

Charon: The Sakai Site Portal

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Charon is the primary Sakai 2 *portal*. It is the latest in the line of Site based portals (Sedna, Varuna). Charon has been re-implemented for Sakai 2.

Like its predecessors, Charon presents views of Sakai Sites, Site Pages, and Tools. It looks and behaves just the same as the portal in Sakai 1.5, except that the URL space it recognizes is slightly different.

New in Charon is the ability for users to state preferences to control the site navigation tabs.

Charon is in the `portal` module, in the `charon` project. It builds a webapp called `portal.war`, so takes all URLs that begin with `/portal`.

Modes of Operation

Charon supports 5 modes of operation:

- 1) Single tool display
- 2) Single site page display
- 3) Single site display
- 4) Site “gallery” display (a site along with site navigation tabs)
- 5) Site display (a site along with portal header and navigation tabs)

Single tool display shows the interface for a single tool with no extra portal chrome. There is no navigation added to the display. A tool’s placement id is needed to invoke this display mode.

Single page display shows a single page of a site, include all of the tools that make up the page. Navigation to other pages in the site and to other sites is not included.

Single site display shows an entire site, along with the first site page, or the site page last visited for this site. Navigation to select other pages of the site is included, along with the site icon and presence (if enabled). Navigation to other sites is not included.

Site gallery displays a single site, along with the first (or last visited) site page, along with the page navigation and other site features displayed in the single site mode. Added are site navigation tabs, along with login/logout options and a bottom banner.

Site display is the full portal display, adding some site branding to the portal banner, and otherwise showing all that the gallery display shows.

URL Space

Charon takes all urls that begin with

```
/portal
```

This is a point of difference between Charon and the prior Sakai portals. All portal URLs now start with `/portal`.

`/portal/site` is the most used URL, invoking full site display for a site. The site id, and the page id, can be specified. If the site is left out, the gateway site, for non-authenticated users, or the home site, for an authenticated user, is used. If the page id is left out the first page of the site, or the last page visited for this site by this user in this session, is used.

The following URL forms take the user to full site mode of the portal. “*<site id>*” represents the site id, and “*<page id>*” represents the page id:

```
/portal  
/portal/site  
/portal/site/<site id>  
/portal/site/<site id>/page/<page id>
```

`/portal/gallery` is used to invoke the gallery site display mode. It will also default the site id if not specified, and can take an optional page id, just like the site URLs. The following URL patterns invoke gallery mode:

```
/portal/gallery  
/portal/gallery/<site id>  
/portal/gallery/<site id>/page/<page id>
```

`/portal/worksite` is used to invoke a single site display with no site navigation (but with full page navigation within the site and other site decorations). The site id must be specified. A page id is optional. The following URL patterns invoke single site display mode:

```
/portal/worksite/<site id>  
/portal/worksite/<site id>/page/<page id>
```

`/portal/page` is used to invoke the single page display mode, with no site or page navigation or decorations. The page id must be specified. The following is the URL pattern for invoking page display mode:

```
/portal/page/<page id>
```

/portal/tool is used to invoke the single tool display mode. The tool placement id must be specified. The following is the URL pattern for invoking tool display mode:

```
/portal/gallery/tool/<tool placement id>
```

Other Portal Features

Login, Logout, and Presence are all handled by the Charon portal. So are all the parts of the portal display, including the site navigation.

Login and Logout are mapped to the URLs:

```
/portal/login  
/portal/logout
```

Processing for these are delegated by the portal to the Login tool using Sakai's helper tool mechanism.

Presence for a site is handled by the Charon portal. This is mapped to the URL

```
/portal/presence/<site id>
```

These are the URLs that are placed in to the various portal displays. The portal is invoked again when the presence iframe is fetched by the browser, or when the user presses login or logout.

Automatic Login and Security

All site, page and tool access by the end user through the portal is under security. The "site.visit" ability is needed by the end user to access any part of the site.

If the end user does not have this ability for the accessed site (or the site which holds the accessed page or tool), the user is not granted access to the site.

If the user has not yet authenticated, the request is routed to the Login process. After successful authentication, the initial URL is returned to.

If the user is logged in, and does not have permission to visit the site, page or tool requested, or if the user just now logged in and still does not have permission, the user will see the !error site display or an internally generated error display.

Public (non-authenticated user) access to a site can be granted by adding the "site.visit" permission to the site's ".anon" role in its realm. This grants anyone the ability to visit the site, site pages, and tools. Specific data access within the tools must also be provided for (perhaps by granting other sort of abilities to the .anon role).

Site Tab Preferences

Charon introduces some user preferences to control the site tabs displayed for each user. Site tabs are displayed in `/site` and `/gallery` modes. Preferences can be set to control:

- the number of tabs displayed
- which sites are left out of the tab display
- the order of tabs displayed

These preferences are managed by the Sakai (legacy) Preferences Service. The Preferences service keeps sets of preferences for each end user. Preferences for the portal are keyed using the `sakai.portal.sitenav` key. The preferences names within the Preferences associated with this key are:

- `tabs`: the number of tabs (an integer) to display
- `exclude`: a list of site ids to exclude from the tabs display
- `order`: a list of site ids to order first and in this order in the tabs display

The number of tabs to display defaults to 4, but can be overridden by the presence of a `tabs` preference in the `sakai.portal.sitenav` preferences for the end user. This is the number of tabs to show between “myWorkspace” and the more dropdown. If there is just one more tab to show than this count, all tabs will be shown (instead of adding a “more” dropdown for just one entry).

Any sites that the end user does not want to show up in the tabs display at all can be entered in a List type preferences value under the `exclude` name. Note that this must be a real List type value in Preferences. The list contains site ids. If the user has access to any sites in the exclude list, they will be left out of the site navigation tabs.

The `order` List type value is another list of site ids. Of those in the list that the end user has permission to visit, these will show first, and in the order of the order list, among the tabs and more dropdown list. Any additional sites the end user can visit will be added after these, in alphabetical (by title) order.

Tool (Page) presentation order

Site pages are an ordered collection. Usually, the pages are displayed in the page navigation sections of the portal in the order they are defined in the Site, first at the top to last at the bottom (or left to right, depending on the skin). The portal “Help” feature will always follow the last Site page.

The Worksite Setup tool does not include user interface for controlling the page order in a site. The Admin Site editor does. In Worksite Setup, pages are created for each tool added to a site, and the pages are sorted in alpha order by page (tool) title.

To enforce consistency across Sites in a Sakai installation, you can install tool ordering. This will override the order of pages in a Site and display them in this fixed order.

Tool ordering is a list of tool ids, for a specific tool category. Site type selects the tool category both for the tool ordering, and for the list of tools to offer as candidates for the site.

Tool ordering is optional. It is defined by entering some XML in a file called `toolOrder.xml` located in `sakai.home`. The name of this file is a configured into the `ServerConfigurationService`, and this service is responsible for reading the tool ordering and making it available to the portal.

The file might look like this:

```
<?xml version="1.0"?>
<toolOrder>
  <category name="course">
    <tool id = "sakai.synoptic.chat" />
    <tool id = "sakai.synoptic.discussion" />
    <tool id = "sakai.synoptic.announcement" />
    <tool id = "sakai.announcements" />
    <tool id = "sakai.resources" />
    <tool id = "sakai.discussion" />
    <tool id = "sakai.assignment" />
    <tool id = "sakai.dropbox" />
    <tool id = "sakai.chat" />
    <tool id = "sakai.mailbox" />
    <tool id = "sakai.news" />
    <tool id = "sakai.siteinfo" />
  </category>
  <category name="project">
    <tool id = "sakai.synoptic.chat" />
    <tool id = "sakai.synoptic.discussion" />
    <tool id = "sakai.synoptic.announcement" />
    <tool id = "sakai.schedule" />
    <tool id = "sakai.resources" />
    <tool id = "sakai.discussion" />
    <tool id = "sakai.assignment" />
    <tool id = "sakai.chat" />
    <tool id = "sakai.mailbox" />
    <tool id = "sakai.news" />
    <tool id = "sakai.iframe" />
    <tool id = "sakai.siteinfo" />
  </category>
</toolOrder>
```

This example establishes an order for “course” and “project” type Sites. It does NOT declare that these tools are valid to use in the site type: that’s handled in the tool registration with the tool category.

Tool order is used to order the pages in a site, but a page might have many tools! The rules are:

- If a page has a tool that is listed in the order, it will go in the ordered location.
- If a page has more than one ordered tool, it will go in the earliest location it can go in.
- If two pages have the same tool, they will both go in the ordered location, in site order among them.
- If a page has no ordered tools, it will be placed after all ordered pages at the end, in site order.

In the example, the “synoptic” stuff at the top catches the “Home” page as created by Worksite Setup.

Tool order is loaded by the `ServerConfigurationService`, figured out by the `SiteService`, and used by the Portal.

Tool order is done dynamically at runtime, and is not currently used to change the order of pages stored in the Site. If you change the ordering in the `toolOrder.xml` file, the change will be reflected at the next server restart for all sites of the appropriate type.