



# Ensembl website refactoring

James Smith

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# e!New design

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

Information about release

Context sensitive links

How-to style links



Ensembl v32: Homo sapiens Transcript Report for ENST00000361512 - Mozilla Firefox

Search:    
e.g. [ENST00000333656](#), [ENST00000328225](#)

Ensembl v32 - May 2005 Help

### ENST00000361512

**Ensembl Transcript Report**

- Gene info.
- Gene splice site image
- Gene variation info.
- Genomic sequence
- Exon info.
- Transcript info.
- Export data
- Peptide info.

**Chromosome X**  
**2,846,213 - 2,875,672**

- View of Chromosome X
- Graphical view
- Graphical overview

**Use Ensembl to...**

- Run a BLAST search
- Search Ensembl
- Data mining [BioMart]
- Upload your own data
- Display your data on a karyotype diagram

**Docs and downloads**

- About Ensembl
- Website documentation

Transcript	ARSE (HUGO ID) (to view all Ensembl genes linked to the name <a href="#">click here</a> ) This transcript is a member of the human CCDS set: <a href="#">CCDS14122</a>
Ensembl Transcript ID	ENST00000361512
Transcript information	Exons: 11 Transcript length: 1,858 bps Translation length: 589 residues This transcript is a product of gene: <a href="#">ENSG00000157399</a>
Genomic Location	This transcript can be found on Chromosome X at location: <a href="#">2,846,213-2,875,672</a> This start of this transcript is located in <a href="#">Contig AC005295.1.1.131070</a> .
Runtime Error	Function EnSEMBL::Web::Component::Gene::description fails to execute due to the following error: This function is not defined
Runtime Error	Function EnSEMBL::Web::Component::Gene::method fails to execute due to the following error: This function is not defined
Similarity Matches	This Ensembl entry corresponds to the following database identifiers: AFFY HG Focus: <a href="#">205894_at</a> AFFY HG U133 PLUS 2: <a href="#">205894_at</a> AFFY HG U133A: <a href="#">205894_at</a> AFFY HG U133A 2: <a href="#">205894_at</a> AFFY HG U95Av2: <a href="#">40376_at</a> AFFY HG U95C: <a href="#">65258_at</a> AFFY U133 X3P: <a href="#">q4502240_3p_at</a> CCDS: <a href="#">CCDS14122.1</a>

Done 127.0.0.1

Search box on all pages.

Dynamic error handling, sending errors to the browser.

# e!New design

Ensembl website refactoring

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The screenshot shows the Ensembl Human Status page in Mozilla Firefox. The browser title is "Status - Mozilla Firefox" and the address bar shows "http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo\_sapiens/status". The page header includes the Ensembl logo and "Human Status" text, along with a search bar containing "Anything" and a "Go" button. Below the header, there is a navigation menu with "Server information", "Use Ensembl to...", "Docs and downloads", and "What's new". The main content area is divided into two panels: "Current server information" and "Configured species".

**Current server information**

Site summary	EnsEMBL - May 2005
Web address	http://ensarc-1-14.internal.sanger.ac.uk:41080/
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

**Configured species**

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C.elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Ciona intestinalis</a>	C.intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	



# e! New design

## Ensembl website refactoring

Print previews have been styled so that the output is rendered without a lot of the decoration and navigation of the webpage.

The screenshot displays the Ensembl Human SnpView interface for SNP rs699. The browser window title is "SnpView - Mozilla Firefox" and the URL is "http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo\_sapiens/snpview?panel\_genotypes=off;sn". The search bar contains "Anything" and "Go". The page header shows "Ensembl v32 - May 2005" and "Help".

**dbSNP: rs699**

- SNP info.
- LD info.

**Chromosome 1**  
227,152,529 - 227,152,529

- View of Chromosome 1
- Graphical view
- Graphical overview

**Use Ensembl to...**

- Run a BLAST search
- Search Ensembl
- Data mining [BioMart]
- Upload your own data
- Display your data on a karyotype diagram

**Docs and downloads**

- About Ensembl
- Website documentation
- Data downloads and export
- Sitemap

**What's new**

- New species - C. intestinalis
- New build - Rat 3.4
- dbSNP 125
- More...

**Archive! Permanent page link**

**SNP rs699**

SNP	rs699 (dbSNP124)
Synonyms	HGVbase <a href="#">SNP000000510</a>
Alleles	T/C (ambiguity code: Y)
Validation status	Proven by cluster, frequency, doublehit (SNP tested and validated by a non-computational method).
Linkage disequilibrium data	Links to LDview per population: PERLEGEN:AFD_CHN_PANEL_CSHL-HAPMAP:HapMap-YRI CSHL-HAPMAP:HapMap-JPT CSHL-HAPMAP:HapMap-LD CSHL-HAPMAP:HapMap-CEU PERLEGEN:AFD_AFR_PANEL_CSHL-HAPMAP:HapMap-CEU PERLEGEN:AFD_EUR_PANEL
Sequence region	<pre>CCTGCAGGCTGTACAGGCTGCTAGTGGCCAGGGCAGGGCTGATGCCAGGCCAGC TGCTGCTGTCCACGGTGGTGGGCTGTTCACAGCCCAAGGCTGCACCTGAAGCAGCCGT TTGTGAGGGCTGGCTCTCTATAACCCCTGTGGTCTCCACGCTCTCTGGACTTCAAG AACTGGATGTTGCTGCTGAGAAGATTGACAGGTTGATGACAGGCTGTGACAGGATGAAAG CTGGCTGCTCCCTGAYGGGAGCCAGTGTGGACAGCACCCCTGGCTTCAACACCTAGTCC ACTTCCAGGTAAAGCAACCTCTCTGGCTCTGGCTAGGACTTAGTATCCAAATGT GTAGCTGAGATCAGCCAGTCAAGGCTTGGAGATGGGAGGGGAGGAGCCCTGCGGACATACC TGGTACCACCCCTTGGAAAGTGGGAAAGTGGCTGCTCCGCTGGGTCCTGGATGGGCGGT CCACCTCTGAGACTGCTCCCTACTATGTG (SNP highlighted)</pre>

- Genotype frequencies per population
- Allele frequencies per population

SNP rs699 is currently mapped to the following genomic locations:

Genomic location (strand)	Transcript: start-end	Gene/SNPView link	Translation: start-end	Peptide allele
1:227152529-227152529 (-1)	ENST00000258224: 842-842	<a href="#">SNP in gene context</a>	ENSP00000258224: 268-268	M/T

**SNP Context**

Features: EST trans., nCrNA, Ensembl trans., Vega trans., Length, DNA(contigs), Vega trans., Ensembl trans., nCrNA, EST trans.

Decorations: No nCRNAs in this region, No Vega transcripts in this region.

Export: 100.00 Kb

Image size: 100.00 Kb

Help



# e!New design

Ensembl website refactoring

No navigation menu, help link, search.

Collapsed panels not displayed in print mode.

+/- boxes and navigation tools hidden

The screenshot shows the Ensembl Human SnpView interface for SNP rs699. The browser window title is "SnpView - Mozilla Firefox". The page header includes the Ensembl logo and "Ensembl v32 - May 2005". A red text overlay in the top right corner reads "Release information moved to top right".

**SNP rs699**

SNP	<a href="#">rs699</a> (dbSNP124)
Synonyms	HGVbase <a href="#">SNP000000510</a>
Alleles	T/C (ambiguity code: Y)
Validation status	Proven by <a href="#">cluster</a> , <a href="#">frequency</a> , <a href="#">doublehit</a> (SNP tested and validated by a non-computational method.)
Linkage disequilibrium data	Links to LDview per population: <a href="#">PERLEGEN:AFD_CHN_PANEL</a> <a href="#">CSHL-HAPMAP:HapMap-YRI</a> <a href="#">CSHL-HAPMAP:HapMap-JPT</a> <a href="#">CSHL-HAPMAP:PERLEGEN:AFD_AFR_PANEL</a> <a href="#">CSHL-HAPMAP:HapMap-CEU</a> <a href="#">PERLEGEN:AFD_EUR_PANEL</a>
Sequence region	<pre>CCCTGCAGGCTGTACAGGGCCCTGCTAGTGGCCAGGGCAGGGCTGATAGCCAGGCCACG TGCTGCTGTCCACGGTGGTGGGCGTGTTCACAGCCCGAGGCCCTGCACCTGAAGCAGCCGT TTGTGCAGGGCCCTGGCTCTATACCCCTGTGGTCTCCACAGCCCTCTGGACTTCAAG ACTGGATGTTGCTGTGAGATTTGACAGTTTCCGAGGGCTGTACAGGATGGAGA CTGGCTGCTCCCTGAGGGAGCCAGTGTGGACAGCACCCCTGGCTTCAACCACTACTCC ACTTCCAAGTAAAGGCAAACTCTCTGCTGGCTCTGGCCCTAGGACTAGTATCCAATGT GTAGCTGAGATCAGCCAGTCAAGCCTTGGAGATGGGACAGGGGACGCTCGGGACATACC TGGTGACCCCTTGGAGAGTGGGAAAGTGGCTGCTCCCTGGGCTCCCTGGATGGGCGT CCACTCTGGACCTGCTGCCCTACTATGTG (SNP highlighted)</pre>

**SNP rs699 is currently mapped to the following genomic locations:**

Genomic location (strand)	Transcript: start-end	GeneSNPView link	Translation: start-end	Peptide allele
1: 227152529-227152529(-1)	<a href="#">ENST00000258224</a> : 842-842	<a href="#">SNP in gene context</a>	<a href="#">ENSP00000258224</a> : 268-268	MT NON_S

**SNP Context**

The SNP Context diagram displays various genomic features and a sequence alignment. It includes tracks for EST trans., ncRNA, Ensembl trans., Vega trans., DNA(contigs), and EST trans. The alignment shows the SNP (C/T) in the context of the surrounding sequence, with the SNP highlighted in red. The alignment is as follows:

```
EST trans.
ncRNA
Ensembl trans.
Vega trans.
Length
DNA(contigs)
Length
Vega trans.
Ensembl trans.
ncRNA
EST trans.
SNPs
```

# e! New design – no CSS??

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

**Viewing page with CSS disabled, this is the view a screen reader will see**

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C. elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Clona intestinalis</a>	C. intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	
<a href="#">Homo sapiens</a>	Human	NCBI35	
<a href="#">Mus musculus</a>	Mouse	NCBIM33	
<a href="#">Pan troglodytes</a>	Chimp	CHIMP1	
<a href="#">Rattus norvegicus</a>	Rat	RSC3.4	
<a href="#">Saccharomyces cerevisiae</a>	S. cerevisiae	SOD1	
<a href="#">Tetraodon lineatus</a>	Tetraodon	TETRAODON7	
<a href="#">Xenopus tropicalis</a>	X.tropicalis	JGI3	

# e!Plugins

Currently if we wish to have two variants of the website, then we need to have two copies of the whole code – to allow for minor tweaks in a large number of modules. This means:

- Whenever the “core” Ensembl webcode is updated, each variant has to work their modifications back into the main branch – risking missing changes and wasting development time.

In the redevelopment we are developing a plugin system, where:

- Each “variant” has it’s own set of modules – a Plugin – outside the “core” webcode, which add to, replace or modify the action of the “core” modules.

# e!Plugins – changes required

Plugins will allow us to:

- add additional scripts;
- add/modify panels within scripts.

Changes to the code will be extensive (most will need re-writing) but relatively simple:

- `E::W::Renderer::{\ObjectType}::HTML` objects split into `E::W::Component::{\ObjectType}` (for rendering) and `E::W::Configuration::{\ObjectType}` (for configuration)
- `E::W::DataFactory::{\ObjectType}Factory` modules will be replaced by `E::W::Factory::{\ObjectType}`
- `E::W::Data::{\ObjectType}` modules will be replaced by `E::W::Object::{\ObjectType}` modules.





# Extending the Ensembl Website – Part 1: Writing a new script.

James Smith  
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Ensembl Web Team Project Leader

# e! Writing a new script

To add a new script we need to:

- Write a new script in perl/default

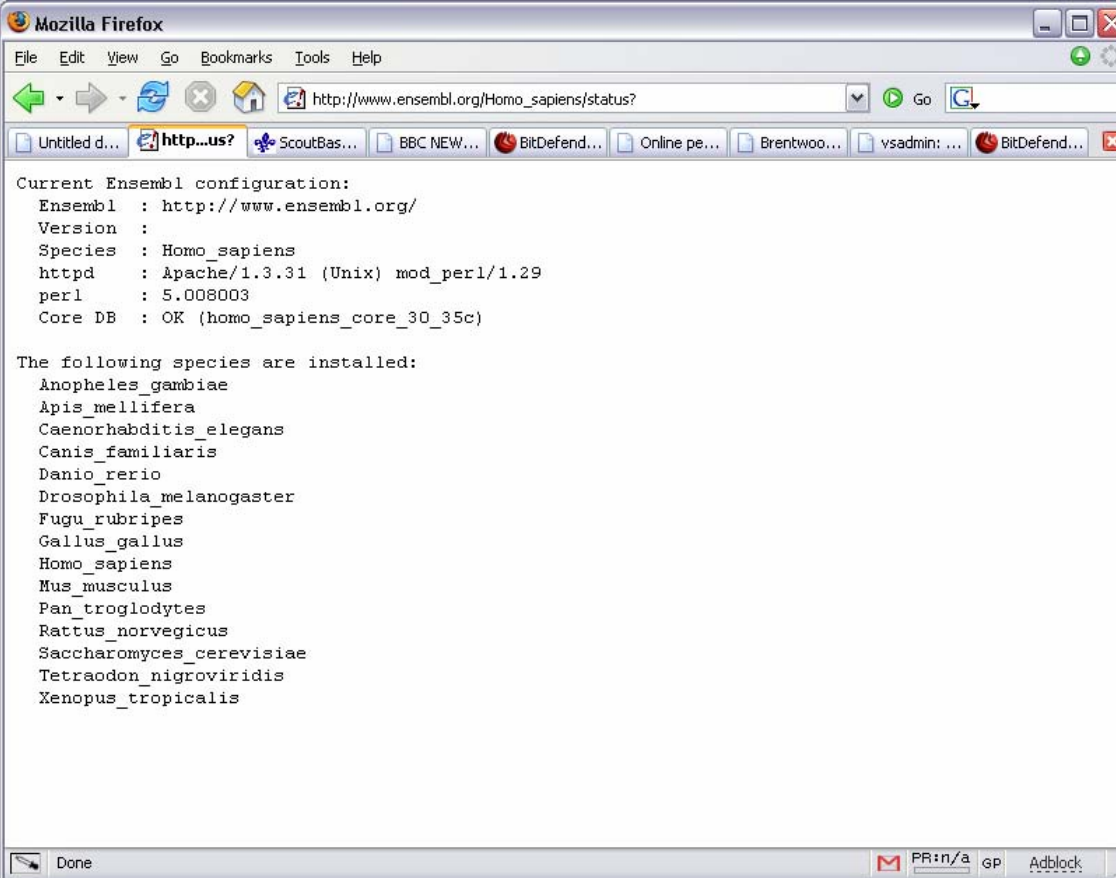
And one or more of the following:

- new ScriptConfig module;
- new Factory module and/or functions;
- new Object module and/or functions;
- new Configuration module and/or functions;
- new Component module and/or functions

We will look at writing a status page

# e!Current status module...

Current status script produces a plain text page:



```
Current Ensembl configuration:
Ensembl : http://www.ensembl.org/
Version :
Species : Homo_sapiens
httpd   : Apache/1.3.31 (Unix) mod_perl/1.29
perl    : 5.008003
Core DB : OK (homo_sapiens_core_30_35c)

The following species are installed:
Anopheles_gambiae
Apis_mellifera
Caenorhabditis_elegans
Canis_familiaris
Danio_rerio
Drosophila_melanogaster
Fugu_rubripes
Gallus_gallus
Homo_sapiens
Mus_musculus
Pan_troglodytes
Rattus_norvegicus
Saccharomyces_cerevisiae
Tetraodon_nigroviridis
Xenopus_tropicalis
```

# e! New status display

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

The screenshot shows the Ensembl Human Status page in a Mozilla Firefox browser window. The page title is "Status - Mozilla Firefox" and the address bar shows "http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo\_sapiens/status". The page header includes the Ensembl logo and "Human Status" text, along with a search bar and a "Go" button. Below the header, there is a navigation menu with "Server information" selected. The main content area is divided into two sections: "Current server information" and "Configured species".

**Current server information**

Site summary	EnsEMBL - May 2005
Web address	http://ensarc-1-14.internal.sanger.ac.uk:41080/
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

**Configured species**

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C.elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Ciona intestinalis</a>	C.intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	



# e!The Script

The script needs to:

- Handle user input, either directly from the web-page parameters – or through web-page cookies
- Set up any objects required
- Handle errors that are generated
- Configure the display
- Render the display

```
$webpage = new EnsEMBL::Web::Webpage( ... )
```

```
$webpage = new EnsEMBL::Web::Webpage( ... )
```

```
$webpage->has_a_problem;  
$webpage->render_error_page;
```

```
$webpage->configure( ... );
```

```
$webpage->render;
```



# e! Sample webpage script

```
#!/usr/local/bin/perl

package status;

use strict;
use warnings;
no warnings "uninitialized";
use EnSEMBL::Web::WebPage;

# Initialize the page
#   EnSEMBL::Web::WebPage is effectively a webpage factory, which "creates" elements
#   the elements of the webpage - including the renderer, factory, objects, etc.
# Parameters
#   'scriptname' => [opt] set if want to use alt. scripts input checks
#   'objecttype' => [req] type of object to use (B::E::Object::Gene,...
#   'renderer'   => [opt] defaults to Apache, where to send output
#   'outputtype' => [res] in future will may allow rendering in Text, XML, PDF, Excel...

my $webpage= new EnSEMBL::Web::WebPage( 'objecttype' => 'Server' );

if( $webpage->has_a_problem ) {
# Handle errors
# Show an error page if there is a problem
    $webpage->render_error_page;
} else {
# Configure the page
# Now configure the page, we need to pass configure an object so that it can get information
# and modules from it, the usual approach here is just to loop over all objects (usually only 1!)
# Parameters to configure are a E::W::ProxyObject and a list of function calls to make on
# E::W::Configuration::objecttype
    $webpage->configure( $_, qw(status context_menu) ) foreach @{$webpage->dataObjects};

# Finally render the page
    $webpage->render();
}
```

# e!New status display

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

Ensembl v32 - May 2005

Server information

- Server information
- ColourMap

Use Ensembl to...

- Run a BLAST search
- Search Ensembl
- Data mining [BioMart]
- Upload your own data
- Display your data on a karyotype diagram

Docs and downloads

- About Ensembl
- Website documentation
- Data downloads and export
- Sitemap

What's new

- New species - *C. intestinalis*
- New build - Rat 3.4
- dbSNP 125
- More...

Archive! Permanent page link

### Current server information

Site summary	EnsEMBL - May 2005
Web address	http://ensarc-1-14.internal.sanger.ac.uk:41080/
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

### Configured species

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C.elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Ciona intestinalis</a>	C.intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	

Configured by  
"context\_menu"

Configured by "status"



# e!Configuring the display

To configure the display we have to add elements to the webpage:

- The main “content” of the webpage is made up one or more panels, which we have to configure at this stage.
- The left-hand navigation menu is made up of one or more input blocks.

The configuration functions can create or extend these panels or blocks.

- To add a panel...

```
$self->{page}->content->add_panel( ... );
```
- To add a section to a panel...

```
$self->{page}->content->panel( ... )->add_component_first(); etc
```
- To add a menu block...

```
$self->{page}->menu->add_block( ... );
```
- To add a menu entry...

```
$self->{page}->menu->add_entry( ... );
```

# e! Sample Configuration module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Web::Configuration::Server;
use strict;
use Ensembl::Web::Configuration;
our @ISA = qw( Ensembl::Web::Configuration );

sub status {
    my $self = shift;
    my $content = $self->{page}->content;
    # First panel, "two-column style" displaying the server information.
    if( my $panell = $self->new_panel( "Information",
        'code' => "info",                ## Name this one "info"
        'caption' => 'Current server information', ## This is it's caption
        'object' => $self->{object}      ## Finally pass it the "Web::Object" object.
    ) ) {
        $panell->add_components(qw(
            name      Ensembl::Web::Component::Server::name
            url       Ensembl::Web::Component::Server::url
            version   Ensembl::Web::Component::Server::version
            webserver Ensembl::Web::Component::Server::webserver
            perl      Ensembl::Web::Component::Server::perl
            database  Ensembl::Web::Component::Server::database
            contact   Ensembl::Web::Component::Server::contact
        ));
        $content->add_panel( $panell );
    }
    # Second panel, "spreadsheet table style" displaying the configured species.
    if( my $panel2 = $self->new_panel( "SpreadSheet",
        'code' => 'species',                ## Name this one "species"
        'caption' => 'Configured species',  ## And set it's caption
        'object' => $self->{object},        ## Pass it the "Web::Object"
        'status' => 'Species'              ## Make this panel "collapsable"
    ) ) {
        $panel2->add_components( qw(species Ensembl::Web::Component::Server::spreadsheet_Species));
        $content->add_panel( $panel2 );
    }
}
1;
```

```
use Ensembl::Web::WebPage;
my $webpage= new Ensembl::Web::WebPage(
    'objecttype' => 'Server'
);
foreach @{$webpage->dataObjects} {
    $webpage->configure( $_, qw(status context_menu) );
}

$webpage->render();
```

This function creates the two panels used to generate the right hand side of the status, one based on the "two-column" format, and one based on a "spreadsheet" layout.

# e! Sample Configuration module

Ensembl website refactoring

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```
package Ensembl::Web::Configuration::Server;

.....

sub context_menu {
    my $self = shift;
    $self->add_block( 'server', 'bulleted', 'Server information' );
    $self->add_entry( 'server',
        'text'      => 'Server information',
        'href'      => "/$ENV{'ENSEMBL_SPECIES'}/status"
    );
    my $colourmap_URL = "/$ENV{'ENSEMBL_SPECIES'}/colourmap";
    my @colourmap_OPT = (
        [ 'Sorted by Red, Green'      => "$colourmap_URL?sort=r",
        [ 'Sorted by Red, Blue'       => "$colourmap_URL?sort=r",
        [ 'Sorted by Green, Red'      => "$colourmap_URL?sort=g",
        [ 'Sorted by Green, Blue'     => "$colourmap_URL?sort=g",
        [ 'Sorted by Blue, Red'       => "$colourmap_URL?sort=b",
        [ 'Sorted by Blue, Green'     => "$colourmap_URL?sort=b",
        [ 'Sorted by Hue, Saturation' => "$colourmap_URL?hls=hs",
        [ 'Sorted by Hue, Luminosity' => "$colourmap_URL?hls=hl",
        [ 'Sorted by Luminosity, Hue' => "$colourmap_URL?hls=lhs" ],
        [ 'Sorted by Luminosity, Saturation' => "$colourmap_URL?hls=lsh" ],
        [ 'Sorted by Saturation, Hue'   => "$colourmap_URL?hls=shl" ],
        [ 'Sorted by Saturation, Luminosity' => "$colourmap_URL?hls=slh" ],
    );
    $self->add_entry( 'server',
        'text'      => 'ColourMap',
        'href'      => $colourmap_URL,
        'options'   => [map {{ 'href' => $_->[1], 'text' => $_->[0] }} @colourmap_OPT ]
    );
}

1;
```

```
use Ensembl::Web::WebPage;
my $webpage= new Ensembl::Web::WebPage(
    'objecttype' => 'Server'
);
foreach @{$webpage->dataObjects} {
    $webpage->configure( $_, qw(status context_menu) );
}

$webpage->render();
```

This function creates a “left-hand-side” navigation menu block, and adds entries for the status page, and also the colour-map script. This menu is shared with the colour map script.



# e! Handling persistent user info

- There are two types of user configuration stored on the server based on a users cookie. You will already be familiar with the `EnsEMBL::Web::UserConfig::...` objects for configuring the images on the pages – these will be kept.
- We are now adding a second type, `EnsEMBL::Web::ScriptConfig::`, these hold script specific information. You create a `EnsEMBL::Web::ScriptConfig` object which is configured by the package `EnsEMBL::Web::ScriptConfig::{scriptname}`, and/or “plugin” packages.
- This package contains a single function “**init**” which acts on the `E::W::SC` object when it is created and sets the default values for the `ScriptConfig` object.
- The storage of the cookie is “transparent” to the script – it is embedded in the “new” call for the `EnsEMBL::Web::WebPage` object, so you don’t have to worry about calling it.

# e! Sample ScriptConfig module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Web::ScriptConfig::status;  
  
use strict;  
  
sub init {  
    my ($script_config) = @_;  
  
    $script_config->_set_defaults(qw(  
        panel_species on  
    ));  
}  
1;
```

```
use Ensembl::Web::WebPage;  
my $webpage= new Ensembl::Web::WebPage(  
    'objecttype' => 'Server'  
);  
foreach @{$webpage->dataObjects} {  
    $webpage->configure( $_, qw(status context_menu) );  
}  
  
$webpage->render();
```

ScriptConfig's are not "objects" they contain just a single function "init" which is called with the ScriptConfig object passed to it as the first parameter, and act upon this ScriptConfig object.

The modules name is based on the name of the script which is being configured.

In this case we are configuring the "species" panel to be collapsible.

# e! Status display with collapsed panel

The screenshot shows the Ensembl Human Status page. The browser window title is "Status - Mozilla Firefox". The address bar shows the URL: `http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo_sapiens/status?panel_species=off`. The page header includes the Ensembl logo and "Human Status". A search bar is present with the text "Anything" and a "Go" button. Below the header, there is a navigation menu with "Server information" selected. The main content area is titled "Current server information" and contains a table with the following data:

Site summary	EnsEMBL - May 2005
Web address	<code>http://ensarc-1-14.internal.sanger.ac.uk:41080/</code>
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

Below the table, there is a collapsed panel titled "Configured species" with a plus sign icon. A red box highlights this panel, and a text annotation reads: "Collapsed status stored in the EnsEMBL::Web::ScriptConfig in the 'flag' - 'panel\_species'".

At the bottom of the page, there is a copyright notice: "© 2005 Wellcome Trust/EBI. Ensembl is available to download for public use - please see the [code licence](#) for details."

# e! Printing collapsed panels (or not!)

Status http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo\_sapiens/status?panel\_...

**e!Ensembl Human Status** Ensembl v32 - May 2005

**Current server information**

Site summary	EnsEMBL - May 2005
Web address	http://ensarc-1-14.internal.sanger.ac.uk:41080/
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

© 2005 W I S I / EBI. Ensembl is available to download for public use- please see the [code licence](#) for details.

Changed printer layout.

- release stripe, search box, menus all hidden when printing output;
- release information moved to new location.

Collapsed portion isn't displayed at all in the printer preview version.

# e! Sample Component module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Web::Component::Server;
```

```
use strict;
```

```
sub name {
```

```
    my( $panel, $object ) = @_;
    (my $DATE = $object->species_defs->ARCHIVE_VERSION ) =~ s/(\d+)/ \1/;
    $panel->add_row( 'Site summary',
        qq(<p>@[[$object->species_defs->ENSEMBL_SITETYPE]} - $DATE</p>)
    );
    1;
}
```

```
sub url {
```

```
    my($panel, $object) = @_;
    $panel->add_row( 'Web address',
        qq(<p>@[ [ $object->full_URL( 'species' => ' ' ) ] ]</p>)
    );
    return 1;
}
```

```
sub version {
```

```
    my($panel, $object) = @_;
    $panel->add_row( 'Version',
        qq(<p>@[[$object->species_defs->ENSEMBL_VERSION]</p>)
    );
    return 1;
}
```

```
sub webservice {
```

```
    my($panel, $object) = @_;
    $panel->add_row(
        'Web server', qq(<p>$ENV{'SERVER_SOFTWARE'}</p>)
    );
    return 1;
}
```

```
$panel->add_rows(qw(
    name      Ensembl::Web::Component::Server::name
    url       Ensembl::Web::Component::Server::url
    version   Ensembl::Web::Component::Server::version
    webservice Ensembl::Web::Component::Server::webservice
    perl      Ensembl::Web::Component::Server::perl
    database  Ensembl::Web::Component::Server::database
    contact   Ensembl::Web::Component::Server::contact
));
```





# e! Sample Component module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Web::Component::Server;

use strict;

sub spreadsheet_Species {
    my( $panel, $object ) = @_;
    $panel->add_columns(
        { 'key' => 'species',
          'align' => 'left',
          'title' => 'Species',
          'format' => sub { return sprintf( qq(<a href="%s"><i>%s</i></a>), $_[1]{'link'}, $_[0] ) } },
        { 'key' => 'common',
          'align' => 'left',
          'title' => 'Common name' },
        { 'key' => 'gp',
          'align' => 'left',
          'title' => 'Golden Path' },
        { 'key' => 'version',
          'align' => 'left',
          'title' => 'Version' }
    );
    foreach( $object->get_all_species ) {
        $panel->add_row( $_ );
    }
    return 1;
}
```

```
$panel2->add_component( qw(
    Ensembl::Web::Component::Server::spreadsheet_Species
));
```

# e!New status display

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

Use Ensembl to...

- Run a BLAST search
- Search Ensembl
- Data mining [BioMart]
- Upload your own data
- Display your data on a karyotype diagram

Docs and downloads

- About Ensembl
- Website documentation
- Data downloads and export
- Sitemap

What's new

- New species - *C. intestinalis*
- New build - Rat 3.4
- dbSNP 125
- More...

Archive! Permanent page link

System Information:

- Web address: http://ensarc-1-14.internal.sanger.ac.uk:41080/
- Version: 32
- Web server: Apache/1.3.31 (Unix) mod\_perl/1.29
- Perl: 5.8.3
- Database: MySQL Community Edition - Standard (GPL) Version: 4.1.10
- Contact info: js5@sanger.ac.uk

**Configured species** Columns defined by add\_columns call in spreadsheet\_Species()

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C.elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Ciona intestinalis</a>	C.intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	
<a href="#">Homo sapiens</a>	Human	NCBI35	
<a href="#">Mus musculus</a>	Mouse	NCBIM33	
<a href="#">Pan troglodytes</a>	Chimp	CHIMP1	
<a href="#">Rattus norvegicus</a>	Rat	RGSC3.4	
<a href="#">Saccharomyces cerevisiae</a>	S.cerevisiae	SGD1	
<a href="#">Tetraodon nigroviridis</a>	Tetraodon	TETRAODON7	
<a href="#">Xenopus tropicalis</a>	X.tropicalis	JGI3	

Links generated using the code reference defined in the add\_columns call

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Done 127.0.0.1

# e!Sample Object module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package EnSEMBL::Web::Object::Server;
```

```
use strict;
use warnings;
no warnings "uninitialized";
```

```
use EnSEMBL::Web::Object;
our @ISA = qw(EnSEMBL::Web::Object);
```

```
sub get_all_species {
    my $self = shift;
    @species = @{$self->species_defs->ENSEMBL_SPECIES };
    my @data = ();
    foreach my $species (@species) {
        (my $name = $species) =~ s/_/ /g;
        push @data, {
            'species' => $name,
            'common' => $self->species_defs->other_species( $species, 'SPECIES_COMMON_NAME' ),
            'link'    => $self->full_URL( 'species'=>$species ),
            'gp'     => $self->species_defs->other_species( $species, 'ENSEMBL_GOLDEN_PATH' ),
            'version' => $self->species_defs->other_species( $species, 'SPECIES_RELEASE_VERSION' ),
        };
    }
    return @data;
}
```

```
1;
```

```
package EnSEMBL::Web::Component::Server;
```

```
sub spreadsheet_Species {
    my( $panel, $object ) = @_;
    $panel->add_columns( ... );
    foreach( $object->get_all_species ) {
        $panel->add_row( $_ );
    }
    return 1;
}
```

This object is very simple as it doesn't have "ensembl object" attached, as we can get everything we need from the species\_defs call...

The columns in the spreadsheet have keys "species", "common", "gp" and "version". The additional hash element "link" is used code reference:

```
'format' => sub { return sprintf( qq(<a href="%s"><i>%s</i></a>), $_[1]{ 'link' }, $_[0] ) }
```

This code reference, reformats the "species" column to be wrapped in an web-link. For the code reference \$\_[0] is the appropriate element of the row (in this case \$row{'species'}) and \$\_[1] is the whole row.

# e!Sample Factory module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Web::Factory::Server;

use strict;
use warnings;
no warnings "uninitialized";

use Ensembl::Web::Factory;
use Ensembl::Web::ProxyObject;

our @ISA = qw(Ensembl::Web::Factory);

sub createObjects {
    my $self = shift;
    return $self->problem( 'fatal', 'Database error', 'Could not connect to core database.' )
    unless $self->database('core');
    $self->DataObjects( Ensembl::Web::Proxy->new( 'Server', '', $self->DBConnection, $self->Input );
}

1;
```

```
if( $webpage->has_a_problem ) {
    $webpage->render_error_page;
} else {
    ...
}
```

This factory is very simple as it doesn't have to create any Ensembl objects, usually the second parameter to Proxy is the "Bio::Ensembl" object.

The problem object is created to propagate errors back to the web-browser.

# e! New status display

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

The screenshot shows a Mozilla Firefox browser window displaying the Ensembl Human Status page. The address bar shows the URL: `http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo_sapiens/status?panel_species=on`. The page title is "Ensembl v32 - May 2005". The main content area displays a "Database Error" message, which is highlighted with a red border. The error message reads: "Database Error This is the rendered problem object created by the Factory". Below this, it states: "Could not connect to the core database. Please contact our [HelpDesk](#) if you think this is an error or have any questions." The footer of the page includes the copyright notice: "© 2005 WTSI / EBI. Ensembl is available to download for public use - please see the [code licence](#) for details." The browser's status bar at the bottom shows "Done" and the version "127.0.0.1".

Use Ensembl to...

- Run a BLAST search
- Search Ensembl
- Data mining [BioMart]
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What's new

- New species - *C. intestinalis*
- New build - Rat 3.4
- dbSNP 125
- More...

Archive! Permanent page link

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EBI



# Extending the Ensembl Website – Part 2: Plugins.

James Smith

Js5@sanger.ac.uk

Ensembl Web Team Project Leader



# e!Plugins – why?

We have implemented plugins for four main reasons:

- Makes our lives easier maintaining a number of different Ensembl sites within the web-team... www, dev, pre, archive, vega, personal development environments and the “public” mirror code.
- Will make those who create there own local Ensembl installations lives easier – as the can create a personalised “configuration” file which they can copy into any new installation, and it should just work!
- Will make those who extend their local installation of Ensembl lives easier – as any “additional” code is stored in their own Plugin space.
- Should allow for “external” groups to develop features in Ensembl, which can be incorporated into anyones “Ensembl” mirror without being merged into the main code.



# e!Plugins – using to configure e!

The simplest use of plugins is to store “local” overrides for the configuration.

- First: edit the conf/Plugins.pm file to specify where and in what name space your plugin is stored:

```
## To get standalone scripts to run from anywhere - hard code your server-root here!!
$SiteDefs::ENSEMBL_SERVERROOT = '/my_ensembl_install/xtreme';

$SiteDefs::ENSEMBL_PLUGINS = [
## 'MyModule::NameSpace' => 'Directory/root/of/plugin/directory',
  'Ensembl::MyMirror'     => $SiteDefs::ENSEMBL_SERVERROOT.'/mymirror/',
];
```

- Second: create your plugin directory and the conf directory within it, in this case
  - /my\_ensembl\_install/xtreme/mymirror/ and
  - /my\_ensembl\_install/xtreme/mymirror/conf/
- Third: create your own SiteDefs.pm, DEFAULTS.ini and any other species “.ini” files in this directory to over-ride the standard settings.

# e!Plugins – SiteDefs.pm

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package EnSEMBL::MyMirror::SiteDefs;

use strict;

## update_conf function called by main SiteDefs.pm
sub update_conf {
    $SiteDefs::ENSEMBL_PORT           = 80;
    $SiteDefs::ENSEMBL_USER           = 'my_ensembl_user';
    $SiteDefs::ENSEMBL_GROUP          = 'my_ensembl_group';

    $SiteDefs::ENSEMBL_SERVERADMIN    = 'me@my_ensembl.mydomain.org';
    $SiteDefs::ENSEMBL_SERVERNAME     = 'my_ensembl.mydomain.org';
    $SiteDefs::ENSEMBL_MAIL_ERRORS    = 1;
    $SiteDefs::ENSEMBL_ERRORS_TO      = 'me@mydomain.org';

    $SiteDefs::ENSEMBL_DEBUG_FLAGS    = 24;

    $SiteDefs::ENSEMBL_USERDB_NAME    = 'ensembl_web_user_db';
    $SiteDefs::ENSEMBL_USERDB_HOST    = 'my_mysql.mydomain.org';
    $SiteDefs::ENSEMBL_USERDB_PORT    = 3306;
    $SiteDefs::ENSEMBL_USERDB_USER    = 'my_mysql_user';
    $SiteDefs::ENSEMBL_USERDB_PASS    = 'my_mysql_pass';
    $SiteDefs::ENSEMBL_LONGPROCESS_MINTIME = 20;
}

1;
```

# e!Plugins – DEFAULTS.ini

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
[general]
ENSEMBL_HOST      = my_mysql.mydomain.org
ENSEMBL_HOST_PORT = 3306
ENSEMBL_WRITE_USER = my_mysql_user
ENSEMBL_WRITE_PASS = my_mysql_pass
ENSEMBL_DBUSER    = my_mysql_ro
ENSEMBL_DBPASS    =

ENSEMBL_BINARIES_PATH = /usr/local/bin           ; DotterView
ENSEMBL_EMBOSS_PATH   = /usr/local/emboss       ; AlignView
ENSEMBL_WISE2_PATH    = /usr/local/wise2        ; AlignView
ENSEMBL_BLAST_BIN_PATH = /data/bin/wu_blast     ; BlastView
ENSEMBL_REPEATMASKER = /data/bin/RepeatMasker   ; BlastView
ENSEMBL_BLAST_FILTER  = /data/bin/wu_blast/filter ; BlastView
ENSEMBL_BLAST_MATRIX  = /data/bin/wu_blast/matrix ; BlastView
ENSEMBL_BLAST_DATA_PATH = /data/blastdb/ensembl ; BlastView

ENSEMBL_SEARCH      = textview

etc ...
```

# e!Plugins – using to configure e!

Here we use a “standard” Sanger plugin, plus local “development” plugins.

```
## To get standalone scripts to run from anywhere - hard code your server-root here!!
$SiteDefs::ENSEMBL_SERVERROOT = '/my_ensembl_install/xtreme';

$SiteDefs::ENSEMBL_PLUGINS = [
## 'MyModule::NameSpace' => 'Directory/root/of/plugin/directory',
  'ENSEMBL::MyMirror_js5' => $SiteDefs::ENSEMBL_SERVERROOT.'/mymirror_js5/',
  'ENSEMBL::MyMirror'      => $SiteDefs::ENSEMBL_SERVERROOT.'/mymirror/',
];
```

This extra “plugin” conf contains just the following SiteDefs.pm file:

```
package Ensembl::Sanger_js5::SiteDefs;

sub update_conf {
  $SiteDefs::ENSEMBL_PORT           = 41080;
  $SiteDefs::ENSEMBL_USER           = 'js5';
  $SiteDefs::ENSEMBL_SERVERADMIN    = 'js5@mydomain.org';
  $SiteDefs::ENSEMBL_SERVERNAME     = 'my_ensembl.mydomain.org';
  $SiteDefs::ENSEMBL_ERRORS_TO     = 'js5@mydomain.org';
  $SiteDefs::ENSEMBL_DEBUG_FLAGS    = 24;
  $SiteDefs::ENSEMBL_LONGPROCESS_MINTIME = 5;
}

1;
```



# Extending the Ensembl Website – Part 3: Extending the script.

James Smith

Js5@sanger.ac.uk

Ensembl Web Team Project Leader



# e! Extending this display

- Want to add a “development” plugin which displays the Apache webserver environment information.
- Need additional Configuration::Server module to add new panel
- Need additional to Object::Server module to collect “environment information”
- Need additional Component to configure the additional panel
- Required to update Plugins.pm in conf directory to include module.
  
- Additionally the plugin will add a “rudimentary” sitemap for the static content to the top panel.

# e!Plugins module

```
## To get plugins to work with standalone scripts
## you need to specify the server root here!!
$SiteDefs::ENSEMBL_SERVERROOT = '/ensemblweb/js5/wwwdev/xtreme';

## Add our module, Key is namespace, Value is directory containing plugin.

$SiteDefs::ENSEMBL_PLUGINS = [
  'Ensembl::Sanger`      => $ENSEMBL_SERVERROOT.'/sanger-plugins/sanger',
  'Ensembl::Sanger_js5` => $ENSEMBL_SERVERROOT.'/sanger-plugins/js5',
  'Ensembl::Development` => $ENSEMBL_SERVERROOT.'/public-plugins/development',
];

1;
```



# e! Plugin Configuration module

```
package EnSEMBL::Development::Configuration::Server;

use strict;
use EnSEMBL::Web::Configuration;
our @ISA = qw( EnSEMBL::Web::Configuration );

use EnSEMBL::Web::Document::Panel::SpreadSheet;

sub status {
    my $self = shift;
    if( my $panel2 = $self->new_panel( 'SpreadSheet',
        'code'    => 'environment',
        'caption' => 'Apache environment',
        'object'  => $self->{object},
        'status'  => 'panel_apache'
    ) ) {
        $panel2->add_components(qw(apache
            EnSEMBL::Development::Component::Server::spreadsheet_Apache));
        $content->add_panel_last( $panel2 );
    }
    if( my $panel_ref = $self->panel( 'info' ) ) {
        $panel_ref->add_component_last(qw(tree
            EnSEMBL::Development::Component::Server::static_tree));
    }
}

1;
```

# e!Plugin ScriptConfig

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Development::ScriptConfig::status;  
  
use strict;  
  
sub init {  
    $_[0]->_set_defaults(qw(  
        panel_apache on)  
    );  
}  
  
1;
```

# e!Plugin Component module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Development::Component::Server;

use strict;

sub spreadsheet_Apache {
    my( $panel, $object ) = @_;
    $panel->add_columns(
        { 'key' => 'key',    'align' => 'left', 'title' => 'Key' },
        { 'key' => 'value', 'align' => 'left', 'title' => 'Value' },
    );
    foreach (@{$object->get_environment}) {
        $panel->add_row( $_ );
    }
    return 1;
}

sub static_tree {
    my($panel,$object) = @_;
    $panel->add_row( 'Document tree', _sub_tree( $object, '/', 0 ) );
    return 1;
}

sub _sub_tree {
    my( $object, $K, $i ) = @_;
    my $HTML = qq(@{['&nbsp;' x ($i*2)])<a href="$K">@{[$object->species_defs->ENSEMBL_BREADCRUMBS->{$K}[0]]}</a><br />\n);
    foreach my $C (@{$object->species_defs->ENSEMBL_CHILDREN->{$K}[[]]) {
        $HTML .= _sub_tree( $object, $C, $i+3 );
    }
    return $HTML;
}

1;
```

# e! Plugin Object module

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

```
package Ensembl::Development::Object::Server;

use strict;
use warnings;
no warnings "uninitialized";

use Ensembl::Web::Object;
our @ISA = qw(Ensembl::Web::Object);

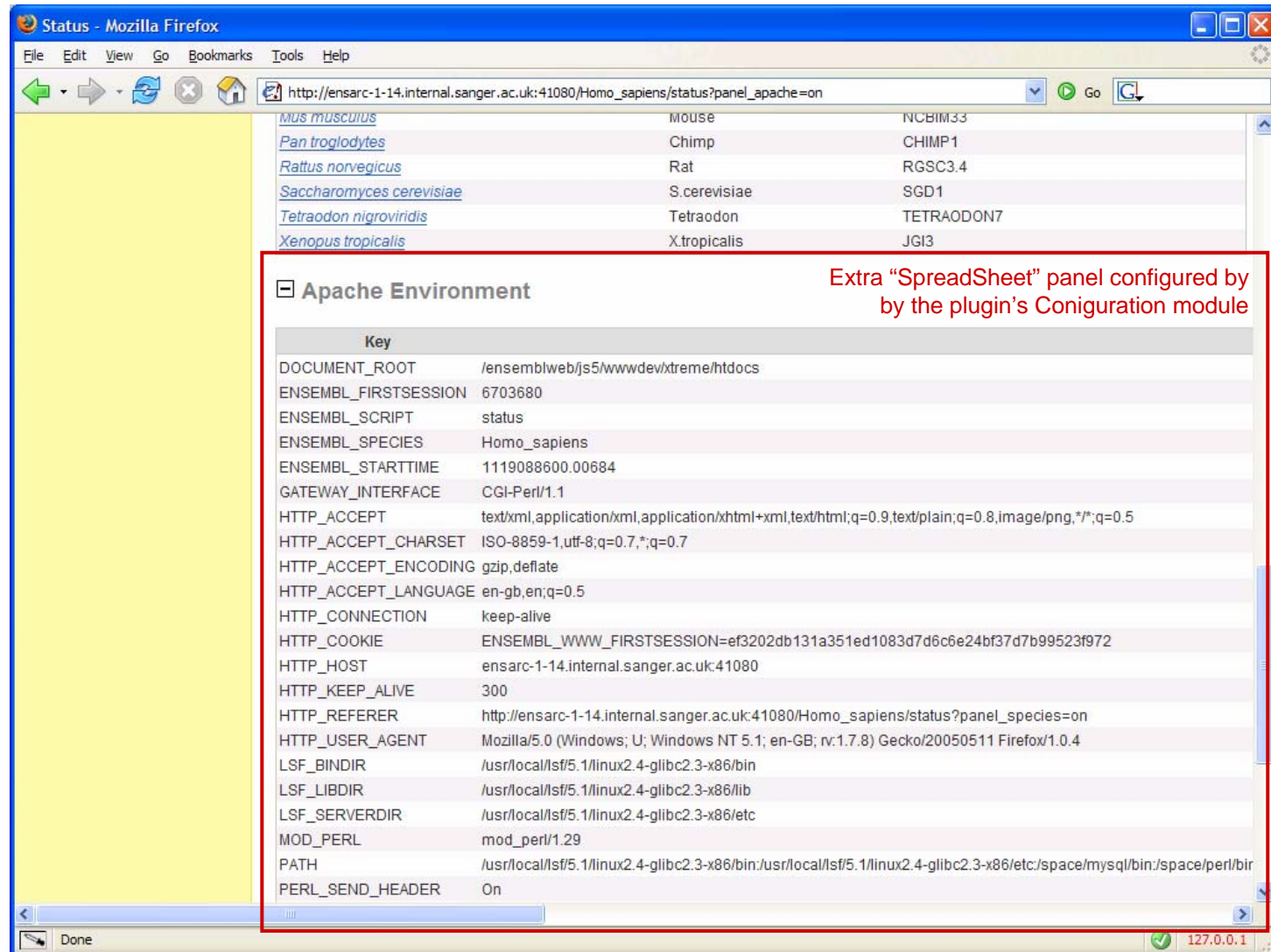
sub get_environment {
    my $self = shift;
    return [ map { {'key'=>$_, 'value'=>$ENV{$_}} } sort keys %ENV ];
}

1;
```

# e! Additional “Development” panel

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo_sapiens/status?panel_apache=on`. The main content area displays a table of species and their corresponding Ensembl databases. Below this table, an "Apache Environment" panel is visible, which is highlighted with a red border. This panel contains a list of environment variables and their values, including `DOCUMENT_ROOT`, `ENSEMBL_FIRSTSESSION`, `ENSEMBL_SCRIPT`, `ENSEMBL_SPECIES`, `ENSEMBL_STARTTIME`, `GATEWAY_INTERFACE`, `HTTP_ACCEPT`, `HTTP_ACCEPT_CHARSET`, `HTTP_ACCEPT_ENCODING`, `HTTP_ACCEPT_LANGUAGE`, `HTTP_CONNECTION`, `HTTP_COOKIE`, `HTTP_HOST`, `HTTP_KEEP_ALIVE`, `HTTP_REFERER`, `HTTP_USER_AGENT`, `LSF_BINDIR`, `LSF_LIBDIR`, `LSF_SERVERDIR`, `MOD_PERL`, `PATH`, and `PERL_SEND_HEADER`.

Extra “SpreadSheet” panel configured by the plugin's Configuration module

Species	Common Name	Database
<a href="#">Mus musculus</a>	Mouse	NCBIM33
<a href="#">Pan troglodytes</a>	Chimp	CHIMP1
<a href="#">Rattus norvegicus</a>	Rat	RGSC3.4
<a href="#">Saccharomyces cerevisiae</a>	S.cerevisiae	SGD1
<a href="#">Tetraodon nigroviridis</a>	Tetraodon	TETRAODON7
<a href="#">Xenopus tropicalis</a>	X.tropicalis	JGI3

Key	Value
DOCUMENT_ROOT	/ensemblweb/js5/wwwdev/xtreme/htdocs
ENSEMBL_FIRSTSESSION	6703680
ENSEMBL_SCRIPT	status
ENSEMBL_SPECIES	Homo_sapiens
ENSEMBL_STARTTIME	1119088600.00684
GATEWAY_INTERFACE	CGI-Perl/1.1
HTTP_ACCEPT	text/xml,application/xml,application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,image/png,*/*;q=0.5
HTTP_ACCEPT_CHARSET	ISO-8859-1,utf-8;q=0.7,*;q=0.7
HTTP_ACCEPT_ENCODING	gzip,deflate
HTTP_ACCEPT_LANGUAGE	en-gb,en;q=0.5
HTTP_CONNECTION	keep-alive
HTTP_COOKIE	ENSEMBL_WWW_FIRSTSESSION=ef3202db131a351ed1083d7d6c6e24bf37d7b99523f972
HTTP_HOST	ensarc-1-14.internal.sanger.ac.uk:41080
HTTP_KEEP_ALIVE	300
HTTP_REFERER	http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo_sapiens/status?panel_species=on
HTTP_USER_AGENT	Mozilla/5.0 (Windows; U; Windows NT 5.1; en-GB; rv:1.7.8) Gecko/20050511 Firefox/1.0.4
LSF_BINDIR	/usr/local/lsf/5.1/linux2.4-glibc2.3-x86/bin
LSF_LIBDIR	/usr/local/lsf/5.1/linux2.4-glibc2.3-x86/lib
LSF_SERVERDIR	/usr/local/lsf/5.1/linux2.4-glibc2.3-x86/etc
MOD_PERL	mod_perl/1.29
PATH	/usr/local/lsf/5.1/linux2.4-glibc2.3-x86/bin:/usr/local/lsf/5.1/linux2.4-glibc2.3-x86/etc:/space/mysql/bin:/space/perl/bin
PERL_SEND_HEADER	On

# e! Additional “Development” panel

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

status

Documentation

Ecs3

Mirror

New Data

Post

Pre

Release

Staticcontent

Test

### Configured species

Species	Common name	Golden Path	Version
<a href="#">Anopheles gambiae</a>	Mosquito	MOZ2a	2c
<a href="#">Apis mellifera</a>	Honeybee	AMEL1.1	
<a href="#">Caenorhabditis elegans</a>	C.elegans	CEL130	
<a href="#">Canis familiaris</a>	Dog	BROADD1	
<a href="#">Ciona intestinalis</a>	C.intestinalis	CINT1.95	
<a href="#">Danio rerio</a>	Zebrafish	ZFISH4	
<a href="#">Drosophila melanogaster</a>	Fruitfly	BDGP3.2.1	3d
<a href="#">Fugu rubripes</a>	Fugu	FUGU2	
<a href="#">Gallus gallus</a>	Chicken	WASHUC1	
<a href="#">Homo sapiens</a>	Human	NCBI35	
<a href="#">Mus musculus</a>	Mouse	NCBIM33	
<a href="#">Pan troglodytes</a>	Chimp	CHIMP1	
<a href="#">Rattus norvegicus</a>	Rat	RGSC3.4	
<a href="#">Saccharomyces cerevisiae</a>	S.cerevisiae	SGD1	
<a href="#">Tetraodon nigroviridis</a>	Tetraodon	TETRAODON7	
<a href="#">Xenopus tropicalis</a>	X.tropicalis	JGI3	

### Apache Environment

Panel can be collapsed as we set up the additional status flag in the plugin's ScriptConfig::status module

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Done 127.0.0.1

# e! Additional "Development" panel

Ensembl website refactoring

James Smith (js5@sanger.ac.uk)

Additional menu  
Item added by  
Sanger plugin

The screenshot shows a Mozilla Firefox browser window with the URL `http://ensarc-1-14.internal.sanger.ac.uk:41080/Homo_sapiens/status?panel_apache=on`. The page content is as follows:

Site summary	EnsEMBL - May 2005
Web address	<code>http://ensarc-1-14.internal.sanger.ac.uk:41080/</code>
Version	32
Web server	Apache/1.3.31 (Unix) mod_perl/1.29
Perl	5.8.3
Database	MySQL Community Edition - Standard (GPL) Version: 4.1.10
Contact info	<a href="mailto:js5@sanger.ac.uk">js5@sanger.ac.uk</a>

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- [Apis Mellifera](#)
- [Caenorhabditis Elegans](#)
- [Canis Familiaris](#)
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Extra component in "Information" Panel added by the plugin's Configuration module

