**Configuration Guide**

# Visual Composer
# for SAP NetWeaver
# Composition Environment

**Document Version 1.00 – November 2007**
**SAP NetWeaver Composition Environment 7.1 SP 03**

**SAP**

# Typographic Conventions

| Type Style | Represents |
|---|---|
| *Example Text* | Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. |
| | Cross-references to other documentation. |
| **Example text** | Emphasized words or phrases in body text, graphic titles, and table titles. |
| EXAMPLE TEXT | Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE. |
| `Example text` | Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools. |
| **`Example text`** | Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation. |
| **`<Example text>`** | Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system. |
| EXAMPLE TEXT | Keys on the keyboard, for example, `F2` or `ENTER`. |

# Icons

| Icon | Meaning |
|---|---|
| ⚠ | Caution |
| ⚙ | Example |
| 💡 | Note / Tip |
| ⬆ | Recommendation |
| ⟨⟩ | Syntax |

# Contents

# Document History

| Document version | Description |
|---|---|
| V 1.0 | SAP Library release of document, with SPS 03. The following sections were added since the SPS 01 release: |
| | ▪ *Defining Destinations* |
| | ▪ *Configuring Basic Authentication* |
| | ▪ *Defining Software Component Dependencies* |
| | ▪ *Troubleshooting NWDI Configuration* |
| | The following sections were changed since the SPS 01 release: |
| | ▪ *Configuring the SDIC service*: Some property values were modified and mandatory properties are now indicated by an asterisk |
| | ▪ *Configuring the Repository Services service*: Some property values were modified and mandatory properties are now indicated by an asterisk |
| | ▪ *Configuring the Development Server service*: Some property values were modified and mandatory properties are now indicated by an asterisk. In addition, information about remote deployment was removed, since it is not supported. |
| | ▪ *Configuring the Track*: This section was removed and some of the information incorporated into the new *Defining Software Component Dependencies* section |

# Configuring Visual Composer

After Visual Composer has been installed as part of the SAP NetWeaver Composition Environment using the additional *Composition Tools* installation option, you may need to configure certain items before you can start using Visual Composer to model applications.

Depending on how you plan to work with Visual Composer, the following configuration procedures may need to be performed:

- Defining Destinations [Page 2]

  Provides information about defining the sources of data that you want to include in your model.

- Configuring Visual Composer to Work with NWDI [Page 3]

  Provides an overview of the steps that you should follow to successfully set up the Visual Composer server for NWDI access.

# 1   Defining Destinations

Depending on the sources of data that you want to include in your model, you need to define their destinations using NetWeaver Administrator.

## Prerequisites

You have access to the SAP NetWeaver Administrator of your AS Java.

## Procedures

- To consume SAP system BAPIs/RFCs as sources of data in your models, make sure that the relevant systems are correctly defined in NetWeaver Administrator.

    More information: Maintaining RFC Destinations [External]

- To consume Web services and enterprise services as sources of data in your models, make sure that their destinations are correctly defined in NetWeaver Administrator. If you are locating these Web services by querying the Services Registry, you need to configure a connection to the Services Registry (as well as defining a destination for the Services Registry).

    More information: Creating Web Service Physical Destinations [External]

- To consume BI queries and query views as sources of data in your models, you must first maintain a BI server connection in the AS Java of a CE system.

    More information: Maintaining BI Server Connections [External]

- To save personalized settings for ALV lists in a Visual Composer model, you must first enable ALV personalization.

    More information: Enabling ALV Personalization [External]

# 2 Configuring Visual Composer to Work with NWDI

## Use



> SAP NetWeaver Composition Environment (SAP NetWeaver CE) does not come with an installation of the SAP NetWeaver Development Infrastructure (NWDI), but you can use the functionality of NWDI if you have access to a system with an already installed NWDI.

To access the SAP NetWeaver Development Infrastructure (NWDI) from Visual Composer (including the Design Time Repository (DTR) server), you need to configure the Visual Composer server and set up a development track.

General information about DTR: Working with the Design Time Repository [External]

To include the Visual Composer development components in a nightly build process, you need to configure the DTR and Component Build Service (CBS) accordingly.

More information:
http://help.sap.com/saphelp_nw70/helpdata/en/03/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Working with the Development Infrastructure* → *Administration of the Development Infrastructure* → *Central Build Management*

This section provides an overview of the steps that you should follow to successfully set up the Visual Composer server for NWDI access. The configuration steps can be organized into the following main categories:

- First-Time Setup: Describes how to configure a new installation of the Visual Composer server and a corresponding track (a new development configuration) that will be used for the first time for developing the Visual Composer models.

- Subsequent Upgrades: Describes how to update the track when new NetWeaver patches are installed.

## Prerequisites

Access to NWDI (required only if you want to use NWDI functionality with Visual Composer), using the same username and password that you use to log in to Visual Composer.



> To verify that your username has the required permissions, navigate to the DTR URL (for example, http://hostname:portnumber/dtr) and try to log in with your username and password. If you cannot log in, check that your username is defined on that system.

## Procedures

### First-Time Setup

1. Configure the Visual Composer server:

   a. Configure the *SDIC Service.*

      More information: Configuring the SDIC Service [Page 6]

       b.  Configure the *Development Server - Repository Services* service.

          More information: Configuring the Repository Services Service [Page 7]

       c.  Configure the *VisualComposer - Development Server* service.

          More information: Configuring the Development Server Service [Page 8]

2. Define a user with the *VisualComposerUser* role for portal access.

   More information: Managing Users, Groups, and Roles [External]

3. Configure authentication for the Visual Composer user in one of the following ways:

     ○  Configure Single Sign-On (SSO): Establishes a trust relationship between the Visual Composer server and the NWDI servers, to enable the single sign-on authentication mechanism. You configure SSO using NetWeaver Administrator on the Visual Composer server.

       More information:
       http://help.sap.com/saphelp_nw70/helpdata/en/62/c0503e1dac5b46e10000000a114084/frameset.htm → *Configuring the J2EE Engine to Accept Logon Tickets*

     ○  Configure basic authentication: Configure user authentication on the CE server and on the NWDI server.

       More information: Configuring Basic Authentication [Page 4]

4. Define a track for the Visual Composer model development.

   More information:
   http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Administration of the Development Infrastructure* → *Setting Up the Development Landscape: Landscape Configurator* → *Configuring a Domain*

   http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Administration of the Development Infrastructure* → *Setting Up the Development Landscape: Landscape Configurator* → *Creating a Development Track*

5. Define software component dependencies: Specifies the dependencies that need to be set between software components.

   More information: Defining Software Component Dependencies [Page 9]



   If the DTR is not accessible from Visual Composer after performing the above steps, see Troubleshooting NWDI Configuration [Page 12] for more information.

## Subsequent Upgrades

When new NetWeaver patches are installed, you need to reimport the SCAs to update the track used for Visual Composer development
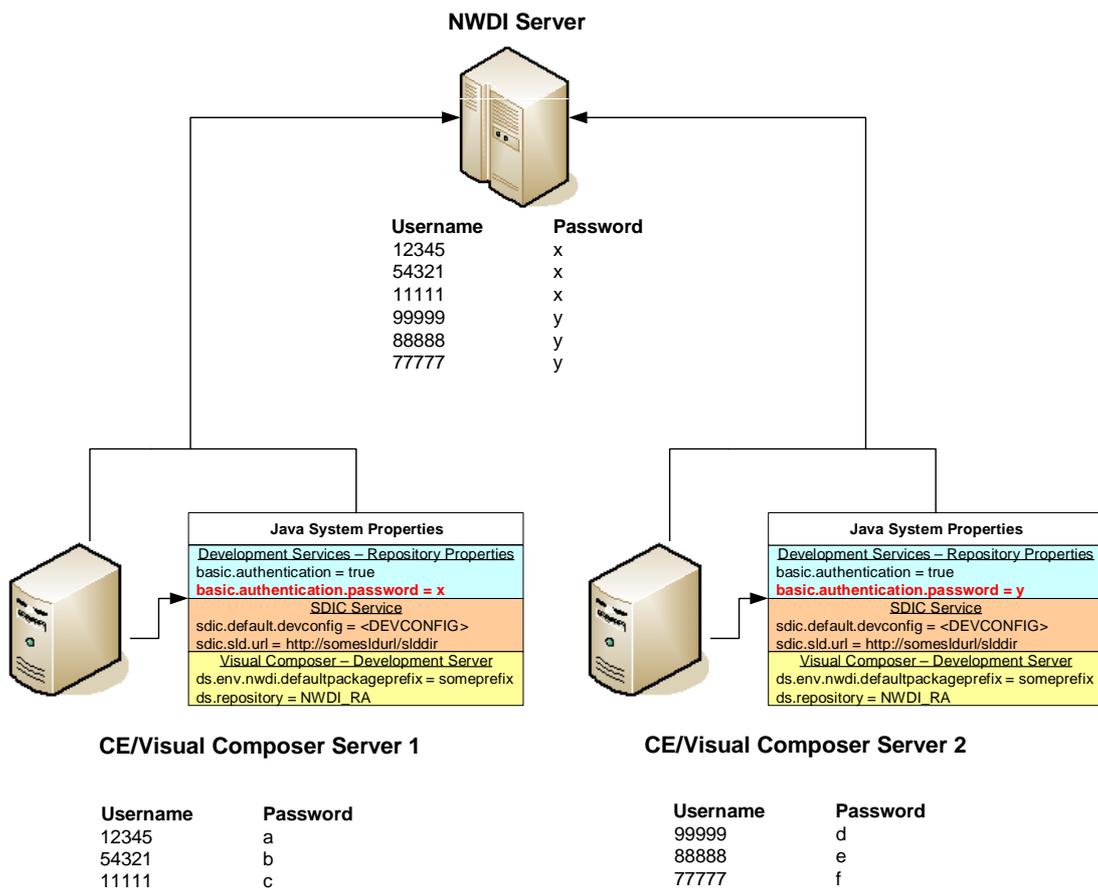
More information:
http://help.sap.com/saphelp_nw04s/helpdata/en/63/7a4d40eae76f13e10000000a1550b0/frameset.htm → *Transports with the NWDI: Transport Studio*

## 2.1    Configuring Basic Authentication

If you are not using Single Sign-On (SSO) as the user authentication method, you can use the basic authentication method described below. When using basic authentication, you configure users on the CE server and on the NWDI server as follows:

- Users on the CE server (the server on which Visual Composer is running) must have their own usernames and passwords. They must have the permissions required to access Visual Composer.

- Each user on the CE server who needs to access the DTR must be also configured on the NWDI server. The username on both servers must be identical, and the user must have the permissions required to access DTR.

- **Important**: All users on the NWDI server who work on the same CE machine must have **the same password**. This same password is the one used in the *Development Services – Repository Services* service configuration as the basic authentication password. On the CE server, users **cannot** have the same password.

The following diagram illustrates the different username and password combinations that need to be defined on the different servers:

**NWDI Server**

| Username | Password |
|----------|----------|
| 12345    | x        |
| 54321    | x        |
| 11111    | x        |
| 99999    | y        |
| 88888    | y        |
| 77777    | y        |

**Java System Properties**

Development Services – Repository Properties
basic.authentication = true
basic.authentication.password = x
SDIC Service
sdic.default.devconfig = <DEVCONFIG>
sdic.sld.url = http://somesldurl/slddir
Visual Composer – Development Server
ds.env.nwdi.defaultpackageprefix = someprefix
ds.repository = NWDI_RA

**Java System Properties**

Development Services – Repository Properties
basic.authentication = true
basic.authentication.password = y
SDIC Service
sdic.default.devconfig = <DEVCONFIG>
sdic.sld.url = http://somesldurl/slddir
Visual Composer – Development Server
ds.env.nwdi.defaultpackageprefix = someprefix
ds.repository = NWDI_RA

**CE/Visual Composer Server 1**

| Username | Password |
|----------|----------|
| 12345    | a        |
| 54321    | b        |
| 11111    | c        |

**CE/Visual Composer Server 2**

| Username | Password |
|----------|----------|
| 99999    | d        |
| 88888    | e        |
| 77777    | f        |

## 2.2    Configuring the SDIC Service

### Procedure

1. Log on to SAP NetWeaver Administrator on the Visual Composer server. The URL of the Visual Composer server uses the following format:
   `http://<hostname>:<port>/nwa`.

   where `hostname` is the domain name of the AS Java host, and `port` is the application port number on the AS Java in use by the Development Server installation. For example: `http://1.160.10.240:54000/nwa`.

2. Choose *Configuration Management → Infrastructure Management → Java System Properties.*

3. Click the *Services* tab, enter `sdic` in the Filter field and click the Filter button. The *SDIC Service* is displayed.

4. Click the *SDIC Service* link and define the property values as in the following table:

   

   All the properties are set by default with the engine installation. You need to change the values of the properties marked with an asterisk (*) in the following table. For the remaining properties, just check that the default values appear as listed in the table.

| Service Property | Value |
| --- | --- |
| *sdic.cache.devconfig.timeout* | `30` |
| *sdic.default.devconfig* * | The name of the development track that will be used, in the format `<SID>_<Track ID>_D`, where `<SID>` is the J2EE instance ID and `<Track ID>` is the ID of the track you want to configure for Visual Composer.<br><br>For example: `F50_VCTESTID_D`. |
| *sdic.nwdiservers.admin.user* | Retain the default value |
| *sdic.nwdiservers.connecttimeout* | `10000` |
| *sdic.nwdiservers.expiretimeout* | `10000` |
| *sdic.nwdiservers.max.checkin.attempts* | `3` |
| *sdic.nwdiservers.readtimeout* | `300000` |
| *sdic.sld.url* * | Full URL of the AS Java on which DTR is installed as part of NWDI, in the format:<br>`http://<ASJavaIP>:<PortNumber>/dtr`<br><br>Depending on how your NWDI and DTR installation is configured, you may or may not need to add the `/dtr` at the end of the URL. |
| *sdic.state.store.active* * | `false` |

| Service Property | Value |
|---|---|
| *sdic.state.store.J2EEEngineTXManager* | **false** |
| *sdic.state.store.RunTasks* | **False** |

5. Click *Save Changes.*

## 2.3    Configuring the Repository Services Service

## Procedure

1. Log on to SAP NetWeaver Administrator. The URL of the Visual Composer server uses the following format: **http://<hostname>:<port>/nwa**.

2. Choose *Configuration Management → Infrastructure Management → Java System Properties.*

3. Click the *Services* tab, enter **Development Server - Repository** in the Filter field and click the Filter button. The *Development Server - Repository Services* service is displayed.

4. Click the *Development Server - Repository Services* link and check that the property values are defined as in the following table:

   All the properties are set by default with the engine installation. You need to change the values of the properties marked with an asterisk (*) in the following table. For the remaining properties, just check that the default values appear as listed in the table.

| Service Property | Value |
|---|---|
| *automaticsync* | **true** |
| *autoregister* | **true** |
| *basic.authentication* * | **true** |
| *basic.authentication.password* * | Password for the user with administration rights (the user you defined for *sdic.nwdiservers.admin.user* in the *SDIC service*) |
| *defaults.dcprefix* | Retain the default value (this property is currently not in use) |
| *defaults.dcvendor* | Retain the default value (this property is currently not in use) |
| *defaults.packageprefix* | Retain the default value (this property is currently not in use) |
| *defaults.scname* | Retain the default value (this property is currently not in use) |
| *defaults.scvendor* | Retain the default value (this property is currently not in use) |
| *dependency.handler* | **on** |
| *Sc.filter* | Retain the default value (this property is currently not in use) |

| Service Property | Value |
|---|---|
| *serviceuser* | User on the NWDI server with Developer permissions to access DTR, CBS, and CMS. A *serviceuser* with this user ID will be created on the development server engine. |
| *statestore* | `false` |
| *statestore.updation.interval* | `5` (The interval (in minutes) for the *serviceuser* to update the *statestore*) |
| *statestore.updation.starttime* | `1` (The initial interval (in minutes) for the *statestore* to be updated) |
| *syncinterval* | `1` |
| *test.submitactivity* | `on` |
| *transacted.save.enabled* | `false` |
| *transformer* | `on` |

5. Click *Save*.

## 2.4 Configuring the Development Server Service

### Procedure

1. Log on to SAP NetWeaver Administrator. The URL of the Visual Composer server uses the following format: `http://<hostname>:<port>/nwa`.

2. Choose *Configuration Management* → *Infrastructure Management* → *Java System Properties*.

3. Click the *Services* tab, enter `VisualComposer` (as one word) in the Filter field and click the Filter button. The *VisualComposer-Development Server* service is displayed.

4. Click the *VisualComposer-Development Server* link and check that the property values are defined as in the following table:

> All the properties are set by default with the engine installation. You need to change the values of the properties marked with an asterisk (*) in the following table. For the remaining properties, just check that the default values appear as listed in the table.

| Service Property | Value |
|---|---|
| *com.sap.vds.platformspecific.properties.platform* | `sapj2ee` |
| *ds.core.embedded.contextcollector* | `false` |
| *ds.core.events.broadcast.sync.timeout* | `10000` |
| *ds.core.extensions* | |
| *ds.core.index.cleanupinterval* | |
| *ds.core.index.filesystem* | `false` |
| *ds.core.jdkpath* | <as per default> |
| *ds.core.persistency.absoluteroot* | `C:\DevelopmentServer\` |

| Service Property | Value |
|---|---|
| *ds.dcNameCheckRequired* | `false` |
| *ds.dcNamePolicy* | |
| *ds.env.builds.devconfigpath* | `build\defaultdevconfig` |
| *ds.env.metamodel.cache.enabled* | `true` |
| *ds.env.metamodel.eventing.enabled* | `false` |
| *ds.env.metamodel.persistence.onfilesystem* | `false` |
| *ds.env.model.dependency.fromfacade* | `true` |
| *ds.env.nwdi.defaultpackageprefix* * | The package prefix for the NWDI name server that was defined during the DTR installation |
| *ds.genfwk.additionalProperties* | |
| *ds.moduleType* | `WAR` |
| *ds.repository* * | `NWDI_RA`<br><br>To configure Visual Composer back to use the Shared Workspace (instead of the DTR), change the value of this property back to `SW_RA`. |
| *ds.synchronizedRemoteDeployment* | `true` |
| *ds.transacted.save.enabled* | `true` |

5.  Click *Save*.

6.  Restart the *VisualComposer-Development Server* service.

## 2.5    Defining Software Component Dependencies

### Use

For the software component in which the Visual Composer models are to be developed, you need to set dependencies to specific software components. After you set the dependencies, you need to check in and import the required software components.

### Prerequisites

- The NWDI server administrator who is configuring the track has authorization to access the System Landscape Directory (SLD) and the Change Management Service (CMS).

- A track for the Visual Composer model development has been created.

    More information:
    http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Administration of the Development Infrastructure* → *Setting Up the Development Landscape: Landscape Configurator* → *Configuring a Domain*

http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/ frameset.htm → *Administration of the Development Infrastructure* → *Setting Up the Development Landscape: Landscape Configurator* → *Creating a Development Track*

- The SLD being used has the following software components defined:

| Software Component Name | Layer |
|---|---|
| ENGFACADE | Framework |
| EP_BUILDT | Framework |
| FRAMEWORK | Framework |
| SAP_BUILDT | Framework |
| VCBASE | Framework |
| VTP_BUILDT | Framework |
| WD-RUNTIME | Framework |
| BI-WDALV | Framework |
| CORE-TOOLS | Framework |
| BI_UDI | Framework |
| EP-WDC | Framework |
| EP-BASIS-API | Framework |
| ESF | Framework |
| ENGINEAPI | Framework |
| VCFRAMEWORK | Framework |
| VCFREESTYLEKIT | Framework |
| WDEXTENSIONS | Framework |

- In addition to the software components listed in the previous table, the software components to be used for storing the Visual Composer models have been defined in the SLD.

    More information:

    http://help.sap.com/saphelp_nw70/helpdata/en/43/01ea90ab24235de10000000a1553f 7/frameset.htm → *Software Catalog* → *Creating and Removing Third-Party Software Components*

## Procedure

1. Define the software component dependencies listed in the following table. If these dependencies do not exist in the system, you can define them by editing the XML file of the software component (by clicking *View/Edit XML* in the *Required Software Components* table). The *Dependency XML Content* column of the following table shows the content to add to the XML file if needed.

    More information:
    http://help.sap.com/saphelp_nw70/helpdata/en/43/01ea90ab24235de10000000a1553f 7/frameset.htm → *Software Catalog* → *Defining and Removing Software Dependencies*

| Software Component | Software Component Name | Layer | Dependent On | Dependency XML Content |
|---|---|---|---|---|
| J2EE ENGINE FACADE | ENGFACADE | Framework | None | |
| EP BUILD TOOL | EP_BUILDT | Framework | SAP_BUILDT | <dependencies> <used-compartment>sap.com_SAP_BUILDT_1</used-compartment> </dependencies> <br><br> <build-variants> <build-variant name="default" required-for-activation="yes"> <variant-mappings> <variant-mapping used-compartment="sap.com_SAP_BUILDT_1" used-variant-name="default"/> </variant-mappings> </build-variant> </build-variants> |
| JAVA FRAMEWORK OFFLINE | FRAMEWORK | Framework | None | |
| DI BUILD TOOL | SAP_BUILDT | Framework | None | |
| VISUAL COMPOSER BASE | VCBASE | Framework | None | |
| VISUAL_PATTERN BUILD TOOL | VTP_BUILDT | Framework | SAP_BUILDT EP_BUILDT | <dependencies> <used-compartment>sap.com_SAP_BUILDT_1</used-compartment> <used-compartment>sap.com_EP_BUILDT_1</used-compartment> </dependencies> <br><br> <build-variants> <build-variant name="default" required-for-activation="yes"> <variant-mappings> <variant-mapping used-compartment="sap.com_SAP_BUILDT_1" used-variant-name="default"/> <variant-mapping used-compartment="sap.com_EP_BUILDT_1" used-variant-name="default"/> </variant-mappings> </build-variant> </build-variants> |
| WEB DYNPRO RUNTIME | WD-RUNTIME | Framework | None | |

| Software Component | Software Component Name | Layer | Dependent On | Dependency XML Content |
|---|---|---|---|---|
| BI WEBDYNPRO ALV | BI-WDALV | Framework | None | |
| J2EE ENGINE CORE TOOLS | CORE-TOOLS | Framework | None | |
| BI UNIVERSAL DATA INTEGRATION | BI_UDI | Framework | None | |
| PORTAL WEB DYNPRO | EP-WDC | Framework | None | |
| PORTAL BASIS API | EP-BASIS-API | Framework | None | |
| ES FRAMEWORK | ESF | Framework | None | |
| ENGINEAPI | ENGINEAPI | Framework | None | |
| VISUAL COMPOSER FRAMEWORK | VCFRAMEWORK | Framework | None | |
| VC FREESTYLE KIT | VCFREESTYLEKIT | Framework | None | |
| WEB DYNPRO EXTENSIONS | WDEXTENSIONS | Framework | None | |

2. Check in the SCAs of the software components listed in the previous table and import them to the track.

More information:
http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Administration of the Development Infrastructure* → *Transports with the NWDI: Transport Studio* → *Checking In Software Component Archives*

http://help.sap.com/saphelp_nw70/helpdata/en/07/f6bc3d42f46c33e10000000a11405a/frameset.htm → *Administration of the Development Infrastructure* → *Transports with the NWDI: Transport Studio* → *Imports*

> When new NetWeaver patches are installed, you also need to reimport the SCAs to update the track used for Visual Composer development.

## 2.6 Troubleshooting NWDI Configuration

If you have completed all steps in this Configuration Guide and still cannot see NWDI software components in Visual Composer, check the log files to try to identify the cause of the problem.

You can view the log files in one of the following ways:

- If you **can** access the log folder on the Composition Environment Server file system:

  a. Navigate to the Composition Environment log folder (for example, `c:\usr\sap\CE1\J01\j2ee\cluster\server0\log`).

  b. Open the latest *defaultTrace* and *applications* log files and check for related exceptions and error messages.

- If you **cannot** access the log folder on the Composition Environment Server file system:

    a.  Open NetWeaver Administrator on your NetWeaver Composition Environment server (**http://<hostname>:<port>/nwa**).

    b.  Choose *Availability and Performance Management* and then click *Log Viewer*.

    c.  In the *Show* dropdown list, select *General View* and *SAP Logs (Java)*.

    d.  Check for related exceptions and error messages.

   For general information about the log viewer, see <u>Log Viewer [External]</u>.

The cause of the problem may be one of the following:

- User credentials on the NWDI server are insufficient.

- Basic authentication is not configured correctly.

- The Destination SLD host is unreachable. Check that SLD URL is correct. You may need to add **/sld** after the host name and port, or sometimes a different SLD path is required. Additionally, you may need to enter the fully qualified host name, i.e. pwdf1234.wdf.sap.corp instead of pwdf1234. You can also try registering the host name and IP address in the server hosts file of the Windows operating system.