyword
( kentryno          number(9) primary key,
  kflag             char(1),
  kword             varchar(30) not null,
  kexclusions       varchar(120),
  kiloc             varchar(20),
  kiscore           number(1),
  kicat            char(1),
  kicscore          number(1),
  kidet             varchar(40),
  kidscore          number(1),
  kiattr            varchar(30),
  kiascore          number(1),
  kiwear            varchar(40),
  kiwscore          number(1),
  kiother           varchar(40),
  kioscore          number(1),
  knotes           varchar(80),
  kadded            date,
  kamended          date
);
```



### Note

From WACS 0.8.2, the kiother and kioscore fields are used to determine values for the sattire field in the sets schema. New fields kiwear and kiwscore were introduced in WACS 0.8.5 and will be used for values for the sattire fields from WACS 0.9.x freeing kiother and kioscore for their original purpose of being spare for future functionality.

## Keyword: Defined Values

Table 22.1. kflag: active entry status: defined values

kflag	
A	Applies to All Added
N	Not Active (Ignore)



---

# Chapter 23. Schema Reference: Wacsuser

## User: Schema SQL



### Note

This schema has been renamed wacsuser as on certain DBs (eg Oracle) user is a reserved word.

```
create table wacsuser
(
  userid          number(9) primary key,
  username        varchar2(20) not null,
  upassword       varchar2(20) not null,
  ustatus        char(1),
  utype          char(1),
  uvisits        number(6),
  uclass         varchar2(20) not null,
  uprexcl        varchar2(20),
  uprdirect      char(1),
  uprpage        varchar2(20),
  uprscale       varchar2(20),
  uprsize        varchar2(12),
  uprquality     number(3),
  uprdelay       number(3),
  uprunits       char(1),
  uprthumbs     varchar2(20),
  uprother       varchar2(20),
  uregister      date,
  uexpiry       date,
  ulastact       date,
  ulastconn     date,
  ulastcomm     date,
  ulasttopic    varchar2(40),
  upurge        date,
  uemail        varchar2(120),
  ualtemail     varchar2(120),
  uscreenname   varchar2(30),
  urealname     varchar2(80),
  uaddress1     varchar2(80),
  uaddress2     varchar2(80),
  ucity         varchar2(50),
  uprovince     varchar2(30),
  ucountry      varchar2(30),
  upostcode     varchar2(20),
  utelephone    varchar2(30),
  uallowed      char(1),
  uthirdp       char(1),
```

```

ujointhru          varchar2(30),
ureference         varchar2(120),
upayamount        number(4,2),
upaycurr          varchar2(10),
ulinkfrom         varchar2(120),
urebill           char(1),
ucommpay          char(1),
ucommission       varchar2(80),
ucommfee          number(4,2),
ucommcurr         varchar2(10),
ucommperc         number(3),
unotes            varchar2(240),
uadded            date,
uamended date
);

```



**Note**

The *wacsuser* schema is a new table introduced in WACS 0.8.5; it is not available or supported prior to that release. Only certain fields of this table are supported and used within the standard WACS tools; the additional fields are utilised by the *WacsPro* commercial site management toolset available seperately from Bevttec Communications Ltd [<http://www.bevteccom.co.uk/>]. To ensure compatibility, the recommended values used in all fields are described here.

## User: Defined Values

**Table 23.1. ustatus: User Account Status: defined values**

ustatus	
<b>A</b>	Active - this account is currently active
<b>E</b>	Expired - this user account has expired
<b>P</b>	Pending - user needs to complete verification step
<b>S</b>	Suspended - access temporarily suspended - leaked password, etc

**Table 23.2. utype: User Type: defined values**

utype	
<b>A</b>	Administrator - account used for system management
<b>F</b>	Friend (or Freebie) - account granted free access
<b>S</b>	Subscriber - a subscription account

**Table 23.3. uclass: User Class: defined values**

uclass	
<b>viewer</b>	a normal user account

<b>uclass</b>	
<b>power</b>	power user with enhanced rights, can see most of the administration tools but can't make significant changes to the collection. Primarily intended for support staff
<b>admin</b>	system and collection administrator - full administrative rights

---

# Chapter 24. Schema Reference: Attrib

## Attrib: Schema SQL



### Note

The attrib schema was introduced in WACS 0.8.5 but is not used at all by that release. It is used in Wacs 0.8.6 and higher.

```
create table attrib
( atrecno          number(9) primary key,
  atkeyword        varchar2(30),
  atsource         char(1),
  atrecognise     char(1),
  atallowadd      char(1),
  atdisplay       char(1),
  atshortdesc     varchar2(50),
  atlongdesc      varchar2(240),
  aticon          varchar2(160),
  atgroup         varchar2(30),
  atimplicit      char(1),
  atvalidset      char(1),
  atvalidmodel    char(1),
  atvalidother    char(1),
  atmarkset       char(1),
  atmarkmodel     char(1),
  atmarkother     char(1),
  atsetsearch     char(1),
  atmodsearch     char(1),
  atcombsearch    char(1),
  atothsearch     char(1),
  atsetdetail     char(1),
  atmoddetail     char(1),
  atcombdetail    char(1),
  atothdetail     char(1),
  atnotes         varchar2(240),
  atadded         date,
  atamended       date
);
```

## Attrib: Defined Values

The `atrecno` is a sequentially incremented reference number. Standard attributes typically will be numbered between 1 and 99, extended attributes between 100 and 499. Custom attributes should be given a number from 500 upwards to avoid clashes with attributes added to future WACS distributions.

**Table 24.1. atsource: attribute source: defined values**

<b>atsource</b>	
S	Standard - normal wacs attributes
E	Extended - more unusual wacs attributes
C	Custom - locally added attribute

**Note**

For more information on these attributes and their meanings, please see the explanation in the Customisation chapter of the administration guide.

---

# Chapter 25. Schema Reference: Notes

## Notes: Schema SQL

```
create table notes
( nentryno          number(9) primary key,
  ntype            char(1),
  norder           number(3),
  ntitle           varchar2(80),
  ntext            varchar2(2048),
  nstatus          char(1),
  nnext            number(9) references notes,
  nexpiry          date,
  nmodelno         number(6) references models,
  nsetno           number(9) references sets,
  nphotog          varchar2(6) references photographers,
  nconn            number(6),
  ncomments        varchar2(120),
  nadded           date,
  namended         date
);
```

## Introduction to how Notes is used

Notes is intended to provide a mechanism for attaching additional text to models, connections and as a basis for a simple site blog mechanism. Of these uses, perhaps the best developed so far is the blog mechanism which is supported by wacsupdstat. If enabled by putting **blog:notes** in the **updatestats** configuration setting within the **layout** section of the configuration file, wacsupdstat will create a basic blog entry for each time updates are made to the site. This can subsequently be edited as desired. Other authored blog entries and site tours can also be added to the blog system manually.

## Notes: Defined Values

**Table 25.1. ntype: notes type: defined values**

ntype	
<b>B</b>	Site Blog entry
<b>C</b>	Connection Descriptive Text - more about a connection
<b>M</b>	Model Biography - an extended biography

---

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