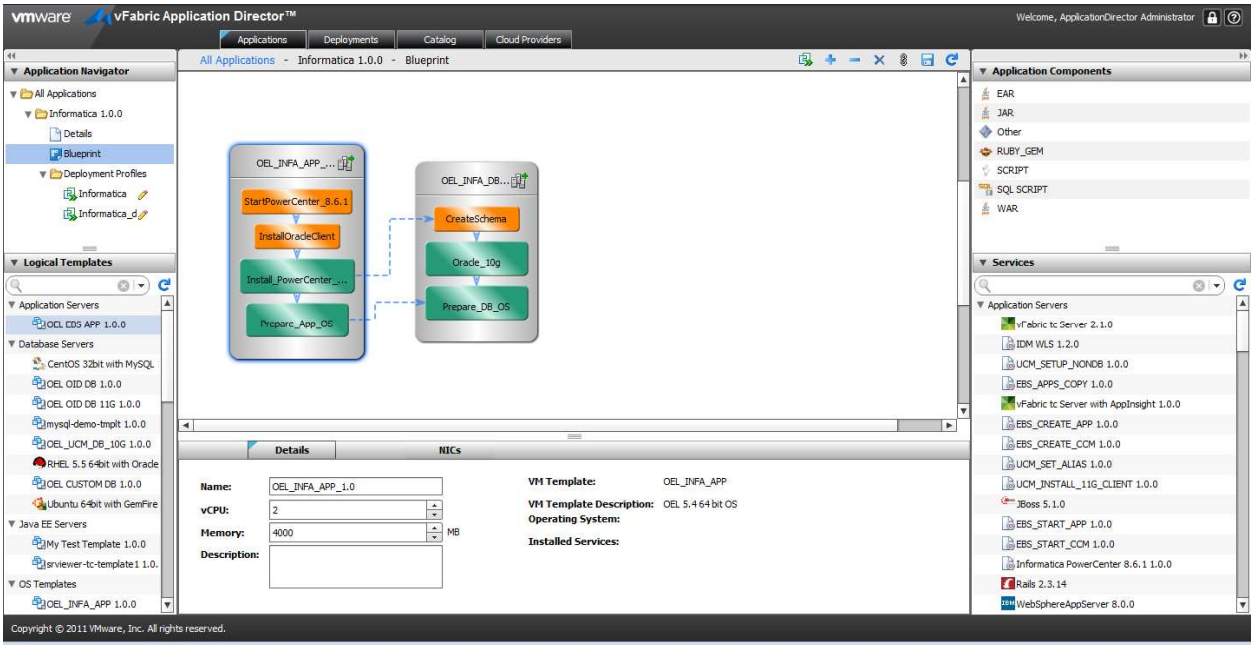
Informatica PowerCenter - Blueprint Information

1. OVERVIEW

The purpose of this document is to describe the Informatica PowerCenter 8.6.1 blueprint in detail. The goal of the blueprint is to allow for provisioning and configuration of an Informatica PowerCenter 8.6.1 instance in an automated and repeatable fashion.

The following components and versions are installed as part of the Informatica PowerCenter 8.6.1 instance:

(1) Informatica PowerCenter 8.6.1
(2) Oracle Database 10g
(3) Oracle 11g DB Client



2. HIGH LEVEL BLUEPRINT DESIGN

Conceptually, the blueprint design consists of the tasks described below. These tasks are listed in chronological order:

(1) Prepare OS (common to DB & App tier)
(2) Install Oracle RDBMS 10.2.0 (server on DB tier & 11g client on App tier)
(3) Install Informatica PowerCenter 8.6.1 (App tier)
(4) Install default Schema (DB tier)

2.1 Files

You will need access to create the following file repository that contains the necessary installers and configuration files needed. We will refer to this repository as the Dropbox Home in this document.

$DROPBOX_HOME/INFORMATICA:

1. Extracted files from Pc861_linux_em64t.tar
2. Extracted files from Pc861_Hostfix13_linux_em64t.tar
3. Informatica license File
4. Informatica_Install.sh (Silent installation file)

$DROPBOX_HOME/OIDDBBINARIES:
Oracle 10g DB binary files

$DROPBOX_HOME/10g_orclInstaller:
Response files for installing Oracle 10g DB in silent mode.

2.2 Prepare OS Properties

The Prepare OS task sets the hostname for the machine that's provisioned. The following properties govern the execution of the blueprint:

Details | Properties | Actions

Name	Description	Type
HOST_NAME_PATTERN	Pattern to use for the hostname, for e.g., ora-%e-osb-a%c, where %e will be expanded to the environment name and %c will be expanded to t...	String
ENV_NAME		String
IP_ADDRESS	The IP_ADDRESS parameter must be set at the Blueprint level to the ip address of the node (self:ip)	String
DOMAIN_NAME	Domain name	String
HOST_NAME		String
env_util		Content
NODE_ARRAY	IF it's a multi-node cluster, then please set this value to the array of cluster nodes, i.e. all(node_array_index). Otherwise, leave it empty.	Array
NODE_ARRAY_INDEX	Please set this variable to the node array index if it's a multi-node cluster (self:node_array_index). If it's not a multi-node cluster, then leave it a...	String
MOUNT_OPTIONS1	Options if any for the /etc/fstab entry, for e.g., noauto	String
MOUNT_DIR1	Local directory to which to mount, for e.g., /oracle/shared	String
MOUNT_PATH1	Path of remote filesystem to mount, for e.g. wdc-ns120-m1:/oracle/shared	String

Actions:

Details | Properties | Actions

Lifecycle Stage	Script Type	Script
INSTALL	Bash Script	#!/bin/bash
CONFIGURE	Bash Script	
START	Bash Script	

Install Script:

```
#!/bin/bash

# Set path variables

export PATH=$PATH:/opt/java/jdk1.6.0_19/bin:/usr/java/default/bin:/usr/java/jdk1.6.0_29/bin



# Get cluster number. If we are in a cluster, then get the cluster index value.

# Otherwise, use 1 for non-cluster environments

if [ ${#NODE_ARRAY[@]} -gt 1 ]; then

        CNUMBER=`expr $NODE_ARRAY_INDEX + 1`

else

        CNUMBER=1

fi;



# Set hostname variable

HOST_NAME=`echo $HOST_NAME_PATTERN | sed "s/%e/$ENV_NAME/g" | sed "s/%c/$CNUMBER/g"`
```

```
echo "Setting hostname to $HOST_NAME.$DOMAIN_NAME"


# Change VM hostname

hostname $HOST_NAME


# Replace hostname in /etc/hosts

sed -i.bak "s/$IP_ADDRESS.*/$IP_ADDRESS $HOST_NAME.$DOMAIN_NAME $HOST_NAME/g" /etc/hosts

sed -i.bak "s/HOSTNAME=.*/HOSTNAME=$HOST_NAME.$DOMAIN_NAME/g" /etc/sysconfig/network


# set HOST_NAME INCLUDING DOMAIN

HOST_NAME="$HOST_NAME"."$DOMAIN_NAME"


# Perform mount commands, if specified.

if [ -n "$MOUNT_PATH1" -a -n "$MOUNT_DIR1" ]; then

   echo "Mounting $MOUNT_PATH1 to $MOUNT_DIR1 with options $MOUNT_OPTIONS1"


   test -d "$MOUNT_DIR1"     || mkdir -p $MOUNT_DIR1

   test -z "$MOUNT_OPTIONS1" && MOUNT_OPTIONS1="defaults"


   mount -o $MOUNT_OPTIONS1 $MOUNT_PATH1 $MOUNT_DIR1


   if [ $? -eq 0 ]; then

      echo "$MOUNT_PATH1  $MOUNT_DIR1 nfs $MOUNT_OPTIONS1 1 2" >> /etc/fstab

   else

      exit $?

   fi;

fi;
```

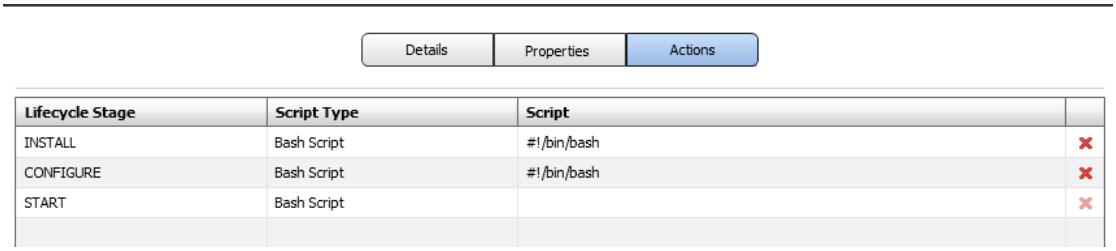
2.3 Install Oracle RDBMS 10.2.0 (Database Node)

The "Install Oracle RDBMS 10.2.0" task installs a server instance of Oracle RDBMS 10.2.0. It's defined as a blueprint service.

Properties:

Name	Description	Type
ORACLE_HOME	Oracle Home	String
global_conf	Network configuration utility	Content
SELECTED_LANGUAGES	Select one of the followin...	String
GDBNAME	DATABASE NAME	String
LISTENER_PORT	PORT TO BIND TO	String
LISTENER_PROTOCOL	LISTENER PROTOCOL TO...	String
EMAIL_ADDRESS	ADMINISTRATOR EMAIL ...	String
INSTALL_EDITION	INSTALLATION EDITION	String
ORACLE_BASE	BASE DIRECTORY TO INS...	String
ORACLE_HOSTNAME	HOST NAME TO BIND TO	String
NFSPATH	NFS mount path to copy ...	String
SYSPASSWORD	PASSWORD FOR THE SYS...	String
SYSTEMPASSWORD	PASSWORD FOR THE SYS...	String
SID	database Id	String
WKSSYSPASS	Password for WKS SYS U...	String

Actions:



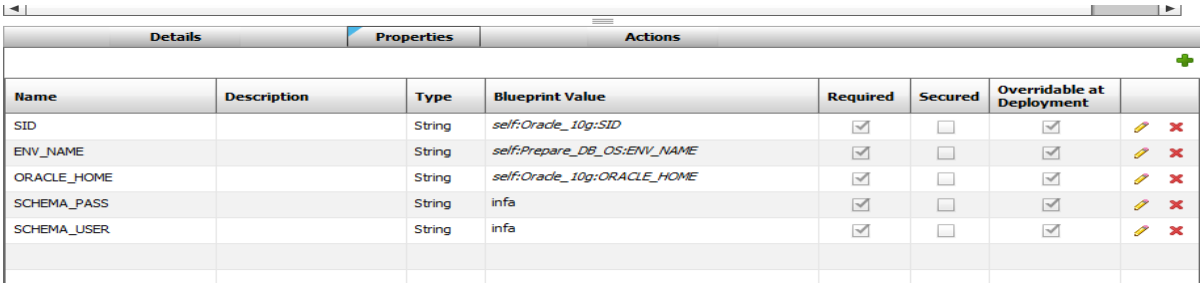
Install Script:

Please refer to file **Oracle_10g_INSTALL.txt** to copy the script as the INSTALL Bash Script.

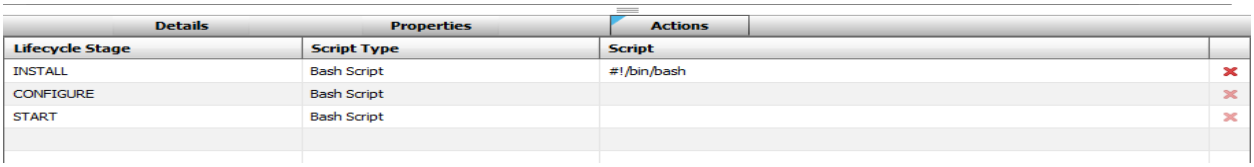
Please refer to file **Oracle_10g_CONFIGURE.txt** to copy the script as the CONFIGURE Bash Script.

2.4 Create Default Schema

The CreateSchema task creates default db schema on the machine. It's governed by the following properties:



Actions:



Install Script:

```
#!/bin/bash

echo "creating dummy schema for user PC861_DOM_$ENV_NAME"

SCHEMA_USER=PC861_DOM_$ENV_NAME

SCHEMA_PASS=PC861_DOM_$ENV_NAME

SQLPLUS_SCRIPT="/home/oracle/sqlplus_create_schema.sh"

echo "#!/bin/bash" >> $SQLPLUS_SCRIPT

echo $ORACLE_HOME"/bin/sqlplus -s '/ as sysdba' <<EOF" >> $SQLPLUS_SCRIPT

echo "CREATE TABLESPACE TEST1 DATAFILE '/oracle/oradata/$SID/test01.dbf' SIZE 2G;" >> $SQLPLUS_SCRIPT

echo "CREATE USER $SCHEMA_USER IDENTIFIED BY $SCHEMA_PASS" >> $SQLPLUS_SCRIPT

echo "DEFAULT TABLESPACE TEST1" >> $SQLPLUS_SCRIPT

echo "TEMPORARY TABLESPACE TEMP" >> $SQLPLUS_SCRIPT

echo "QUOTA UNLIMITED ON TEST1;" >> $SQLPLUS_SCRIPT

echo "GRANT CONNECT,RESOURCE TO $SCHEMA_USER;" >> $SQLPLUS_SCRIPT

echo "exit;" >> $SQLPLUS_SCRIPT

    echo "EOF" >> $SQLPLUS_SCRIPT

    chmod +x $SQLPLUS_SCRIPT

    su - oracle -c $SQLPLUS_SCRIPT

echo "created dummy schema $SCHEMA_USER"
```

2.5 Install PowerCenter 8.6.1

The Install PowerCenter task installs Informatica PowerCenter 8.6.1 on the machine. It is installed as INFA user. It's governed by the following properties:

Details | Properties | Actions

Name	Description	Type	Catalog Value	Blueprint Value	Required	Secured	Overridable at Deployment
GDBNAME		String		*OEL_INFA_DB_1.0:Oracle_10g:GDBNAME*	☑	☐	☑
SCHEMA_PASS	infa	String		*OEL_INFA_DB_1.0:CreateSchema:SCHEMA_PASS*	☑	☐	☑
SCHEMA_USER	infa	String		*OEL_INFA_DB_1.0:CreateSchema:SCHEMA_USER*	☑	☐	☑
ORACLE_HOSTNAME		String		*OEL_INFA_DB_1.0:Oracle_10g:ORACLE_HOSTNAME*	☑	☐	☑

Actions:

Details | Properties | Actions

Lifecycle Stage	Script Type	Script	
INSTALL	Bash Script	#!/bin/bash	✖
CONFIGURE	Bash Script		✖
START	Bash Script		✖

Install Script:

```
#!/bin/bash

# create a home dir for infa user

mkdir -p /apps/infa/home

# create "infa" user

/usr/sbin/useradd -d /apps/infa/home -p infa infa

# create dir for copying installers

mkdir -p /apps/infa/installers/

# copy binaries

cp -R /tmp/mount/INFORMATICA/* /apps/infa/installers/

# change owner of /apps/infa/home to infa

chown infa:infa /apps/infa/home
```

```
# modify bash profile.
echo "export IATEMPDIR=/apps/infa/home" >> /apps/infa/home/.bash_profile
echo "export GDBNAME=$GDBNAME" >> /apps/infa/home/.bash_profile
echo "export SCHEMA_PASS=$SCHEMA_PASS" >> /apps/infa/home/.bash_profile
echo "export SCHEMA_USER=$SCHEMA_USER" >> /apps/infa/home/.bash_profile
echo "export ORACLE_HOSTNAME=$ORACLE_HOSTNAME" >> /apps/infa/home/.bash_profile

# install using expect
echo "++++++++++++++ INSTALLING INFORMATICA +++++++++++++++++"
PC861_INSTALL_SCRIPT="/apps/infa/installers/Informatica_Install.sh"
chmod +x $PC861_INSTALL_SCRIPT
$PC861_INSTALL_SCRIPT $ORACLE_HOSTNAME $SCHEMA_USER $SCHEMA_PASS $GDBNAME
echo "++++++++++++++ INFORMATICA INSTALLED +++++++++++++++++"
echo "++++++++++++++ INSTALLING HOT FIX 13 +++++++++++++++++"
# grant execution permissions Hot fix 13 binaries
chmod -R 777 /apps/infa/installers/software/
#  stop Informatica server
su - infa -c "/apps/infa/home/Informatica/PowerCenter8.6.1/server/tomcat/bin/infaservice.sh shutdown"
sleep 60
# install hostfix 13
su - infa -c "/apps/infa/installers/software/pc861_HotFix13_linux_em64t/silentinstall.sh"
sleep 60
echo "++++++++++++++ HOT FIX 13 INSTALLED +++++++++++++++++"
```

2.6 Install Oracle 11g Client (client on App tier)

This task installs Oracle database 11g client on Application server.

Details | Properties | Actions

Name	Description	Type	Blueprint Value	Required	Secured	Overridable at Deployment
GDBNAME		String	*OEL_INFA_DB_1.0:Oracle_10g:GDBNAME*	☑	☐	☑
ORACLE_HOSTNAME		String	*OEL_INFA_DB_1.0:Oracle_10g:ORACLE_HOSTNAME*	☑	☐	☑
ENV_NAME		String	*OEL_INFA_DB_1.0:Prepare_DB_OS:ENV_NAME*	☑	☐	☑

Actions:

Details | Properties | Actions

Lifecycle Stage	Script Type	Script
INSTALL	Bash Script	#!/bin/bash
CONFIGURE	Bash Script	
START	Bash Script	

Install Script:

```
#!/bin/bash

ORACLE_HOME=/oracle/products/11gClient

mkdir -p $ORACLE_HOME

cp -R /tmp/mount/ORACLECLIENTS/response /oracle/products/

chown -R oracle:oinstall /oracle

su - oracle -c "/tmp/mount/ORACLECLIENTS/Oracle11gclient/11.1.0.6/client/runInstaller -silent -noconfig \ -responseFile /oracle/products/response/clientadmin.rsp"

sleep 180

#Root script to run

/home/oracle/oraInventory/orainstRoot.sh

/oracle/products/11gClient/root.sh

# create tnsnames.ora file & append DB params.

TNSNAMES_FILE=$ORACLE_HOME/network/admin/tnsnames.ora

touch $TNSNAMES_FILE

echo "INFDB =" >> $TNSNAMES_FILE
```

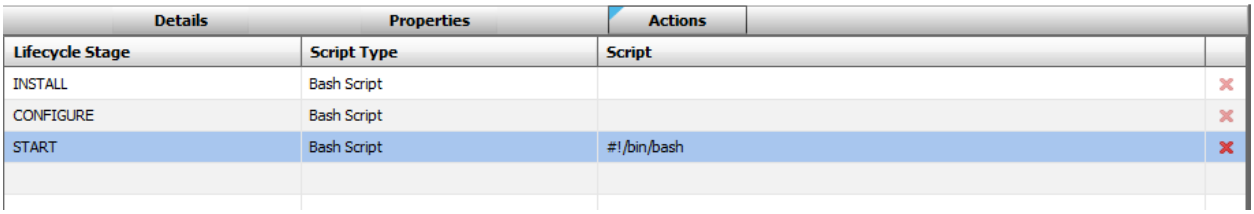
```
echo "  (DESCRIPTION =" >> $TNSNAMES_FILE

echo "    (ADDRESS = (PROTOCOL = TCP)(HOST = $ORACLE_HOSTNAME)(PORT = 1521))" >> $TNSNAMES_FILE

echo "    (CONNECT_DATA =" >> $TNSNAMES_FILE

echo "      (SERVER = DEDICATED)" >> $TNSNAMES_FILE

echo "      (SERVICE_NAME = $GDBNAME)" >> $TNSNAMES_FILE

echo "    )" >> $TNSNAMES_FILE

echo "  )" >> $TNSNAMES_FILE


# copy additional libs for DB connectivity

mkdir -p $ORACLE_HOME/extralib

cp -R /tmp/mount/OIDDBBINARIES/lib/* $ORACLE_HOME/extralib/

# chown of newly created files to oracle

chown -R oracle:oinstall /oracle

# update  infa user's .bash_profile

INFA_PROFILE=/apps/infa/home/.bash_profile

ODBCHOME=/apps/infa/home/Informatica/PowerCenter8.6.1/ODBC5.2

INFAHOME=/apps/infa/home/Informatica/PowerCenter8.6.1/server/infa_shared

echo "export ORACLE_HOME=/oracle/products/11gClient" >> $INFA_PROFILE

echo "export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$ORACLE_HOME/extralib:

/apps/infa/home/Informatica/PowerCenter8.6.1/ODBC5.2/lib:/apps/infa/home/Informatica/PowerCenter8.6.1/server/bin"
>> $INFA_PROFILE

echo "export ODBCHOME=/apps/infa/home/Informatica/PowerCenter8.6.1/ODBC5.2" >> $INFA_PROFILE

echo "export ODBCINI=$ODBCHOME/odbc.ini" >> $INFA_PROFILE

echo "export INFAHOME=/apps/infa/home/Informatica/PowerCenter8.6.1/server/infa_shared" >> $INFA_PROFILE

echo "export PMRootDir=$INFAHOME" >> $INFA_PROFILE

echo "export INFA_HOME=/apps/infa/home/Informatica/PowerCenter8.6.1" >> $INFA_PROFILE

echo "export INFA_DOMAINS_FILE=/apps/infa/home/Informatica/PowerCenter8.6.1/domains.infa" >> $INFA_PROFILE

echo "export PATH=$PATH:$INFA_HOME/server/bin:$INFA_HOME/java/bin" >> $INFA_PROFILE
```

```
echo "export INFATARGET=$INFAHOME/TgtFiles" >> $INFA_PROFILE

echo "export NLS_LANG=AMERICAN_AMERICA.UTF8" >> $INFA_PROFILE

echo "export PMSERVERNAME=PC861_INT_$ENV_NAME" >> $INFA_PROFILE

echo "export DOMAINNAME=PC861_DOM_$ENV_NAME" >> $INFA_PROFILE

echo "export INFA_USER=batch_user" >> $INFA_PROFILE

echo "export INFA_PASSWORD=batch_user" >> $INFA_PROFILE

echo "++++++++++++++ ORACLE DB CLIENT INSTALLED +++++++++++++++++"
```

2.7 Start Informatica PowerCenter 8.6.1 server

This task starts the Informatica PowerCenter 8.6.1 server.

Actions:



Start Script:

```
#!/bin/bash

# start Informatica server

su - infa -c "/apps/infa/home/Informatica/PowerCenter8.6.1/server/tomcat/bin/infaservice.sh startup"

sleep 60
```