How to Install SMP in a Cluster Environment Using ASE DB – Without MBO Runtime
SAP Mobile Platform (3.0 SP05)

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ABSTRACT
This white paper provides the following:

1. **Preparation**
   1.1. Determining number of machines or nodes
   1.2. Download ASE 15.5 or higher from SAP Market Place
   1.3. Download SMP 3.0 SP05 from SAP Market Place
   1.4. Generate an unserved license for ASE database server

2. **Installing and configuring SAP ASE Server**
   2.1. Installing SAP ASE 15.x Server
   2.2. Information needed for SMP 3.x SP05
   2.3. Update the default connection
   2.4. Create smp3 database

3. **Installing SAP Mobile Platform Nodes (SMP 3.x SP05)**
   3.1. Prerequisites and Preparations
   3.2. Installing and configuring SAP Mobile Platform (SMP) first node
   3.3. Verify if the installation of SMP node one is successful
   3.4. Installing and configuring SAP Mobile Platform (SMP) secondary node
   3.5. Verify if the installation of SMP node two is successful
   3.6. Verify if the SMP 3.0.5 Cluster is working correctly

4. **Troubleshooting**
   4.1. ASE Connection issue
   4.2. SAP Mobile Platform Installation and configuration troubleshooting
**Determining number of machines or nodes**

1. The first thing to do is you need to determine how many machines are participating in this cluster setup. In this white paper we are using VMware Virtual Machines, VMs running Windows 2008 R2
   a. One VM machine hosting Adaptive Server Enterprise ASE database version 15.7
   b. Two VMs where we are going to install our SMP 3.x SP05

Note: Our recommendation is to use physical machines for the back-end database nodes. But for this white paper we are going to use all VMs just to show you how to get this environment configured.
**Download ASE from SAP Market Place**

SMP 3.x SP05 cluster supports many back-end databases such as:

1. DB2
2. Oracle
3. ASE

We have tested it against ASE 15.7. To download ASE 15.5 or higher, follow the following instructions below:

1. Go to SAP Service Market Place, [https://support.sap.com/swdc](https://support.sap.com/swdc)
2. Click on “Installations & Upgrades”
3. Now Click on “A-Z Alphabetical List of my Products”
4. Now click on letter “A” as shown below
5. From the software list select “SAP Adaptive Server Enterprise”

- SAP ASE 15.7
  SAP Adaptive Server Enterprise 15.7

6. From the list of Software select the version available, at this time when this paper was written, ASE 15.7 was available, so select that version.

7. Now click on Installation
8. Now click on Microsoft Windows
9. Now from the download list select “Sybase ASE 15.7 Refresh Windows x64”

10. Choose your preferred method to download the zip file and save to your disk so you can install it later.
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**Downloading SMP 3.0 SP05**

SP05 is a full installer. No need to download SMP 3.0 and then SP03. To download SP05 for SMP 3.0, do the following:

1. Go to SAP Service Market Place https://support.sap.com/swdc
2. Click on “Support Packages and Patches”
3. Click on “A-Z Alphabetical List of my Products”
4. Click on “M”
5. Click on “SAP Mobile Platform”
6. Click on “SAP Mobile Platform 3.0”
7. Click on “SAP Mobile Platform RUNTIME 3.0”
8. Click on “Windows x64 64-bit”
9. Click on “SAPSMPRT3005.0-20011876.ZIP” Title “EBF 23934: 3.0 SP05” to download
10. Save it to your preferred location

**Generate an unserved license for ASE database server**

After downloading the required software, before we move to the ASE installation and configuration, we need to generate a license. For this white paper, we are using unserved license of type “ASE Enterprise Edition (Server)”.

To generate an unserved license for ASE, do the following:

1. We need to generate a host ID from the VM or machine where ASE needs to be installed. Open command prompt.
2. Issue the following command ipconfig /all
3. Copy the Physical Address of the following format xx-xx-xx-xx-xx-xx
5. Click on “Key & Requests”
6. Once you go to the section to generate license key for ASE product, you would generate a license key based on your license agreement. Here is an example from our internal license key generation
7. Select Generate
8. Select Un-served License as shown below, unless you are using SySAM, select served. In our test, we are selecting “Un-Served”
9. Click on Next

10. How many server you are licensing, in our case it is one server, so I typing one in the screen below:
11. Click on Next

12. Now you need to enter the host ID of where the ASE server is running, we already generated from step one the “ipconfig /all” which gave us the following:

![ipconfig output]

13. Copy the Physical Address from the previous step 12 where the ORANGE error is pointing. This value would be used in the Node Host ID below. So the screen will look like this:

![License key selection]

14. Now click on Generate:

**Note:**
Host Name: Is the name of the machine where ASE is installed
Node Host ID: is the physical address of the machine where ASE is installed and NOT the IP address and not the wireless physical address as well.
15. For information on how to generate ASE license key, please refer to this https://websmp107.sap-ag.de/~sapidb/011000358700001006652011E
16. Once the license file has been generated and downloaded to the machine where ASE is going to be installed. You can now move to the next step which is “Installing and configuring SAP ASE Server”
17. Here is what the license file looks like for this white paper that we did:

18. Once the file is generated, click on “Download License File” and save the file to your disk so it can be used later.
NOTE: If you already have a supported back-end database and you want to use it for SMP 3.x SP05, then you can skip this section and go directly to the Installing “SAP Mobile Platform Nodes (SMP 3.x SP05)”

Once you reach this section that means

- ASE 15.5 or higher was successfully downloaded
- ASE unserved license has been downloaded or SySAM license already in place

Next step now is start the installation of ASE 15.5 or higher

1. In the VM where ASE is going to be installed, unzip the ASE zip file that you successfully downloaded
2. Run Setup.exe as an Administrator
3. You will see the following screen which is version 15.7 in our test.

![Adaptive Server Enterprise 15.7](image)

InstallAnywhere will guide you through the installation of Sybase Adaptive Server Enterprise Suite 15.7 ESD#1.

It is strongly recommended that you quit all programs before continuing with this installation.

Click the 'Next' button to proceed to the next screen. If you want to change something on a previous screen, click the 'Previous' button.

You may cancel this installation at any time by clicking the 'Cancel' button.

4. Click **Next** and accept the default, unless you want to change the location of where you want to install ASE, by default it is "C:\Sybase", until you get to this screen:
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5. Select Typical if you are not familiar with ASE.
6. In the next screen now select the first option which is “Install licensed copy of Sybase Adaptive Server Enterprise Suite”
7. Next Select the license agreement, in our test, we selected Canada, in your case, select your location where you have the license generated from:

```
Adaptive Server Enterprise 15.7
End-user license agreement

End-user license agreement
Read the following license agreement carefully, then choose to agree or disagree with the agreement.

Canada

SYBASE LICENSE AGREEMENT

Canada 20109781

IMPORTANT NOTICE: Read this License Agreement carefully before using the enclosed Program. You may Use the Program acquired in the United States and Canada only, and only in accordance with the following terms and conditions. IF YOU DO NOT AGREE TO BE BOUND BY THESE TERMS, YOU MAY NOT USE THE PROGRAM. By downloading, installing, or using the Program in any way, You acknowledge that You have read, understand and agree to the terms of this Agreement. If You do not agree with these terms, present your receipt or

[ ] I DO NOT agree to the terms of this license and will not install this software.
[ ] I agree to the terms of the Sybase license for the install location specified.
```

8. Next if you are not familiar with ASE and you are not familiar with SySAM, click on Browse button and select the license file you generated previously as shown below:
In the above example, we generated a license for Run Time server “SR License for SAP Sybase ASE Enterprise Edition”

9. Click Next
10. In this screen you are asked to select a Developer Edition or Enterprise Edition, SMP 3.x requires Enterprise Edition, because by default Developer Edition allows only 25 connection users, and SMP
requires more than that.

Adaptive Server Enterprise 15.7

Product Licenses

Please select the product edition and license type you would like to configure.

Product Edition: Developer Edition

License Type: None

Cancel  Next  Previous
11. Select Enterprise Edition and the License SR: Server License as shown below:

![Sybase Adaptive Server Enterprise Suite](image)

Adaptive Server Enterprise 15.7

Product Licenses

Please select the product edition and license type you would like to configure.

<table>
<thead>
<tr>
<th>Product Edition</th>
<th>Enterprise Edition</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Type</td>
<td>SR : Server License</td>
</tr>
</tbody>
</table>

12. If you are not using SMTP, set it to know as shown below:
Please configure the Sybase Software Asset Management (SySAM) email alert mechanism. When configured, specified recipients will receive email notifications about SySAM events that may need administrator attention.

Do you want to configure email alerts?

- Yes
- No

SMTP server host name: smtp

SMTP server port number: 25

Sender email: 0265999@corp

Recipient emails: 0265999@corp

Message Severity for email alerts: Warning
13. Finally will see that screen click on Install as shown below:

14. Once the install goes through, you will be asked to Enable ASE Plug-in to remember password, in our test we accepted the default as shown below. Please select the option that suites your environment. This feature has nothing todo with SMP.
ASE Plugin has the option to "remember passwords after connecting to servers". The passwords are encrypted and stored on a per-user basis. If for security reasons you do not want ASE Plugin to store any passwords, you can disable this feature.

- Enable
- Disable
15. Click on Next until you get to this screen below

16. SMP 3.x requires page size of 16K, by default ASE uses 4k page size. The 16K page size is required for Mobiliser. Select 16K as shown below:
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17. You will get a warning, read it and see if it applies to your environment and click OK once you are done.

18. Click **Next** and accept all the defaults until you get to this screen.
19. By default “sa” user always is left blank. For our test, we are going to leave it blank, it is up to the administrator if he wants to assign a password or not to the “sa” user. This is has nothing todo with SMP this configuration.
20. Click on Next and accept all the defaults until you get to this screen:

![Sybase Adaptive Server Enterprise Suite](image)

The installer will now configure new servers with the following values. Click Next to proceed with the server configurations.

- **Adaptive Server Name**: DEWDFSSF3634
- **Port Number**: 5000
- **Application Type**: Mixed (OLTP/DSO)
- **Create sample databases**: False
- **Page Size**: 16k
- **Error Log**: C:\Sybase\ASE.15.0\install\ase15log.txt
- **Master Device**: C:\Sybase\data\master.dat
- **Master Device Size (MB)**: 240
- **Master Database Size (MB)**: 104
- **System Procedure Device**: C:\Sybase\data\sysprocs.dat
- **System Procedure Device Size (MB)**: 172
- **System Procedure Database Size (MB)**: 172
- **System Device**: C:\Sybase\data\sysysdb.dat
- **System Device Size (MB)**: 24
- **System Database Size (MB)**: 24
- **Tempdb Device**: C:\Sybase\data\tempdbdev.dat
- **Tempdb Device Size (MB)**: 100

![Sybase](image)

21. Once you are on the last screen, you click on Next to configure the ASE server. You will see the following screen below:
22. Once the installation is done, you will see the following screen below:
23. Click Done

**Information needed for SMP 3.x**

1. Once the installation is done, you need the hostname of the VM or physical box
2. The port number where ASE is running and listening on. By default it is **5000**
Update the default connection

IF YOU ARE USING SP05, THIS SECTION CAN BE IGNORED AND YOU CAN MOVE TO SECTION “Create smp3 Database”. THE BELOW SECTION IS FOR SP03

By default ASE 15.x runs with 25 connections and Developer Edition will not allow you to increase that. For SMP 3.x SP03 installed with ASE, this number is not enough. Therefore, we need to update this default value. To change the default connection values, do the following:

1. On the VM or physical machine where ASE was installed, open Sybase Central and connect to your ASE server
2. If you get this error, click on OK and ignore it for now, we will show you how to disable this in the Troubleshooting section
3. Right click the hostname after you connect to it and select property as shown below:
How to Install SMP in a Cluster Environment Using ASE DB – Without MBO Runtime
4. You should see the following screen:

5. Now click on **Configuration** tab

6. From the configuration screen change the number of connections as shown below
7. In the Show configuration parameters matching type “number of user connection”
8. Then from the property list change the default value from 25 to 300 or more it depends on how your machine can handle.

**NOTE:** IF YOU USING SP05, THIS SECTION CAN BE IGNORED. THE SQL CONFIGURATION TAKES CARE OF THAT FOR YOU. IN SP05, WE USE 400 FOR THE CONNECTIONS.
9. Click on OK. If you got this error:

![Configuration parameters window]

Click on OK. If you got this error:

9. Click on OK. If you got this error:

![Configuration parameters window]

You need to increase the max memory value based on the number you are told by ASE in the error message. In our case, it says the max memory should be “91359”.

10. You need to increase the max memory value based on the number you are told by ASE in the error message. In our case, it says the max memory should be “91359”.
11. Type the max memory parameter option in the configuration parameters matching field as shown below:

- Name: max memory
  - Value: 64512
  - Pending Value: 64512
- Default value: 64512
- Minimum value: 64512
- Maximum value: 2147483647
- Restart required: No

Explanation:
max memory sets the maximum size of memory, in 2K units, that ASE can allocate.
12. Change the value to what ASE suggested as shown below:

![Server Properties dialog box showing configuration parameters](image)

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Pending Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>max_memory</td>
<td></td>
<td>91359</td>
</tr>
</tbody>
</table>

Default value: 64512  
Minimum value: 54512  
Maximum value: 2147483647  
Restart required: No

Explanation:

max_memory sets the maximum size of memory, in 2K units, that ASE can allocate.

13. Click on Apply and then OK
14. Restart your ASE Database service
15. Now your server is ready to configure the smp3 database
Create smp3 Database

To create the smp3 database, we need to have access to the SQL file that contains the creation of the smp3. This file comes with SMP 3.x SP05 installation. To create the smp3 database, do the following:

1. Unzip SMP 3.x SP05 zip file on one of the VM nodes that is going to be configured for the SMP cluster
2. Once unzipped, copy the following file, 001_SMP3_drop_and_create_user.DDL, from `<SMP30SP03-BINARY-PATH>\db_tools\dbase\smp3\sql`, and move it to the VM machine where the ASE server is installed.

Note: Since we are installing against ASE, we need the sql file under `..\ase\smp3\sql`. If this was done against DB2, we would have selected `..\db_tools\db\db2\smp3\sql`.

3. In my case, I moved it to the Desktop where I installed the ASE database server
4. Very IMPORTANT NOTE: If you are running against ASE 15.5 only, then there are few lines in the DDL file needs to be commented out.

   a. Open 001_SMP3_drop_and_create_user.DDL in a text editor
   b. Look for line 52 where it says " - - comment this out if using ASE 15.5"
   c. Please a comment the two lines below 53 and 54 as shown below:

   ```sql
   -- set bulk copy option
   exec sp_dboption 'smp3', 'select into/bulkcopy/pilsort', true
   go
   -- comment this out if using ASE 15.5
   --sp_configure 'enable functionality group', 1
   --go
   ```

   d. Save your changes

5. In the VM where ASE database server is installed, open “Sybase Central”
6. Right click the server name and select “Open Interactive SQL” as shown below:

7. Once Interactive SQL opens, Click on “File” menu and select “Open…” as shown below:
8. Select the DDL file that you copied over, in my case I put the file on the Desktop. You need to change the option to “All Files (*)” since it is by default “SQL Statements (*.sql), see below:

9. Click on the execute button as shown below:
10. Since the script will try to drop the smp3 database before it tries to create it, you will get the following error that “…Database named smp3 not found…”, you can ignore it and click on continue as shown below:
11. Once you are done, you should see something similar to the screen below:
12. Close Interactive SQL
13. Back to Sybase Central and refresh you Databases and you should see the following below:
14. If your screen looks like that one above, that means you are ready to move to the next step which is staring the installation of SMP 3.x SP05 node 1.
Prerequisites and Preparations

Prerequisites:
1. Make sure your back-end database you are going to install against, it is supported.
2. Make sure you have ran the database sql file against your back-end supported database.
3. Make sure the SMP VM node can reach the back-end database VM or host machine.
4. Make sure the back-end database server is up and running.
5. Make sure the number of connections has been increased if it is an ASE database or number of cursors has been increased to large number if it is Oracle. The default is not sufficient.
6. Make sure you have .NET Framework 4 is installed before you start the installation.
7. This is a fresh installation and no migration or upgrade applies to this white paper.

Preparations

Assuming SMP 3.x SP05 has been unzipped on the first VM node. Go to the following folder and verify the following file, TestUserLogonService.exe, is not blocked. To do that, do the following steps:

1. Open <SMP-3x-SP05-BINARANY>\modules\server folder
2. Right click on the following file, TestUserLogonService.exe, and select properties
3. If you see the file is blocked as shown below, you need to click Unblock before you can proceed. See below:
4. Then click OK
5. Once you unblock it, it should look like this:
6. Click OK
Installing and configuring SAP Mobile Platform (SMP) first node:

1. Right click on setupAMD64.exe, and select “Run as administrator”
2. The welcome screen should come up

Welcome to the SAP® Mobile Platform Server 3.0 SP05 installation


Click Next to continue.

SAP Mobile Platform Server 3.0 SP05
SAP SE
http://www.sap.com

3. Click on next
4. Select your license agreement
5. Read the license agreement, if you agree to it, click on I agree and click on next. In my test I selected “Canada”. Select the country that applies to you.
How to Install SMP in a Cluster Environment Using ASE DB – Without MBO Runtime

SAP Mobile Platform Server 3.0

End-user license agreement
Please read the following license agreement carefully

Canada

LICENSE AGREEMENT

General applies to all countries, except those for which a specific

I do NOT agree to the terms of this license and will not install this software.

I agree to the terms of the SAP license, for the install location specified.

< Back  Next >  Cancel
6. Make sure this folder does not exist and it is a fresh installation, click Yes to create the folder.
7. This step is very important. Since this is a cluster, you MUST select Production installation since cluster does not support Developer installation.
8. Click Next
9. Now the installer will install SAP JVM 7 as shown below.

SAP Mobile Platform Server 3.0

Installing subcomponent: SAP JVM...
10. Select now which database server you want to use with your SMP 3.0 cluster installation. In our case because it is a production, we are going to select ASE from the list as shown below. DO NOT select “Derby embedded database” if this is a production environment.

![Database Configuration Screen](image)

SAP Mobile Platform Server 3.0
11. Enter the following information as shown below if none of the default values have changed:
   Host name: This is the host name where the back-end database is running
   Port number: 5000 by default for ASE
   Login: gomobile is the user id that SMP uses to connect to the ASE database
   Default password: secret
   Database name: smp3 by default

12. Click Next
13. Enter a password for your keystore and smpAdmin user information. In this paper we are using password **s3pAdmin** for all keystore and smpAdmin user information.
14. Click Next to move to the server communication ports

![SAP Mobile Platform Server 3.0](image)

**SAP Mobile Platform Server 3.0**

Enter the server communication ports.

- **HTTP port**: 8080
- **HTTPS port**: 8443
- **HTTPS mutual SSL port**: 8442
- **HTTPS admin port**: 8383

15. If you are satisfied with the default ports, click Next.

16. In this screen, SMP 3.0 will create a user in Windows environment called “smpServiceUser”. If this user already exists enter the password, if the user does not exist, SMP will create the user for you in your Windows environment. The user password is controlled by Windows policy and NOT SMP 3.0.

Note: SMP 3.0 does not manage this user. This user is managed by Windows after the user is created. Therefore, if you forget the password after creating it, SAP cannot help you recover the password.
17. In our white paper test, I am using as well s3pAdmin, but SAP recommends for the user to use different password that matches your operating system security policy.
SAP Mobile Platform Server 3.0

SAP Mobile Platform Server service configuration

- Start SAP Mobile Platform Server service automatically when Windows starts up.

SAP Mobile Platform Server will run under a Windows User account, smpServiceUser.

Get a password for smpServiceUser User account. The password must meet the password policy requirements, the minimum password length, password complexity and password history requirements.

If smpServiceUser account already exists on the system, enter password for smpServiceUser.

Windows account name: 

smpServiceUser

Windows account password: 

********

Confirm Windows account password: 

********
18. Click Next, you should see the following:

SAP Mobile Platform Server 3.0

Please read the summary information below:

SAP Mobile Platform Server 3.0 SP05 will be installed in the following location:

C:\SAP\MobilePlatform3

for a total size:

1076.0MB

19. Once you are ready, click Install
20. Once the installation is done, you will be asked if you want to install MBO Runtime. This white paper only focuses on installing SMP 3.0 as a cluster and not MBO Runtime. Accept the default and click Next as shown below.
SAP Mobile Platform Server 3.0

Select the check box to launch MBO Runtime installer.
Provide path to the MBO Runtime installer zip file.
Path is required for SAP Mobile Platform Installer to launch MBO Runtime Installer.

Browse
21. Finally you should see the following screen as shown below:

![SAP Mobile Platform Server 3.0 SP05](image)

**SAP Mobile Platform Server 3.0**

SAP Mobile Platform 3.0 SP05 has been installed successfully.

- [ ] Start SAP Mobile Platform Server service.

22. Click Finish to finish the installation and start the instance.
23. You will see the service is starting until the command window close by itself.

![Command Window](image)

Verify if the installation of SMP node one is successful.
1. Verify in the ASE database in the following table SMP_CLUSTER_MEMER(gomobile), you have an entry to your VM node where SMP is installed. Example see below:

2. Next we need to open the Cockpit Management to verify if we can connect to our first SMP node in the cluster. Open Chrome or Internet Explorer 9 or higher or click on the Desktop shortcut SAP Management Cockpit icon. Note IE 8 is not supported.

3. Type the following address in the URL: https://localhost:8083/Admin/ as shown below:
4. Click on “Proceed anyway”

Or if you see this screen, click on Advanced as shown below:
5. Log on with the default user **smpAdmin** and password **s3pAdmin** if the default password was used and did not get changed. If another password was used during the installation, use the new password.
6. Once you click on Log on, you should see the following screen:

7. That now shows that, we can connect as well to our SMP first node in the cluster.
8. We are ready now to move to the second node and install the second SMP 3.x SP05 server node and be part of the cluster.

**Installing and configuring SAP Mobile Platform (SMP) secondary node**

1. Follow the same steps you did in the first installation node of SMP 3.x SP05
2. Make sure you run `setupAMD64.exe`
3. Repeat the same steps that you have done when you installed the first node
4. Make sure you use the same Admin user ID and same user Admin password
5. Make sure you use ASE database as we did in the first node as shown below:

SAP Mobile Platform Server 3.0

Configure a database server.

- Use the default Derby embedded database.
- Use another database you have already installed.

Select database type: [SAP ASE]

Host name: [Field]

Port number: 5000

Login: [FormField]

Password: [FormField]

Database name: [FormField]

6. When you install a secondary node, you will no longer be asked to enter the password for “smpAdmin” user, you will be only asked to enter the password for the keystore. In our white paper
we are using the same keystore password that we used in the first node which is *s3pAdmin*

**SAP Mobile Platform Server 3.0**

Enter the password for accessing the keystore:

Keystore password: 

Confirm keystore password: 

---

7. Another thing to point out is that, when you click next, you will be shown the server communication ports, again, you will not be able to change the ports when you are installing in the secondary node.
as shown below. They are graded out. Click Next to accept the default behavior

SAP Mobile Platform Server 3.0

The following server communication ports will be used. These ports need to be available to proceed with the installation.

<table>
<thead>
<tr>
<th>Port Type</th>
<th>Port Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP port</td>
<td>8080</td>
</tr>
<tr>
<td>HTTP8 port</td>
<td>8081</td>
</tr>
<tr>
<td>HTTP8 mutual SSL port</td>
<td>8082</td>
</tr>
<tr>
<td>HTTP8 admin port</td>
<td>8083</td>
</tr>
</tbody>
</table>
8. Enter the same password you have provided for `smpServiceUser` in the first SMP node. In our test, we are using the password `s3pAdmin`.

SAP Mobile Platform Server 3.0

SAP Mobile Platform Server service configuration

- Start SAP Mobile Platform Server service automatically when Windows starts up.

SAP Mobile Platform Server will run under a Windows User account, `smpServiceUser`. Set a password for the `smpServiceUser` User account. The password must meet the password policy requirements, the minimum password length, password complexity, and password history requirements. If `smpServiceUser` account already exists on the system, enter password for `smpServiceUser`.

- Windows account name: `smpServiceUser`
- Windows account password: [password field]
- Confirm Windows account password: [password confirmation field]
9. After typing the password, click on Next, you will see the following screen below. Click on Install to start the installation:

**SAP Mobile Platform Server 3.0**

Please read the summary information below:

SAP Mobile Platform Server 3.0 SP05 will be installed in the following location:

C:\SAP\MobilePlatform3

for a total size:

10760MB
10. Once your installer is finished, you should see this screen:

SAP Mobile Platform Server 3.0

SAP Mobile Platform 3.0 SP05 has been installed successfully.

☑ Start SAP Mobile Platform Server service

Finish
Verify if the installation of SMP node two is successful

In the secondary VM node, do the following:

1. Next verify in the ASE database in the following table SMP_CLUSTER_MEMER(gomobile), you have now two entries for your VM node. Example see below:

   ![Database screenshot](image)

   - SMP_CLUSTER_MEMER(gomobile)
   - SMP_CLUSTER_MEMER_PROP(gomobile)
   - SMP_CLUSTER_MEMER_PROP_VALUE(gomobile)
   - SMP_CLUSTER_MEMER_PROP_VALUE_ID(gomobile)
   - SMP_CLUSTER_MEMER_PROP_VALUE_MD5(gomobile)
   - SMP_CLUSTER_MEMER_PROPS(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_ID(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_MD5(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_ID(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_MD5(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_ID(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_MD5(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET(gomobile)
   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET_ID(gomobile)
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   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_ID(gomobile)
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   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_MD5(gomobile)
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   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_ID(gomobile)
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   - SMP_CLUSTER_MEMER_PROPS_VALUE_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_SET_MD5(gomobile)

2. As you can see above the secondary node now exists in the SMP_CLUSTERSMEMER(gomobile) table
Verify if the SMP 3.0 Cluster is working correctly

1. From the secondary node, open the SAP Cockpit Management as we did in the previous steps when we tested the first node and log on
2. You should see the following screen below:

![SAP Mobile Platform Administration and Monitoring](image1)

3. Click on “APPLICATIONS” as shown below:

![SAP Mobile Platform Administration and Monitoring](image2)
4. Click on New to create a new application as shown below:

5. We are going to create a fake application to test our cluster and make sure it is synchronizing across each other. See screen below:

   ![New Application Screen](image)

   Note: In the Description, you can put anything you like or leave it blank. In our test, we used the following text “This is a fake application. Its purpose is to test the cluster configuration.”

6. Click “Save”
7. Now you should see the following:

**APPLICATION**
- **com.sap.cluster**

**ABOUT**
- **Name:** sapcluster1
- **Description:** This is a fake application. Its purpose is to test the cluster configuration.
- **Type:** Native
- **Vendor:** sap
- **Created on:** 25/01/2016
- **Push URL:**

**STATUS**
- Security profile is empty or invalid
- Endpoint is empty or invalid

### OVERVIEW
- **Endpoint:**
  - Internal
  - Use System Proxy
  - Allow anonymous access
- **Maximum Connections:** 600
- **Certificate alias:**
- **Rewrite Mode:** Rewrite URL in SMP
- **Relative Path:**

### SSO Mechanisms
- **Add**
  - **Type**
  - **Delete**
  - **Up**
  - **Down**

**Back-end Connections:** (0)
8. In **Endpoint** we are going to use **http://www.sap.com**
9. Now click on “AUTHENTICATION”
10. In the SECURITY PROFILE section under Profile Name type a security profile (i.e. `clusterauth`) as shown below:

```
PROFILE Name: clusterauth

Check Impersonation:

AUTHENTICATION PROVIDERS

Type | Description | Control Flag
-----|-------------|--------------

No data
```

11. Now click on the Add button under “AUTHENTICATION PROVIDERS”

```
PROFILE Name: clusterauth

Check Impersonation:

AUTHENTICATION PROVIDERS

Type | Description | Control Flag
-----|-------------|--------------

No data
```

12. Accept the default as shown below:
Add Authentication Provider - No Authentication Challenge

Authentication Providers: No Authentication Challenge

*Control Flag: optional
Provider Description: 

Save  Cancel
13. Click on “Save” and you should see the following success screen:

14. Click on “OK”
15. Now click on “Save” as shown below:
16. Click on yes to confirm the update:

![Application creation screen](image)

17. Now we should have an application created as shown below:

![Application listing screen](image)

18. Now go to the first SMP 3.x VM node
19. We need to verify if the authentication provider xml files have been synced over. Open the following folder, "C:\SAP\MobilePlatform3\Server\configuration\com.sap.mobile.platform.server.security\CSI" in Windows Explorer.

20. See if you have the following xml files listed: \texttt{clusterauth.xml}, \texttt{clusterauth-role-mapping.xml} as shown below:

\begin{verbatim}
<table>
<thead>
<tr>
<th>Name</th>
<th>Date Modified</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin.xml</td>
<td>10/22/2014 9:00 AM</td>
<td>XML Document</td>
<td>2 KB</td>
</tr>
<tr>
<td>admin.xml</td>
<td>10/22/2014 9:00 AM</td>
<td>XML Document</td>
<td>2 KB</td>
</tr>
<tr>
<td>clusterauth.xml</td>
<td>10/22/2014 9:00 AM</td>
<td>XML Document</td>
<td>2 KB</td>
</tr>
<tr>
<td>clusterauth-role-mapping.xml</td>
<td>10/22/2014 9:00 AM</td>
<td>XML Document</td>
<td>2 KB</td>
</tr>
</tbody>
</table>
\end{verbatim}

21. If you see them, that means the sync is working successfully between the two nodes, if not, that means the cluster has a problem.

22. Next step is to verify if the application exists on the first node installation, log on to the SAP Management Cockpit. You should see the screen below:

\begin{verbatim}
Welcome to SAP Mobile Platform

1 Applications

Quick Links
- Configure Application
- Configure Security Profile
- Configure Backend Connection
- View Logs
\end{verbatim}

23. Notice the value of Applications is now “1”. Click on the Applications icon.

24. You should see the application listed and the same authentication provider is used for the fake END POINT we created. You should see the following:
25. Click on the application name “**com.sap.cluster**”

26. Click on the “AUTHENTICATION”, you should see the following:

27. Click on Close
28. Now Click on close
29. Click on the Cluster Tab as shown below and you should see the list of the two SMP nodes in the cluster that we installed:

![Cluster Tab Image]

30. You have now successfully installed SMP 3.0.x in a cluster environment, using ASE back-end database

Summary:
In this paper we were able to configure SMP cluster by using three VMs
1. One for the back-end database which was ASE 15.7 in our test case
2. Two VMs for SMP

We are able to show how we can configure SMP 3.x SP05 by using a back-end database, ASE database server.

We are able to show how we can verify during each installation if it was successful or not. The white paper explained as well how to verify the entire cluster installation if it is working or not and how to troubleshoot most of the problem that an installation could face.
ASE Connection issue

By default ASE uses 25 connections. SMP requires more than 25. If the default value was not changed, the following errors will occur in the SMP log file:

```
com.sap.mobile.platform.server.proxy.configuration.cluster.ClusterApplications' failed with exception. java.lang.RuntimeException: java.sql.SQLException: JZ00L: Login failed. Examine the SQLWarnings
```

To fix this issue, you need to increase the number of connections ASE allowed.

Follow these steps:

1. On the VM or physical machine where ASE was installed, open Sybase Central and connect to your ASE server

2. Right click the hostname after you connect to it and select property as shown below:

3. Now click on Configuration tab
4. From the configuration screen change the number of connections as shown below

   Note: This section below value is required for SP03, in SP05, the configuration SQL file provided by the installer, already configures the “number of user connections” up to 400.
5. In the Show configuration parameters matching type “number of user connection”
6. Then from the property list change the default value from **25** to **300** or more it depends on how your machine can handle.

**Note:** If your ASE server configured with a page size of 16K and you have 8G of RAM, then you may get an error, “The current ‘max memory’ value ‘xxxxxx’, is not sufficient”, if you set it to 300 for the number of user connection. To fix that, you need to increase the max
memory value as shown below:

7. Click on OK
8. Restart your ASE Database service
9. Verify if the issue is fixed
Disabling SySAM Plug-in

To disable SySAM error message when running Sybase Central, do the following:
1. Open Sybase Central
2. Click OK on the error message regarding the SySAM Plug-in
3. Click on Tools
4. Click on Plug-ins as shown below:
5. Select SySAM Administrator as shown below and click on Properties:
How to Install SMP in a Cluster Environment Using ASE DB – Without MBO Runtime

6. Uncheck Load on startup as shown below:

7. Click on Apply and then OK

8. Now close Sybase Central and re-open it, the error should not occur anymore
**SAP Mobile Platform installation and configuration troubleshooting**

During the installation if the following screen where the license agreement is blank as shown below:

That means you ran `setup.jar` and not `setupAMD64.exe`

To fix this, Click **“Cancel”**

1. Right click `setupAMD64.exe`
2. Select **“Run as administrator”**
3. That should fix it