SAP Business One

Quick Deployment Guide

Issue	01
Date	2020-07-06

HUAWEI TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Contents

1 Overview

This document describes how to deploy SAP Business One (SAP HANA as the database).

The document conventions are as follows:

- This document describes how to install and deploy SAP Business One 9.3 (SAP HANA as the database).
- This document cannot replace the standard SAP document. If you have any trouble in installing and using SAP Business One due to its own problems, contact the SAP technical support.
- This document is written based on the SUSE Linux OS. The deployment modes mentioned in the document are only for reference. Install SAP Business One by referring to the standard SAP installation manual or based on sizing results and site requirements.
- For details about the official SAP installation guide and related notes, see the following documents:
  - **SAP Installation Guides**
  - **SAP Library**
  - **https://partneredge.sap.com**

Introduction to SAP Business One

SAP Business One is an ERP software designed by SAP to meet the ever-changing requirements of small and medium-sized enterprises. It is a service management software that can be scaled up along with enterprise development.

Based on deployment and O&M modes, SAP Business One products include traditional B1, B1 Cloud, and B1 OnDemand.

- Traditional B1: is deployed by enterprises.
- B1 Cloud: is provided in the form of SaaS on public cloud.
- B1 OnDemand: is provided in the form of SaaS by SAP hosting providers.

Based on database types, SAP Business One products include B1, B1A, and B1H.

- B1: uses traditional non-HANA databases.

- B1A: The analysis part of B1 uses HANA databases for acceleration, but the application part still uses traditional databases for data replication.
- B1H: B1 uses the HANA database. In this way, OLTP and OLAP are processed in the same database to achieve the best performance.

Required Cloud Services

Table 1-1 shows the cloud services used by a resource template to provision SAP Business One ECSs in the quick deployment scenario.

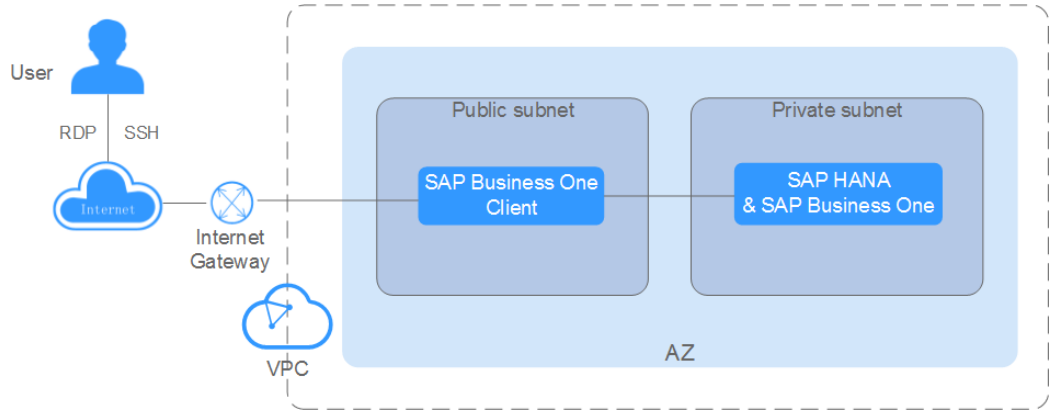
Table 1-1 Required cloud services

Cloud Service Name	Description
Elastic Cloud Server (ECS)	SAP Business One is deployed on ECSs.
Elastic Volume Service (EVS)	All ECSs where SAP Business One is deployed have EVS disks attached.
Virtual Private Cloud (VPC)	All ECSs where SAP Business One is deployed belong to the same VPC. They are isolated using VPC subnets and security groups for network security.
Image Management Service (IMS)	Images are required for creating ECSs.
Enterprise Management	Templates are used to create resources and install SAP Business One.
Scalable File Service (SFS)	Backup volumes of the SAP HANA database are provided by SFS.
Object Storage Service (OBS)	OBS bucket is used to store the SAP Business One installation package, and initialization and automatic installation scripts.

2 Scheme

Figure 2-1 shows the deployment scheme of SAP Business One.

Figure 2-1 SAP Business One deployment scheme



Scheme description

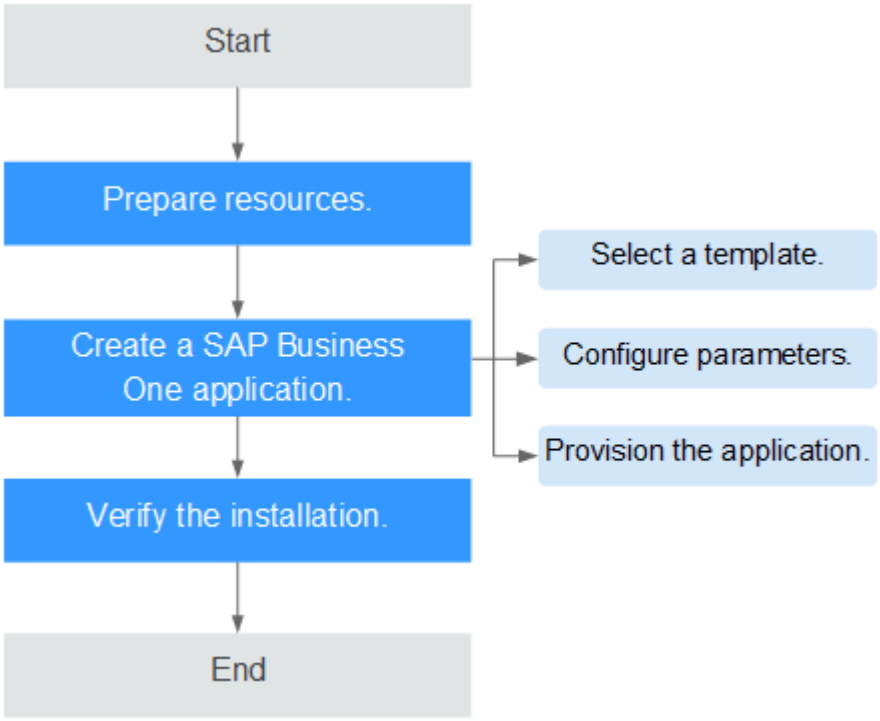
- VPC network: All nodes in the SAP Business One system are deployed within a VPC network and belong to the same availability zone (AZ) to ensure network security.
- An SAP HANA and SAP Business One ECS is used to deploy the SAP HANA database and SAP Business One (SAP HANA as the database). An ECS has the following disks attached:
  - OS disk: provides the directory for installing the OS.
  - Data disk: periodically stores the data transmitted from the SAP HANA IMDB (a database running in high-performance memory). The period is 5 minutes by default.
  - Log disk: stores the data triggered by an event. When an event, for example, a record or a batch of records are updated, is triggered for the server IMDB, the system will write the latest IMDB data into the log disk.
  - Shared disk: stores the SAP HANA installation software and SAP HANA database log files.
  - Backup disk: stores SAP HANA database backup files. The backup disk is provided by SFS in this solution.

- A SAP Business One Client ECS is used to install the SAP Business One (SAP HANA as the database) client.

Deployment Process

Figure 2-2 shows the SAP Business One deployment procedure.

Figure 2-2 Deployment Process



3 Resource Planning

Before deploying SAP Business One, you need to plan required resources.

ECS Specifications

Requirements on OSs and Disks

- Table 3-1 lists the operating system requirements of the SAP Business One node.

  Table 3-1 Operating system requirements

Item	Specifications
OS	SAP B1 9.3: SUSE Linux Enterprise Server for SAP 12

- Table 3-2 describes the disk plan for the SAP Business One node.

  Table 3-2 Disk planning

Disk	Type	Sharing Mode	Size
OS disk	High I/O	Non-shared disk	N/A
Log disk	Ultra-high I/O	Non-shared disk	• When the memory size is less than or equal to 512 GB, the log disk capacity is half of the memory size and rounded up for decimal places. • When the memory size is greater than 512 GB, the log disk capacity is 512 GB.

Disk	Type	Sharing Mode	Size
Data disk	Ultra-high I/O	Non-shared disk	The capacity is the same as the memory size.
Shared disk	High I/O	Non-shared disk	The capacity is the same as the memory size.
Backup disk	N/A	Provided by SFS	The recommended capacity is three times or more of the memory size.
/usr/sap disk	High I/O	Non-shared disk	50 GB
Swap disk	High I/O	Non-shared disk	10 GB

- **Table 3-3** describes the deployment requirements of the SAP Business One Client node.

Table 3-3 SAP Business One Client node planning

Node	Requirements
SAP Business One Client	• Operating system: Windows Server 2012 • ECS Specifications: c3.large.2 (2 vCPUs, 4 GB memory) or larger • Disk: 80 GB system disk

NOTE

SAS hard disks have high I/O while SSD hard disks have ultra-high I/O.

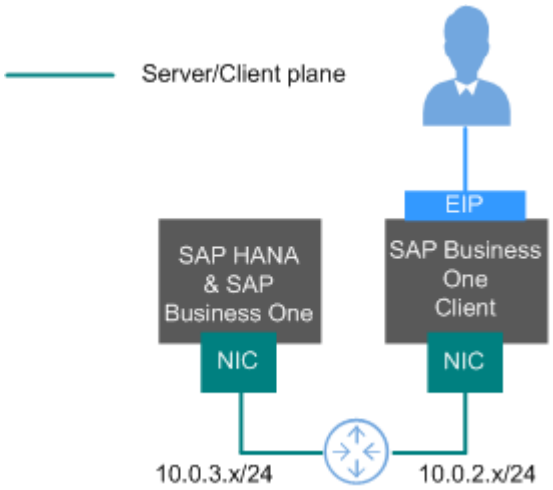
Network Plane Planning

Figure 3-1 shows the network plan for the single node scenario.

NOTE

The network segments and IP addresses are for reference only.

Figure 3-1 Network planning in the single node scenario



In this scenario, only one NIC is used for network communication.

Table 3-4 shows the planned network information.

Table 3-4 Network planning in the single node scenario where HA is not required

Parameter	Description	Example Value
IP address of the server/client plane	The SAP Business One node communicates with the SAP Business One Client software using this IP address. The SAP HANA node communicates with service software or SAP HANA Studio client software using this IP address.	• SAP Business One: 10.0.3.3 • SAP Business One Client: 10.0.2.2
EIP	Users access SAP Business One Client using EIP (public IP address).	Automatically allocated

Security Group Planning

NOTE

- The network segments and IP addresses are for reference only. The following security group rules are recommended practices. You can configure your own security group rules as needed.
- In the following table, ## stands for the SAP HANA instance ID, such as **00**. Ensure that this ID is the same as the instance ID specified when you install the SAP HANA software.
- For more information about specific ports and security group rules to be accessed by SAP, see **SAP Help Portal**.

Table 3-5 Security group rules (SAP Business One)

Source/ Destination	Protocol	Port Range	Description
Inbound			
10.0.2.0/24	TCP	139	Port used for obtaining files during application installation
10.0.2.0/24	TCP	3##15	Ports for the service plane
10.0.2.0/24	TCP	4##00	Ports for the service plane
10.0.2.0/24	TCP	5##00	Ports for the service plane
Automatically specified by the system	All	All	Security group rule created by the system by default Allows ECSs in the same security group to communicate with each other.
Outbound			
All	All	All	Security group rule created by the system by default Allows SAP HANA to access all peers.

Table 3-6 Security group rules (SAP Business One Client)

Source/ Destination	Protocol	Port Range	Description
Inbound			

Source/ Destination	Protocol	Port Range	Description
Automatically specified by the system	All	All	Security group rule created by the system by default Allows ECSs in the same security group to communicate with each other.
Outbound			
All	All	All	Security group rule created by the system by default Allows SAP HANA to access all peers.

4 Deploying SAP Business One

4.1 Preparing Resources

Software and Tools

Table 4-1 lists the required software and tools.

Table 4-1 Required software and tools

Item	Description	How to Obtain
Local PC	Runs a Windows OS, which is Windows 7 or later.	N/A
PuTTY and PuTTYgen	Used for logging in to an ECS and running commands	**https://www.chiark.greenend.org.uk/~sgtatham/putty/download.html**
OS Image	SUSE Linux Enterprise Server for SAP Applications image After obtaining the ISO file, register it as the ISO image (private image) on HUAWEI CLOUD. For details, see **Registering an ISO File as an ISO Image**.	**https://www.suse.com/products/sles-for-sap/download/**

Item	Description	How to Obtain
SAP Business One	SAP Business One installation packages You need to upload the software packages to the OBS bucket in the specific region and set **OBS Bucket URL** to the uploaded file address. Follow the operations described in **Uploading the Software Packages** to upload the software package.	Log in to the SAP official website to download the installation media: **https://support.sap.com/en/my-support/software-downloads.html**

License

SAP Business One is authorized in Bring Your Own License (BYOL) mode. In this mode, you must log in to the SAP **technical support website** and apply for a license.

4.2 Configuring an Agency

The Data Provider and Enterprise Project Management need to be granted with the permission to obtain information from the public cloud platform. Therefore, create an agency on the public cloud platform to obtain the platform information.

- Assign the agency to the ECS. Then, the Data Provider installed on the ECS can obtain the platform information through the agency.
- Assign the agency to OBS to ensure that software packages can be uploaded to OBS.

Procedure

Perform the following operations to create an agency.

Step 1 Log in to the public cloud management console.

Step 2 In the navigation pane on the left, click ☰ and choose **Identity Access Management** under **Management & Deployment**.

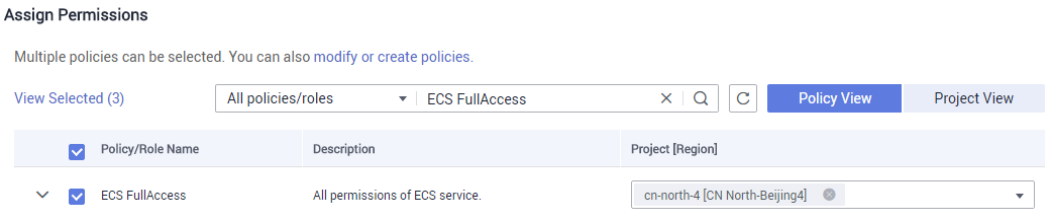
Step 3 Click **Agencies** in the left pane, and then click **Create Agency** in the upper right corner. The **Create Agency** page is displayed.

Step 4 Set agency parameters.

- **Agency Name**: **DataProviderAccess**. This name is only for reference.
- **Agency Type**: **Cloud service**

- **Cloud Service**: **Elastic Cloud Server (ECS) and Bare Metal Server (BMS)**
- **Validity Period**: Retain the default setting.
- **Permissions**:
  a. Click **Assign Permissions** next to **Permissions**.
  b. In the displayed dialog box, enter **Tenant Guest**, **OBS Buckets Viewer**, and **ECS FullAccess** respectively.
  c. Select **Tenant Guest** and **OBS Buckets Viewer** from the displayed results and then **All policies/roles** in the drop-down list.
  d. Select **ECS FullAccess** and select the target region in the **Project [Region]** column, for example, **cn-east-4 [CN North-Beijing4]**.

  Figure 4-1 Assigning permissions



  e. Click **OK.**

Step 5 Click **OK**.

----End

Follow-up Operations

On the application provisioning page, set **IAM Agency** to **DataProviderAccess** so that the agency can be used.

4.3 Uploading the Software Packages

Before provisioning an application, you need to download the OBS client and upload the required software installation packages to the OBS client.

Prerequisites

You have obtained the required software packages. For details about how to obtain the software packages, see **Table 4-1**.

Procedure

Step 1 **Register an account and use OBS.**

Step 2 Download OBS Browser. For details, see **Download OBS Browser**.

Step 3 Upload the required installation packages. For details, see **OBS Tools**.

WARNING

The name of the OBS directory folder is case sensitive. The directory must contain the following folders:

- HANA
- B1HANA

Create the directory by referring to the following example. Otherwise, the software installation package cannot be obtained.

- The directory examples for provisioning SAP Business One in the OBS bucket are as follows:

```
obs-sap
└sapb1-9.3
  ├readme.txt
  ├HANA
  │  ├51050929_part1.exe
  │  └51050929_part2.rar
  └B1HANA
     ├51053060_part1.exe
     ├51053060_part2.rar
     └51053060_part3.rar
```

----End

4.4 Creating an SAP Business One Application

This section uses an example template to describe how to quickly create the SAP Business One application.

Select Template

Before creating the SAP Business One application, you need to select the template on the enterprise project management service.

Step 1 Log in to the management console. In the upper right corner, choose **Enterprise** > **Project Management**.

The **Enterprise Project Management** page is displayed.

Step 2 In the navigation pane on the left, choose **Application Management** > **Template Management**.

Step 3 Click the **Example templates** tab, locate the row that contains the target SAP Business One template, and click **Create Application**.

An application is a collection of resources, which may include multiple cloud servers, networks, and EVS disks.

Table 4-2 Basic information

Parameter	Description	Example Value
Enterprise Project Name	Select the created enterprise project.	sap

Parameter	Description	Example Value
Region	Select the region where the application has been created.	CN North-Beijing4
Application Name	Specifies the created application name.	app-b1
Source Type	Select it to **Example Templates**.	Example Templates
Template Type	Select it to **SAP**.	SAP
Select Template	Select an SAP Business One template.	B1-Standard

Step 4 Click **Next**. After the parameters are verified, the **Configure Parameters** page is displayed.

----End

Configuring Parameters

After the template is uploaded to the Enterprise Management service, you need to specify related parameters to create the application. Parameters, including AZ, VPC and its subnet, security group, key pair, and IAM agency name, must be the same as those of the existing SAP HANA system (single-node deployment). Obtain the required information in advance. On the **Configure Parameter** page, specify the required parameters. For details about the required application parameters, see **Table 4-3**.

Step 1 Set application parameters. The following uses SAP Business One 9.3 as an example.

Table 4-3 Specifying parameters

Parameter	Description	Example Value
Network and Basic Configuration		
VPC Name	Name of the VPC to which the Business One ECS belongs If no VPC is available, click **Create VPC** on the management console to create one. For details, see **Creating a VPC**.	vpc-saphana
AZ	Name of the AZ to which the Business One ECS is located. For details about the format, see **Availability Zone (AZ)**.	AZ1

Parameter	Description	Example Value
IAM Agency	IAM agency name. When ECSs access the public cloud platform, they obtain a temporary access credential from the IAM agency. The value must be the same as the IAM agency name of the SAP HANA ECS. For details about the agency name, see **Configuring an Agency**.	DataProviderAccess
Server side configuration		
Security Group	Security group to which the Business One ECS belongs If no security group is available, click **Create Security Group** on the management console to create one. For details, see **Creating a Subnet and Configuring a Security Group**.	(sg-saphana)10499571-92ad-466f-a555-a608a3f1c65c
Key Pair	Key pair name If no key pair is available, click **Create Key Pair** on the management console to create one. For details, see **Creating a Key Pair**.	KeyPair-HANA
Subnet	Subnet to which the Business One ECS belongs If no subnet is available, click **Create Subnet** on the management console to create one. For details, see **Creating a Subnet and Configuring a Security Group**.	(subnet-saphana)0c7f5d57-0524-46ea-9f0b-de1acd86cd6c
Business One Hostname	Business One hostname. The name must be 1 to 13 characters long and can contain only letters, digits, periods (.), hyphens (-), and underscores (_).	sapb1
Business One ECS Specifications	Flavor of the Business One ECS Select a flavor based on **ECS Specifications**.	m6.8xlarge.8 | 32 vCPUs | 256 GB
Image	Image of the Business One ECS Select an uploaded private image based on **Requirements on OSs and Disks**.	Private image: SUSE Linux Enterprise Server for SAP Applications 12
System Disk Type	Type of the system disk used by the SAP Business One ECS	High I/O

Parameter	Description	Example Value
System Disk (GB)	System disk (GB). The minimum size must be the size of the SAP Business One ECS image.	50
Usrsap Disk Type	Type of the usrsap disk	High I/O
Usrsap Disk (GB)	Size of the usrsap disk (GB)	50
Swap Disk Type	Type of the swap disk	High I/O
Swap Disk (GB)	Size of the swap disk (GB)	50
Shared Disk Type	Type of the shared disk	High I/O
Shared Disk (GB)	Size of the shared disk (GB)	154
Log Disk Type	Type of the log disk	Ultra-high I/O
Log Disk (GB)	Size of the log disk (GB)	64
Data Disk Type	Type of the data disk	Ultra-high I/O
Data Disk (GB)	Size of the data disk (GB)	154
Backup SFS AZ	AZ where the SFS ECS is located. The backup volume is provided by SFS.	AZ1
Backup SFS Size (GB)	Size of the backup volume.	384
HANA System ID	System ID of the SAP HANA database	S00
HANA Instance Number	Instance number of the SAP HANA database	00
SAP Password	Password of the SAP HANA database and Business One administrator. Enter and confirm the actual password. The password must comply with SAP password setting rules. This password is also used for logging in to the ECS where the SAP Business One Client is deployed.	Set this parameter based on the actual situation.
OBS Backup Directory	Directory of the software in the OBS bucket The format is **obs://*Bucket name*/*Software package path***.	obs://obs-sap/B1HANA
Client Configuration		

Parameter	Description	Example Value
Security Group	Security group to which the Business One Client ECS belongs. This security group is different from the one to which the Business One ECS belongs.	(sg-sap)15269571-9b3d-455f-a065-a404a3f154jk
Subnet	Subnet to which the Business One Client ECS belongs.	(subnet-client)2c37jd57-0g44-4fta-95gb-s5f1cd8625hc
Hostname	Hostname of the Business One Client.	sapb1client
Specifications	Specifications of the Business One Client ECS. Select a flavor based on **ECS Specifications**.	s1.xlarge | 4 vCPUs | 16 GB
Image	Image of the Business One Client ECS. Select an image based on **Requirements on OSs and Disks**.	Public image, Windows Server 2012
System Disk Type	Type of the system disk used by the Business One Client ECS.	High I/O
System Disk (GB)	Size of the system disk (GB). The minimum size must be the size of the Business One Client ECS image.	80
Extended Configuration		
OS Version	OS version	SUSE 12
Business One Usage Type	Usage type of Business One	DEV
Application Type	Application type	B1
Business One Version	Business One version	9.3
Install SAP Software	Decide whether to automatically install SAP software.	Yes

Step 2 Click **Next**, confirm the application information, and click **Submit**.

Step 3 The application management page is displayed. If the application **Status** is **Creation succeeded**, the SAP Business One application is created successfully.

NOTE

If the application **Status** is **Failed to create**, delete the application by referring to **How Do I Delete an Application?** and create one again.

----End

Modifying the Configuration File

Modify the configuration file on the server where SAP Business One is deployed. For details, see **What Should I Do If a SAP Application on an ECS Cannot Be Started?**.

Checking the Deployment Status

After the ECS is created, deploy SAP Business One on the ECS. You can log in to the SAP Business One ECS to view the deployment status.

Step 1 Use PuTTY to log in to the SAP Business One ECS. Ensure that user **root** and the private key file (a .ppk file) are used for authentication.

Step 2 Run the following command on the CLI to view the installation log:

tailf /var/log/huawei/auto-install/b1-install.log

If **successful** is displayed in the installation log, the software deployment is complete. The following is an example of the log content indicating that the installation is successful:

```
successful
[2019-02-26 17:50:29] [INFO ] [b1-install.sh 531] END SAP B1 Version for HANA Installation
[2019-02-26 17:50:29] [INFO ] [b1-install.sh 563] ******************End install b1**********************
[2019-02-26 17:50:29] [INFO ] [b1-install.sh 565] ******************begin prepare hana windows
client**********************
[2019-02-26 17:50:29] [INFO ] [b1-install.sh 567] ******************end prepare hana windows
client**********************
```

NOTE

The software deployment duration varies according to the software versions and resource configuration. Deploying SAP Business One requires about one hour, and SAP Business One Client, several minutes.

----End

4.5 Installing Data Provider

Install Data Provider on all cloud servers so that SAP technical support personnel can use this software to collect information of the platform where the cloud servers run, facilitating fault identification and analysis if the SAP system is faulty or the system performance deteriorates.

NOTE

On the server where SAP NetWeaver is deployed, you must specify the **DataproviderAccess** agency for the ECSs created on the server. In addition, install Data Provider on the server.

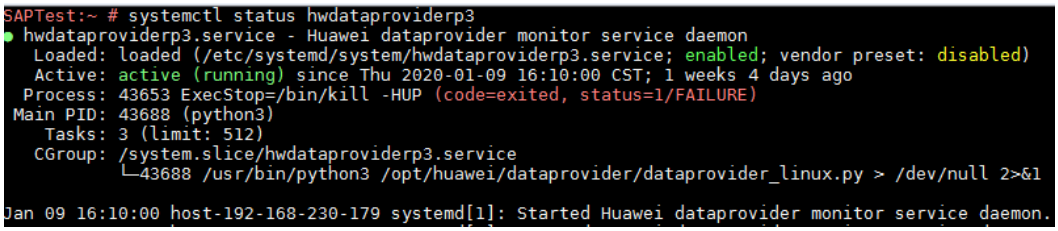
Procedure

Step 1 Log in to all cloud servers.

Step 2 Run the following command to check whether Data Provider has been installed:

systemctl status hwdataproviderp3

The command output is similar to the following. If the value of **Active** is **active (running)**, Data Provider has been successfully installed. Otherwise, follow the operations described in the **Data Provider for SAP User Guide** to install it.



----End

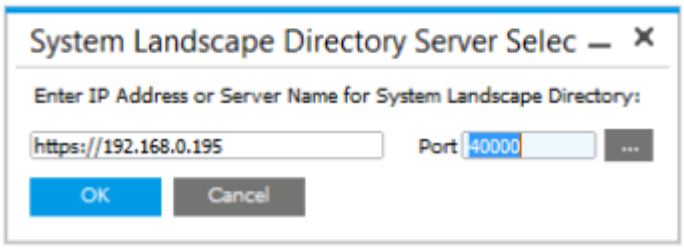
5 Verifying the Installation

After the software is deployed, the client shortcut icon is displayed on the desktop of the ECS where the SAP Business One Client is located. You need to log in to the SAP Business One ECS to check the running status using the SAP Business One Client.

Procedure

Step 1 Start SAP Business One Client, enter the IP address of the SAP Business One ECS, and click **OK**.

Figure 5-1 Entering the IP address of the ECS



Step 2 Enter the user ID and password and click **OK**. The default user ID is **manager**. The default password is the SAP password created when the SAP Business one application is created.

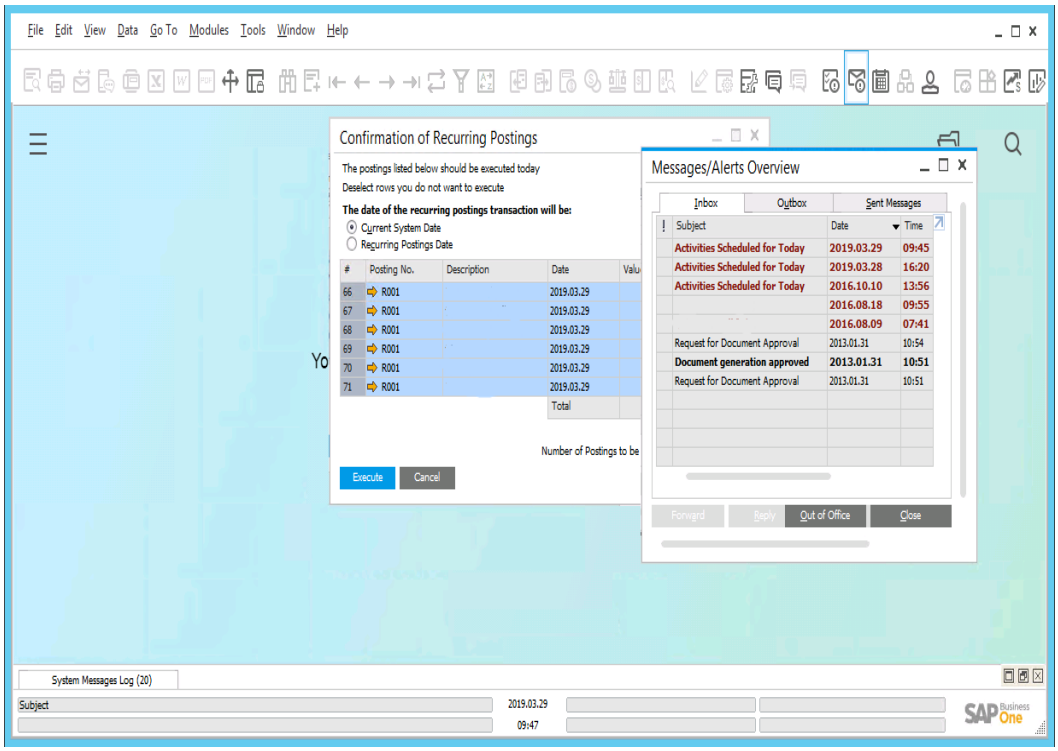
NOTE

To ensure system security, change the default password upon your first login.

Figure 5-2 Entering the user ID and password

Step 3 Refresh the company list, select the company name, and click **OK**.

Figure 5-3 Successful connection



----End

6 FAQs

6.1 How Do I Delete an Application?

Scenarios

If you need to redeploy applications or delete related resources during the deployment of SAP Business One, you can clear resources by deleting applications.

Procedure

Step 1 Log in to the HUAWEI CLOUD management console. Click **More** in the upper right corner and choose **Enterprise**.

The **Overview** page is displayed.

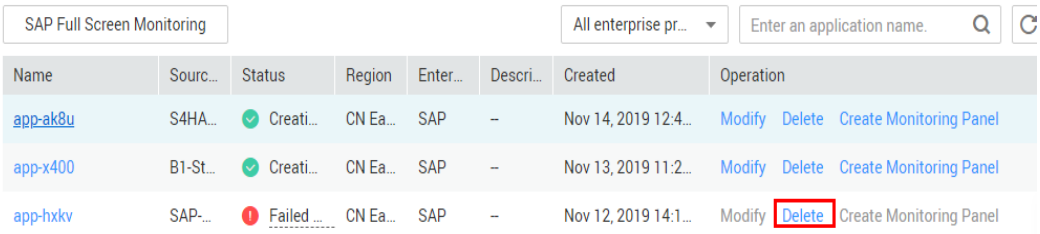
Step 2 In the **Enterprise Project Management** pane, click **Project List**.

Step 3 In the navigation pane, choose **Application Management** > **Applications**.

The application list is displayed in the lower part of the page.

Step 4 In the application list, click **Delete** to delete the application and related resources.

Figure 6-1 Deleting an application



----End

6.2 What Should I Do If a SAP Application on an ECS Cannot Be Started?

Symptom

The **/etc/hosts** file contains "**127.0.0.1** *host name host name*". As a result, the SAP application installed on the ECS cannot be started. You need to log in to the ECS where the SAP application is deployed to modify the configurations.

NOTE

You only need to perform this operation on the ECS where the SAP application software is deployed.

Procedure

Step 1 Log in to the ECS where the SAP application software is deployed as user **root**.

Step 2 Comment out **manage_etc_hosts: localhost** in the configuration file.

1. Run the following command to open the Cloud-Init configuration file **/etc/cloud/cloud.cfg**:

   vi /etc/cloud/cloud.cfg

2. Comment out **manage_etc_hosts: localhost** in the configuration file and save the modification.

   Example: #manage_etc_hosts: localhost

```
datasource_list: ['OpenStack']
manage_etc_hosts: localhost

datasource:
  OpenStack:
    # timeout: the timeout value for a request at metadata service
    timeout : 50
    # The length in seconds to wait before giving up on the metadata
    # service.  The actual total wait could be up to
    #   len(resolvable_metadata_urls)*timeout
    max_wait : 120
```

Step 3 Delete "**127.0.0.1** *host name host name*" from the **/etc/hosts** file.

1. Run the following command to open the **/etc/hosts** file:

   vi /etc/hosts

2. Delete "**127.0.0.1** *host name host name*" from the **/etc/hosts** file and save the modification.


```
#
# hosts         This file describes a number of hostname-to-address
#               mappings for the TCP/IP subsystem.  It is mostly
#               used at boot time, when no name servers are running.
#               On small systems, this file can be used instead of a
#               "named" name server.
# Syntax:
#
# IP-Address  Full-Qualified-Hostname  Short-Hostname
#


# special IPv6 addresses
::1     localhost       ipv6-localhost  ipv6-loopback

fe00::0 ipv6-localnet

ff00::0 ipv6-mcastprefix
ff02::1 ipv6-allnodes
ff02::2 ipv6-allrouters
ff02::3 ipv6-allhosts


127.0.0.1       localhost
127.0.0.1       localhost       localhost
127.0.0.1       test-xiongp     test-xiongp

~
```

Step 4 Restart the SAP application on the ECS where the SAP application has been installed. If the SAP application has not been installed on the ECS, perform the preceding operations and install the SAP software.

----End

A Change History

Description	Released On
This issue is the first official release.	2020-07-06

