

# Integrating Web Dynpro and SAP NetWeaver Portal: How to create bookmarkable Web Dynpro iView URLs

## Applies to:

Integration of Web Dynpro for Java applications into the SAP NetWeaver Portal for the SAP NetWeaver 04 and SAP NetWeaver 04s releases.

## Summary

This article describes how to define bookmarkable Web Dynpro iView URLs, which could be used also to add to mails or any other documents.

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## Author Bio

Jochen Guertler works as a development architect within the Web Dynpro for Java team. His main responsibilities are the integration of Web Dynpro for Java with other components of SAP NetWeaver, especially the integration with the SAP NetWeaver portal.

Jochen is co-author of the “Maximizing Web Dynpro for Java” book.

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## Introduction

Running Web Dynpro applications within the SAP NetWeaver portal provides a rich set of additional functionality. One major benefit is the possibility to structure the needed content (iViews, pages) in a role-based way to ensure that each user could access the needed content in an optimized way.

For some scenarios it makes furthermore sense to provide direct access to certain iViews which are part of one of the user roles. But how could you get an URL for the needed iView? And how can you ensure that such iView URLs are stable and bookmarkable?

The goal of this document is to provide an comprehensive overview about the available possibilities to create bookmarkable URLs for Web Dynpro iViews.

### Classification of Web Dynpro iViews

Before we continue describing the definition and usage of bookmarkable Web Dynpro iView URLs, we have to clarify the naming used in this document regarding the different types of Web Dynpro iViews.

We differentiate between two types of Web Dynpro iViews. First there are Web Dynpro iViews based on the *Web Dynpro iView template*. This type of Web Dynpro iView could only be run as isolated iViews. As this iView type is available since the SAP NetWeaver 04 release we name this *NW04 Web Dynpro iView*.

Second there are Web Dynpro iViews based on the *Web Dynpro page builder*. This type of Web Dynpro iView could be run embedded in Web Dynpro pages. As this iView type is available since the SAP NetWeaver 04s release we call this *NW04s Web Dynpro iView*.

For more details about the differences and capabilities of the Web Dynpro iView types please check the [related document](#) of this series.

### The SAP Application Integrator

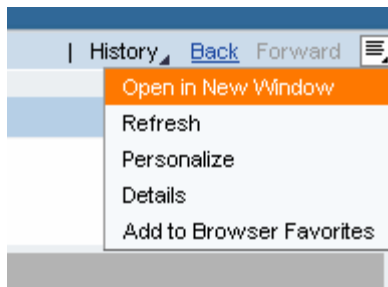
As soon as a Web Dynpro application is launched within the SAP NetWeaver Portal as Web Dynpro iView the *SAP Application Integrator* is responsible to compute the needed Web Dynpro application URL. It is important for the following discussion to understand the role of the SAP Application Integrator. Especially the rules how the Web Dynpro application URL is computed (including the definition of the parameters, which are forwarded to the called Web Dynpro application) is mandatory for the understanding. If needed you could get more details about the SAP Application Integrator in the [related document](#) of this series.

### Bookmarkable iView URLs

We will discuss two aspects in the following: First we will describe how to create in general a bookmarkable iView URL. After that we will explain how you can add parameters to such an URL which are in the end forwarded to the Web Dynpro application.

#### Using the “Open in New Window” feature

The first option to get the URL of an (Web Dynpro) iView is to use the **Open in New Window** entry of the iView tray of the requested iView as shown in the following picture.



This opens up a new browser window and launches the iView. The used URL is directly visible on the browser address bar.

The following URL shows the URL used for a NW04s Web Dynpro iView.

[http://<host>:<port>/irj/servlet/prt/portal/prtroot/com.sap.portal.pagebuilder.lviewModeProxy?iview\\_id=pcd%3Aportal\\_content/sdn/sdnrole/bookmarkableiviewurls/java\\_sap\\_com\\_params\\_com\\_sap\\_tc\\_wd\\_test\\_params\\_ParametersApp&iview\\_mode=default](http://<host>:<port>/irj/servlet/prt/portal/prtroot/com.sap.portal.pagebuilder.lviewModeProxy?iview_id=pcd%3Aportal_content/sdn/sdnrole/bookmarkableiviewurls/java_sap_com_params_com_sap_tc_wd_test_params_ParametersApp&iview_mode=default)

The next one shows the URL of the NW04 Web Dynpro iView.

[http://<host>:<port>/irj/servlet/prt/portal/prtroot/com.sap.portal.pagebuilder.lviewModeProxy?iview\\_id=pcd%3Aportal\\_content/sdn/sdnrole/bookmarkableiviewurls/appparamsnw04&iview\\_mode=default](http://<host>:<port>/irj/servlet/prt/portal/prtroot/com.sap.portal.pagebuilder.lviewModeProxy?iview_id=pcd%3Aportal_content/sdn/sdnrole/bookmarkableiviewurls/appparamsnw04&iview_mode=default)

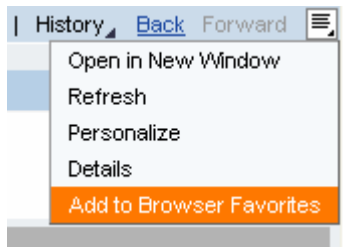
In structure of the URLs is obviously the same. The called iView is passed as the *iview\_id* URL parameter. Therefore the URL directly shows the complete path of the iView, which in the end could create two disadvantages:

- The URL exposes internal knowledge about the structure of the deployed portal content.
- The URL becomes potentially really long, especially if you have a deep nesting of your portal content.

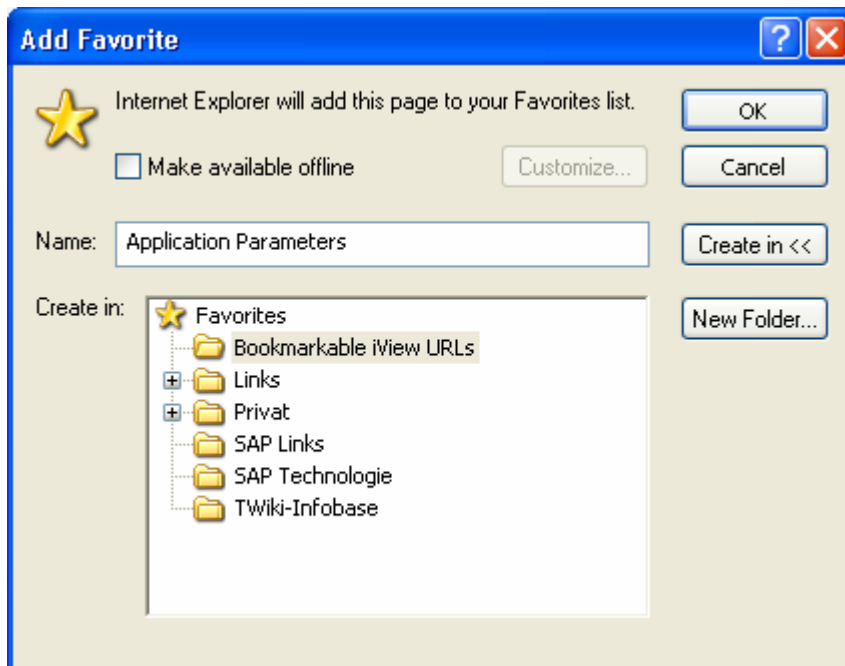
Both disadvantages could be avoided using the second approach described in the following chapter.

## Using the “Add to Browser Favorites” feature

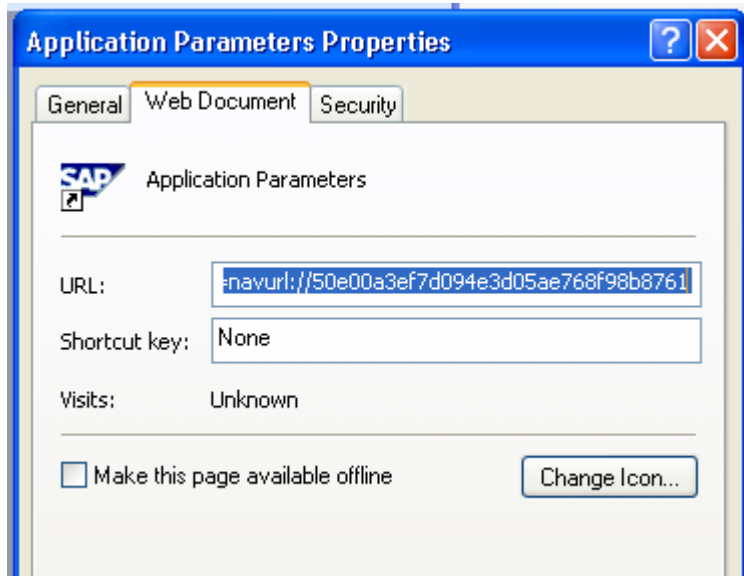
The second way to get an iView URL is to use the **Add to Browser Favorites** entry of the iView tray of the requested iView as shown in the following picture.



This opens up the **Add Favorite** dialog of the browser where you can define both the name and the location of the created browser favorite. The name of the related iView is used as default name. In our example we add the **Application Parameters** favorite to the **Bookmarkable iView URLs** favorite folder as shown in the following picture.



You could now use this browser favorite as any other browser favorite. To get the real iView URL you have to open the **Properties** dialog of the browser favorite. The **Web Document** tab contains the stored URL as shown in the next picture.



The URL in the end looks like this:

<http://<host>:<port>/iri/portal?NavigationTarget=navurl://50e00a3ef7d094e3d05ae768f98b8761>

To overcome the limitations of the first approach this URL does *not* contain the full path of the iView (in human-readable syntax) but a cryptically ID which is mapped internally to the real iView path as soon as the URL is processed by the SAP NetWeaver Portal.

This in the end shortens the URL and avoids that internal knowledge about the structure of the called portal content is exposed.

#### Configuration of short URLs

You can turn on the usage of the shorten URLs (this is the default setting) under **System Administration -> Navigation -> Short URLs** as shown in the next picture.

**Welcome John Smith**

Web Dynpro Best Practices | Content Administration | User Administration | **System Administration** | SDN | PCD Tools | SAP Application Integrator | Home

Transport | Monitoring | Permissions | System Configuration | Portal Display | Support | Federated Portal | **Navigation**

**Short URLs**

**Detailed Navigation**

- Navigation Cache
- Short URLs**

Use this iView to configure and maintain short navigation URLs.  
In the table, choose 'Refresh' to update the contents of the table. Choose 'Synchronize' to update the short URL when changes are made to the navigation target URL.

**Configuration**

Use Short URLs:  True

**Objects in PCD (122)**

Refresh Search Entire List  Search Synchronize

Short URL	Full URL
+ 47161f90af7543f239ecfaba60b96e1c	ROLES://portal_content/sdn/ai
+ ef33536d8eb44e54c7222cb46542182	ROLES://portal_.../com.sap.wd/role/netweavermusicbox
+ e46ef0ab8c9fbab2482b50cdf305f8a6	ROLES://portal_content/sdn/ai/hw04swd
+ 0c3c7ac0dfe1083d8f50ae954b8ec25f	ROLES://portal_...admin_ws/com.sap.portal.permissions
+ 8c6b03440390c75075b4c43770d18678	ROLES://portal_...al/com.sap.portal.componentOverview
+ 154708f52bb4e7288dcff4c0cf8055aa	ROLES://portal_content/sdn/ai/hw04wd
+ 78632e2a7ac8c156de0562a6ec04b908	ROLES://portal_...twoiviews_TwoViewsApp_base_iView2
+ a441c58990a44a332ffb711fa4335bbc	ROLES://portal_...tent/sdn/ai/hw04wd/appparamsnw04_10
+ e5ea9ee880d436e3a82f66c38fe0a120	ROLES://portal_...m.sap.portal.portal_personalization
+ 9c23c49c9aa0bdf7200035bf369b32e4	ROLES://portal_...d_pb/com.sap.portal.wd_jndi_browser

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Besides the general setting you could also check the used short URLs and the mapped “real” iView URLs. If the usage of the short URLs is disabled an iView URL created as a browser favorite uses also the full readable PCD path. We strongly recommend using the short URLs.

### Launched content

Besides the length and the format there is another general difference between the two approaches: the URL created by the first approach directly launches the iView – and nothing more. The second URL created as browser favorite launches the iView within the full portal framework page. This provides the full client-side functionality of the SAP NetWeaver Portal like client-side eventing or navigation to another iView.

Therefore we strongly recommend using the second approach. Starting only the iView makes only sense for simple iViews which do not need any client-side functionality of the SAP NetWeaver Portal (but even in this case you have the limitations for example regarding the length of the URL as described above).

### Starting the iView within the headerless portal framework page

Using a URL created as browser favorite starts the iView within the standard portal framework page. This includes both the *Top-Level-Navigation (TLN)* component and the *Detail-Level-Navigation (DTN)* component. If this is not needed although the called iView needs access to the client-side functionality of the SAP NetWeaver Portal you could launch the iView within the *headerless portal* framework page. The headerless portal framework page does not show TLN or DTN but provides nevertheless all client-side functionality of the SAP NetWeaver Portal.

If you want to launch the iView within the headerless portal framework page you have to add `&NavMode=3` to the called URL as shown in the following example:

<http://<host>:<port>/irj/portal?NavigationTarget=navurl://50e00a3ef7d094e3d05ae768f98b8761&NavMode=3>

## Definition of quick links

Although the URLs created as browser favorites works fine in general it is hard to remember them (due to the fact that the path of the called iView is mapped to a cryptically ID). Especially in scenarios where you want to send such an URL around per mail it could make sense to have “simple” and “readable” URLs. This could be achieved by defining *quick links* for the called iViews. To do so you have to open the iView editor of the appropriate iView. Under the **Navigation** category there is the **Quick Link** iView property which defines the needed quick link for the iView. The following picture shows an example.

The screenshot shows the SAP iView editor interface. At the top, there are tabs for 'Overview' and 'SDN'. Below the tabs, the breadcrumb 'SDN > Application Parameters (changed)' is visible. A toolbar contains buttons for 'Save', 'Close', 'Preview', 'Refresh', and 'Edit Mode', along with a 'Display:' dropdown menu set to 'Object'. The main area is titled 'Property Editor - Application Parameters'. Under 'Property Category', 'Navigation' is selected. The properties listed are:

- ▶ Can be Merged:  Yes  No
- ▶ Default Entry for Folder:  Yes  No
- ▶ Entry Point:  Yes  No
- ▶ Height of External Window (Pixels): 750
- ▶ Initial State of Navigation Panel: Automatic
- ▶ Invisible in Navigation Areas:  Yes  No
- ▶ Launch in New Window: Display in Portal Content Area
- ▶ Merge ID: (empty field)
- ▶ Merge Priority: 100
- ▶ Quick Link: ApplicationParameters
- ▶ Sort Priority: 100
- ▶ Width of External Window (Pixels): 500
- ▶ Window Features: (empty field)
- ▶ Workset Map Pictogram: - Select -

Using the `ApplicationParameters` quick link the URL looks like <http://<host>:<port>/irj/portal/ApplicationParameters>, which in the end is obviously easier to handle as the URL containing the cryptically IDs.

If needed you could also use the `NavMode` parameter to launch the iView within the headerless portal framework page.

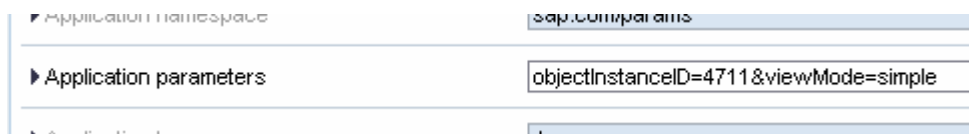
## Forwarding of parameters

After discussing the creation of the iView URL in general we will now concentrate on the possibilities to define parameters, which should be forwarded to the Web Dynpro application, which is associated to the called Web Dynpro iView.

A typical scenario looks like this: You have a Web Dynpro iView showing some details about a business object like a customer. Now you would like to add a link to this iView into a mail. You want to start this iView for a specific instance of the business object and therefore you would like to add a certain parameter `objectInstanceID` defining the instance ID to the used Web Dynpro iView URL. Besides that you would like to start the iView using a specific visualization mode specified by another parameter called `viewMode`. In the end you would like to use an URL like <http://<host>:<port>/irj/portal/BusinessObjectViewer?objectInstanceID=4711&viewMode=simple>.

### Static list of parameters

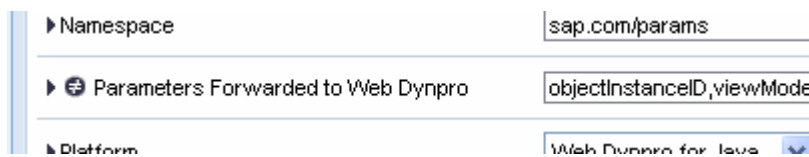
If you want to pass a *static list* of parameters to the Web Dynpro application associated to the called Web Dynpro iView you could use the `Application Parameters` iView property to define these parameters as shown in the next picture.



This iView property is available both for NW04 and NW04s Web Dynpro iViews. As long as you have a static list of parameters we recommend using this mechanism. Please keep in mind that in this scenario the (static) list of parameters is not visible in the iView URL itself. The SAP Application Integrator adds these parameters automatically to the called Web Dynpro application URL.

### Parameter forwarding for NW04 Web Dynpro iViews

For NW04 Web Dynpro iViews there is an easy to use way to define the list of parameters, which should be forwarded to the associated Web Dynpro application – the `Parameters Forwarded to Web Dynpro` iView property as shown in the following picture:



You define the list of parameters, which should be forwarded to Web Dynpro by a comma-separated list of parameter names. In the example we define the two parameter `objectInstanceID` and `viewMode` as described in the example scenario.

In combination with the quick links we could define for an NW04 Web Dynpro iView exactly that URL we want:

<http://<host>:<port>/irj/portal/BusinessObjectViewer?objectInstanceID=4711&viewMode=simple>.

### Parameter forwarding for NW04s Web Dynpro iViews

For NW04s Web Dynpro iView there is currently no such easy to use mechanism available. Nevertheless there are workarounds available which provide in the end the similar functionality.



### Using specific parameter names

The easiest workaround for NW04s Web Dynpro iView is the usage of specific parameter names. Without going into the deep technical details all parameters starting with `sap-` are automatically forwarded to Web Dynpro applications associated to an NW04s Web Dynpro iView. To fulfill the described example scenario the URL has to look like this using this workaround:

<http://<host>:<port>/irj/portal/BusinessObjectViewer?sap-objectInstanceID=4711&sap-viewMode=simple>.

Although this is a working solution the main disadvantage is obvious: Using the `sap-` prefix should be used only for SAP defined parameters. The Web Dynpro runtime itself defines several parameters with the same prefix. To avoid name clashes we therefore strongly recommend *not* using parameters starting with `sap-`.

### Using the `DynamicParameter` parameter

The second workaround is the usage of the `DynamicParameter` parameter. This parameter is used normally in scenarios where a navigation step to another (Web Dynpro) iView is triggered programmatically within a Web Dynpro application using the `WDPortalNavigation` helper class.

Although there is no general disadvantage when using this parameter also within a bookmarkable iView URL the usage is not that easy as the computation of the correct parameter value is a little bit tricky. We will explain this using the described example scenario:

1. We would like to pass two parameters to the Web Dynpro application associated to the NW04s Web Dynpro iView: `objectInstanceID` and `viewMode`.
2. The needed values are `objectInstanceID=4711` and `viewMode=simple`
3. To ensure that all values are passed correctly (especially in cases where a value contains special signs like `äü# / ( > ; : § $ )` you have to encode the values one by one.
4. After that you have to put all parameters together and encode this parameter string again.
5. The encoded value is the needed parameter value of the `BusinessParameter` parameter.

Using the algorithm the URL for our example scenario looks like this:

<http://<host>:<port>/irj/portal?BusinessObjectViewer&DynamicParameter=objectInstanceID%3D4711%26viewMode%3Dsimple>

This URL looks of course a little bit complex but as soon as you have to launch an NW04s Web Dynpro iView this is currently the recommended workaround.

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