



Getting Started with SAP NetWeaver 7.4 with BI Java and AS ABAP on MaxDB [Trial]

Deployed on Amazon Web Services with SAP Cloud Appliance Library

Version 1.10

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Typographic Conventions

Type Style	Description
<i>Example Text</i>	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	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	User entry texts. 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	Description
	Caution
	Important
	Note
	Recommendation or Tip
	Example

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1. Overview

This guide provides information on first steps for using instances created from the “SAP NetWeaver 7.4 with BI Java and AS ABAP on MaxDB [Trial]” solution.

2. Solution Information

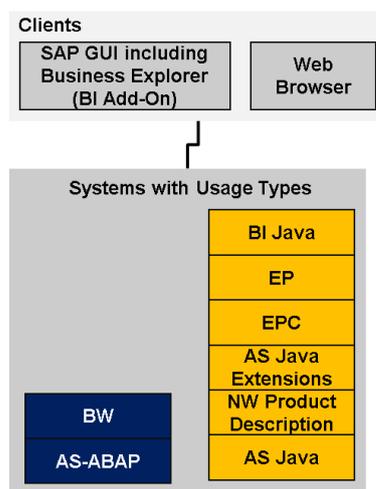
Note that the Solution “SAP NetWeaver 7.4 with BI Java and AS ABAP on MaxDB [Trial]” is technically implemented as a landscape spanning a standard installation of SAP MaxDB 7.9 and SAP NetWeaver Application Server ABAP 7.4 SP02 on Linux and another separate host containing a standard installation of SAP MaxDB 7.9 and BI-JAVA SP02 on Linux.



You have to know that when you are connecting to the SAP system with SAPGUI, you will be directed to the ABAP Application Server (AS-ABAP), but when you are connecting to BI-JAVA via browser you need to connect to the JAVA Application Server (BI-JAVA).

You can find the media on which the installation is based from SAP Service Marketplace under the name “SAP NETWEAVER 7.4 (Installations and Upgrades) → Linux → MaxDB”.

Figure 1:
Data Warehousing
Trial Version



This landscape already contains a connected and configured BI-JAVA. This means that BW Reporting can be done without touching the system. Also the user management is already configured. BI-JAVA has read/write access to the ABAP User Store.

Content

[Main Component]: MaxDB RDBMS 7.9.0.8

[Stack-no. of Main Component]: 7.9.0.8

[Localized Country]: USA

[Language]: EN

[Server 1]

[Main Component]: SAP NetWeaver Application Server ABAP 7.4

[Stack-no. of Main Component]: 740 SP02

[Localized Country]: USA

[Language]: EN

[Server 2]

[Main Component]: SAP NetWeaver BI-JAVA 7.4

[Stack-no. of Main Component]: 740 SP02

[Localized Country]: USA

[Language]: EN

3. Using the SAP Cloud Appliance Library

3.1 Prerequisites

3.1.1 AWS Configurations

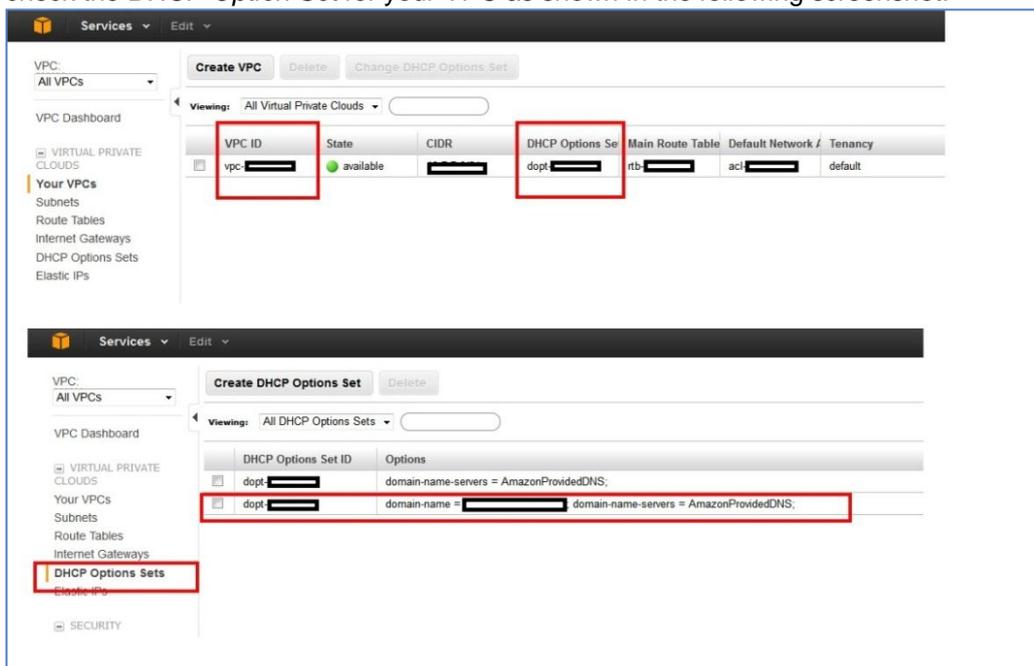
You will need the following information for the Amazon Web Services (AWS) account because when configuring the account of SAP Cloud Appliance Library you specify the cloud provider details to establish the communication between SAP Cloud Appliance Library and the cloud computing environment:

1. The *Access Key* and the *Secret Key* of your AWS account.
To view your AWS access key and secret key, use the following procedure:
 1. Navigate to <http://aws.amazon.com>.
 2. Logon to your account.
 3. Choose *Account* → *Security Credentials*.
 4. In the *Access Credentials* section:
 - To see your access key, choose the *Access Keys* tab.
 - To see your secret key, choose the *Secret Access Key* tab and then choose the *Show* link.
2. The virtual private cloud parameter (VPC) VPC is needed to be configured in the **AWS location US-East (Virginia)**.



We recommend defining a domain name in a *DHCP Option Set* and accessing the VPC subnet via a secure VPN connection. For more information how to setup a VPN connection with OpenVPN, see this [amazon VPC tutorial](#).

You can check the *DHCP Option Set* for your VPC as shown in the following screenshot:



The screenshot displays two screenshots from the AWS Management Console. The top screenshot shows the 'VPC Dashboard' with a table of VPCs. The bottom screenshot shows the 'DHCP Options Sets' configuration page.

VPC ID	State	CIDR	DHCP Options Set	Main Route Table	Default Network /	Tenancy
vpc-██████████	available	██████████	dopt-██████████	rtb-██████████	acl-██████████	default

DHCP Options Set ID	Options
dopt-██████████	domain-name-servers = AmazonProvidedDNS;
dopt-██████████	domain-name = ██████████ domain-name-servers = AmazonProvidedDNS;

3.1.2 Configurations in SAP Cloud Appliance Library

You have the link to the SAP Cloud Appliance Library:

https://caltdc.netweaver.ondemand.com/console/tenant_<tenant_name>

The next steps how to configure your solution in SAP Cloud Appliance Library are:

1. Create an account in SAP Cloud Appliance Library. As the user who has created the account, you become an account owner and can assign other users to your account.
2. Browse for your solution ("SAP NetWeaver 7.4 with BI Java and AS ABAP on MaxDB [Trial]") in the *Solutions* tab page and activate it for the SAP Cloud Appliance Library account.
3. Select the activated solution and create a solution instance from it.



For more information about these three steps, see the official documentation of SAP Cloud Appliance Library (choose *Related Links & Help* → *Documentation* 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.

The creation of the solution instance including starting the database and the ABAP system takes initially about 25 minutes. Further activation steps take about 12 minutes.



If your instance is created in the VPC environment, you can leave all ports open. In case of a public deployment you have to apply an appropriate access control by specifying IP ranges for access.

The list with the different ports is described in the following table:

Protocol	Port	Description
SSH	22	Used for SSH connection to the server
Custom TCP	3200	SAP Dispatcher. Used by SAPGUI
Custom TCP	3300	SAP Gateway. Used for CPIC and RFC communication.
Custom TCP	3601	Message Server
HTTP	8101	Message Server HTTP
HTTP	50000	HTTP
HTTP	50000	HTTP

3.2 Working with Solution Instances

You can find the solution instances you created on the *Instances* tab page of the SAP Cloud Appliance Library. For more information, see the *Working with Solution Instances* document from the official documentation of SAP Cloud Appliance Library (choose *Related Links & Help* →

Documentation 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.

4. Installing Client Software

4.1 ABAP Client Software

4.1.1 SAP GUI

You need a SAP GUI 7.20 Patch level 9 or above.

For the Windows OS (32 bit and 64 bit) you can find the SAPGUI software package on the server at:

- `/sapmnt/A4H/custom/SAP_GUI_for_Windows_7.30_Patchlevel_4_Hotfix_1_for_SAP_SCN_(Trial)_20130611_0830.exe`

You have to copy the according file to your computer and start the self-extraction.

A SAPGUI for the Java Environment can be found on the server at:

- `/sapmnt/A4H/custom/SAP_GUI_FOR_JAVA_730.zip`

You have to copy the according file to your computer, unpack the archive and follow the installation instructions (see `SAP_GUI_FOR_JAVA_730` → your Platform (e.g. WIN32) → `PlatinManual_0` → doc → install → `install.htm`)

4.1.2 ABAP Development Tools (ADT)

The installation package for the ABAP Development Tools (ADT) is described at <https://tools.hana.ondemand.com/>. You can use the HANA Studio (revision 56 or higher) as Eclipse platform.



Note that the following update site has to be listed also as available software site in your eclipse platform: <http://download.eclipse.org/releases/juno>.

5. Connecting to Your Solution

5.1 Mapping hostname to IP address

5.1.1 Host Name

When creating a solution instance in SAP Cloud Appliance Library the solution is deployed to two instances with the predefined names:

- `wdfibmd6865` (AS-ABAP)
- `wdfibmd2034` (BI-JAVA).

5.1.2 IP Address

You can find the `<IP Address>` of the servers by choosing the instance name in the SAP Cloud Appliance Library.

5.1.3 Domain Name

Several applications running on the ABAP Server address the host with a combination of host name and a fully qualified domain name. The way how you can determine this `<Domain Name>` depends on your deployment type (*Public* deployment or deployment in a *VPC*):

- *VPC deployment*
Your Amazon VPC setup has a *DHCP Option Set* which defines a domain-name `<Domain Name>`. If this is not the case, you can create the DHCP Option set terminate your solution instance and create a new one in SAP Cloud Appliance Library. This is necessary as `<Domain Name>` is used in the creation process of the solution instance.
- *Public deployment*
You have to logon to the ABAP server with SAP GUI as described in the [Connecting to ABAP via SAP GUI](#) section. For the SAP GUI logon you need only the `<IP Address>`. In the system go to transaction RZ11 and display the value of the parameter SAPFQDN. The value of SAPFQDN is the `<Domain Name>`. A typical value is `ec2.internal`.

5.1.4 Mapping

You need to publish a mapping between the server name and the IP address in your network. You can do this within your Domain Name Service (DNS) setup or adjust the hosts file on the client.

Use the following procedure to adjust the hosts file on the client:

- Open the "hosts" file of your operating system as administrator:
 - For Windows operating system: Open the start menu, type `notepad c:\windows\system32\drivers\etc\hosts` and select `Ctrl+Shift+Enter`.
 - For Linux operating system: `/etc/hosts`
- Enter the following lines in the hosts file and save it, the first 2 lines are about ABAP, the second 2 lines for BI-JAVA:


```
<IP Address> wdf1bmd6865.dhcp.<Domain Name>
<IP Address> wdf1bmd6865.<Domain Name>
<IP Address> wdf1bmd2034.dhcp.<Domain Name>
<IP Address> wdf1bmd2034.<Domain Name>
```



Currently it is not possible to address different solution instances at the same time. Your entries in `etc/hosts` will match only to one instance.

5.2 Connecting to ABAP via SAP GUI

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

Parameter ID	Parameter Value	Note
Application Server	<i><IP Address></i>	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 Client 001: SAP*, DDIC, DEVELOPER	Default users
Password	<i><Master Password></i>  <i>It is recommended that you change the password for all users directly after creation of the instance!</i>	The password of <i>SAP</i> , <i>DDIC</i> and <i>DEVELOPER</i> are the same.

5.3 Connecting to ABAP via ABAP Development Tools (ADT)

- Open the *ABAP Development Tools* in the *ABAP Development Perspective*.
- Create a new ABAP project.
- Select the connection entry you defined in SAP Logon.

5.4 Connection to BI-JAVA via a Web Browser

- In your Web browser enter the following URL: `http:// wdf1bmd2034:50000/irj`

6. Licenses

6.1 ABAP License

The ABAP system comes with a temporary license that allows you to logon to the system.

As first step before using the system you need to install a 90 days Minisap license as follows:

1. Logon to ABAP via SAP GUI with user SAP* in tenant 000.
2. Start transaction SLICENSE.
3. Get a “Minisap” license at <http://www.sap.com/minisap> .
As system ID choose NPL - SAP NetWeaver 7.x (MaxDB).
As hardware key use the hardware key shown in transaction SLICENSE.
4. Choose “Install new License” and select the downloaded license from step 3.
5. After license installation call transaction SECSTORE and run a check for all entries using the F8 key. This is needed to enable RFC after the change of the installation number from INITIAL to DEMOSYSTEM.

Installing the Minisap license will change the installation number from INITIAL to DEMOSYSTEM. The developer access key for user DEVELOPER and installation number DEMOSYSTEM is already in the system and you can start developing in the customer name range (Z*, Y*).

6.2 JAVA License

The JAVA system comes with a temporary license that allows you to logon to the system.

As first step before using the system you need to install a 90 days Minisap license as follows:

1. Logon to SAP NetWeaver Administrator via Web browser with the user DE:
`http://wdf1bmd2034:50000/nwa`
2. Go to *Configuration* → *Infrastructure* → *Licenses*.
3. Get a “Minisap” license at <http://www.sap.com/minisap> .
As system ID choose BIJ - SAP NetWeaver 7.4 AS Java (Linux / MaxDB) with BI Java
As hardware key use the hardware key shown in in Licenses screen.
4. Choose “Install From File” and select the downloaded license from step 3.

Installing the Minisap license will change the installation number from INITIAL to DEMOSYSTEM.

7. Additional Information for Your Solution

7.1 OS Access to the Solution Instance

If you need OS access, you must use SSH connectivity. Use the default user **root** and the **private key** for the instance downloaded during the activation of the instance in the SAP Cloud Appliance Library.

Parameter ID	Parameter Value	Note
OS User Name	root	The default OS Administrator user for Linux SUSE.
OS Password	<none>	Use the private key (downloaded during the activation of the instance in SAP Cloud Appliance Library) for login with the root user.

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

Parameter ID	Parameter Value	Note
MaxDB administrator name	sqdnpl	Owner of Database Instance NPL
MaxDB 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
ABAP administrator password	<Master Password>	The password is the same as the master password provided during instance creation in the SAP Cloud Appliance Library.
JAVA administrator name	bijadm	Additional user for JAVA lifecycle management – start/stop, administration, functions, recovery
JAVA 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.
Database Software Owner	sdb	
Database Software Owner password	<Master Password>	

7.2 Manually Starting and Stopping the System

The solution (ABAP server, JAVA Server and database's) is automatically started when you activate a solution instance created from SAP Cloud Appliance Library. The solution (ABAP server, JAVA Server and databases) is automatically stopped, when you suspend the solution instance.

There might be nevertheless situations where you want to start or stop the ABAP server, JAVA Serer or the database manually. The next sections describe how to do this.

7.2.1 ABAP System

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

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

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

```
su - npladm
cd /usr/sap/NPL
stopsap r3
exit
```

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

```
su - npladm
cd /usr/sap/NPL
startsap r3
exit
```

7.2.2 JAVA System

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

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

For stopping the JAVA system logon as `root` in operating system level and execute:

```
su - bijadm
cd /usr/sap/BIJ
stopsap j2ee
exit
```

For starting the JAVA system logon as `root` in operating system level and execute (database must run):

```
su - bijadm
cd /usr/sap/BIJ
startsap j2ee
exit
```

7.2.3 Database

Both ABAP and JAVA is running on their own database.

To check the status of the database logon as `root` in operating system level and execute:

ABAP System:

```
su - npladm
R3trans -d
```

JAVA System:

```
su - bijadm
R3trans -x
```

For stopping the database logon as `root` in operating system level and execute:

```
su - npladm / bijadm
stopsap db
exit
```

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

```
su - npladm / bijadm
startsap db
exit
```

7.3 Transport of Copies

The ABAP system has been set up in a way that allows you to import and export ABAP objects as transport of copies. This section describes an export/import example.

7.3.1 Export

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

1. In transaction SE01 choose *Create* (F6).
2. Mark "Transport of Copies" and choose *Enter*.
3. Enter a description.
4. As transport target enter **DMY** and choose *Save*.
5. Add the objects you need into the request. You may enter them either directly or via menu *Request/Task* → *Object List* → *Include Objects...*
6. Release the request.
7. You can find your transport files in the directories:
 - o `/usr/sap/trans/data`
 - o `/usr/sap/trans/cofiles`

For the file transfer you can use ftp or FTP client tools like WinSCP.

7.3.2 Import

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

1. Copy your transport files to:
 - a. `/usr/sap/trans/data`
 - b. `/usr/sap/trans/cofiles`

For the file transfer you can use ftp or FTP client tools like WinSCP.
2. In transaction STMS open the Import Overview (F5) and double click on A4H.
3. In the menu, select *Extras* → *Other Requests* → *Add*.
4. Use the F4 help to select your transport request.
5. Choose *Enter* and answer the question if you want to attach the request to the A4H import queue with yes.
6. Mark the request in the import queue and press Ctrl+F11 (Import Request).
7. In the following popup select for Execution "Synchronous" (for smaller request) and mark all import options.
8. Choose *Enter* and Yes to import your request.

7.4 Parameter Summary

This section gives an overview over all relevant system parameters.

Parameter Description	Parameter Value	Note
Master Password	<code><Master Password></code>	You specify the master password during instance creation in the SAP Cloud Appliance Library.
Server domain	<code><Domain Name></code>	Domain name as specified in section 5.1.3
Private key	<code><Private Key File></code>	The private key file is provided

		during instance creation in the SAP Cloud Appliance Library. It is used for SSH access to the host.
Server IP Address	<IP Address>	The IP address of your instance from the SAP Cloud Appliance Library
ABAP Host name	wdfibmd6865	Predefined name of the host on which MaxDB and ABAP are running.
Root user / password	root / <Private Key File>	Default OS Administrator user for Linux SUSE.
MaxDB Administrator OS level / Password	sqdnpl / <Master Password>	-
Database Software Owner	sdb / <Master Password>	-
ABAP System ID	NPL	-
ABAP Instance number	00	-
ABAP Client/ User / Password	000 / SAP* / <Master Password> 000 / DDIC / <Master Password> 001 / SAP* / <Master Password> 001 / DDIC / <Master Password> 001 / DEVELOPER / <Master Password>	-
JAVA Host name	wdfibmd2034	Predefined name of the host on which MaxDB and ABAP are running.
JAVA System ID	BIJ	-
JAVA Instance number	00	-
JAVA User / Password	J2ee_admin / <Master Password> DEVELOPER / <Master Password>	-
JAVA Administrator OS level / Password	bijadm / <Master Password>	-
JAVA Administrator OS level / Password	bijadm / <Master Password>	-
SAP System Administrator	sapadm / <Master Password>	-
Diagnostic Agent User	daaadm / <Master Password>	-

8. Security Aspects

This section provides an overview of the security-relevant information.

To mitigate the potential security risks (for example, OS users can obtain the password of the solution while the initial provisioning is in process) we recommend changing the password of the following users:

- **Npladm, bijadm + other OS users**

To change the password you have to logon with the root user to the Linux OS and change the password of the *npladm* user. For more information, see [OS Access to the Solution Instance](#).

In the Linux console you have to execute the following command: `passwd npladm` and then enter the new password.

- **SAP*, DDIC, DEVELOPER** – these are ABAP users.

The password for all users is the *<master password>* provided during instance creation via CAL. To change the password insert user and password in the SAP GUI login screen and press the button *new password*.

As AS-ABAP is configured as read/write Userstore for BI-JAVA Server all these users are also available on JAVA side, but only DEVELOPER should be used to work with BI-JAVA.

9. Troubleshooting

- **Amazon VPC domain name settings**

Symptoms: You have chosen and a VPC deployment (you have selected the *Corporate Network* option when create an instance from your solution in the SAP Cloud Appliance Library). ABAP server does not start. `disp-work` is not running.

Your Amazon VPC setup needs to have a DHCP Option Set which defines a domain-name *<Domain Name>*. You can check, if the domain name settings are correct during the appliance instance generation by checking the following files on the server:

```
/etc/hosts
```

```
<IP Address> wdf1bmd6865 wdf1bmd6865.<Domain Name>
```

```
/etc/resolv.conf
```

```
search <Domain Name>
```

```
/usr/sap/NPL/SYS/profile/DEFAULT.PFL
```

```
SAPFQDN = <Domain Name>
```

If in the files the domain name is empty, you have to create a DHCP Option set with a domain name for your Amazon VPC.

- **VPC is located in the wrong region**

Symptoms: You cannot select *Corporate Network* property when creating a solution instance. You have to create a VPC in the Amazon region US-East (Virginia).

- **SAP GUI connect does not work**

Check in the AWS console if the AMI holding the application server is running.

If it is running check, if the ABAP server is running.

Logon as `root` to the server on which the database is running. Then execute the following statements to check the status of the ABAP server.

```
su - npladm
```

```
sapcontrol -nr 00 -function GetProcessList
```

- **BI-JAVA Server is not starting**

Please check if ABAP System is running. As BI-JAVA is using the ABAP User Management as User Store a running ABAP is necessary to bring the BI-JAVA System up.

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.