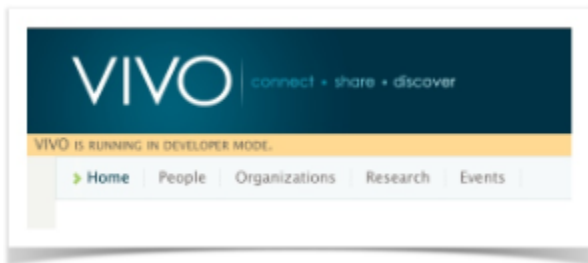


Tips for Interface Developers

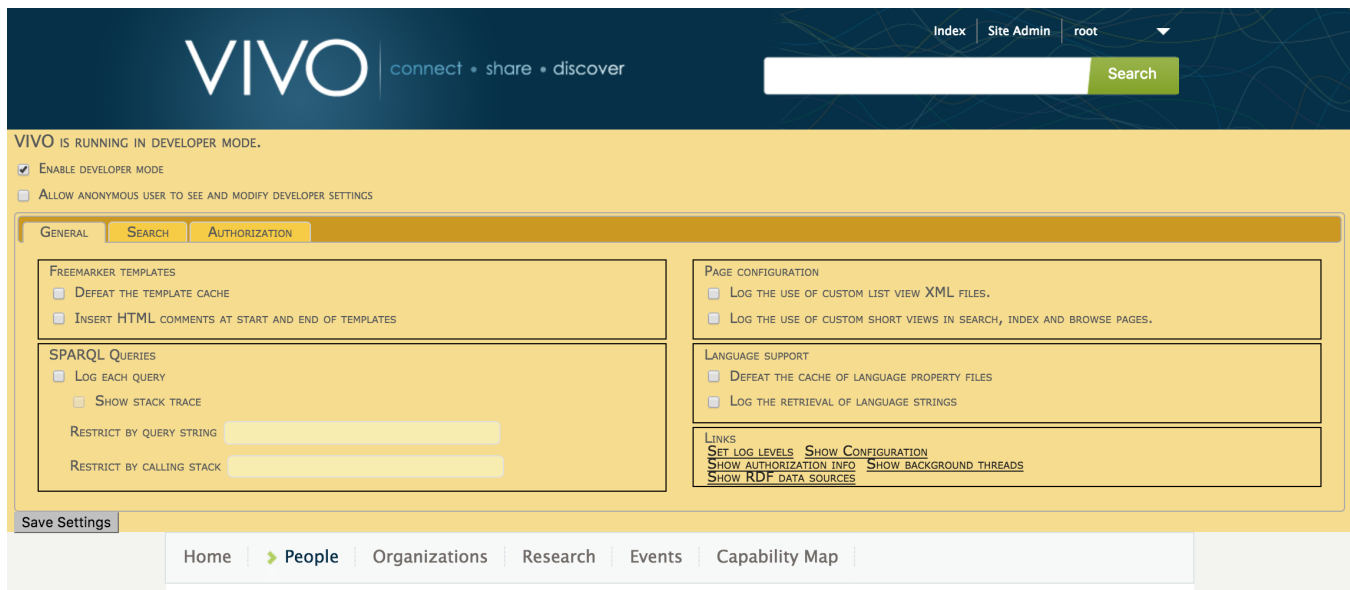
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Use the Developer Panel

Many of these techniques involve the Developer Panel. You can start the Developer Panel at Site Admin > Activate Developer Panel. When the Developer Panel has been activated, you will see:



When you click on the Developer Mode banner, you will see:



To close the Developer Panel, unselect "Enable Developer Mode" in the upper left hand corner, and press "Save Settings" in the lower left hand corner.

Developer Panel Settings

You can change settings on The Developer Panel interactively, while VIVO is running, or you can use a `developer.properties` file in your VIVO home directory.

A typical `developer.properties` file

```
developer.enabled=true  
developer.permitAnonymousControl=true  
developer.defeatFreemarkerCache=true
```

When any feature of The Developer Panel is active, you will see this indicator in the header of your VIVO pages:

This is to remind you that developer options may slow down your VIVO, and should not be used in production.

Iterate your code more quickly

Don't restart VIVO until you need to

VIVO will detect changes to the templates without requiring a restart. However, you will probably want to defeat the Freemarker cache (see below).

Also, VIVO will serve the latest version of CSS, JavaScript, or image files. For these files, however, you may need to clear the cache in your browser. Instructions for doing this will differ, depending on which browser you are using. If you don't know how to reset the cache in your browser, you may want to consult this web site: <http://clearyourcache.com/>, or just search the web for "clear browser cache".

If you change any other types of files, you will need to restart VIVO after running the build script.

Defeat the Freemarker cache

As mentioned above, VIVO will detect changes to Freemarker templates. By default, however, VIVO will not detect the changes immediately. The Freemarker framework caches the templates that it uses, and won't even look to see if a template has changed until 1 minute after it was last read from disk. In a production system, of course, that makes the accessing much more efficient. When you are making frequent changes, it's an annoyance.

Use The Developer Panel to defeat the Freemarker cache.

Customizing `listViewConfigs`

Ted Lawless has written [an open-source Python script to assist with viewing the output of a `listViewConfig`](#) without having to rebuild the entire Vivo app.

Also, you can skip the unit tests when building VIVO. Unit tests do not apply to `listViewConfigs`.

Reveal what VIVO is doing

Insert template delimiters in the HTML

It's not always clear which template has created a particular piece of your HTML page. Templates include other templates, templates are invoked in custom list views, short views, etc. You can use The Developer Panel to insert comments in the HTML that tell you where each template begins and ends.

For example, this section of a page was produced mostly by the `identity.ftl` template. The `languageSelector.ftl` template is included, but does not generate any HTML. The next section is produced by the `menu.ftl` template, and so on.

...

<body >

<!-- FM_BEGIN identity.ftl -->

<header id="branding" role="banner">

<h1 class="vivo-logo">

VIVO

</h1>

<nav role="navigation">

<ul id="header-nav" role="list">

<!-- FM_BEGIN languageSelector.ftl -->

<!-- FM_END languageSelector.ftl -->

<li role="listitem">Index

<li role="listitem">Site Admin

<ul class="dropdown">

<li id="user-menu">Jim

<ul class="sub_menu">

<li role="listitem">My account

<li role="listitem">Log out

</nav><!-- FM_END identity.ftl -->

<!-- FM_BEGIN menu.ftl -->

</header>

...