

Document Version: 1.0 – 2020-03-17

# Installing AS ABAP 752 SP04 on Linux: Oracle Virtual Box [ Developer Edition]



## CONTENTS

A.	Introduction .....	<b>4</b>
B.	Preparation .....	<b>6</b>
C.	Create VirtualBox instance; install openSUSE.....	<b>7</b>
D.	Prepare openSUSE system for ABAP installation .....	<b>12</b>
	Check memory .....	12
	Change the Proxy settings, if you are behind a proxy .....	13
	Set DHCP setting to No .....	15
	Install the uidd daemon .....	15
	Edit the hostname and hosts files .....	16
	Copy the ABAP files using WinSCP.....	18
	Assign root privileges .....	19
E.	Install the AS ABAP server .....	<b>21</b>
F.	Install client(s) .....	<b>22</b>
	6. ABAP Development Tools (ADT) ("ABAP in Eclipse") .....	22
	SAP GUI for Windows.....	22
	SAP GUI for Java .....	22
G.	Post-installation settings: Network settings .....	<b>23</b>
H.	Getting started.....	<b>24</b>
	Starting and stopping the server .....	24
	Connecting to the ABAP server from SAP GUI for Windows .....	24
	ABAP license key .....	24
	Guides and Tutorials.....	25
I.	Optimization of SAP ASE Database .....	<b>26</b>
	DBA Cockpit - Set password for its database connection .....	26
	SAP ASE: Deactivating Granular Permissions .....	26
	SAP ASE Auditing .....	26
J.	Troubleshooting resources.....	<b>28</b>
	Troubleshooting downloading issues .....	28
	Troubleshooting ABAP developer edition issues.....	28
	Log files .....	28
	Troubleshooting non-AS ABAP server issues:.....	28

K.	Appendix: Technical Information .....	<b>30</b>
	Directories and Users .....	30
	Uninstalling instructions .....	31

## A. INTRODUCTION

The ABAP application server on ASE 16.0 provides a great platform for trying out the ABAP language and toolset. It is extensively pre-configured with Fiori launchpad, SAP Cloud Connector, SAP Java Virtual Machine, pre-configured backend /frontend connections, roles, and sample applications.

This solution is intended for two groups of developers:

- **Non-ABAP developers**, who are interested in learning more about the ABAP language and development tools
- **ABAP developers**, who are interested in learning about version 7.52

It contains:

- SAP AS ABAP 7.52 SP04
- SAP GUI for the Java 7.5 and SAP GUI for Windows 7.50
- SAP Sybase ASE 16.0 SP02

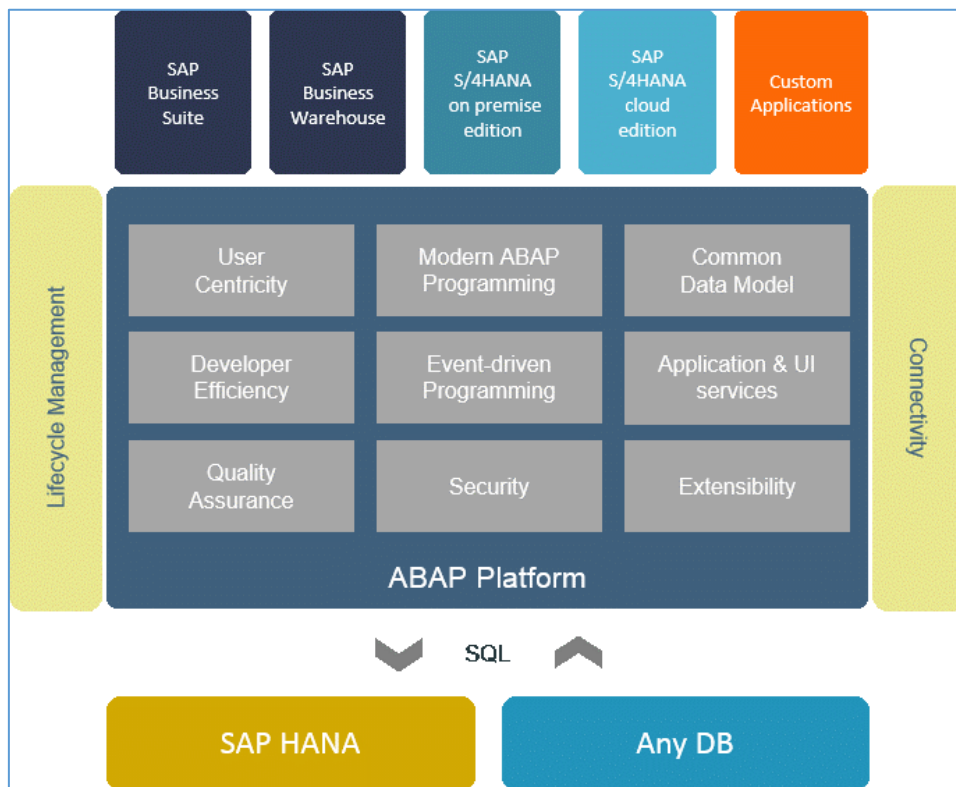


Fig. 1 : SAP AS ABAP Architecture

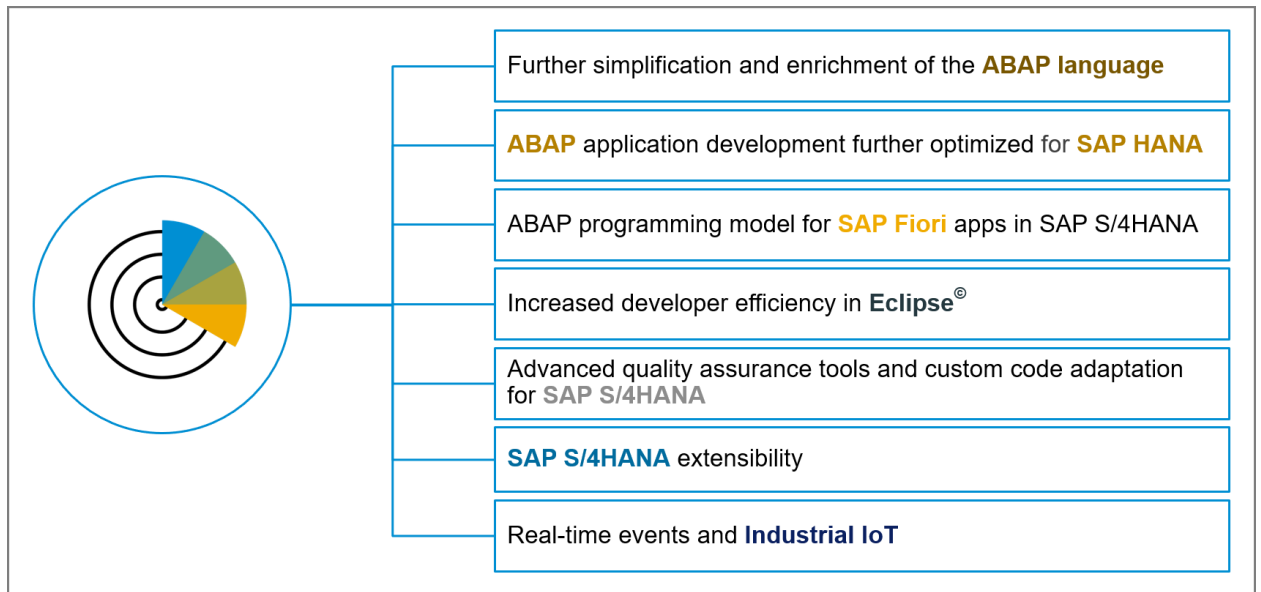


Fig. 2: AS ABAP 7.52 SP04 Highlights

More information: Presentation: [SAP NetWeaver AS for ABAP 7.52 Package – Overview and Product Highlights](#)

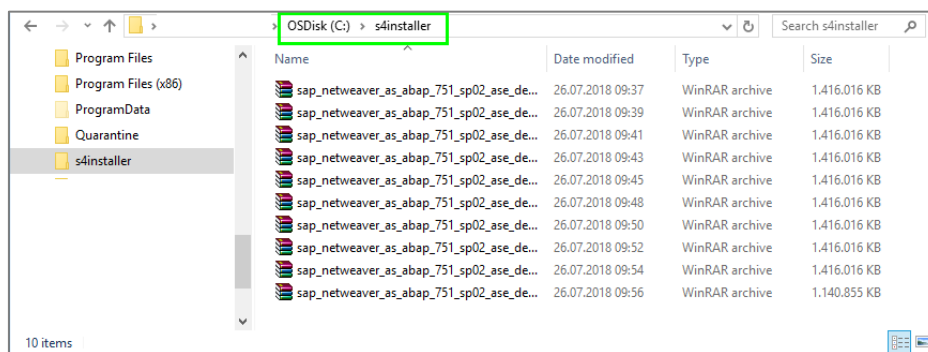
## B. PREPARATION

1. Ensure you have the following hardware:
  - x86\_64 Processor based hardware
  - Required: at least 4 GB RAM plus about 8 GB swap space;
  - Recommended: at least 8 GB RAM plus about 8 GB swap space;
  - About 100 GB free disk space for server installation
  - About 2 GB free disk space for client installation
  - **English** – SAP AS ABAP requires that you configure English (LANG=en\_US.UTF-8) as the operating system language
2. Download the latest released version of Oracle VirtualBox from: <https://www.virtualbox.org/wiki/Downloads> for your operating system.
3. Download openSUSE Leap 15.0 in your local machine (64 bit, released version) from: <https://software.opensuse.org/distributions/leap>
4. Download all the ABAP download files from: <https://developers.sap.com/trials-downloads.html> (search for “ABAP 7.52” ) and save them all to a new folder, named **s4installer**, directly on your local drive.

Note 1: If the path is too long, the download process will not work correctly).

Note 2: Do not download more than 5 files at once.

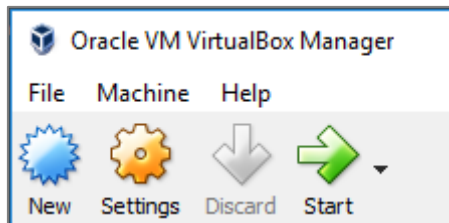
Note 3: We have compressed the install.sh script into separate install.rar files, to maintain the script’s executable permissions.



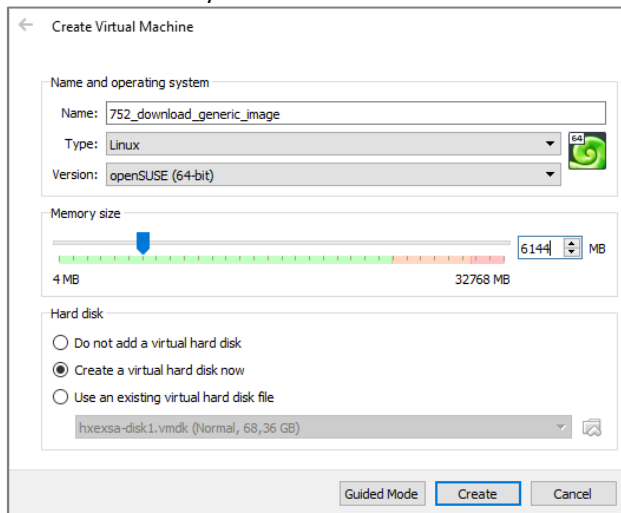
5. Download and install WinSCP (FTP client for Windows): <https://winscp.net/eng/download.php>  
WinSCP is a convenient FTP client for copying the ABAP installation files from your local PC / Laptop to the Linux system. *If your OS System is not Microsoft Windows, you need to use a tool similar to WinSCP.*

### C. CREATE VIRTUALBOX INSTANCE; INSTALL OPENSUSE

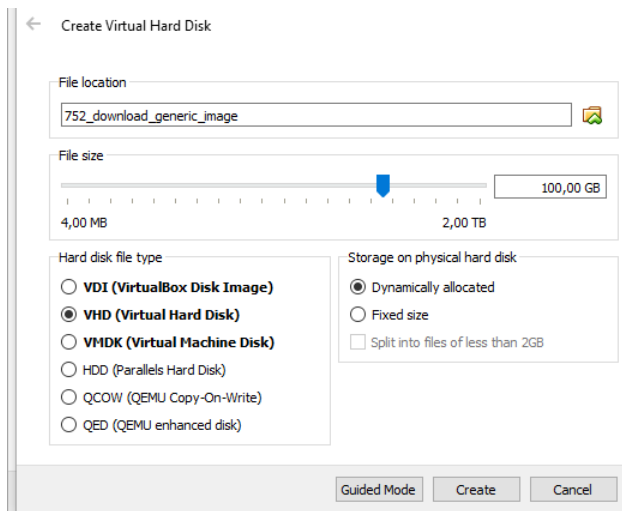
- 1) Start **Oracle VirtualBox** and create a new **VirtualBox** instance by clicking **New**:



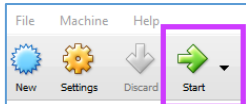
- 2) Enter the following values, then choose **Create**:
  - Name: 752\_download\_generic\_image (for example)
  - Type: Linux
  - Version: openSUSE (64 bit)
  - Select Memory size: 6 GB



- Hard disk: Create a virtual hard disk now
  - Storage on physical hard disk: **Dynamically allocated** -> **Next**
  - File location and size: **100 GB**
- 3) In the dialog that appears, enter the following, then create the virtual machine by choosing **Create**:
    - Storage on physical hard disk: **Dynamically allocated**
    - File location and size: **100 GB**



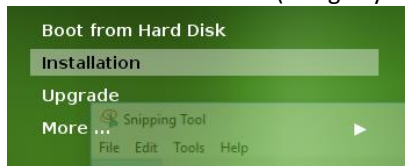
- 4) Again in the **VirtualBox Manager**, click on **Start** to start the VirtualBox:



- 5) In the dialog that appears, navigate to the downloaded openSUSE installation file (format .iso), which you downloaded in Step 2, eg **openSUSE-Leap-42.3**. Then select this drive.

Click on **Start**

- 6) Now choose **Installation** (using keyboard, not mouse):



**Important:** Choose language and keyboard layout (test keyboard).

NOTE: We have only tested the US English-language version. If you have problems, please use the English version. In case of a different keyboard layout, please select yours.

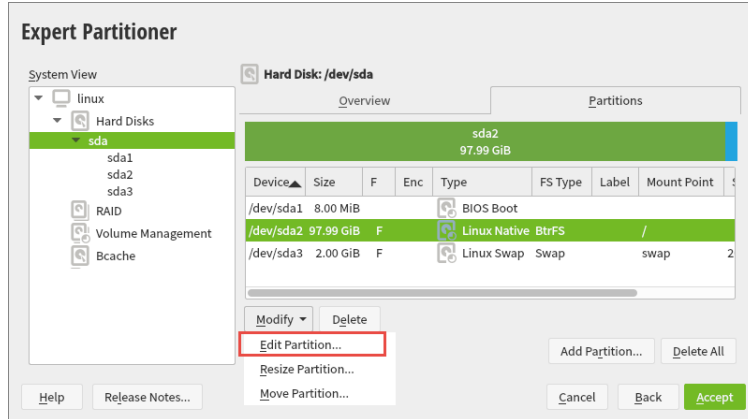
Language English (US)	Keyboard Layout English (US)
Keyboard Test zzz yyyl	

Read and accept the License Agreement by choosing Next.

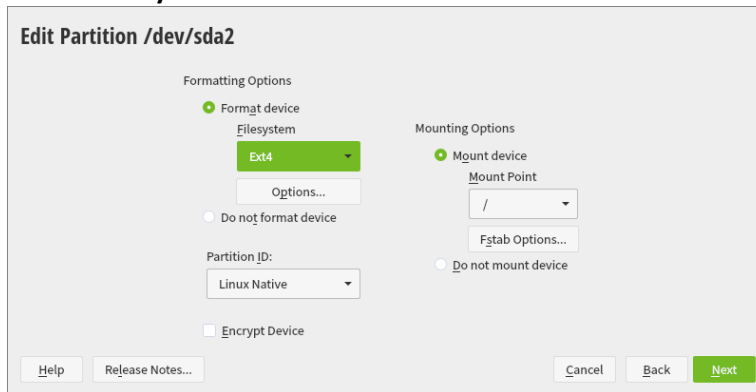
- 7) In **Suggested Partitioning**:

- a) Choose **Expert Partitioner**, then choose your hard disk, e.g. sda2, then choose **Modify > Edit Partition**.

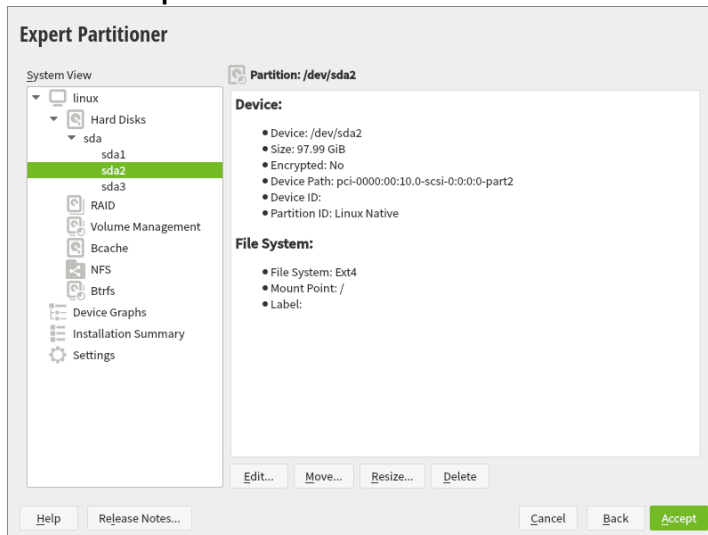
(Note: You can tell which is your hard disk by checking the size.)



b) Choose **filesystem > Ext4 > Next**.

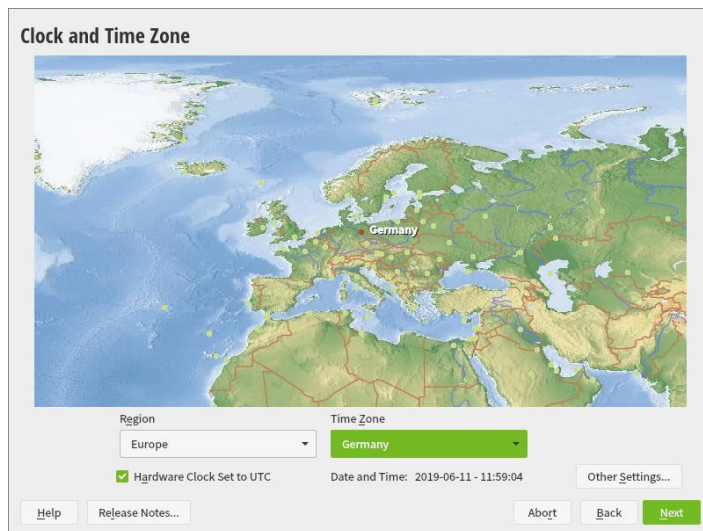


c) Choose **Accept**.



d) Choose **OK > Next**

8) Select Region and Timezone -> **Next**



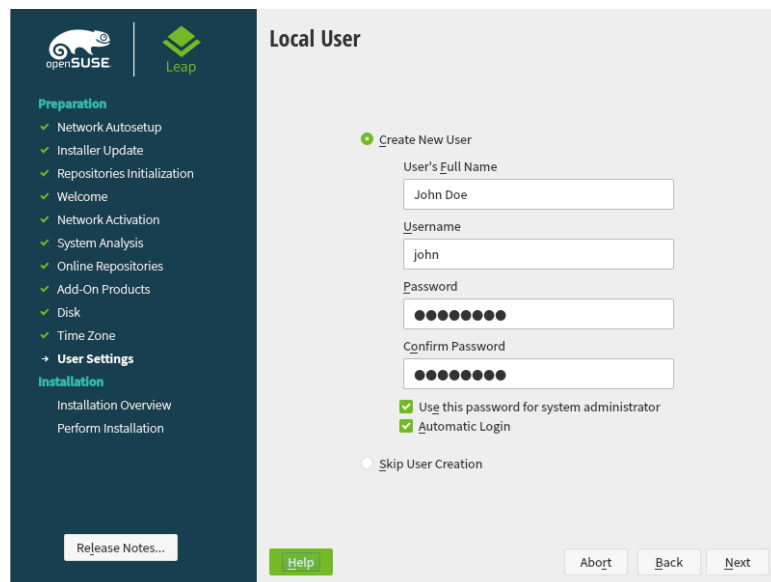
9) In **Desktop Selection**, choose **GNOME** desktop -> **Next**

Enter:

- Your full name
- (Create a) user name
- Create a master password, confirm it > **Next**

(I ticked *Use this password for system administrator* and *Automatic Login*. Leave the authentication method and encryption method as they are.

The password should be 8 characters.)

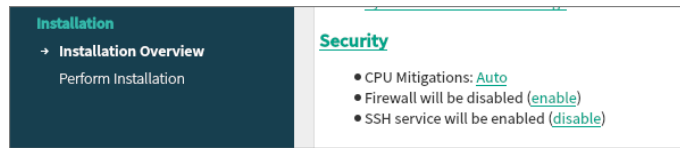


10) **IMPORTANT: In *Installation Settings*, do not choose *Install* yet!**

11) You need to make the following settings. Scroll down to find Firewall and SSH:

- Disable Firewall

- Enable SSH service:



12) Click on **Install** and **Confirm** again to Install the Operating System.

### **The Linux operating system will install**

*So far so good. Time to take a coffee...*

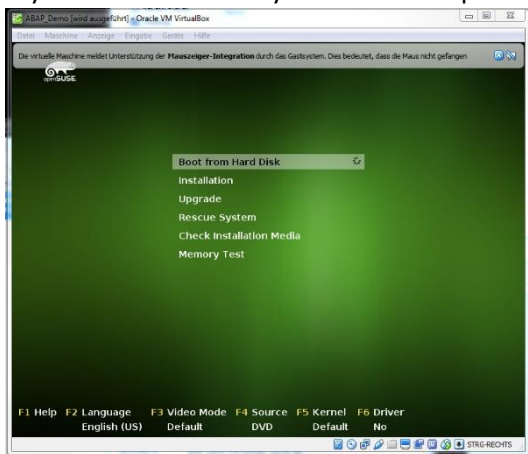
After installation you may be informed that there are updates available. I decided to update and reboot.

## D. PREPARE OPENSUSE SYSTEM FOR ABAP INSTALLATION

In this section, we will make some settings in the openSUSE system to prepare it for the ABAP installation:

- change proxy settings;
- download and extract the ABAP .rar files;
- install the uidd daemon;
- edit the hostname and hosts files;
- assign root privileges to the install script.

1. If you have successfully installed the openSUSE operating system, you will see something like this:



2. Boot up the system by choosing the first option, “Boot from Hard Disk.”

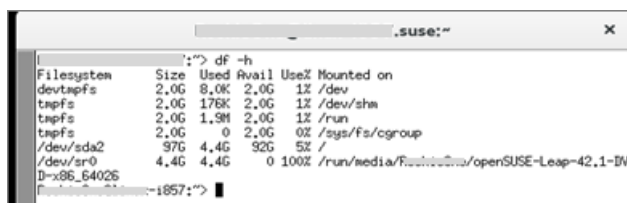
Now, we have some settings to make before we install the ABAP server.

### Check memory

3. First, we want check used memory using a tool called **Terminal**.

(Background note: Technically speaking, we are interacting with the *shell*, a program that passes keyboard commands to the operating system. We are interacting with the shell using a *terminal emulator*, called **Terminal**).

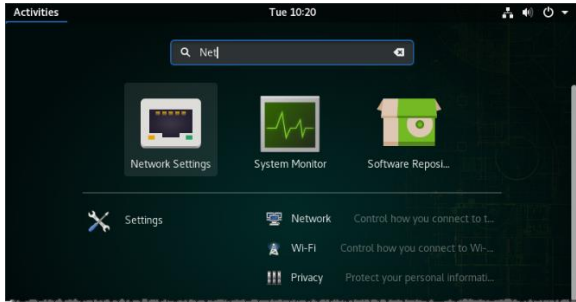
- Again, choose **Activities**, then enter “**T**” as the search term.
- Choose **Terminal**.
- Check used memory by typing **df -h**  
(df = “disk filesystem”; h = “human-readable”)



Minimum space in home directory, e.g. `/dev/sda2` should be at least 90 GB to avoid memory errors during installation. (In this example, mine is **92G**, or 5%.)

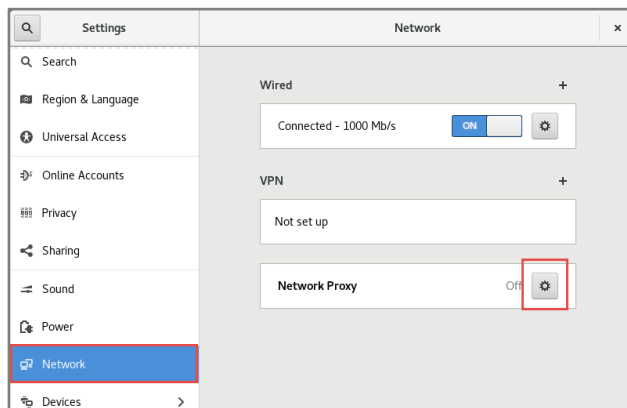
### Change the Proxy settings, if you are behind a proxy

4. Open **Activities** and enter “N” as the search term.  
The system returns something like this:

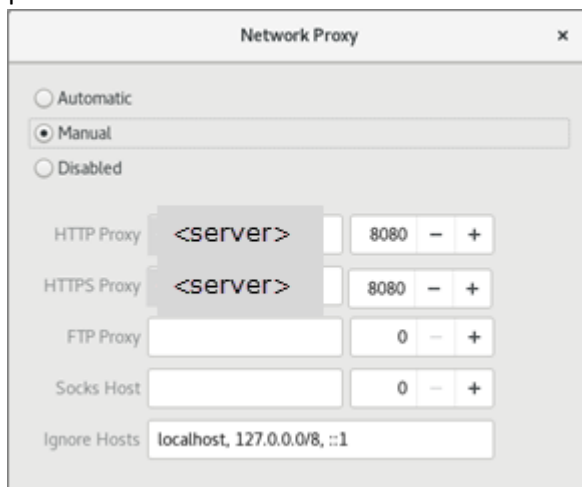


- a) Choose **Network**.

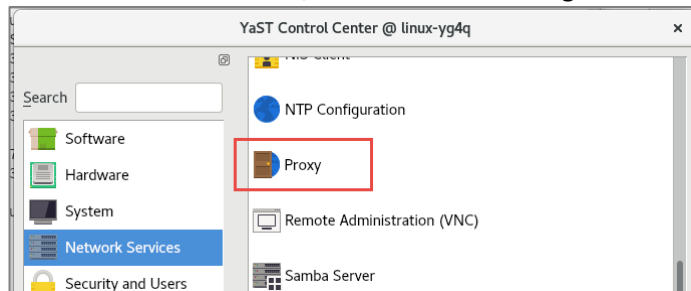
In the dialog that opens, choose **Network Proxy**, then choose the Settings icon, then choose **Manual**:



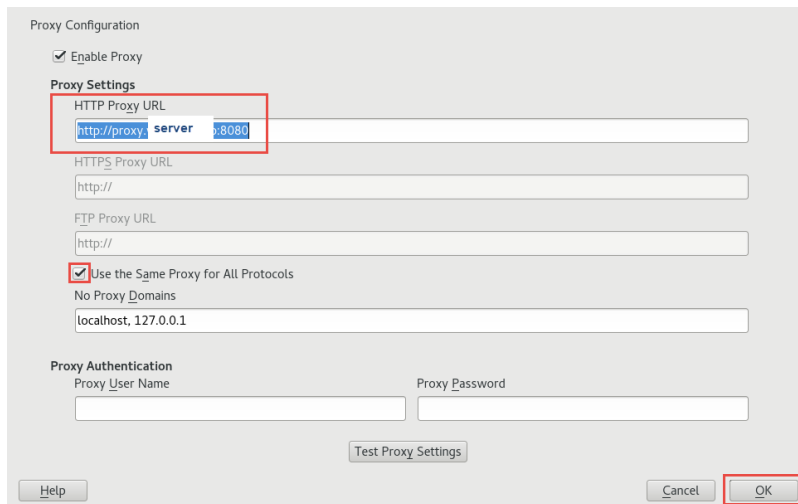
- b) Change the http and https proxy settings according to your company requirements and set the port to 8080:



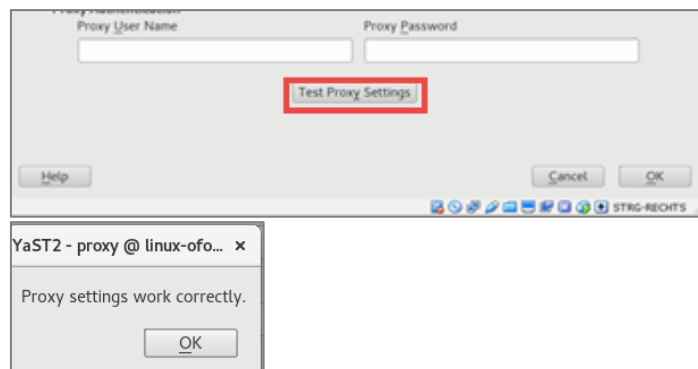
- c) Then close the window.
5. Open the system tool **YaST** (choose *Activities* -> enter "Y" as search term...).
  - a) Enter your root password (ie the one you use to log on to the Linux system.)
  - a. Choose **Network** services, scroll down on the right-hand side, then choose> **Proxy**:



- a) Change the **HTTP proxy URL** to **http://proxy.<proxy\_server>: 8080**, tick **Use same for all**:

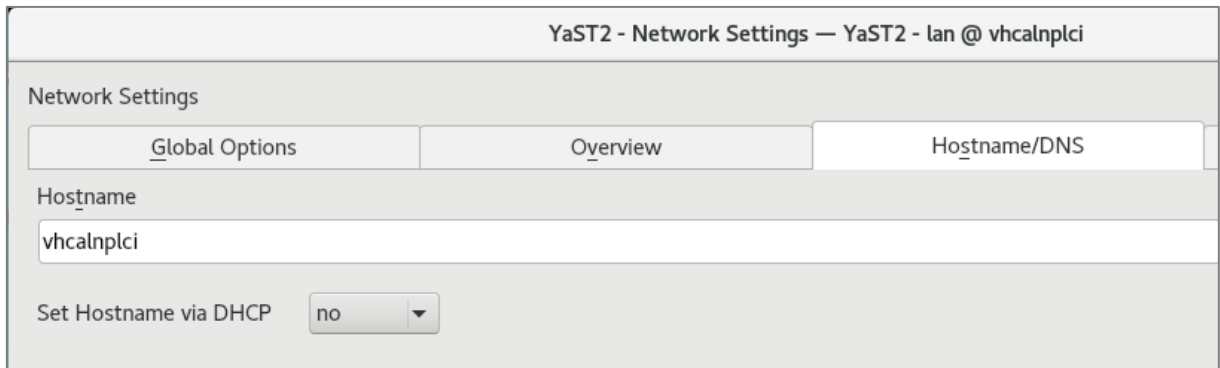


- b) Choose **OK**.
6. Log out, then log in again; reopen YaST.
  - a. Then test the proxy, using "**Test Proxy Settings**":
  - b. Choose OK, OK.



### Set DHCP setting to No

7. In YaST > System > Network Settings, Set Hostname via DHCP = No:

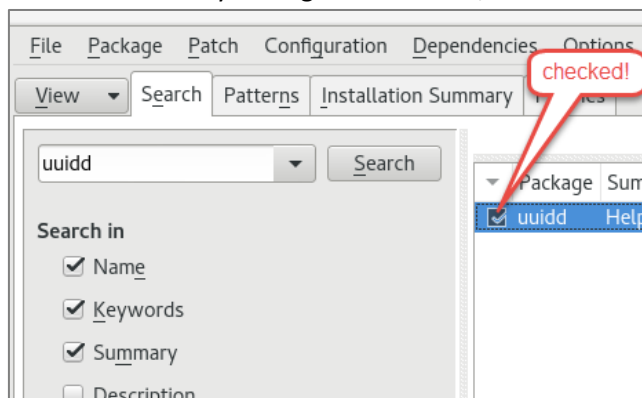


The screenshot shows the 'YaST2 - Network Settings' window with the 'Hostname/DNS' tab selected. The 'Hostname' field contains 'vhcalnplci'. Below it, the 'Set Hostname via DHCP' dropdown menu is set to 'no'.

(Background: Depending on your DHCP setup, the operating system may change the host name - which means that vhcalnplci is no longer configured locally.)

### Install the uuid daemon

8. Now we are going to install the **uuid daemon**. This daemon provides universal unique identifiers – essential for creating database keys. (See SAP Note 1310037 for more details)
9. Still in **YaST**, scroll back up and select **Online Update**.
10. After online update is completed, open the **Search** tab, and enter the search term “uuid”, then choose **Search**.
- a) Choose “uuid” by ticking the checkbox, then choose **Accept**:



- b) YaST will install **uuid**.
11. Similarly, we need to install the unpacking utility, **unrar**.
- a) Again, in **Online Update**, in **Search**, enter the term **unrar**.
- b) Tick the checkbox, choose **Accept**.
- c) Wait till **unrar** is complete and reboot when prompted.
12. Now we are going to check that **uuid** is installed:

- a) Open **Terminal**.
- b) Start **uidd**, by entering: **sudo service uidd start**
- c) Enter the root's password.  
(Note: sudo = "superuser do" ie you need to be a superuser to execute this command. Thus, you also have to enter the root's password.)
- d) Check if the service has started by entering: **sudo service --status-all |grep uidd**
- e) Your Terminal will look like this:

```

.suse:~$ sudo service uidd start
Wir gehen davon aus, dass der lokale Systemadministrator Ihnen die
Regeln erklärt hat. Normalerweise läuft es auf drei Regeln hinaus:

#1) Respektieren Sie die Privatsphäre anderer.
#2) Denken Sie nach bevor Sie tippen.
#3) Mit großer Macht kommt große Verantwortung.

root's password:
.suse:~$ sudo service --status-all |grep uidd
+uidd.service loaded active running session for generating U
UIDs
.suse:~$

```

13. We also need to check that **libaio** or **libaio1** is installed on your Linux system. In Terminal, enter the command **rpm -qa | grep libaio**. The system should return your libaio library and version no:  
libaio1 1-0.3.109-22.3x86\_64 (or similar).

### Edit the hostname and hosts files

14. Still in Terminal, we will **change the hostname**, by entering **sudo nano /etc/hostname**.

- a) Delete the name that is there and replace it with **vhcalnplci**.  
**IMPORTANT:** Do not rename the server after installation. This feature has been removed from this developer edition for simplicity's sake.
- b) It should look something like this:

```

juliePlummer@linux-1xlq.suse:...dia/sf_s4installer
GNU nano 2.8.5 File: /etc/hostname

vhcalnplci

[ Switched to /etc/hostname ]
Get Help Write Out Where Is Cut Text Justify Cur Pos
Close Read File Replace Uncut Text To Spell Go To Line

```

- c) Save your changes by choosing **Ctrl+o**, then **Enter**.
- d) Quit the editor by choosing **Ctrl+x**.
- e) Check by entering **sudo cat /etc/hostname**
- f) Restart network by entering: **sudo rcnetwork restart**
- g) Restart your Linux instance

h) Check that the hostname has changed by entering **hostname**

15. Now we will **map the IP address** to the new hostname:

a) Get the IP address of your Linux instance using **ip -h addr show**  
(-h = human-readable)

```
File Edit View Search Terminal Help
juliePlummer@vhcalnplci:~> ip -h addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 q
    link/ether 08:00:27:00:00:00 brd ff:ff:ff:ff:ff:ff
    inet 100.100.100.100/24 scope global
        valid_lft forever preferred_lft 1202sec
    inet6 fe80::208:0:27:0:0:0/64 scope link
        valid_lft forever preferred_lft forever
juliePlummer@vhcalnplci:~>
```

b) Open the **hosts** file by entering **sudo nano /etc/hosts**

c) Add a new entry of the form:

<IP\_Address> vhcalnplci.dummy.nodomain vhcalnplci

```
Activities Terminal Mon 12:26
julieplummer@vhcalnplci:~
File Edit View Search Terminal Help
GNU nano 2.8.5 File: /etc/hosts
#
# 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
Read 24 lines
Get Help Write Out Where Is Cut Text Justify Cur Pos
Exit Read File Replace Uncut Text To Spell Go To Line
```

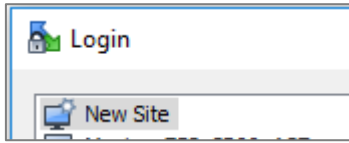
d) Again, save your changes by choosing **Ctrl+o**, then **Enter**.

e) Quit the editor by choosing **Ctrl+x**.

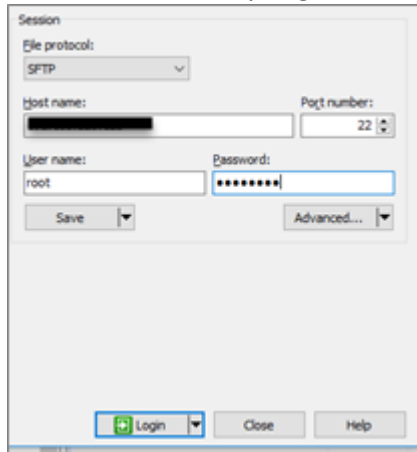
f) Check the changes by using the command **sudo cat /etc/hosts**

Copy the ABAP files using WinSCP

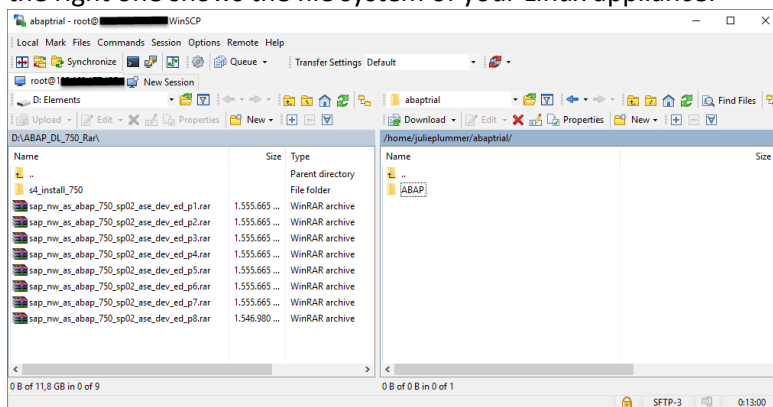
16. Start your FTP client, such as WinSCP, and select **New Site**:



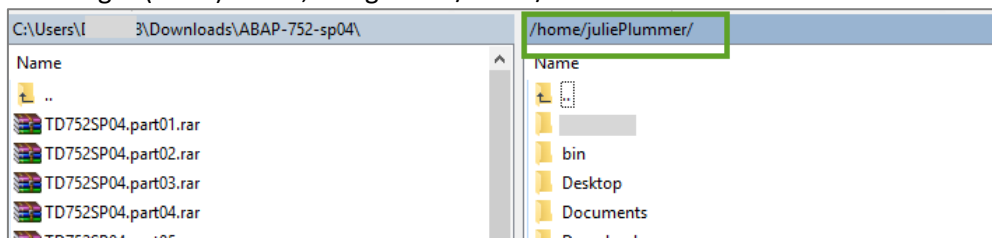
17. Take the IP address you got from command `ip -h addr show` above:



18. If you connect successfully, you'll see 2 tabs. The left shows the file structure your local PC / laptop, the right one shows the file system of your Linux appliance:



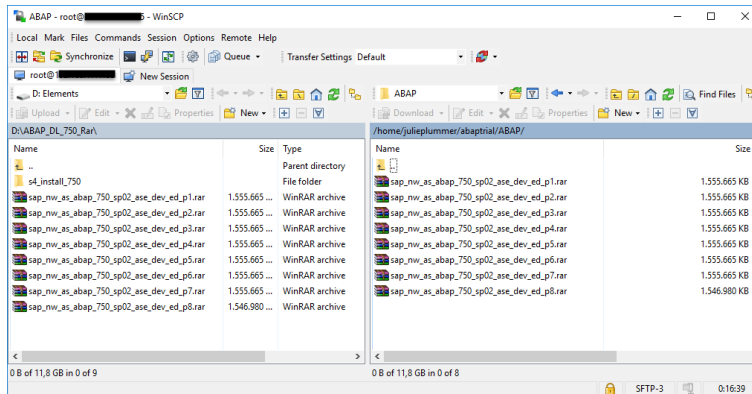
19. In the right (Linux) frame, navigate to `/home/<username>`



20. Create a directory named **abaptrial**, and within that, a directory named **ABAP**

21. In the left (Windows) frame, navigate to the folder that contains the ABAP installation files you downloaded before.

22. Copy the whole content to your <username>/home/abaptrial/ABAP folder. That will take a few minutes:



23. Now you need to unpack the .rar files in Linux.

- Go back to your Linux instance and open **terminal**
- In the download folder **/home/abaptrial/ABAP**, execute the following command (as superuser):  
**\$ sudo unrar x TD752SP04.part01.rar**

(Note: “**x**” = “extract, retaining existing directory structure”. Unrar then extracts all files automatically.)

```
Extracting client/SAPGUI4Windows/50144807_6.ZIP 97%
Extracting from TD752SP04.part11.rar
... client/SAPGUI4Windows/50144807_6.ZIP OK
Extracting client/JavaGUI/50144807_7.ZIP OK
Extracting client/JavaGUI/PlatinManual_12-20012039.zip OK
Extracting client/JavaGUI/PlatinManual750_5-80002496.ZIP OK
All OK
juliePlummer@vhcalnplci:~/abaptrial/ABAP>
```

Later, when the installation and setup of the ABAP System is done and everything works fine, you should delete the ABAP folder to save disk space on your virtual appliance.

### Assign root privileges

24. And now... (last step before we install), we will **assign root privileges**, by entering **sudo -i**
- Enter the root's password and navigate to the shared folder with the ABAP installation:  
**cd /media/sf\_s4installer**

```
File Edit View Search Terminal Help
vhcalnplci:~ # ls
.bash_history .cache .config .curlrc .dbus .gnupg
vhcalnplci:~ # cd ~
vhcalnplci:~ # cd..
vhcalnplci:/ # ls
bin boot dev etc home lib lib64 lost+found mnt
vhcalnplci:/ # cd home
vhcalnplci:/home # ls
juliePlummer
vhcalnplci:/home # cd juliePlummer/abaptrial/ABAP
vhcalnplci:/home/juliePlummer/abaptrial/ABAP #
```

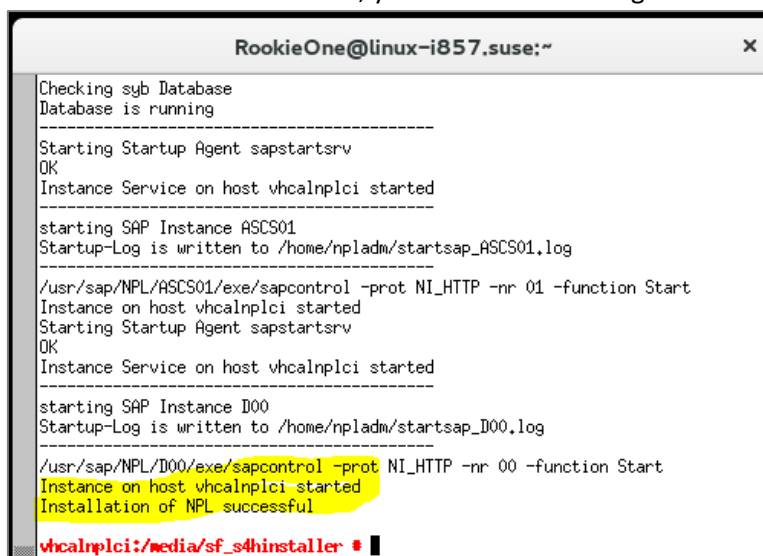
- b. Change the access rights of the install script: **chmod +x install.sh**

```
abaptrial@vhcalnplci:~
abaptrial@vhcalnplci:~> sudo -i
[sudo] password for root:
vhcalnplci:~ # cd /home/abaptrial/ABAP
vhcalnplci:/home/abaptrial/ABAP # ls
SAP_COMMUNITY_DEVELOPER_License client img install.sh readme.html server
vhcalnplci:/home/abaptrial/ABAP # chmod +x install.sh
vhcalnplci:/home/abaptrial/ABAP # ./install.sh
```

## E. INSTALL THE AS ABAP SERVER

FINALLY, we run the installation, by entering the command `./install.sh`

1. Read and accept the license agreement. Note: To escape from the License Agreement, choose “**Esc**” followed by “:q”.
2. When prompted for the OS user’s password enter your master password of the virtual Linux OS instance twice
3. Be patient, this will take a while...
4. If the installation is successful, you will see something like this:



```
RookieOne@linux-i857.suse:~
Checking syb Database
Database is running
-----
Starting Startup Agent sapstartsrv
OK
Instance Service on host vhcainplci started
-----
starting SAP Instance ASCS01
Startup-Log is written to /home/npladm/startsap_ASCS01.log
-----
/usr/sap/NPL/ASCS01/exe/sapcontrol -prot NI_HTTP -nr 01 -function Start
Instance on host vhcainplci started
Starting Startup Agent sapstartsrv
OK
Instance Service on host vhcainplci started
-----
starting SAP Instance D00
Startup-Log is written to /home/npladm/startsap_D00.log
-----
/usr/sap/NPL/D00/exe/sapcontrol -prot NI_HTTP -nr 00 -function Start
Instance on host vhcainplci started
Installation of NPL successful
vhcainplci:/media/sf_s4hinstaller #
```

5. If so, get out of root by entering: `su <username>` .

## F. INSTALL CLIENT(S)

### ABAP Development Tools (ADT) (“ABAP in Eclipse”)

To install ADT, go to [SAP Development Tools: ABAP](#) and follow the instructions there.

#### SAP GUI for Windows

If you have already a SAP GUI installation you can connect to your system (see “[Connecting from SAP GUI for Windows](#)”, below). If not, this download ships with the installation files for SAP GUI for Windows, available in `<install_folder>\client\SAPGUI4Windows`. Since you have extracted the .tar files in Linux, you need to move this folder to Windows in WinSCP:

1. Open WinSCP.
2. Navigate to `<install_folder>\client\SAPGUI4Windows\50144807_6.ZIP`
3. Copy **50144807\_6.ZIP** to your Windows local drive and extract it.
4. In the extracted archive, navigate to `...PRES\GUI\Windows\Win32\SetupAll.exe` and run it, following the instructions in the Wizard.

#### SAP GUI for Java

This download ships with the installation files for SAP GUI for Java, available in:

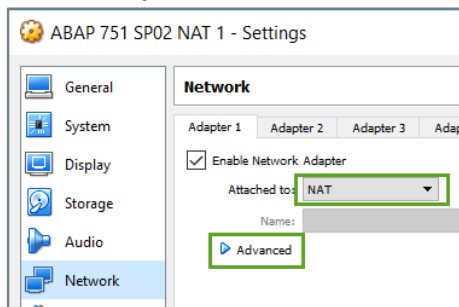
`<install_folder>\client\javagui` .

Requirements for SAP GUI for Java include Oracle Java SE 8 32-bit or 64-bit, a properly installed Java Plugin and C++ runtime `libstdc++.so.6`.

## G. POST-INSTALLATION SETTINGS: NETWORK SETTINGS

We need to enter the right proxy settings at Virtual Box level, so that SAP GUI, ABAP in Eclipse etc can find your ABAP system:

1. In Oracle VirtualBox Manager, select the VirtualBox with the installed ABAP system on it, then choose *Settings* from the context menu.
2. From the left-hand menu, choose **Network**.
3. On the **Adapter 1** tab, choose **Attached to: NAT**:



4. Open **Advanced**, then choose **Port Forwarding**.
5. In the dialog that appears, enter the following settings:

Name	Protocol	Host IP	Host Port	Guest IP	Guest Port
HTTP	TCP	127.0.0.1	8000	10.0.2.15	8000
HTTPS	TCP	127.0.0.1	44300	10.0.2.15	44300
RFC	TCP	127.0.0.1	3300	10.0.2.15	3300
SAPGUI	TCP	127.0.0.1	3200	10.0.2.15	3200

## H. GETTING STARTED

### Starting and stopping the server

With the user **npladm** you can start and stop the server using the terminal commands **startsap** and **stopsap** respectively.

### Connecting to the ABAP server from SAP GUI for Windows

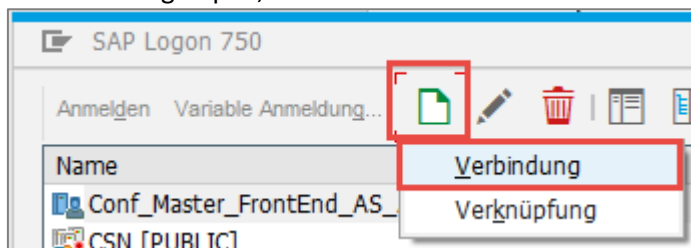
The VirtualBox VM is assigned the IP address 10.0.2.15 (because of the NAT network type). Your local WINDOWS cannot see that IP. Instead it will communicate to the VirtualBox VM through port-forwarding using 127.0.0.1 (your windows local host).

To connect to the ABAP server using SAP GUI for Windows:

1. Navigate to your Windows hosts file: C:\Windows\System32\drivers\etc\hosts.
2. Open this file in Administrator mode and add the following lines:

```
#DL 752 SP02
127.0.0.1          vhcalnplci vhcalnplci.dummy.nodomain
```

3. In the SAP Logon pad, choose **New > Connection**:



4. Choose **User-specific system** and enter the following:
  - Application server = 127.0.0.1
  - Instance = 00
  - System ID = NPL

Beschreibung:	NPL NAT
Anwendungsserver:	127.0.0.1
Instanznummer:	00
System-ID:	NPL
SAProuter-String:	

### ABAP license key

1. Start the SAP system:
  - a) Switch to user **npladm** with your master password in the console: **su npladm**
  - b) Start the SAP system: **startsap**

1. Log on to the system in SAP GUI, client **000** as user **SAP\***
2. with default password **Down1oad**. In transaction **SLICENSE** , ascertain your hardware key.
3. Request the license key for your trial version at [SAP Sneak Preview License Key Request](#).
  - a) Select *NPL – SAP NetWeaver 7.x (Sybase ASE)* as System ID.
  - b) Enter your personal data and agree to the License Agreement.
  - c) Choose *Generate* bottom right corner of screen.)
  - d) The web site automatically generates a .txt file for this system/key. Download and save this file, eg on the desktop for convenience.
4. Go to transaction **SLICENSE** and install the license file:
  - a) In the tab *Digitally signed licenses*, delete the existing license, then choose *Install*. This opens the text file you got and installs the new license key.

Please note that all the above steps **must** be carried out; otherwise, the above user key will not work. The system type changes to Demo. You can now explore the demo scenarios and develop using the ABAP tools in ABAP Developer Tools (ADT) and new features like the Core Data Services or SAPUI5 UIs.

## Guides and Tutorials

The [Guides and Tutorials](#) page includes:

- Reference scenarios
- Tutorials, eg for ABAP Basics, Core Data Services, SAP Gateway...
- Developer Guide to SAP HANA Studio
- (Older tutorials)

## I. OPTIMIZATION OF SAP ASE DATABASE

### DBA Cockpit: Set password for its database connection

To use DBACOCKPIT, you need to set the user credentials of the database connection that DBACOCKPIT will use. To do so, follow the steps:

1. Log into the SAP system with SAP GUI using the user DEVELOPER, client 001 and your password
2. Call transaction **DBCO**
3. Switch to the **Change mode** (Ctrl + F1)
4. Select database connection **+++SYBADM** and click Goto → Details
5. Enter the correct password of SAP ASE database user sapsa
6. Hit the **Save** button (Ctrl + S)
7. Switch to the **View mode** (Ctrl + F4)

### SAP ASE: Deactivating Granular Permissions

The database of the SAP NetWeaver Developer Edition for SAP ASE is configured with granular permissions. This is the default setup for SAP ASE 16.0 SP03 running SAP NetWeaver. Since various parameters of the database are configured in a way to enable the usage of the SAP NetWeaver Developer Edition on small personal computers, you may experience a slow performance. If your use cases for the SAP NetWeaver Developer Edition do not require granular permissions being active and set up, you can improve performance by deactivating this option. You can achieve this by:

1. Log into the operating system as user **sybnpl**
2. Run the command **isql -Usapsa -X -SNPL**
3. Run command **sp\_configure 'granular permission', 0**
4. Run the command **go**
5. Run the command **quit**

### SAP ASE: Auditing

The database of the SAP NetWeaver Developer Edition for SAP ASE is configured in a way to keep an audit log of various activities on database level. This is the default setup for SAP ASE 16.0 SP03 running SAP NetWeaver. This audit log will accumulate and use up free space in the database. After some time this may mean that space needs to be freed up. In addition, you may not need to keep an audit log for your use cases. In this case, you can easily turn off auditing by following the steps:

1. Log into the operating system as user **sybnpl**
2. Run the command **isql -Usapsa -X -SNPL**
3. Run command **sp\_configure 'auditing', 0**

4. Run the command **go**
5. Run the command **quit**

## J. TROUBLESHOOTING RESOURCES

### Troubleshooting downloading issues

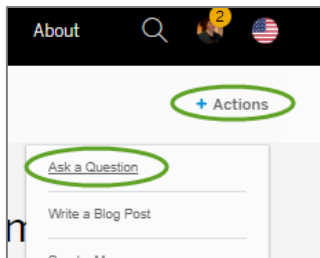
If that fails, try contacting support team from link below

<https://go.support.sap.com/contactus/#/email>

### Troubleshooting ABAP developer edition issues

Search first! Then ask your question in the ABAP Development Community forum:

<https://www.sap.com/community/topic/abap/all-content.html>



If it is an issue specifically involving ABAP developer edition, remember to add the hashtag **#ABAP\_Trial**. Please do **not** use comments in the blogs to ask tech support questions:

- Very few people follow these blogs, so you will not get help from the vast majority of the community
- There is no capacity to monitor all blogs for all released versions.
- It makes it difficult for other users to find similar issues in future, which leads to many duplicated errors.

### Log files

If so, they should be in: /tmp/sapinst\_instdir/NW73/SBC/STANDARD/

1. Navigate to this directory.
2. Open each file sap\*.log in a text editor.
3. Copy the error messages (not INFO or WARNING) and paste them in here.

Then we can try to help.

### Troubleshooting non-AS ABAP server issues:

**For VirtualBox questions** (ie if you don't get as far as openSUSE):

[Oracle Virtual Desktop Infrastructure, Getting Started](#)

(For example, see chapter 6.3 : Creating a New Virtual Machine)

Also, check out the : [Oracle VirtualBox Forum](#)

### For openSUSE:

If you are newish to Linux, and want to do **one** thing to get up to speed, I would suggest familiarity with

Terminal. I found William Schotts' guide helpful – and surprisingly readable:

[The Linux Command Line](#)

Also, check out the SAP on Linux forum: [SAP Community SAP on Linux Forum](#)

There is also a general (non-SAP) forum for openSUSE : [openSUSE Forum](#)

**For SAP GUI:**

[SAP Community forum](#) (new)

[SCN forum – old archive](#)

## K. APPENDIX: TECHNICAL INFORMATION

### Directories and Users

The installation creates following directories and users:

Created Directories:

Directory	Size
/sapmnt	~ 2 GB
/sybase	~ 50 GB
/usr/sap	~ 3 GB

Created Users on OS level

The installation creates following users on OS level. During the installation you are prompted to enter the master password.

User name	Password	Description
sapadm	master password	Created by SAP hostagent
npladm	master password	SAP System Administrator
sybnpl	master password	SAP Database Administrator

The installed system provides the following database users:

User name	Password	Description
SAPSR3	Master password	SAP Schema User
sa	Master password	Superuser
sapsa	Master password	Superuser
sapsso	Master password	Superuser

The installed system provides the following SAP users in client 000:

User name	Password	Description
DDIC	Download	Data Dictionary User
SAP*	Download	SAP Administrator

The installed system provides the following SAP users in client 001:

Note: In general, you should develop using DEVELOPER or BWDEVELOPER (for BI content). SAP\* is only for admin purposes, eg renewing the license.

User name	Password	Description
DDIC	Down1oad	Data Dictionary User
SAP*	Down1oad	SAP Administrator
DEVELOPER	Down1oad	Developer User
BWDEVELOPER	Down1oad	Developer User

## Uninstalling instructions

If you ever want to uninstall your server, proceed as follows:

1. Delete the created directories
2. Delete the OS users
3. Delete the added lines in /etc/services (should be the last lines beginning with sap\* and sql6\* respectively)
4. Delete the line containing nplhost in /etc/hosts
5. Delete the symbolic link S99\_nplhost.sh in the directory /etc/init.d/rc3.d in case of SUSE or /etc/rc3.d in case of Red Hat
6. Restart your network.



[www.sap.com/contactsap](http://www.sap.com/contactsap)

© 2017 SAP SE or an SAP affiliate company. All rights reserved.  
No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP SE or an SAP affiliate company.

The information contained herein may be changed without prior notice. Some software products marketed by SAP SE and its distributors contain proprietary software components of other software vendors. National product specifications may vary.

These materials are provided by SAP SE or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP SE (or an SAP affiliate company) in Germany and other countries. All other product and service names mentioned are the trademarks of their respective companies. Please see [www.sap.com/corporate-en/legal/copyright/index.epx](http://www.sap.com/corporate-en/legal/copyright/index.epx) for additional trademark information and notices.

