**Getting Started Guide** **CUSTOMER**

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# Getting Started with SAP NetWeaver AS ABAP and SAP BW 7.50 SP02 on Sybase ASE 16.0 [Developer Edition]

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# 1 Solution Information

This guide provides general information you need to use the solution **SAP NetWeaver AS ABAP and SAP BW 7.50 SP02 on Sybase ASE 16.0**.

## Material Numbers

You get access to a system that has been built up using the following media:

| Number | Description |
|---|---|
| 51050082 | SAP Kernel 7.45 Linux on x86_64 64bit |
| 51050162 | SAP ASE 16.0.02.02 RDBMS Linux on x86_64 64bit |
| 51050042 | NetWeaver 7.5 |
| 7016865 | SAP Landscape Transformation Replication Server 2.0 |
| sapcc-2.7.2-linux-x64.zip | SAP HANA Cloud Connector |
| SAPK-75705INBICONT | SAP BI Content Installation |

## Components

The solution comprises the following component versions:

| Component | SP-Level |
|---|---|
| SAP_BASIS | 2 |
| SAP_ABA | 2 |
| SAP_GWFND | 2 |
| SAP_UI | 2 |
| ST-PI | 3 |
| BI_CONT | 9 |
| SAP_BW | 2 |
| SAP SLT | 10 |

The front end comprises the following component versions:

| Component |
|---|
| SAP GUI for Windows 7.40 Patch 5 |

| Component |
| --- |
| SAP Development Tools for Eclipse: ABAP Development Tools 2.51 |
| SAP Development Tools for Eclipse: BW Modelling Tools 1.1.7 |
| SAP Development Tools for Eclipse: SAPUI5 Tools 2.0 |
| SAP BusinessObjectsDesignStudio Release 1.6 |

## Sizing Information

Follow the sizing guidelines to determine the hardware requirements of the solution such as network bandwidth, physical memory, CPU power, and I/O capacity by choosing this quick link: http://service.sap.com/sizing -> Sizing -> Sizing Guidelines

You can use also the search function in the Quick Sizer tool to find your required sizing guidelines.

## ABAP Application Server Details

| Name | Value | Description |
| --- | --- | --- |
| SID | NPL | System ID of the SAP system |
| CI Instance Number | 00 | The instance number of the central instance (CI) |
| CS Instance Number | 01 | The instance number of the central services (CS) instance. |
| Password | <master password> | The password set during instance creation. |
| Username | DDIC<br>SAP*<br>DEVELOPER<br>BWDEVELOPER | These are the standard users which you can use to access the ABAP server. |
| Clients | 000<br>001 | These are the standard clients available in a newly installed SAP system. |

## Database Server Details

| Name | Value | Description |
| --- | --- | --- |
| SID | NPL | System ID of the SAP system |
| DB SID | NPL | System ID of the database of the SAP system |
| DB Type | SYB | Type of the database |

| Name | Value | Description |
| --- | --- | --- |
| Username | SAPSSO<br>SA<br>SAPSA<br>SAPSR3DB<br>DBACOCKPIT | These are the standard users which you can use to access the database server. |
| Password | <master password> | Password set during instance creation |

## OS Users and Groups

| Name | Description |
| --- | --- |
| npladm | SAP system administrator |
| sapadm | SAP database administrator |
| sapsys | Group containing all <SID>adm users (should be a group in a central user storage like LDAP, NIS, or Active Directory) |

# 2 Licenses

## Developer License Agreement

This solution could be used for development purpose under the perpetual Developer License Agreement. Note that you are allowed to install only “Minisap” license keys, which can be renewed as long as you adhere to the Terms and Conditions of the Developer License Agreement.

## License Keys Installation

Once you create the solution instance in SAP Cloud Appliance Library, the SAP system will generate a temporary license key that is sufficient for exploration purposes.  Note that a valid license is required to use the solution instance after the expiration of the pre-installed temporary license. For this solution you have to request and install the following license keys:

- NPL - SAP NetWeaver 7.x (Sybase ASE)

For more information about how to request and install “Minisap” license keys, see this SCN document.

IMPORTANT: If you log on with the user DEVELOPER, then the first time you create an object, you will be asked for a user key.

Enter the following key *exactly*: 35408798513176413512

Please note, that *all* the above steps must be carried out; otherwise, the above user key will not work.

# 3 Security Aspects

Be aware that creating your instances in the public zone of your cloud computing platform is convenient but less secure. Ensure that only port 22 (SSH) is opened when working with Linux-based solutions and port 3389 (RDP) when working with Windows based solutions. In addition, we also recommend that you limit the access to your instances by defining a specific IP range in the Access Points settings, using CIDR notation. The more complex but secure alternative is to set up a virtual private cloud (VPC) with VPN access, which is described in this tutorial on SCN.

The list below describes the ports opened for the security group formed by the server components of your solution instance:

To access back-end servers on the operating system (OS) level, use the following information:

| Protocol | Port | Description |
|---|---|---|
| SSH | 22 | Used for SSH connection to Linux-based servers |
| RDP | 3389 | Used for RDP connection to Windows based servers |

You must change the initial user passwords provided by SAP when you log onto the system for the first time.

# 4 Solution Provisioning in SAP Cloud Appliance Library

If you have a user in SAP Cloud Appliance Library, you need to meet the following prerequisites before starting to use the SAP Cloud Appliance library:

**- Cloud Provider Configurations**

You have a valid account in one of the cloud providers supported by SAP Cloud Appliance Library. If you already have an active cloud provider account, you can proceed directly with the next section. Otherwise, navigate to the cloud provider home page and sign up.

For more information about the supported cloud providers, see the FAQ page.

- **Navigate to SAP Cloud Appliance Library**

Open the SAP Cloud Appliance Library in your Web browser using the following link: https://cal.sap.com

For more information about how to use solutions in SAP Cloud Appliance Library, see the official documentation of SAP Cloud Appliance Library (choose *Support* → *Documentation* link and choose ⊞ (expand all) button to see all documents in the structure). You can also use the context help in SAP Cloud Appliance Library by choosing the *Help* panel from the right side

# 5 Connecting to Your Frontend Instance

## 5.1 Remote Desktop Client

For connecting to your frontend instance you need an RDP client for your local operating system:

Microsoft Windows: Start the Remote Desktop Connection using the Start Menu (All Programs > Accessories) or executing mstsc.exe.

Apple Mac OS X: Use the free Microsoft Remote Desktop app available in the Mac App Store to connect to your frontend.

Linux: You can use open source RDP clients like Remmina.

## 5.2 Connecting with RDP

You can find the <IP Address> of your frontend instance by clicking on the instance name in your SAP Cloud Appliance Library account. Take the IP of the frontend instance and use the OS user “Administrator” with your master password to log in with your remote desktop client.

## 5.3 Using SAP GUI for Windows

SAP GUI for Windows is already installed on your frontend instance with a pre-configured system connection for SAP Logon. If you want to create an additional entry, proceed with the following steps:

- Start the SAP Logon.
- Choose new entry → User defined.
- In the System wizard, specify the following parameters:

| Parameter ID | Parameter Value | Note |
|---|---|---|
| Application Server | <IP Address> | The IP address of the instance from SAP Cloud Appliance Library |
| Instance Number | 00 | ABAP instance number used by the appliance. |
| System-ID | NPL | ABAP system id used by the appliance |
| User Name | Client 000: SAP*, DDIC<br>Client 001: SAP*, DDIC, DEVELOPER<br>BWDEVELOPER | Default users |

| Parameter ID | Parameter Value | Note |
| --- | --- | --- |
| Password | <master password> | The password of SAP*, DDIC, DEVELOPER and BWDEVELOPER users are the same. |

For out-of-the-box ABAP development and the pre-configured Fiori demo applications we recommend to use the user DEVELOPER in client 001. For the pre-configured BW demo scenarios and BW development we recommend to use the user BWDEVELOPER in client 001.

# 6 Connecting to Your Backend Instance

## 6.1 Connecting to Your Backend on OS Level

In case you want to access your backend instance on OS level (not recommended unless you know what you are doing), you need an SSH client for your local environment, e.g. PuTTY for Windows.

The following steps describe how to connect to your backend instance using PuTTY, but are similar for alternative SSH clients:

- Click on the instance name in your CAL account, to retrieve the IP of your backend instance and download the instance key pair.
- Extract the private key of the key pair by using a tool like puttygen.exe.
- Open PuTTY and enter the IP of your backend instance.
- Navigate to the SSH > Auth node and enter your private key file.
- Navigate to the Connection > Data node and enter root as auto-login username.
- Save these session settings and hit the Open button.

Now you can log in to your backend instance on OS level (SLES) for monitoring, troubleshooting, or accessing files on the server.

The following tables list all important users on OS level:

| Parameter ID | Parameter Value | Note |
|---|---|---|
| OS User Name | root | The default OS Administrator user for Linux SUSE. |
| OS Password | <none> | Use the private key for login with the root user. During instance creation you should save the private key. So you can download it when you need it. |

The administration users for HANA and ABAP on operating system level are defined as follows:

| Parameter ID | Parameter Value | Note |
|---|---|---|
| ASE administrator name | sybadm | Additional user for ASE lifecycle management – start/stop, administration, functions, recovery |
| ASE administrator password | <master password> | The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library. |
| ABAP administrator name | npladm | Additional user for ABAP lifecycle management – start/stop, administration, functions, recovery |

| Parameter ID | Parameter Value | Note |
|---|---|---|
| ABAP administrator password | <master password> | The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library. |

Additional users on operating system level are:

| Parameter ID | Parameter Value | Note |
|---|---|---|
| SAP System Administrator | sapadm | |
| SAP System Administrator password | <master password> | The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library. |
| SAP System Administrator | daaadm | |
| SAP System Administrator password | <master password> | The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library. |

## 6.2 Manually starting and stopping the system

The system (ABAP server and database) is automatically started when you activate an instance in CAL. The system (ABAP server and database) is automatically stopped, when you suspend the instance in CAL. There might be nevertheless situations where you want to start or stop the ABAP server or the database manually. The next sections describe how to do this.

### 6.2.1 ABAP System

To check the status of the ABAP system logon as root on operating system level and execute:

```
su - npladm
sapcontrol -nr 00 -function GetProcessList
```

For stopping the ABAP system logon as root on operating system level and execute:

```
su - npladm
stopsap r3
exit
```

For starting the ABAP system logon as root on operating system level and execute (database must run):

```
su - npladm
startsap r3
exit
```

## 6.3 Transport of Copies

The system has been set up in a way that allows you to import and export ABAP objects as transport of copies. For security reasons we removed the rfc connection and user tsmadm. See TMS Documentation tp complete the configuration.

This section describes an export/import scenario.

### 6.3.1 Export

To export objects with a transport of copies you have to execute the following procedure:

- In transaction SE01 choose Create (F6).
- Mark Transport of Copies and choose Enter.
- Enter a description.
- As transport target enter DMY and choose Save.
- Add the objects you need into the request. You may enter them either directly or via the menu Request/Task → Object List → Include Objects...
- Release the request.

You will find your transport files in the directories:

/usr/sap/trans/data

/usr/sap/trans/cofiles

For the file transfer you can use sFTP or SCP clients like WinSCP with user root and the private key file of your backend instance (see Connecting to Your Backend on OS Level) or you can directly import the existing PuTTY connection profile.

### 6.3.2 Import

To import transports into the system you have to execute the following procedure:

- Copy your transport files to:
  - /usr/sap/trans/data
  - /usr/sap/trans/cofiles
  - For the file transfer you can use sFTP or SCP clients like WinSCP (see above).
- Ensure that user npladm has sufficient rights for accessing your transport files (e.g. use the chown npladm:sapsys <file> command), otherwise the import will fail.
- In transaction STMS open the Import Overview (F5) and double click on NPL.

- In the menu select Extras → Other Requests → Add.
- Use the F4 help to select your transport request.
- Choose Enter and answer the question if you want to attach the request to the NPL import queue with yes.
- Mark the request in the import queue and select Ctrl+F11 (Import Request).
- In the popup select for Execution “Synchronous” (for smaller request) and mark all import options.
- Choose Enter and Yes to import your request.

# 7 Tutorials and Demo Scenario

The developer edition is a preconfigured system and comes with a bunch of sample scenarios and tutorials. The scenarios are directly accessible from the DEVELOPER or BWDEVELOPER start menu. Launch the applications and read the accompanying blogs or tutorials in SCN. For a full, uptodate list of available tutorials /demos, see the following blog in SCN:

Guides and Tutorials for AS ABAP on SAP HANA (Dev Edition)

To access the linked guides please ensure correct proxy settings (see solution guide) and use Firefox for running the sample applications.

# 8 Additional Information

## 8.1 Frontend Settings

### 8.1.1 Windows Proxy Settings

If you want to access the internet from your frontend instance, which is not required for working with this solution but allows you to update your frontend tools, please proceed as follows:

If you created your instance in the public AWS cloud environment, no additional proxy settings should be required to access the internet.

If you created your instance in a private/corporate subnet of a virtual private cloud (VPC), you have to enter the address of your proxy server or the internet gateway in the Windows internet settings: Open Internet Explorer > Internet options and add a proxy exception for hanadb, abapci, *.dummy.nodomain (default dummy domain) or the fully qualified host names. SAP HANA Studio will automatically update its proxy settings according to the Windows internet settings if you don't change the default proxy settings in Eclipse (Active Provider: Native).

### 8.1.2 Enhanced Security Configuration

On the Windows Server image the enhanced security configuration (ESC) of Internet Explorer is activated by default (recommended by Microsoft). This makes working with Web UIs and external sites like SCN inconvenient and forces you to deal with several security pop-ups and notifications. Thus, you can deactivate IE ESC with the following procedure (at your own risk):

In the Start menu navigate to All Programs > Administrative Tools > Server Manager.

In the Server Manager root node click on Configure IE ESC in the Security Information section.

Deactivate the IE ESC for administrators.

## 8.2 Using Local Client Software

If you want to access SAP ASE or the ABAP application server of your backend instance from your local client (not via the associated frontend instance), we recommend the following procedure for a local Windows environment (other operating systems require different SAP clients):

## 8.2.1 Downloading the SAP client software

Before connecting to the frontend instance using the Remote Desktop Connection, open the Options dialog and navigate to the Local Resources tab.

Hit the more button in the Local devices and resources section and activate one of your local drives.

After logging into your frontend instance you can use Windows Explorer to exchange files between your local machine and your frontend instance.

The SAP software is located on the D: drive of your Windows instance:
- Copy the hdbstudio70 folder to your local environment and adapt the JVM location in the hdbstudio.ini file to the location of your local JVM.
- Copy the SAPGUI-BI-Core.exe file to your local environment and start the installation of SAP GUI for Windows (take a look at the SAP GUI documentation for prerequisites).

## 8.2.2 Accessing your Backend Instance locally

Before you can use your local SAP client software you have to ensure, that your backend instance is accessible locally and all required TCP ports are open.

We strongly recommend not to use a public instance for this setup, but instances running in a virtual private cloud (VPC) with a VPN connection to your local network. For more information, how to create instances in a VPC please revisit the Using SAP Cloud Appliance Library section.

If your instances are running in a VPC with VPN connection to your local network, you could open all ports by checking the Open all TCP ports option in the Access Points setting (Virtual Machine tab of your CAL instance). If you only want to expose the required ports (recommended approach), the list below shows all required TCP ports:

| Protocol | Port | Description |
|---|---|---|
| SSH | 22 | Used for SSH connection to the server |
| Custom TCP | 3200 | SAP Dispatcher, used by SAP GUI |
| Custom TCP | 3300 | SAP Gateway. Used for CPIC and RFC communication. |
| Custom TCP | 3601 | Message Server |
| HTTPS | 8443 | SAP HANA Cloud Connector Administration |
| Custom TCP | 30215 | External SQL Interface. Used by SAP HANA Studio. |
| HTTP | 80000 | HTTP (AS ABAP) |
| HTTPS | 443000 | HTTPS (AS ABAP) |

After following the steps above you should be able to access your cloud instances from your local environment and use the locally installed client software.

> Please keep in mind that in case of latency or bandwidth issues a remote desktop connection to your frontend instance might be the better choice.

## 8.3 Additional Information for Business Warehouse

Beside a configured BW ABAP backend we also provide with this version some reporting capabilities.

The BW Modeling Tools (installed and configured on the Frontend Server within this solution) contains now our Eclipse based Query Designer to create/change BW queries. In addition we also provide the Design Studio with the ability to create local dashboards. Of course all ABAP based reporting options are still available (Transaction RSRT, BPC Reporting). Due to license restrictions of Microsoft Office the use of BEX Analyzer or Analysis Office is not possible.

New in NW 7.50 is a fully configured BPC (Business Planning and Consolidation) Web Client with two demo scenarios. The BPC web client can be accessed either with firefox or with your local browser via https://<IP Address of your Instance>:50001/sap/bc/ui5_ui5/sap/bpcwebclient (ignore the missing certificates).

> If you maintain a mapping of the IP address and the servername in your local
>
> /etc/hosts file you can also access the url via the server name.

# 9 Troubleshooting

Symptom: You cannot connect to your frontend instance via Remote Desktop Connection.
Please ensure that your local network permits outbound RDP connections on port 3389 (TCP/UDP), i.e. your firewall/router doesn't block these connections.

Symptom: You cannot connect to your backend instance via SSH.
Please ensure that your local network permits outbound SSH connections on port 22, i.e. your firewall/router doesn't block these connections.

Symptom: You cannot select the Corporate Network option when creating a new solution instance.

The AWS subnet you want to use might be located in the wrong region. Please ensure to create a subnet in the Amazon region US-East (Virginia).

Symptom: You can't connect to your backend instance using your local SAP GUI.

- Check, if the ABAP server is running:
- Logon as root to the server on which the database is running (see Connecting to Your Backend on OS Level). Then execute the following statements to check the status of the ABAP server:

```
su – npladm
sapcontrol -nr 00 -function GetProcessList
```

- Check if all required TCP ports are open and accessible from your local network:

For more information about how to use the SAP Cloud Appliance Library, you can read the official documentation of the product by choosing the following navigation from SAP Cloud Appliance Library: Related Links & Help → Documentation. If you cannot find the needed information in the documentation, you can open a normal support ticket within the SAP Cloud Appliance Library (BC-VCM-CAL) component and your ticket will be processed by the SAP Cloud Appliance Library Operators. If you have AWS related problems, you can report them directly to AWS support or alternatively on the BC-OP-LNX-AWS component in SAP Service Marketplace.

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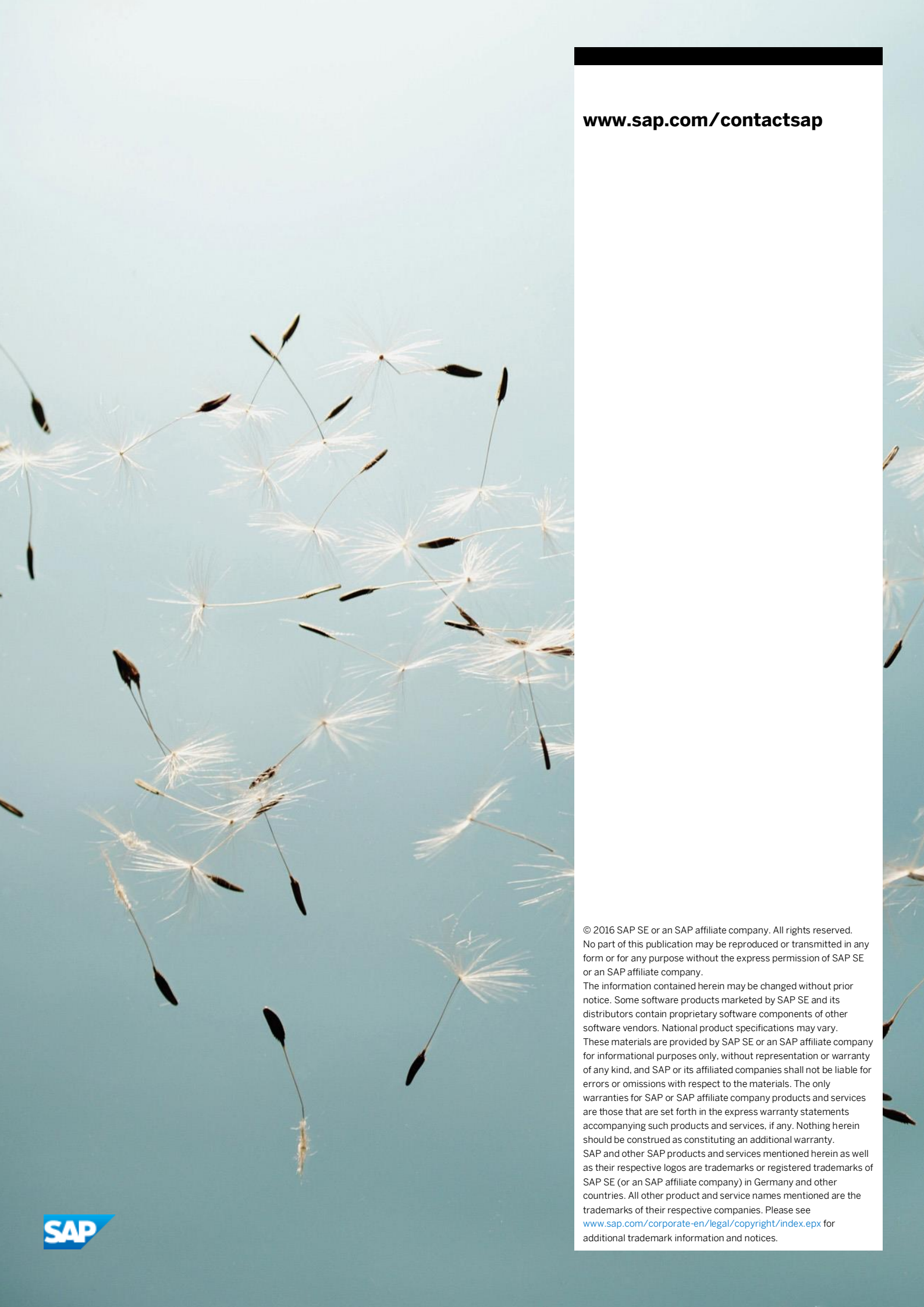

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