

Setup SAP ERP 2004 SR1 IDES on Debian Sarge with Oracle

SDN Community Contribution

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Applies To:

SAP ERP 2004 SR1 IDES on Oracle for Linux.

Summary

Complete Setup guide for SAP ERP 2004 SR1 IDES on Oracle for Debian Sarge GNU/Linux.

IDES demo landscapes are preconfigured installations of mySAP Business Suite components, populated with the data and business processes of a fictional enterprise. This model corporation consists of several companies located around the globe with clearly defined and independent business tasks.

Customers and partners can install a complete mySAP Business Suite IDES demo environment.

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Date: 04 Dec 2005

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Prerequisites

- PC with at least 512 MB RAM and 160 GByte Hard Disk space
- The Debian [Netinstall Image](#)
- The SAP ERP 2004 SR1 IDES installation media
- My Configuration 1024 MB Total RAM

Debian installation

This is a short description of the Debian installation

- Insert the Debian Netinstall image into your PC and boot from it.
- Start the default kernel (2.4.x) by hitting enter
- Language: English
- Country: Other -> Europe -> Germany
- Keymap: German
- Hostname: zappod
- Domain name: csw.local
- Partitioning: Create a Swap Partition with 3 GByte and use the rest for the root filesystem. The root filesystem has to be at least 130 GByte.
- Install GRUB: Yes
- Installation complete: Remove CD -> Continue
- System is rebooted
- Welcome: OK
- Hardware clock on GMT: No
- Berlin Timezone: Yes
- Enter root password two times
- User Full name: Gregor Wolf
- Username: gwolf
- Enter user password two times
- Archive access: http
- Mirror: Germany -> ftp.de.debian.org
- HTTP Proxy: http://proxy:3128/
- Choose no software to install
- Exim: mail via smarthost + SMTP
- Outgoing mail: gateway.csw.local
- Root & postmaster mail: gwolf
- Setup complete OK

Additional Packages

For a successful installation you need some additional software packages. This is required

- x-window-system-core – The SAP Installer runs on X-Windows
- java-package – The SAP Installer is a Java Application
- samba – I use it to copy the Downloaded J2SE to my Debian Server
- libstdc++2.10-glibc2.2 – Is needed by SAP Installer also
- libstdc++2.10-dev – needed by Oracle for compilation
- pdksh – this shell is needed by Oracle
- unzip – also needed by Oracle

- original-awk – also needed by Oracle
- csh – the SAP Installer created Users use this shell
- vnc4server – to access the X-Windows Server from remote
- fvwm95 – minimal Window manager
- xterm – terminal in X-Windows
- xdm – login manager for X-Windows

Before you start editing any config file install the Improved VI vim:

```
apt-get install vim
```

The java-package is a contrib. package so you have to edit /etc/apt/sources.list and add “contrib non-free” to the lines deb and deb-src like I have done:

```
deb http://ftp.de.debian.org/debian/ stable main contrib non-free
deb-src http://ftp.de.debian.org/debian/ stable main contrib non-free
```

After this step run

```
apt-get update
```

to update you package cache. Now you can start installing the Packages with

```
apt-get install x-window-system-core java-package samba \
libstdc++2.10-glibc2.2 libstdc++2.10-dev csh vnc4server \
fvwm95 pdksh unzip original-awk xdm xterm
```

You will be asked to add additional packages. Answer “Y” to this question.

Configure Samba Server

Now configure samba so that you can access your Home Directory from a Windows Client:

- Workgroup: lupomania
- Use password encryption? Yes
- Modify smb.conf to use WINS settings from DHCP? Yes
- How do you want to run Samba? daemons
- Create samba password database, /var/lib/samba/passdb.tdb? Yes

Back on the Command Line set a Samba Password for your user

```
zappod:~# smbpasswd -a gwolf
New SMB password:
Retype new SMB password:
```

Now change /etc/samba/smb.conf so that you can write files to your Home Directory:

```
zappod:~# vi /etc/samba/smb.conf
[homes]
writable = yes
```

X-Server setup

- Attempt to autodetect video hardware? No
- Select the desired X server driver. Vesa
- Please select the XKB rule set to use. xfree86
- Keyboard: OK
- Please select your keyboard model. pc105
- Please select your keyboard layout. de
- Please select your keyboard variant.
- Please select your keyboard options.
- Please choose your mouse port. /dev/psaux
- Please choose the entry that best describes your mouse. MouseManPlusPS/2
- Is your monitor an LCD device? Yes
- Please choose a method for selecting your monitor characteristics. Medium
- Please select your monitor's best video mode. 1024x768 @ 60Hz
- Select the video modes you would like the X server to use. [*] 1024x768
- Please select your desired default color depth in bits. 16

Java Environment

Download Download J2SE SDK self-extracting file for Linux from <http://java.sun.com/j2se/1.4.2/download.html>. Copy J2SE to \\zappod\gwolf

```
zappod:~# su - gwolf
gwolf@zappod:~$ fakeroot make-jpkg j2sdk-1_4_2_10-linux-i586.bin
Is this correct [Y/n]:Y
Full name [root]:
Email [root@localhost.localdomain]:
Press [Return] to continue:
Do you agree to the above license terms? [yes or no]
yes
The Debian package has been created in the current directory. You can
install the package as root (e.g. dpkg -i sun-j2sdk1.4_1.4.2+10_i386.deb).

Removing temporary directory: done
gwolf@zappod:~$ exit
logout
zappod:~# dpkg -i /home/gwolf/sun-j2sdk1.4_1.4.2+10_i386.deb
Selecting previously deselected package sun-j2sdk1.4.
(Reading database ... 24458 files and directories currently installed.)
Unpacking sun-j2sdk1.4 (from .../sun-j2sdk1.4_1.4.2+10_i386.deb) ...
```

```
Setting up sun-j2sdk1.4 (1.4.2+10) ...
```

Test the installation with "java -version":

```
zappod:~# java -version
java version "1.4.2_10"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.2_10-b03)
Java HotSpot(TM) Client VM (build 1.4.2_10-b03, mixed mode)
```

VNC Setup

To access the X-Windows system from remote you can setup VNC. This is done in the `/etc/X11/XF86Config-4` file:

```
Section "Module"
    ...
    Load "vnc"
EndSection
Section "Screen"
    Option "passwordFile" "/root/.vnc/xserver"
    ...
EndSection
```

Now create the `.vnc` directory and the VNC Password File:

```
mkdir /root/.vnc
vnc4passwd /root/.vnc/xserver
```

Finally restart XDM to activate the changes

```
/etc/init.d/xdm restart
```

Copy Installation CDs/DVDs to Harddisk

To make installation easy you should copy all needed disks to your Harddisk. You will need:

- SAP ERP 2005 Installation Master CD
- SAP Kernel 6.40 32-Bit Oracle for SAP ECC 5.0
- SAP NetWeaver 04 IGS
- SAP ERP 2004 IDES DB-Export Part 1, 2 and 3-8
- Oracle 9.2 RDBMS Linux
- Oracle 9.2 Patch 9.2.0.6

I've created the directory `/home/sap` with a Subdirectory for every Disk:

```
mkdir /home/sap
cd /home/sap/
```

```
mkdir inst-master
mkdir kernel
mkdir java
mkdir dbex1
mkdir dbex2
mkdir dbex3
mkdir oracle
mkdir oracle-patch
```

```
cd inst-master/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../kernel/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../java/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../dbex1/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../dbex2/
mount /cdrom
```

```
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../dbex3/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../oracle/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

```
cd ../oracle-patch/
mount /cdrom
cp -r /cdrom/* .
umount /cdrom
eject /cdrom
```

Set Kernel Parameters

According to SAP Note No. 171356 you have to set some kernel parameters. This is done in `/etc/sysctl.conf`:

```
kernel.shmmax = 1879048192
kernel.msgmni = 128
fs.file-max = 8192
```

After the changes run "sysctl -p".

Setup Central Instance

Before you can start the Central Instance Setup you have to adjust `/etc/hosts` so a reverse lookup also returns the hostname

```
vi /etc/hosts
127.0.0.1      localhost
192.168.255.106 zappod
```


Also the environment variable LD_LIBRARY_PATH has to be set. Edit /root/.bashrc and add this line:

```
export LD_LIBRARY_PATH=/oracle/IDS/920_32/lib/:/sapmnt/IDS/exe/
```

After logoff/logon the Variable will be set. Now after we have all Installation Disks available we can start to install the Central Instance.

```
cd /home/sap/inst-master/IM1/SAPINST/UNIX/LINUX_32
./sapinst
```

After starting sapinst the GUI will appear. Do these steps:

- Choose SAP ERP 2004 -> SAP ECC 5.0 ABAP System -> non-Unicode -> Install a Central Instance
- Enter SAP System ID: IDS
- Keep default Database Parameters
- I've set the Instance RAM to 512 MB
- No LDAP Support
- Keep the Instance Files location
- Keep the Database Parameters
- Keep the Operating System Group ID for sapsys
- Keep the Operating System Group ID for dba
- Keep the Operating System Group ID for oper
- Enter password for User idsadm two times
- Enter password for User oraids two times
- On the command line create this Directories:

```
mkdir /usr/sap
```

```
mkdir /usr/sap/trans
```

```
mkdir /sapmnt
```

```
mkdir /oracle/IDS/920_32 -p
```

- Set Kernel Package Location to /home/sap/kernel
- Check extract Oracle Client software
- Keep SAP System Ports
- Set IGS Package Location to /home/sap/java/IGS
- Start installation
- Installation finished successfully after 5 Minutes

Install Database Instance

After successful installation of the Central Instance we can now install the Database Instance. Start SAPINST from the command line:

```
./sapinst
```

After starting sapinst the GUI will appear. Do this steps:

- Choose SAP ERP 2004 -> SAP ECC 5.0 ABAP System -> non-Unicode -> Install a Database Instance
 - Enter SAP System ID: IDS
- Choose Standard Installation

- No Existing Database
- Keep default Database Parameters
- Keep the SAP System Instance identification
- Keep the Instance host parameters
- Keep the location of the instance files
- Keep the Database Parameters
- Keep the extract
- Set Kernel Package Location to /home/sap/kernel
- You don't have to extract the Oracle client software
- Keep the Oracle listener configuration
- Don't change the Advanced configuration
- Set CD Export 1/8 Location to /home/sap/dbex1/EXPORT1
- Keep the Database Parameters
- Set CD RDBMS 1 Location to /home/sap/oracle/ORA92_1 ...
- On the command line create this Directories:

```
mkdir /oracle/IDS/sapreorg
```

```
mkdir /oracle/IDS/oraarch
```

```
mkdir /oracle/IDS/sapdata1
```

```
mkdir /oracle/stage/920_32 -p
```

- Provide the location of the other export CD's
- Keep default load parameters
- Set yes - MNLS support required
- Set the Database passwords. They all must be at least 8 characters long
- Don't register to a SLD
- Start installation
- After the step "Extract Database Server Archives" you will get a prompt to install the Database Server

Install Oracle Database Server

This are the steps to install the Oracle Database Server. Before you start the installation you have to link some programs to the location where Oracle expect it

```
ln -s /usr/bin/awk /bin/awk
ln -s /usr/bin/sort /bin/sort
ln -s /usr/bin/basename /bin/basename
rm /usr/bin/gcc
ln -s /usr/bin/gcc-2.95 /usr/bin/gcc
```

Now you can start the installer:

```
su - oraids
setenv DISPLAY :0.0
cd /oracle/stage/920_32/Disk1/SAP
mkdir lib
ln -s /usr/lib/libstdc++-libc6.2-2.so.3 lib/libstdc++-libc6.1-1.so.2
```

```
setenv LD_LIBRARY_PATH /oracle/stage/920_32/Disk1/SAP/lib:$LD_LIBRARY_PATH
./RUNINSTALLER
```

In the graphical installer do this settings:

- Inventory Location: /oracle/IDS/oraInventory
- Run the Script "/tmp/orainstRoot.sh" as root
- Keep the File Locations
- Keep the Available Product Components
- During the installation you will get an error ins_ctx.mk you can ignore this error
- Run the Script "/oracle/IDS/920_32/root.sh" as root
- Close the Oracle Universal installer

Now we had to install the latest Patchset as described in SAP Note 355776. First Unpack the Patchset:

```
mkdir /oracle/stage/9206/
cd /oracle/stage/9206/
unzip /home/sap/oracle-patch/LINUX_32/UNIX/LINUX_32/p3948480_9206_LINUX.zip
```

You have to adopt the File "/oracle/stage/9206/Disk1/install/oraparam.ini" because Debian is not a supported OS Version :

```
vi /oracle/stage/9206/Disk1/install/oraparam.ini
```

In the Section [Certified Versions] set the Variable Linux:

```
Linux=
```

Now become the User oraids and start the Installer:

```
su - oraids
setenv DISPLAY :0.0
cd /oracle/stage/9206/Disk1
./runInstaller
```

In the graphical installer do this settings:

- Accept the Welcome Screen
- Click on the Path dropdown to choose "/oracle/IDS/920_32/"
- First choose "Oracle Universal Installer 10.1.0.3.0"
- Accept the summary
- Start the installer again
- Accept the Welcome Screen
- Click on the Path dropdown to choose "/oracle/IDS/920_32/"
- First choose "Oracle 9iR2 Patchset 9.2.0.6.0"
- Accept the summary
- Run the Script "/oracle/IDS/920_32/root.sh" as root
- Close the Oracle Universal installer

Test the Database connection:

```
su - oraids
sqlplus /nolog
SQL> connect / as sysdba
Connected to an idle instance.
SQL> exit
```

Continue with Install Database Instance

After Oracle is successfully installed we can now continue with the Database Instance installation:

In the step Database Load (Post processing) I got several error messages. You can display them with:

```
tail -n 20 /tmp/sapinst_instdir/ECC_50_ABAP_NUC/DB/SAPSSEXC.log

DbSl Trace: ORA-1659 occured when executing SQL statement
(parse error offset = 33)

(DB) ERROR: DDL statement failed
  (CREATE UNIQUE INDEX "T100U~0" ON "T100U" ( "ARBGB", "MSGNR" )
TABLESPACE PSAPIDS640 STORAGE (INITIAL 15040924 NEXT 0000002560K
MINEXTENTS 0000000001 MAXEXTENTS 2147483645 PCTINCREASE 0 ) )
  DbSlExecute: rc = 99
  (SQL error 1659)
  error message returned by DbSl:
ORA-01659: unable to allocate MINEXTENTS beyond 8 in tablespace PSAPIDS640
(DB) INFO: disconnected from DB
```

It seems that the tablespace PSAPIDS640 and PSAPIDS is too small. Here are the commands to extend:

```
su - oraids
cd /oracle/IDS/sapdata1
mkdir ids640_18
mkdir ids640_19
mkdir ids_32
mkdir ids_33
mkdir ids_34
sqlplus /nolog
connect / as sysdba
ALTER TABLESPACE "PSAPIDS640" ADD DATAFILE
'/oracle/IDS/sapdata1/ids640_18/ids640.data18' SIZE 2097160192;
```

```
ALTER TABLESPACE "PSAPIDS640" ADD DATAFILE
'/oracle/IDS/sapdata1/ids640_19/ids640.data19' SIZE 2097160192;

ALTER TABLESPACE "PSAPIDS" ADD DATAFILE
'/oracle/IDS/sapdata1/ids_32/ids.data32' SIZE 2097160192;

ALTER TABLESPACE "PSAPIDS" ADD DATAFILE
'/oracle/IDS/sapdata1/ids_33/ids.data33' SIZE 2097160192;

ALTER TABLESPACE "PSAPIDS" ADD DATAFILE
'/oracle/IDS/sapdata1/ids_34/ids.data34' SIZE 2097160192;
```

After adding some additional tablespace you can click retry. Some time later you have to enter the DDIC Password (Client 000). Set this password to your own needs. Next you also have to change the Password of SAP* (Client 000).

Now you can logon to your freshly installed IDES System via SAP GUI.

Author Bio



1999 I started working for [Siteco](#) a manufacturer of technical interior and outside lighting. I'm responsible for the technical part of our internal and external web pages. In addition to this job I run my own business [Computerservice Wolf](#) where I offer consulting and education.

My first contact with SAP was the Internet Transaction Server (ITS) where I've done some Flow Logic programming. I also started to program in ABAP, mostly to write my own RFC enabled Function Modules to provide SAP data to the external systems. Over the last years I also used BSP's and started to work on SAP Enterprise Portal and SAP CRM.