

# Source Control in Visual Composer



## Applies to:

Visual Composer 7.1.1, 7.2 and 7.21. For more information, visit the [Portal and Collaboration homepage](#).

## Summary

Visual Composer provides integrated support for maintaining models in a source control system. Source control enables version control and multi-user access to models.

This document explains the basics of using Visual Composer with source control.

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## Author Bio



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## Overview

Visual Composer provides integrated support for maintaining models in a source control system. Source control enables version control and multi-user access to models. This built-in supports includes integration to SAP's Design Time Repository (DTR).

In cases where DTR is not available or has not been configured, the built-in shared repository provides basic source control functionality to browser users.

## DC Lifecycle in Browser

This section describes the lifecycle of a development component (DC). The figure shows source control states and the operations that trigger state changes. The table below shows detailed information about each source control state.

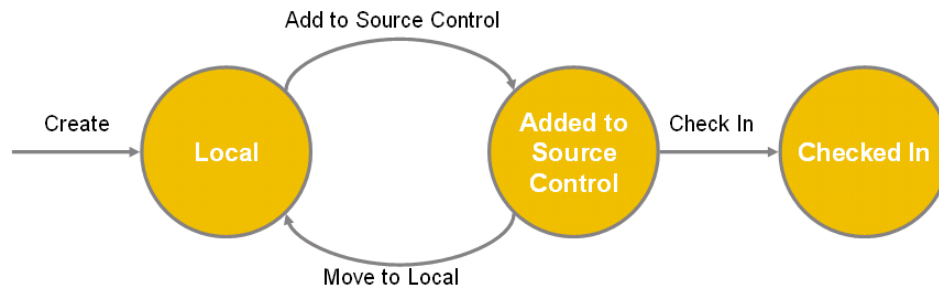


Figure 1 - DC lifecycle in browser

Source Control State	Source Control Operations	Sync Operations	Can Delete	Others can View	Notes
<b>Local</b>	Add to Source Control		Yes	No	
<b>Added to Source Control</b> (📁+)	Move to Local, Check In		Yes	No	<sup>1</sup> <sup>2</sup>
<b>Checked In</b>	None	Sync, Force Sync, Remove from Workspace	No	Yes	<sup>3</sup>

<sup>1</sup> Others cannot view DC, but its name is reserved so that others can't use it

<sup>2</sup> DC can contain only models that are in Added to Source Control state

<sup>3</sup> If the latest version of all models of a checked in DC are in the current user's workspace, the DC is considered synced (📁). Otherwise, the DC is not synced (📁!).

## Model Lifecycle in Browser

This section describes the lifecycle of a model. The figure shows source control states and the operations that trigger state changes. The table below shows detailed information about each source control state.

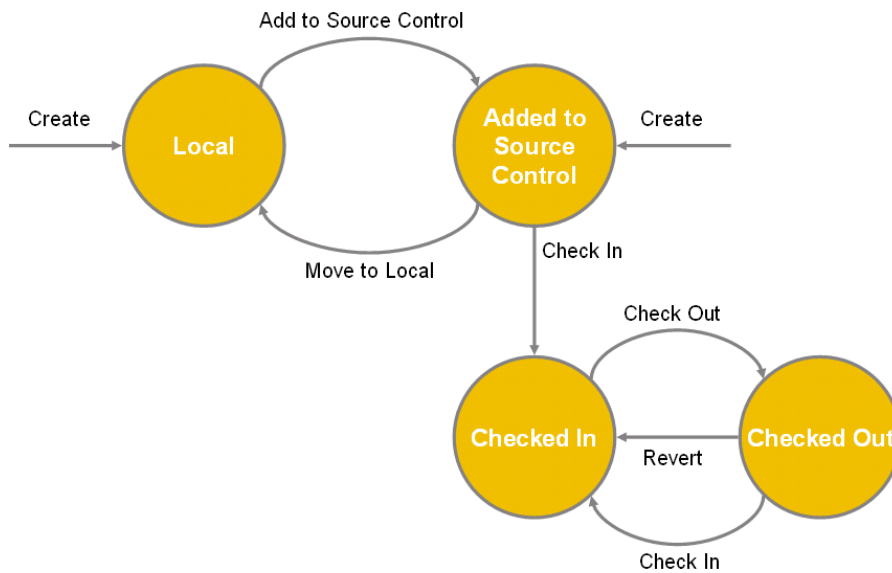


Figure 2 - Model lifecycle in browser

Source Control State	Source Control Operations	Sync Operations	Can Change	Can Delete	Others can View Latest Version	Notes
<b>Local</b>	Add to Source Control		Yes	Yes	No	<sup>4</sup>
<b>Added to Source Control</b> (🔒)	Move to Local, Check In		Yes	Yes	No	
<b>Checked In</b>	Check Out	Sync, Force Sync, Remove from Workspace	No	No	Yes	<sup>5</sup>
<b>Checked Out by Current User</b> (🔒)	Check In, Revert		Yes	No	No	
<b>Checked Out by Another User</b> (🔒)	None	Sync, Force Sync, Remove from Workspace	No	No	No	

<sup>4</sup> Model can be referenced only by other models in same DC

<sup>5</sup> If the latest version of a checked in model is in the current user's workspace the model is considered synced (🔒). Otherwise, the model is not synced (🔒).

## Visual Composer in Browser vs. NWDS

Visual Composer in Browser is a server-based installation and is targeted at business process experts.

Another flavor of Visual Composer resides in the NetWeaver Developer Studio (NWDS). It is a standalone installation and is targeted at developers and advanced users.

There are a number of differences between these two flavors of Visual Composer. The table below lists the subset of those differences that is relevant to source control operations.

Difference	Browser	NWDS
<b>Shared Repository</b>	<b>Yes</b> – Either Shared Repository or DTR are supported	<b>No</b> – Only DTR is supported
<b>Manage Task Panel</b>	<b>Yes</b> – All source control operations can be performed from the Manage task panel	<b>No</b> <ul style="list-style-type: none"> <li>• Check Out of models done from Model Browser view.</li> <li>• Check Out of DCs is done from Component Browser view.</li> <li>• Models are checked in using the Open Activities view</li> </ul>
<b>Ability to Move Models</b>	<b>Yes</b> – Local models can be added to the Source Control repository	<b>No</b> – models in Local development configuration cannot be moved to a DTR development configuration. Nevertheless, models can be created
<b>Number of DCs</b>	<b>1 DC</b> is exposed to the browser user	<b>2 DCs</b> are exposed to the NWDS user in the Component Browser view: Implementation and Interface. Sync must be performed on both DCs simultaneously
<b>Activities</b>	<b>Limited Support</b> – User can enter activity name while performing certain operations	<b>Full Support</b> – All open activities can be controlled through the Activities views
<b>Remote Access</b>	<b>Yes</b> – All models (including Local, Added and Checked Out models) can be accessed from any computer that has access to the NetWeaver server	<b>Limited</b> – Only models in the DTR can be accessed remotely.
<b>Access to Previous Model Versions</b>	<b>No</b>	<b>Yes</b> – Previous versions of models can be accessed through the DTR view

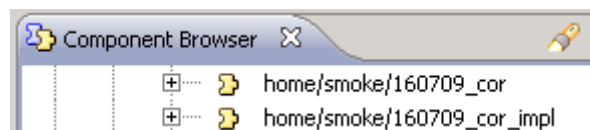













Figure 3 - A Visual Composer DC is in fact made up of two DCs, as seen in NWDS

## Source Control in NWDS

The following table lists various source control-related operations and how to perform them.

Operation	NWDS Context	How to Perform...
Launch Visual Composer	Visual Composer perspective	Click the  toolbar button
Create Model	Model Browser view or Model menu	Choose the  New... menu option
Open Model	Model Browser vView	Double-click the model  
Check In	Open Activities view	Select the relevant activity (  ) and choose the  Checkin menu option <i>Note:</i> This action is done on the activity level (not per DC or model). This means that all the objects in the activity will be checked in.
Check Out Model	Model Browser view	Choose the  Check out menu option
Revert	Open Activities menu	Revert the relevant activity. <i>Note:</i> This action is done on the activity level (not per DC or model). This means that all the objects in the activity will be reverted.
Import Model	Model menu	Choose the  Import... menu option
Export Model	Model menu	Choose the  Export... menu option
Sync Model	Component Browser view	<i>Note:</i> This is a risky operation since individual models cannot be easily identified in the Component Browser. It is preferred to use Sync DC instead.
Create DC	File menu	Choose the New menu option and choose a development component of type Visual Composer
View DC that was created by another user in the DTR	Component Browser and Model Browser views	<ol style="list-style-type: none"> <li>In the Component Browser, select the relevant SC and choose the Refresh context menu option  This action will show the two relevant DCs (&lt;dc_name&gt; and &lt;dc_name&gt;_imp1) in the Component Browser tree.</li> <li>In the Component Browser, select the two relevant DCs and choose the following context menu option </li> </ol> <p>This action will show the relevant DC in the Model Browser tree.</p>
Sync DC to see the latest changes made by other users	Component Browser view	Select the two relevant DCs and use the  context menu

## Source Control in Browser

All the operations can be done with the context menu (right-click on a model or DC and choose the desired option).

## Glossary

### **Development Component (DC)**

A piece of software containing development objects, such as models

### **Development Configuration**

Describes the development system to work in for the developer.

### **DI**

Development Infrastructure. An NWDS perspective used for browsing components and performing source control operations.

### **DTR**

Design-Time Repository. An SAP source control solution. Part of **NWDI**

### **Force Sync**

An operation similar to Sync. However, force sync bypasses optimizations to ensure a successful sync.

### **Local Repository**

A **Repository** that is accessible only to the current user

### **NWDI**

NetWeaver Development Infrastructure. It consists of **DTR**, **SLD** and CBS (Central Build System).

### **NWDS**

NetWeaver Development Studio. An SAP Eclipse-based development environment.

### **Eclipse**

An open-source integrated development environment (IDE) whose releases are coordinated by the Eclipse Foundation.

### **Refresh**

An operation that retrieves the current sync state of a model (but does not perform an actual sync operation).

### **Repository**

A general term used to represent the location of content (SC, DC or model) in Visual Composer in the browser.

### **Revert**

An operation that changes the state of a model from Checked Out to Checked In without saving changes.

### **Shared Repository**

A limited functionality source control **Repository**

### **Software Component (SC)**

An installable piece of software

### **Source Control Repository**

A fully functional source models repository that enables model revisions version control it, i.e. DTR.

### **SLD**

System Landscape Directory – A directory that contains information about all installable software available from SAP. Also supports reservation of Development Component (DC) names.

### **Sync**

An operation that copies the latest available version of a model from a source control repository to the user's



Workspace.

## **Workspace**

A storage area used to store local content and replicated content from source control repositories for a specific user.

## Related Content

[Differences between the Browser and Developer Studio Versions of Visual Composer](#)

[Working with Visual Composer in the NetWeaver Development Infrastructure](#)

[SAP component model support in Visual Composer 7.1 \(CE\)](#)

For more information, visit the [Portal and Collaboration homepage](#).

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