

Oracle9iAS

på

Linux

Ingemar Jansson Haverstad
ingemar@oraklet.no



Version 1.0
13.05.2003

Min profile

- In gem ar Jansson Data AS, 6 år jubileum 1. mai
- Selvstendig og uavhengig samarbeidspartner
- 20 år++ erfaring med Unix
- 15 år+ erfaring med Oracle
- iAS erfaring i forbindelse med flere prosjekter for Skatteetaten

Agenda

- Forarbeide
- Forutsetninger for en vellykket installasjon
- Etterarbeide

Sjekk Metalink

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop http://metalink.oracle.com/metalink/plsql/ml2_gui.startup Search Print

Home Bookmarks Red Hat Network Support Shop Products Training

ORACLE *MetaLink*

My Headlines Search Advanced

Top Tech Docs

Forums

User Profile

Certify & Availability

Patches

TARs

Bugs

News & Events

E-Business 11i

Feedback Site Map

ORACLE

Product Lifecycle Help

Product Availability Certifications Desupport Notices Alerts

Certify - Certification Matrix: Oracle9i Application Server Enterprise Edition. on Linux x86

Application Tier Certifications

OS	Product	Server	Status	Addtl. Info.	Components	Other	Issues
UnitedLinux 1.0	9.0.2.0.1	9.2	Projected	None	N/A	N/A	N/A
SuSE SLES7	9.0.2.0.1	9.2	Certified	Yes	Yes	Yes	Yes
Red Hat 2.1 AS	9.0.2.0.1	9.2	Certified	Yes	Yes	Yes	Yes
UnitedLinux 1.0	9.0.2.0.1	9.0.1	Projected	None	N/A	N/A	N/A
SuSE SLES7	9.0.2.0.1	9.0.1	Certified	Yes	Yes	Yes	None
Red Hat 2.1 AS	9.0.2.0.1	9.0.1	Certified	Yes	Yes	Yes	Yes

Copyright (c) 1995,2000 Oracle Corporation. All Rights Reserved. [Legal Notices and Terms of Use.](#)

Done

Oracle9iAS

versjonsnummeringen

- Oracle9iAS versjon 1
 - Byggesett
- Oracle9iAS versjon 2
 - Ferdigpakke
 - Oracle HTTP Server
 - Oracle9iAS Containers for J2EE
 - Oracle9iAS Portal
 - Oracle9iAS Reports Services
 - Oracle9iAS Discoverer
 - Oracle9iAS Clickstream Intelligence
 - Oracle9iAS Personalization
- Oracle8i versjon 3 (8.1.7)
 - Oracle9i versjon 1 (9.0.2)
 - Oracle9iAS Forms Services
 - Oracle9iAS Wireless
 - Oracle9iAS Web Cache
 - Oracle9iAS Unified Messaging
 - Oracle9iAS Security
 - Oracle9iAS Internet Directory
 - Oracle Enterprise Manager

Opprett brukere og grupper

- Bruk en gruppe for produktene

```
# groupadd -g 61 oinstall
```

- Grupper for *SYSDBA* og *SYSOPER*

```
# groupadd -g 62 iasdba  
# groupadd -g 63 iasoper
```

- Bruker for installasjon av *Oracle9iAS*

```
# adduser -u 90 -g oinstall -G iasdba,iasoper ias902
```

```
# passwd ias902
```

```
Changing password for user ias902
```

```
New password:
```

```
Retype new password:
```

```
passwd: all authentication tokens updated successfully
```

Sjekk maskinnavn

- Lag en kopi av *hosts* filen først

```
# cd /etc  
# cp hosts hosts.130503
```

- Sjekk maskinnavn, også på klientene

```
# vi hosts  
172.16.4.100      tott.IngemarJanssonData.com      tott
```

Støtte for Linux kjernen

iAS Installasjon, 226 produkter... notat 225710.1

- Versjon av kjernen sjekkes med *uname -a*

```
# uname -a
```

```
Linux tott 2.4.9-e.3smp #1 SMP Fri May 3 16:48:54 2002 i686
```

```
Linux tott 2.4.9-e.20smp #1 SMP Tue May 6 23:51:25 2003 i686
```

- Oracle anbefaler versjon 2.4.9-e.12 eller høyere

- Sjekk Metalink notat 225710.1

```
2.4.9-e.3          Fri May 3 17:02:43 EDT 2002
2.4.9-e.3smp      Fri May 3 16:48:54 EDT 2002
2.4.9-e.3enterprise Fri May 3 16:35:33 EDT 2002
2.4.9-e.12        Tue Feb 11 03:12:29 EST 2003
2.4.9-e.16        Mon Mar 17 17:14:18 EST 2003
2.4.9-e.16smp     Mon Mar 17 16:55:45 EST 2003
2.4.9-e.16enterprise Mon Mar 17 16:37:14 EST 2003
```

Andre krav

The screenshot shows a web browser window displaying the Oracle Metalink website. The browser's address bar shows the URL: http://metalink.oracle.com/metalink/plsql/ml2_gui.startup. The website header includes the Oracle logo and the Metalink logo. A navigation menu on the left lists various sections like My Headlines, Top Tech Docs, Forums, User Profile, Certify & Availability, Patches, TARs, Bugs, News & Events, and E-Business 11i. The main content area is titled "Product Lifecycle" and includes tabs for Product Availability, Certifications, Desupport Notices, and Alerts. The current page is "Certify - Additional Info Oracle9i Application Server Enterprise Edition. Version 9.0.2.0.1 On Linux x86". The page content includes the following information:

Operating System: Linux x86 Version Red Hat 2.1 AS
Oracle9i Application Server Enterprise Edition. Version 9.0.2.0.1
Status: Certified

Product Version Note:
 None available for this product.

Certification Note:

- To make sure the Linux Environment is a supported configuration see "[RedHat AS 2.1: How to verify you have a supported kernel](#)" DocID: 225710.1. However, Oracle recommends use of RedHat Enterprise Linux Advanced Server 2.1 with kernel errata 2.4.9-e.12 or higher"

Before Installing on Red Hat Linux Advanced Server release 2.1AS:

- install the following package:
 - binutils-2.11.90.0.8-13 "<http://metalink.oracle.com>", Patch #2414946)
 - pdksh-5.2.14-13 (any package to install KSH will do)
- soft link /sbin/fuser to /bin/fuser
- set \$PATH to look initially in /usr/bin

Copyright (c) 1995,2000 Oracle Corporation. All Rights Reserved. Legal Notices and Terms of Use.

Ikke støttet Linux kjerne

- Kjernen må ikke være “tainted”
 - Tainted: *smittet, infisert, bedervet*
 - Moduler som ikke *Oracle* eller *Red Hat* har mulighet til å verifisere kildekoden.
- Sjekkes med *lsmod*

```
# lsmod
Module                Size  Used by      Tainted: P
iscsi                 40704    0 (unused)
nfsd                  80704    8 (autoclean)
lockd                 61184    1 (autoclean) [nfsd]
sunrpc               86000    1 (autoclean) [nfsd lockd]
autofs               13796    0 (autoclean) (unused)
e1000                 52740    1
...
```

Moduler ikke støttet av *Oracle*

- Versjon av kjernen sjekkes med *uname -a*

```
# for i in `cat /proc/modules|awk '{print $1}'` ;
do
    x=`/sbin/modinfo -n $i` ;
    echo $x;
    size $x ;
    modinfo -l $i ;
    modinfo -p $i ;
done

...
/lib/modules/2.4.9-e.3smp/kernel/drivers/addon/e1000/e1000.o
  text      data      bss      dec      hex filename
  41716     1568         4   43288   a918 e1000.o
"BSD with patent grant"
filename:      /e1000.o
description:  "Intel(R) PRO/1000 Network Driver"
author:       "Intel Corporation, <linux.nics@intel.com>"
license:     "BSD with patent grant"
...
```

Ekstra Linux moduler

- Er *pdksh* installert?

```
# rpm -qa | grep pdksh
pdksh-5.2.14-13
```

- Hvis ikke, finn *Red Hat AS 2.1* CD nummer 2

```
# cd /mnt/cdrom/RedHat/RPMS
# rpm -Uvh --force pdksh-5.2.14-13.i386.rpm
Preparing... ##### [100%]
 1:pdksh      ##### [100%]
```

- Eller, finn på nettet *<http://www.rpmfind.net>*
 - Gå direkt til *RPM* database
 - Søk etter *pdksh* rpm for “*Red Hat 7.3 for i386*”
 - Last ned og installer

Pakken *binutils* 2.11.90.0.8-13, rettelse 2414946

- Feil version av *binutils* gir feil ved linking.
- Hvilken version av *binutils* er installert?

```
# rpm -qa | grep binutils  
binutils-2.11.90.0.8-12
```

- Last ned patch 2414946, inneholder pakken

```
# cd /Download/Oracle/Linux/Oracle9iASv2/binutils  
# unzip p2414946_902_LINUX.zip  
Archive:  p2414946_902_LINUX.zip  
  inflating: README.html  
  inflating: binutils-2.11.90.0.8-13.i386.rpm  
  inflating: binutils-2.11.90.0.8-13.src.rpm  
  
# rpm -Uvh --force binutils-2.11.90.0.8-13.i386.rpm  
Preparing... ##### [100%]  
   1:binutils ##### [100%]  
  
# rpm -qa | grep binutils  
binutils-2.11.90.0.8-13
```

Versjon av glibc bibliotek

- Sjekk versjon av glibc?

```
# rpm -qa | grep glibc  
glibc-2.2.4-26  
glibc-devel-2.2.4-26  
glibc-profile-2.2.4-26  
glibc-common-2.2.4-26  
compat-glibc-6.2-2.1.3.2
```

- Må være 2.2.4-25 eller høyere

Utvid antall åpne filer og prosesser

- Konfigurer *limits.conf* filen

```
# cd /etc/security
# cp limits.conf limits.conf.130503
# vi limits.conf
@oinstall      hard    nofile    65535
@oinstall      hard    nproc    16384
@iasdba        hard    nofile    65535
@iasdba        hard    nproc    16384
@iasoper       hard    nofile    65535
@iasoper       hard    nproc    16384
```

- Verifiser verdiene

```
# su - ias902
$ ulimit -aH
...
open files                65535
pipe size (512 bytes)    8
max user processes       16384
virtual memory (kbytes)  unlimited
```

Juster kjerne parametere

- Sett relevante kjerne parametere

```
# cd /etc
# cp sysctl.conf sysctl.conf.130503
# vi sysctl.conf

# Oracle9iAS parameters
# Semaphores SEMMSL SEMMNS SEMOPM SEMMNI
kernel.sem =      250  32000      128      128
# Max shared memory 744 MB (bytes)
kernel.shmmax = 780324864
# Max shared memory in system 600 MB (pages)
kernel.shmall = 150000
# Set available port range
net.ipv4.ip_local_port_range = 1024 65000
# Set max file handles
fs.file-max = 65536
```

- Starte maskinen på nytt

Verifiser kjerne parametere

- Bruk programmet *ipcs* for å sjekke verdiene...

```
# ipcs -lm
----- Shared Memory Limits -----
max number of segments = 4096
max seg size (kbytes) = 762036
max total shared memory (kbytes) = 600000
min seg size (bytes) = 1

# ipcs -ls
----- Semaphore Limits -----
max number of arrays = 128
max semaphores per array = 250
max semaphores system wide = 32000
max ops per semop call = 128
semaphore max value = 32767

# cat /proc/sys/net/ipv4/ip_local_port_range
1024      65000

# cat /proc/sys/fs/file-max
65536
```

Fjern LDAP fra services

- To portnummer 389 og 636 bør fjernes fra */etc/services*

```
# cd /etc
# cp services services.130503
# vi services
ulistproc      372/tcp      ulistserv     # UNIX Listserv
ulistproc      372/udp      ulistserv
ldap          389/tcp
ldap          389/udp
...
ldaps         636/tcp      # LDAP over SSL
ldaps         636/udp      # LDAP over SSL
```

Linke *fuser*

- Opprett en symbolsk link for *fuser* programmet.

```
# cd /bin
# ls -l fuser
ls: fuser: No such file or directory

# ln -s /sbin/fuser fuser
# ls -l fuser
lrwxrwxrwx 1 root root  11 May 13 13:56 fuser -> /sbin/fuser

# cd
# which fuser
/bin/fuser
```

TMP og *TMPDIR* variabler

- Sett verdiene i for eksempel */etc/profile*

```
# cd /etc
# cp profile profile.130503
# vi profile
TMP=/tmp
TMPDIR=/tmp
export TMP TMPDIR
```

- Verifiser verdiene

```
# su - ias902

$ env | grep TMP
TMPDIR=/tmp
TMP=/tmp
```

Oppsett for brukere

- Sjekk om *Java* finnes i søkestien

```
# su - ias902
$ echo $PATH
...:/opt/IBMJava2-131/bin:/opt/IBMJava2131/jre/bin:/bin:/usr/bin:
```

- Fjern *Java* fra søkestien

```
$ cd
$ cp .bashrc .bashrc.130503
$ cp .bash_profile .bash_profile.130503

$ vi .bashrc
export ORACLE_BASE=/ias01/oracle
PATH=/bin:/usr/bin:/usr/local/bin:~/bin
PATH=$PATH:/usr/local/bin/X11:/usr/X11R6/bin:

$ vi .bash_profile
export ORACLE_BASE=/ias01/oracle
PATH=/bin:/usr/bin:/usr/local/bin:~/bin
PATH=$PATH:/usr/local/bin/X11:/usr/X11R6/bin:
```

Opprett iAS filsystem(er)

- Opprett filsystem...

```
# parted /dev/sda
...

# mkfs -t reiserfs /dev/sda15
Initializing journal - 0%
....20%....40%....60%....80%....100%           left 0, 2731 /sec

# cd /etc
# cp fstab fstab.130503
# vi fstab
/dev/sda15          /ias01              reiserfs            defaults 1 2

# mkdir /ias01
# mount /ias01

# chown ias902:oinstall /ias01
```

Start *Oracle Universal Installer*

- Finn frem *runInstaller*, les Metalink notat 191567.1

```
$ /Download/Oracle/Linux/Oracle9iASv2/Disk1/runInstaller
```



iAS Installasjon, 226 produkter...



Moduler installeres...

Configuration Tools

The following tools will be automatically started for you:

Tool Name	Status
✓ Applying RDBMS Bundled Patch ...	succeeded
✓ Oracle Net Configuration Assistant	succeeded
✓ HTTP Server Configuration Assistant	succeeded
✓ Java Security Configuration Assistant	succeeded
✓ OC4J Configuration Assistant	succeeded
✓ Clickstream Collector Agent Configuration Assis	succeeded
✓ BC4J Configuration Assistant	succeeded
☒ Oracle Database Configuration Assistant	in progress...

Retry

Stop

Details for Oracle Database Configuration Assistant:

Exit

Help

Installed Products...

Previous

Next

Vellykket installasjon?

End of Installation

The installation of Oracle® AS Infrastructure was successful.

Please remember...

The following information is available in:
`/ias01/oracle/product/infra902/Apache/Apache/setupinfo.txt`

The HTTP Server can be accessed using the following URLs:

`http://tott.IngemarJanssonData.com:7777`
`https://tott.IngemarJanssonData.com:4443`

The Enterprise Manager console can be accessed using the following URL:

`http://tott.IngemarJanssonData.com:1810`

Exit

Help

Installed Products...

Previous

Next Install

Etterarbeide

- Justere innloggingsprofilene
- Start og stopp av programmer
 - **iAS Infrastructure**
 - Database
 - Internet Directory Monitor
 - Internet Directory Server
 - Enterprise Manager
 - HTTP Server
 - Oracle Containers for Java (OC4J)
 - Demo programmer
 - **iAS Midtier**
 - Webserver
 - Portal
 - BJForms
 - Demo programmer
 - Web cache

Inn logging profiler

- Infrastructure `.infra902`

```
$ cat .infra902
export ORACLE_HOME=$ORACLE_BASE/product/infra902

export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/local/lib
PATH=$ORACLE_HOME/bin:$ORACLE_HOME/opmn/bin:\
$ORACLE_HOME/dcm/bin:$ORACLE_HOME/Apache/Apache/bin:$PATH

export CDPATH=.:$ORACLE_HOME:$ORACLE_HOME/admin/iasdb
```

- Midtier `.midtier902`

```
$ cat .midtier902
export ORACLE_HOME=$ORACLE_BASE/product/midtier902

export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/local/lib
PATH=$ORACLE_HOME/bin:$ORACLE_HOME/opmn/bin:\
$ORACLE_HOME/dcm/bin:$ORACLE_HOME/Apache/Apache/bin:$PATH

export CDPATH=.:$ORACLE_HOME:$ORACLE_HOME/admin/iasdb
```

Start av Infrastruktur - I

```
$ cat start_infrastructure.sh
. /home/infra902/.infra902

clear
echo "Starter IAS Infrastructure:"
echo "Starter metadata repository"
dbstart

echo "Starter agenter"
lsnrctl start
agentctl start

echo "Er X startet? hvis ikke må denne startes via root"
ps -ef | grep X | grep -v grep

export DISPLAY=tott:0.0

echo "Starter Internet Directory Monitor"
$ORACLE_HOME/bin/oidmon start; sleep 20

echo "Starter Internet Directory Server"
$ORACLE_HOME/bin/oidctl server=oidldapd instance=1 start; sleep 20
```

Start av Infrastruktur - II

```

echo "Starter Enterprise Manager Website"
$ORACLE_HOME/bin/emctl start
$ORACLE_HOME/bin/emctl status

echo "Starter HTTP server"; sleep 5
$ORACLE_HOME/dcm/bin/dcmctl start -ct ohs; sleep 20

echo "Starter Oracle Containers for Java, OC4J_DAS"
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_DAS

echo "Starter demoer"
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_Demos
$ORACLE_HOME/dcm/bin/dcmctl start -co home

echo "Sjekk status"
$ORACLE_HOME/dcm/bin/dcmctl getstate -v

```

	Component	Type	Up Status	In Sync Status
1	HTTP Server	ohs	Up	True
2	OC4J_DAS	oc4j	Up	True
3	OC4J_Demos	oc4j	Up	True
4	home	oc4j	Up	True

Start av Mid-tier

```
$ cat start_midtier.sh
. /home/infra902/.midtier902

clear
echo "Starter IAS Mid-tier:"
echo "Starter webserver"
$ORACLE_HOME/dcm/bin/dcmctl start -ct ohs

echo "Starter Portal"
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_Portal

echo "Starter BJ Forms"
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_BI_Forms

echo "Starter Demos, Wireless"
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_Demos
$ORACLE_HOME/dcm/bin/dcmctl start -co OC4J_Wireless
$ORACLE_HOME/dcm/bin/dcmctl start -co home
echo "Vis status"
$ORACLE_HOME/dcm/bin/dcmctl getstate -v

echo "Starter Webcache"
$ORACLE_HOME/bin/webcachectl start
```