

Debugging Tools: Log Watch, Navigation Reporter and Navigation Debugger

Applies to:

SAP NetWeaver Portal 7.0 SP Stack 12.

Summary

Inside the portal, there are several unofficial, unsupported but still useful tools for debugging, especially issues concerning navigation. The Log Watch is a general tool for helping you view log messages for all debugging needs, and the Navigation Reporter and Navigation Debugger help you with navigation issues.

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Author Bio



Daniel Wroblewski is an information developer for SAP, focusing on documentation for portal developers. He has been a developer ever since writing assembler code for the new Apple Macintosh in 1985 (that was cool), and was a developer for Deutsche Bank (Java, VB). He plays center for the SAP Labs Israel basketball team.

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Log Watch

Purpose

Log Watch is a tool that makes it easier to look into the log when you are debugging a problem in an application or in the portal.

Currently, you either have to search the file system for the current `defaultTrace` file or use the Log Viewer or NetWeaver Administrator, separate applications outside the portal environment. The trace file can also be difficult to use, being so big and containing all the log messages from all applications – it can be difficult to find a specific log message.

Architecture

The Log Watch writes to memory the same log messages written to the `defaultTrace` file, up to 10,000 messages. You can choose which logging locations have their messages saved to memory, and which types of messages, such as errors, warnings and info, are saved.

When you want to debug an application, you can choose the relevant logging locations and severity, and then tell the application when to start saving messages to memory, and when to stop. When you stop, the messages from the selected locations and of the selected severities are displayed.

Use Cases

The tool is designed to enable you to:

- Easily access log messages without working with a 10MB file.
- Easily access log messages for a specific application and severity level.
- Change the severity level for a specific logging location. This affects the messages recorded both in the Log Watch and in the `defaultTrace` file.
- Easily find log messages for an unknown location, for diagnosing problems for which you do not know the logging location.

Using the Tool

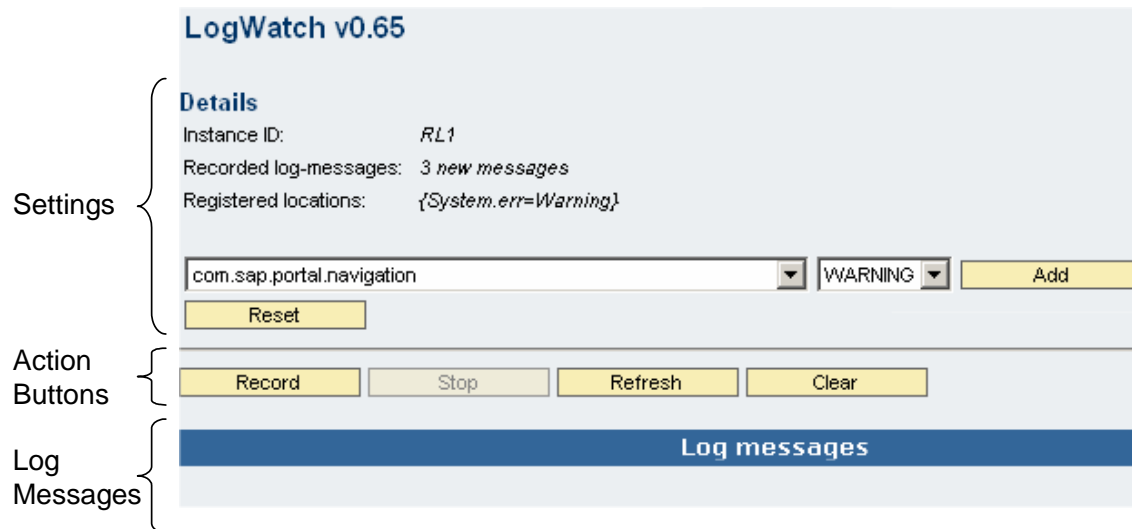
To run the tool, you must access it through the `PortalAnywhere.Go` application – there is no official GUI, as this is not an official or supported tool. The `PortalAnywhere.Go` is a portal component that displays all of the deployed portal applications and their components, and lets you run the components.

You must be a member of the `Administrators` group.

To run Log Watch, run the following component:

- **Application:** `com.sap.tc~ep~common~logWatch`
- **Component:** `LogWatchView`

The following is the Log Watch interface:



Settings

The top of the user interface shows the current settings and enables you to change them. The settings are:

- **Instance ID:** The Log Watch can have up to 10 instances running, and this lets you know which you are using.
- **Number of Messages:** The number of messages currently stored in memory.
- **Registered Locations:** The types of messages to be tracked by Log Watch.

The list shows the logging locations, and the types of messages for each location, to be tracked.

Messages with at least the specified severity for each location are added to the Log Watch memory.

To add a location, select a location from the first dropdown list, then select a severity from the second dropdown list, and click *Add*.

To remove all locations, click *Reset*.

Note

Clicking *Add* changes the AS Java settings, that is, it changes the severity level for the selected location, which determines what log messages are recording in the AS Java logging system, not just for the Log Watch utility.

Action Buttons

The action buttons enable you to start tracking log messages.

- **Record:** Starts saving log messages for the specified locations and severities to the Log Watch memory.
- **Stop:** Stops saving log messages and displays the current messages in the Log Watch memory.
- **Refresh:** Displays the current messages in the Log Watch memory without stopping the recording of messages.
- **Clear:** Deletes all messages in the Log Watch memory.

Log Messages

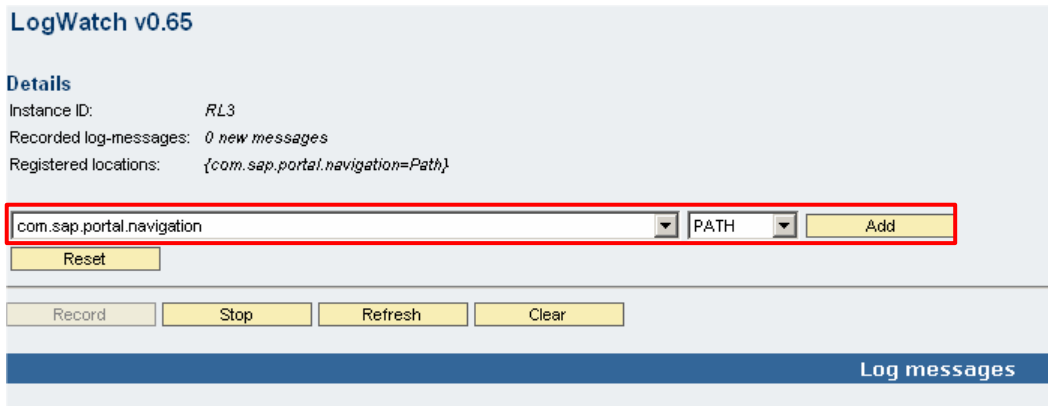
The current messages in the Log Watch memory are displayed in this area.

Click *Stop* or *Refresh* to display the messages.

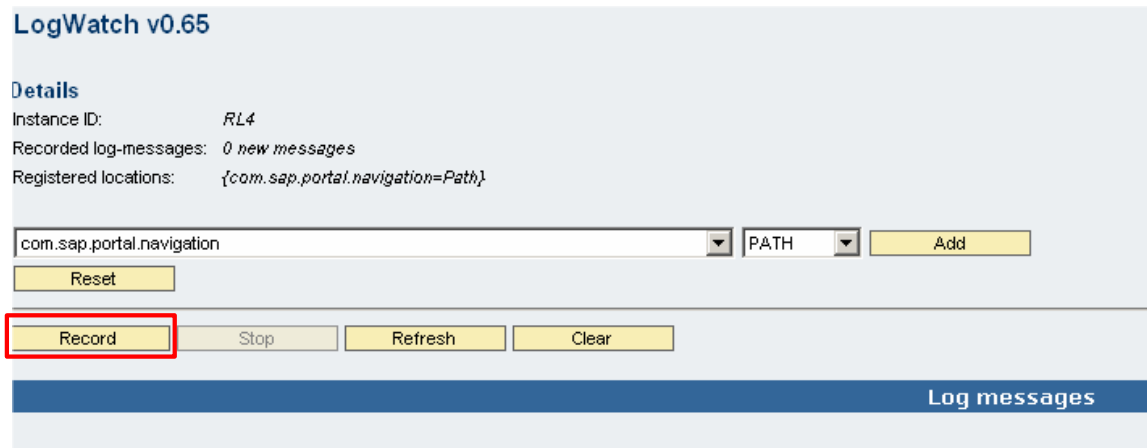
Example

To view log messages, for example, for the navigation service, do the following:

1. Select the `com.sap.portal.navigation` location, select the severity `PATH`, and click `Add`.



2. Click `Record` to start recording log messages.



3. Perform an action in the portal, such as navigating to a new node.
4. Click `Stop` to stop recording.

5. Click *Refresh* to display the current log messages.

LogWatch v0.65

Details
Instance ID: RL4
Recorded log-messages: 245 new messages
Registered locations: {com.sap.portal.navigation=Path}

com.sap.portal.navigation PATH Add
Reset

Record Stop Refresh Clear

Log messages

0	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.DetailedNavigation.doOnNodeReady [HTTP Worker [4]] Path: Starting doOnNodeReady
1	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.reporter.NavigationService.getNavNode [HTTP Worker [4]] Path: NavigationService.getNavNode: calling to connector ROLES to get node with name portal_content/administrator/super_admin/super_admin_role/com.sap.portal.content_administration/com.sap.portal.content_admin_ws
2	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnector.getNode [HTTP Worker [4]] Path: Enter method connectorNodeName portal_content/administrator/super_admin/super_admin_role/com.sap.portal.content_administration/com.sap.portal.content_admin_ws
3	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnector.getNode [HTTP Worker [4]] Path: Exit method
4	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.getAttributeValue [HTTP Worker [4]] Path: Enter method get value for attribute com.sap.portal.navigation.externalConnectorKey
5	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.getAttributeValue [HTTP Worker [4]] Path: Exit method
6	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.getAttributeValue [HTTP Worker [4]] Path: Enter method get value for attribute com.sap.portal.navigation.IsLeaf
7	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.getAttributeValue [HTTP Worker [4]] Path: Exit method
8	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.reporter.NavigationService.getNavNode [HTTP Worker [4]] Path: NavigationService.getNavNode: The navigation node retrieved for this node url ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.content_administration/com.sap.portal.content_admin_ws is ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.content_administration/com.sap.portal.content_admin_ws
9	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.listBindings [HTTP Worker [4]] Path: Enter Method
10	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.listBindings [HTTP Worker [4]] Path: Exit Method
11	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.listBindings [HTTP Worker [4]] Path: Enter Method
12	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.listBindings [HTTP Worker [4]] Path: Exit Method
13	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnectorNode.listBindings [HTTP Worker [4]] Path: Enter Method
14	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnector.getNode [HTTP Worker [4]] Path: Enter method connectorNodeName portal_content/administrator/super_admin/super_admin_role/com.sap.portal.content_administration/com.sap.portal.content_admin_ws/com.sap.portal.wd_portal_content:
15	May 6, 2007 12:17:48 PM	Administrator 13328	com.sap.portal.navigation.cache.CacheNavigationConnector.getNode [HTTP Worker [4]] Path: Exit method

Unknown Location

If you want to track problems but do not know to which location the log messages will be written, you can select `com.sap.portal` or other high-level location, and all messages in that location and its children locations are displayed.

Navigation Reporter

Purpose

The Navigation Reporter displays log messages about what steps were taken to perform the current navigation.

When the Navigation Reporter is activated, each navigation produces a set of log messages, and these are displayed at the bottom of the page. These messages are not saved.

Use Cases

- Debug problems with the portal navigation, or with a specific navigation connector.

Adding Messages to a Connector

Your custom navigation connectors can take advantage of the navigation reporter by producing log messages that can be displayed when the navigation reporter is turned on.

To produce such messages, simply write messages to the `com.sap.portal.navigation.reporter` location of severity `DEBUG` or greater.

Using the Tool

The tool is built into the portal, and you do not need to run a special component.

Turning on Navigation Reporting

To see navigation messages, the following settings are required:

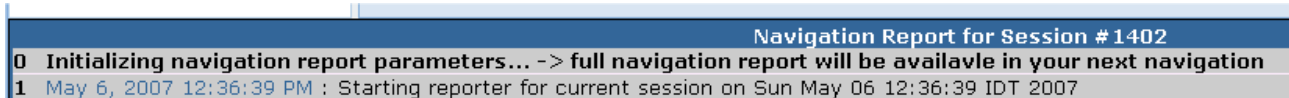
1. Set the severity of the `com.sap.portal.navigation.reporter` logging location to `DEBUG`.
2. When entering the portal, add the URL parameter `DEBUG_MODE`.

The value of the parameter is not relevant.

The Navigation Reporter is displayed in an iView at the bottom of every page.



The first time you enter, the following is displayed.



The next time you navigate, log messages are displayed. For example, the following are logged:

- Calls to a connector.
- The name of each node received by the navigation service.
- The current launched node.
- The children of each node.

Example

The following shows the first messages when navigating to the *User Administration* role.

Navigation Report for Session #1402	
0	May 6, 2007 12:57:42 PM : NavigationEventsHelperService.getCurrentNavNode: About to call to navigation service to get node for this node id ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws
1	May 6, 2007 12:57:42 PM : NavigationService.getNavNode: calling to connector ROLES to get node with name portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws
2	May 6, 2007 12:57:42 PM : NavigationService.getNavNode: The navigation node retrieved for this node url ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws is ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws
3	May 6, 2007 12:57:42 PM : NavigationEventsHelperService.getCurrentNavNode: Current navigation node is ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws
4	May 6, 2007 12:57:42 PM : NavigationNode.getChildren: The children of node portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws/com.sap.port
5	May 6, 2007 12:57:42 PM : NavigationNode.getChildren: The children of node portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws/com.sap.port
6	May 6, 2007 12:57:42 PM : NavigationEventsHelperService.getCurrentLaunchNavNode: Current launched navigation node is ROLES://portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_wd_ws/com
	May 6, 2007 12:57:42 PM : NavigationEventsHelperService.reportNavigationParameters: Following are the navigation parameters on the request

0. Helper service calls navigation service.
1. Navigation service calls ROLES connector for the specific navigation node.
2. The connector returns the node.
3. The current navigation node is retrieved.
4. The children of the launched node are retrieved.
5. The children of the launched node are retrieved.
6. The launched navigation node is retrieved.

Navigation Debugger

Purpose

The Navigation Debugger is a component that includes a set of tools for working and debugging portal navigation. Some of the tools are found as part of the standard administration tools, and others are additional, unofficial and unsupported utilities.

Use Cases

- Debug problems with the portal navigation

Using the Tool

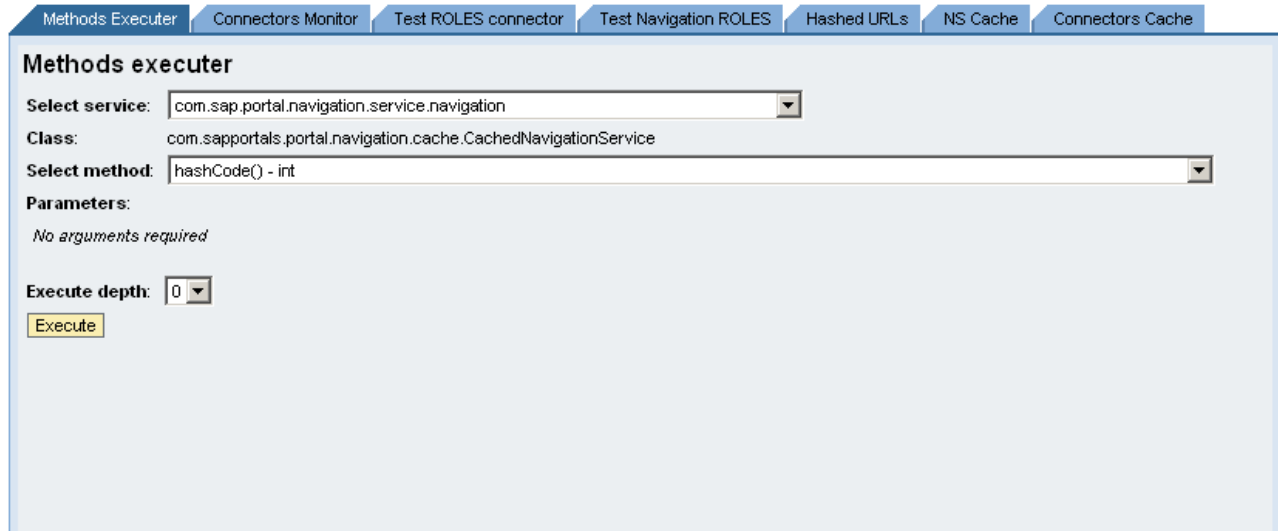
To run the component, you must access it through the `PortalAnywhere.Go` application – there is no official GUI, as this is not an official or supported tool. The `PortalAnywhere.Go` is a portal component that displays all of the deployed portal applications and their components, and lets you run the components.

You must be a member of the `Administrators` group.

To run the Navigation Debugger, run the following component:

- **Application:** `com.sapportals.navigation.testComponent`
- **Component:** `NavigationDebugger`

The following is the Navigation Debugger interface:



The following tools are included in the Navigation Debugger:

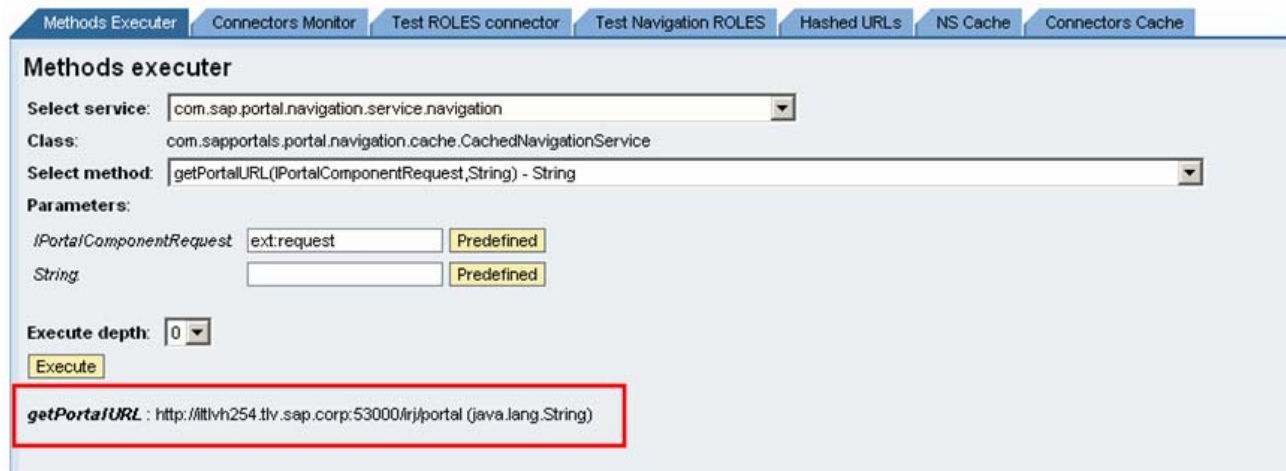
Methods Executor

Enables you to execute any method on the navigation or OBN services.

For example, if you want to check out that the `getPortalURL()` method returns the correct URL, you can do the following:

1. Select the `com.sap.portal.navigation.service.navigation` service.
2. Select the `getPortalURL()` method.
3. Click *Predefined* for the `IPortalComponentRequest` parameter.
4. Click *Execute*.

The method's return value is displayed.



You can supply strings for the method parameters. For methods that require an `IPortalComponentRequest` or user environment (`Hashtable`) object, click *Predefined* one or more times to supply these parameter types.

The *Execute depth* dropdown list enables you to automatically execute on the returned objects all methods that do not require parameters. The value 0 indicates not to execute any methods on the returned object, 1 indicates to execute all methods, 2 indicates to execute all methods on the returned object and then to execute all methods on the returned objects from these method calls, and so forth.

Connectors Monitor

Lists all the navigation connectors, naming handlers and redirectors, and enables you to unregister and register them with the navigation service.

Methods Executer | **Connectors Monitor** | Test ROLES connector | Test Navigation ROLES | Hashed URLs | NS Cache | Connectors Cache

Registered components

All of the connectors, redirectors and naming-handlers that are currently registered to the Navigation-Service

Type	Prefix	Class	Actions
	CollaborationConnector	CacheNavigationConnector [NavigationConnectorProxy]	Unregister
	CollaborationConnector	DefaultNavigationNamingHandler	Unregister
	OBN	OBNRedirector	Unregister
	ROLES	CacheNavigationConnector [RoleNavigationConnector]	Unregister
	ROLES	RoleNavigationConnectorNamingHandler	Unregister
	SITES	CacheNavigationConnector [SitesNavConnector]	Unregister
	SITES	DefaultNavigationNamingHandler	Unregister
	gpn	CacheNavigationConnector [GPNavigationConnector]	Unregister
	gpn	DefaultNavigationNamingHandler	Unregister
	DefaultBeforeAll(gpn)	GPNavigationRedirector	Unregister

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Components repository

All of the connectors, redirectors and naming-handlers that are currently available for registration to the Navigation-Service

Type	Prefix	Class	Actions
	CollaborationConnector	CacheNavigationConnector [NavigationConnectorProxy]	Register
	CollaborationConnector	DefaultNavigationNamingHandler	Register
	OBN	OBNRedirector	Register
	ROLES	CacheNavigationConnector [RoleNavigationConnector]	Register
	ROLES	RoleNavigationConnectorNamingHandler	Register
	SITES	CacheNavigationConnector [SitesNavConnector]	Register
	SITES	DefaultNavigationNamingHandler	Register
	gpn	CacheNavigationConnector [GPNavigationConnector]	Register
	gpn	DefaultNavigationNamingHandler	Register
	DefaultBeforeAll(gpn)	GPNavigationRedirector	Register

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Connector Naming Handler Redirector

Test ROLES Connector

Lists all the roles assigned to the current user and all of the navigation nodes for the current user.

You can display all levels of the navigation tree or only a fixed number of levels. You can also display information for a specific node.

Methods Executer | Connectors Monitor | **Test ROLES connector** | Test Navigation ROLES | Hashed URLs | NS Cache | Connectors Cache

Test component for Role Navigation Connector

Reset

Load role navigation for current user

User name	Administrator
Levels (0 for all levels)	1

Load it

Load role navigation node manually

Node name

Load it

Roles assigned to user Administrator

pcd:portal_content/administrator/super_admin/super_admin_role
pcd:portal_content/com.sap.gm.cnt/core/VCRole

Role navigation structure for user Administrator

Endpoint: portal_content/administrator/super_admin/super_admin_role/com.sap.portal_content_administration/com.sap.portal_content_admin_ws Title: Content Administration
Visualization Type: 2 [Details](#)

Endpoint: portal_content/administrator/super_admin/super_admin_role/com.sap.portal.user_administration/com.sap.portal.user_admin_ws Title: User Administration Visualization
Type: 2 [Details](#)

Endpoint: portal_content/administrator/super_admin/super_admin_role/com.sap.portal.system_administration/com.sap.portal.system_admin_ws Title: System Administration
Visualization Type: 2 [Details](#)

Test Navigation ROLES

Similar to the Test ROLES Connector tool, except that it provides information for all connectors.

Hashed URLs

Same as the Hashed URL utility supplied at *System Administration* → *Navigation* → *Short URLs*.

Navigation Cache (new)

Same as the navigation cache utility supplied at *System Administration* → *Navigation* → *Navigation Cache*.

Related Content

[Navigation Knowledge Center](#)

[Navigation Wiki](#)

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