

Fakultet tehničkih nauka, Novi Sad

Predmet:

Baze podataka

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Raspored vežbi

- | | | |
|-----|----------------------|----------|
| 1. | 9.3, 11.3. | SQL |
| 2. | 16.3, 18.3. | SQL |
| 3. | 23.3, 25.3. | SQL |
| 4. | 30.3, 1.4. | SQL |
| 5. | 13.4, (nadoknada) | SQL |
| 6. | 20.4, (nadoknada) | SQL |
| 7. | 27.4, 29.4. | Test SQL |
| 8. | 4.5, 6.5. | EER |
| 9. | 11.5, 13.5. | EER |
| 10. | 18.5, 19.5. | EER |
| 11. | 25.5, 27.5. | Test EER |
| 12. | 1.6, 3.6. | JDBC |
| 13. | 8.6, 10.6. | JDBC |
| 14. | *** Odbrana projekta | |

Praktični deo – vežbe

- Softverska podrška
 - SUBP Oracle
 - SQL Developer

Rad u učionici (1/2)

- Baze podataka:
 - Studentska korisnička šema (user schema)
 - pod nazivom **svXY**
 - User name: **svXY**
 - Password: **ftn**
 - gde je *X* broj indeksa, a *Y* godina upisa

Rad u učionici (2/2)




- Podaci potrebni za konektovanje na bazu podataka:

	MI A2-1, MI A2-2, MI A2-3	Ostale učionice
Host Name	192.168.0.102	192.168.7.204
Port Number	1522	1521
Oracle SID, database name	db2016	bp1

Instalacija Oracle Database Express Edition 11g

- <https://www.oracle.com/database/technologies/xe-prior-releases.html>

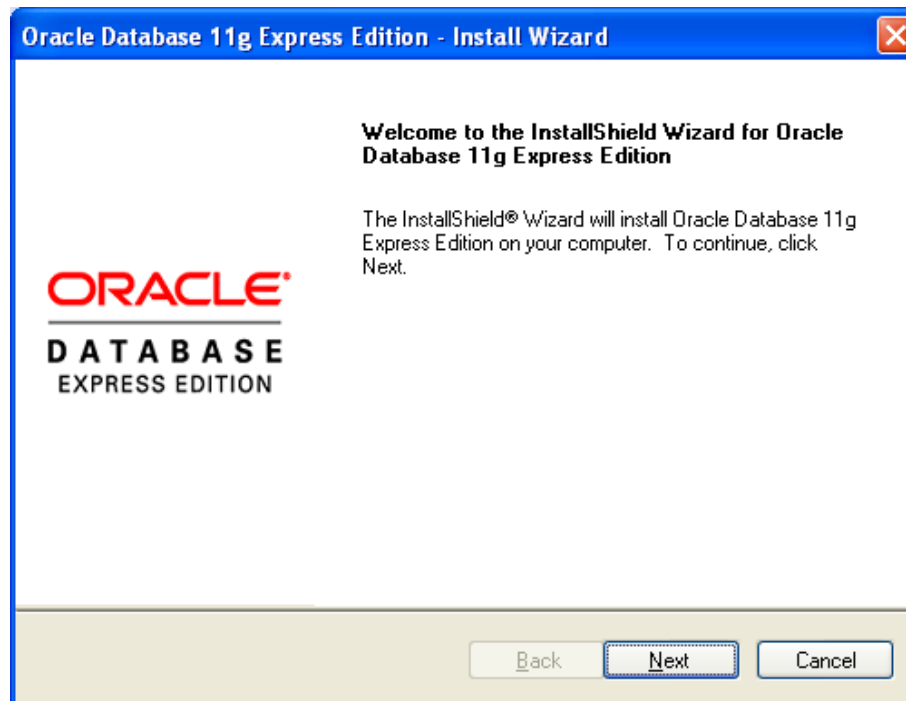
The screenshot shows the Oracle Database XE Prior Release Archive page. The header includes the Oracle logo, a search bar with the text "Ask 'What is Oracle Autonomous Database?'", and a link to "Oracle Cloud Free Tier". The breadcrumb trail reads "Database / Technical Details / XE Prior Release Archive". The main heading is "Oracle Database XE Prior Release Archive". Below it, the specific release is identified as "Oracle Database Express Edition (XE) Release 11.2.0.2.0 (11gR2)". A table lists the download links and descriptions for this release.

Download	Description
 Oracle Database 11gR2 Express Edition for Windows x64	{Note: Unzip the download and run the DISK1/setup.exe} Rectangular Snap
 Oracle Database 11gR2 Express Edition for Windows x32	{Note: Unzip the download and run the DISK1/setup.exe}
 Oracle Database 11gR2 Express Edition for Linux x64	{Note: Unzip the download and the RPM file can be installed as normal}

The footer contains four links: "Get started", "11gR2 XE Documentation", "Community Support Forum", and "18c XE Download".

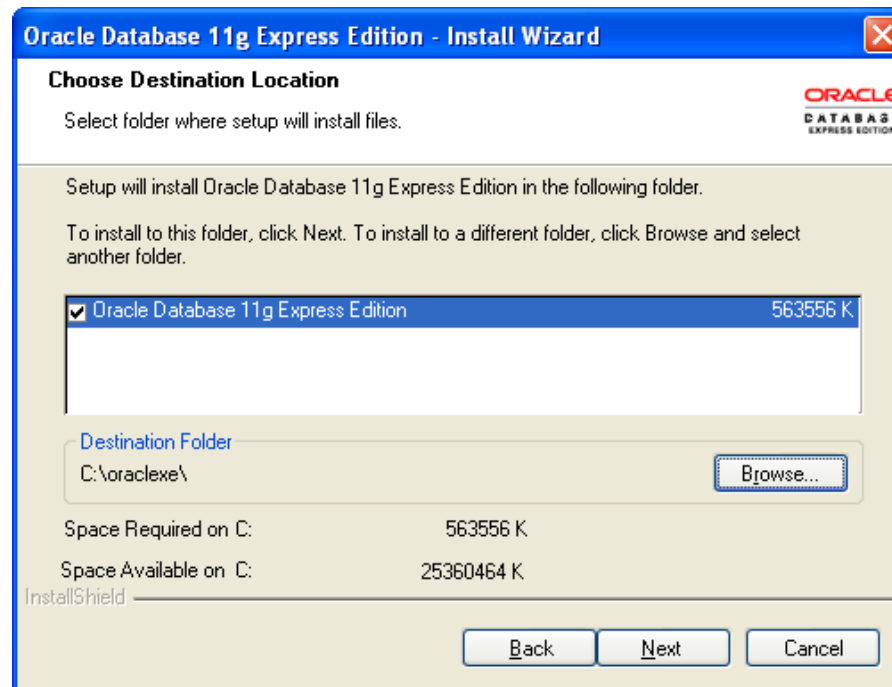
Instalacija Oracle Database Express Edition 11g

1. Preuzeti Microsoft Windows verziju za *Oracle Database XE*.
2. Nakon preuzimanja verzije dvostruki klik na *setup.exe*.
3. Instalacija se vrši u okviru *Oracle Database 11g Express - Install Wizard* prateći nekoliko jednostavnih koraka.



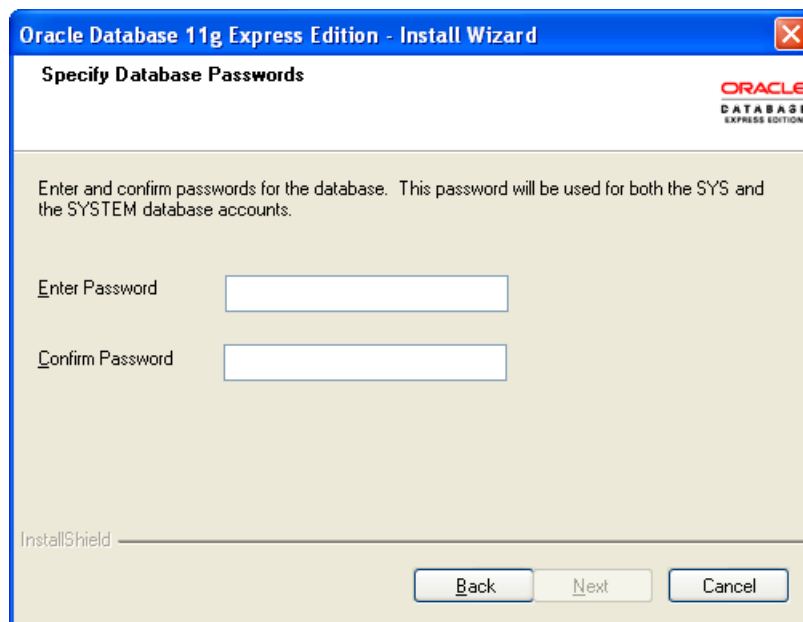
Instalacija Oracle Database Express Edition 11g

4. Nakon klika na *I accept the terms in the license agreement* u okviru *Licence agreement* prozora pojavljuje se sledeći prozor.
5. U okviru prozora *Choose Destination Location* moguće je potvrditi podrazumevani folder ili izabrati drugi folder za instalaciju (Ne birati folder koji u okviru svog imena ima razmake.)



Instalacija Oracle Database Express Edition 11g

6. U okviru prozora *Specify Database Passwords* potrebno je uneti šifru za SYS i SYSTEM naloge. (SYS i SYSTEM nalozi imaju administratorska prava i ne koriste se za rutinske operacije)



Oracle Database 11g Express Edition - Install Wizard

Specify Database Passwords

ORACLE
DATABASE
EXPRESS EDITION

Enter and confirm passwords for the database. This password will be used for both the SYS and the SYSTEM database accounts.

Enter Password

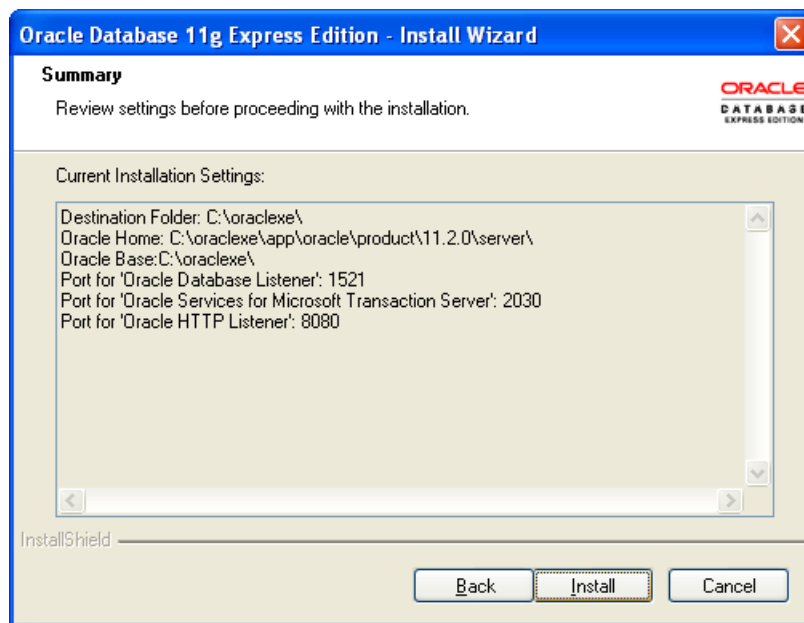
Confirm Password

InstallShield

Back Next Cancel

Instalacija Oracle Database Express Edition 11g

7. Sva podešavanja vezana za instalaciju mogu se videti u okviru *Summary* prozora. Ukoliko su svi parametri tačni može da se završi proces instaliranja.

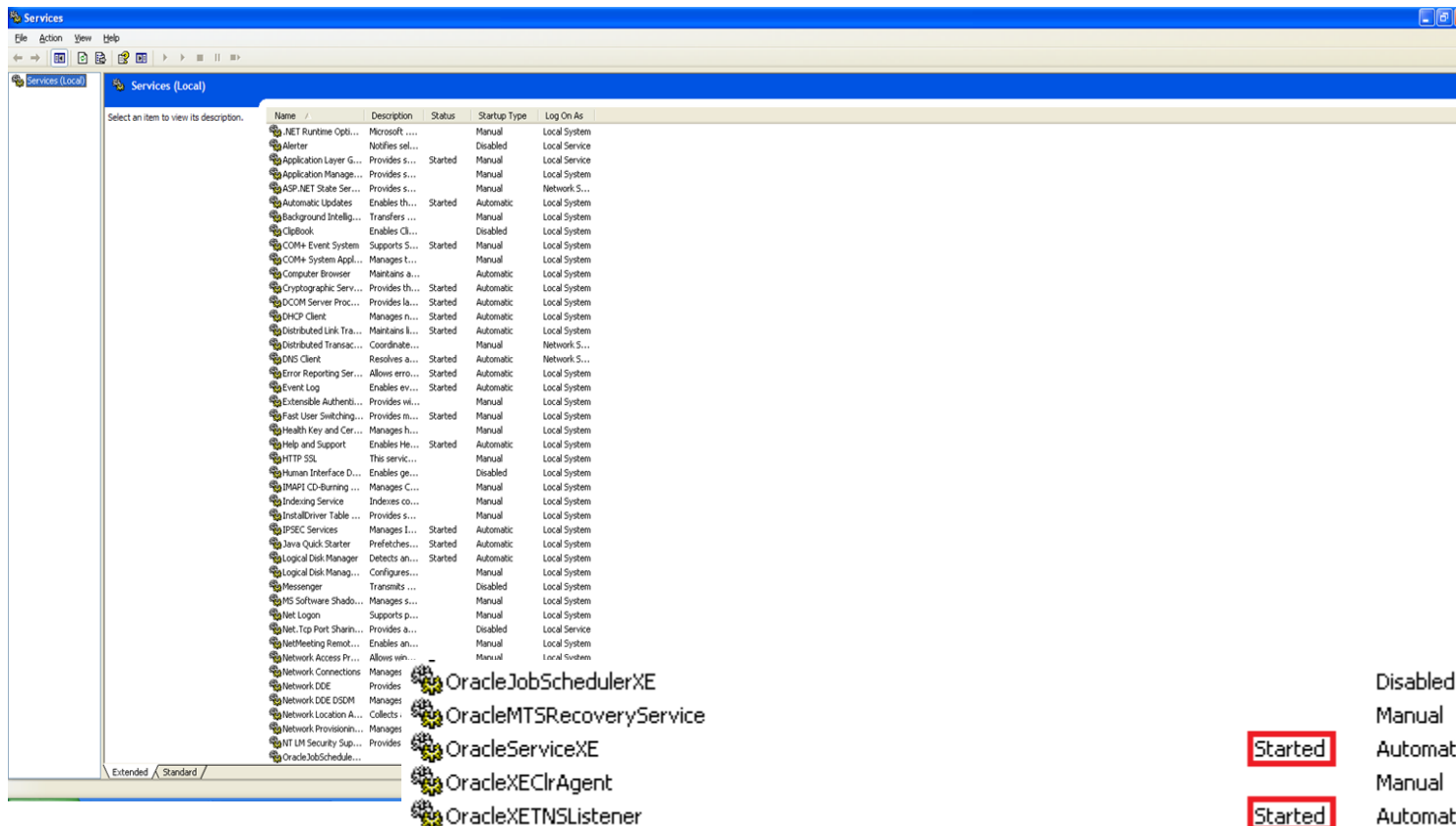


Startovanje Oracle Database XE

- Nakon instaliranja Oracle Database XE, baza je pokrenuta i odmah se može početi koristiti.
 1. Ako je baza zaustavljena, može se startovati na sledeći način: u okviru Start menija, u sekciji *All Programs* pronaći *Oracle Database 11g Express Edition* a zatim i startovati bazu na *Start Database*.
 2. Drugi način na koji je moguće startovati bazu je preko *Run SQL Command Line (Start -> Oracle Database 11g Express Edition)*. Prvo je potrebno konektovati se kao SYS ili SYSTEM korisnik (*connect / as sysdba*), a zatim i startovati bazu (*startup*).

Services

- *Control Panel -> Administrative Tools ->*

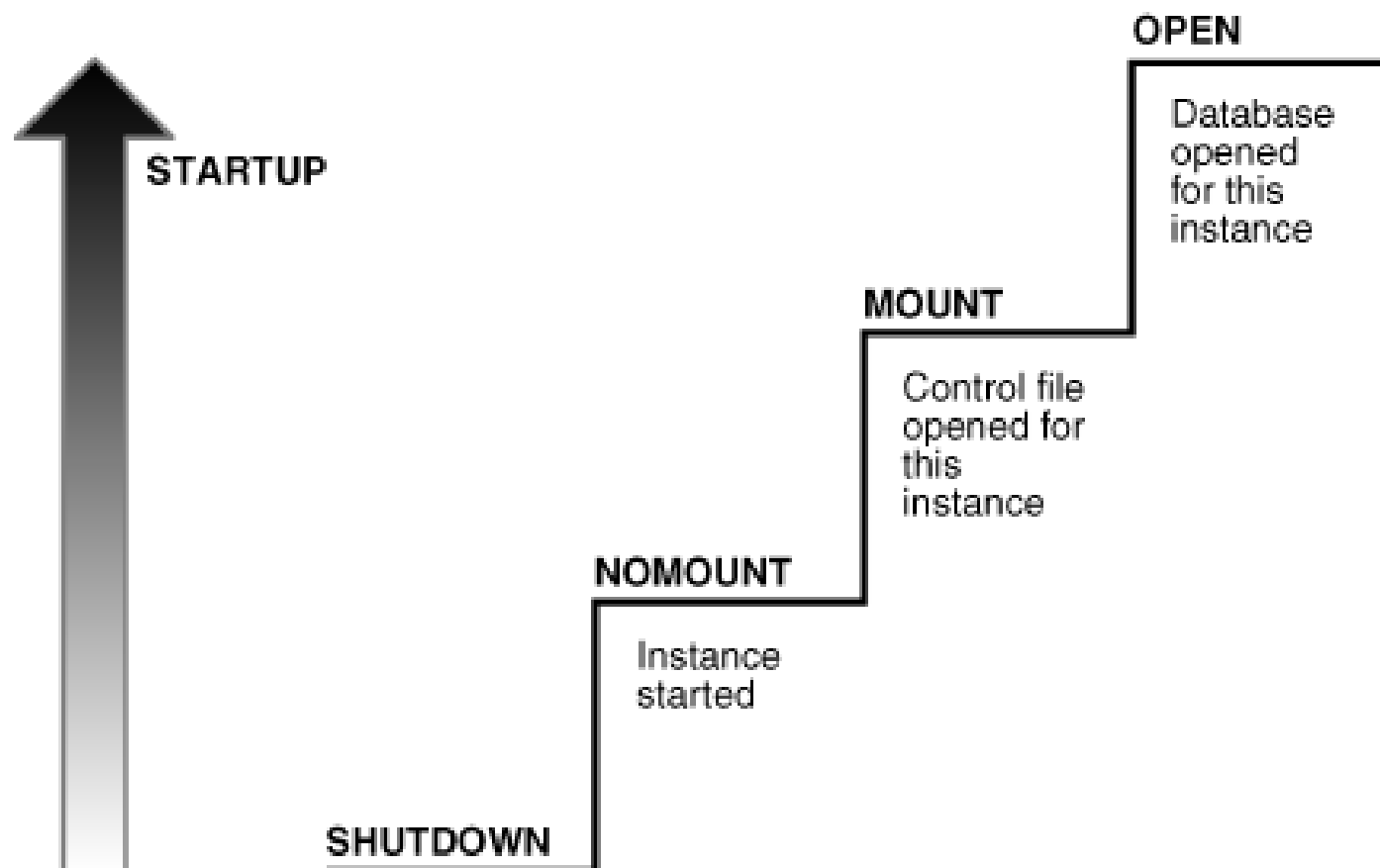


Name	Description	Status	Startup Type	Log On As
OracleJobSchedulerXE		Disabled	Manual	Local System
OracleMTSRecoveryService		Manual	Automatic	Local System
OracleServiceXE		Started	Automatic	Local System
OracleXEClrAgent		Manual	Manual	Local System
OracleXETNSListener		Started	Automatic	Local System

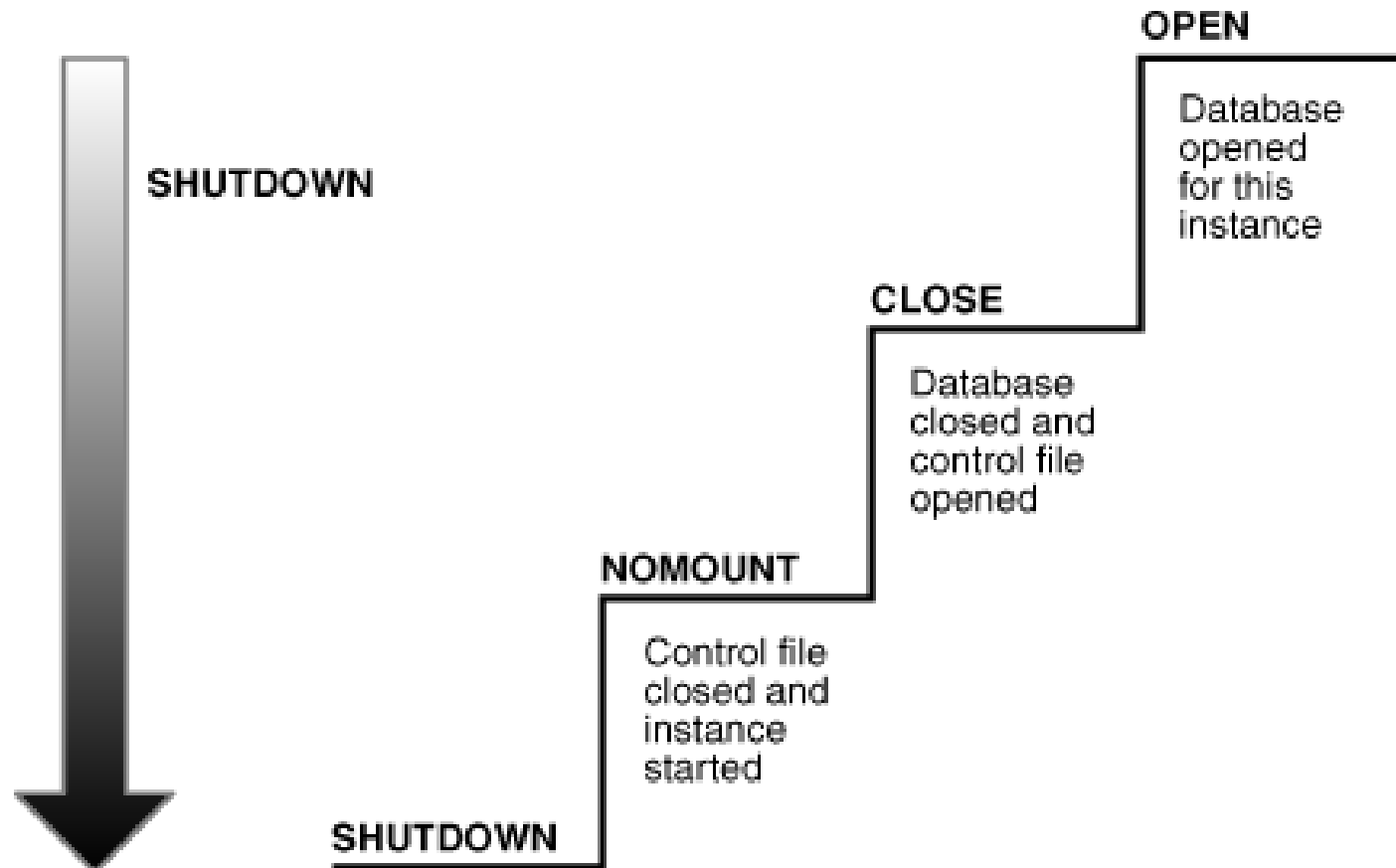
SQL Plus

- `sqlplus sys/oracle as sysdba`
- `sqlplus system/oracle`
- `sqlplus hr/hr`

Režimi rada instance - startup



Režimi rada instance - shutdown



Primeri rada sa instancom

- Shutdown instance
 - SHUTDOWN
 - SHUTDOWN IMMEDIATE
 - SHUTDOWN ABORT

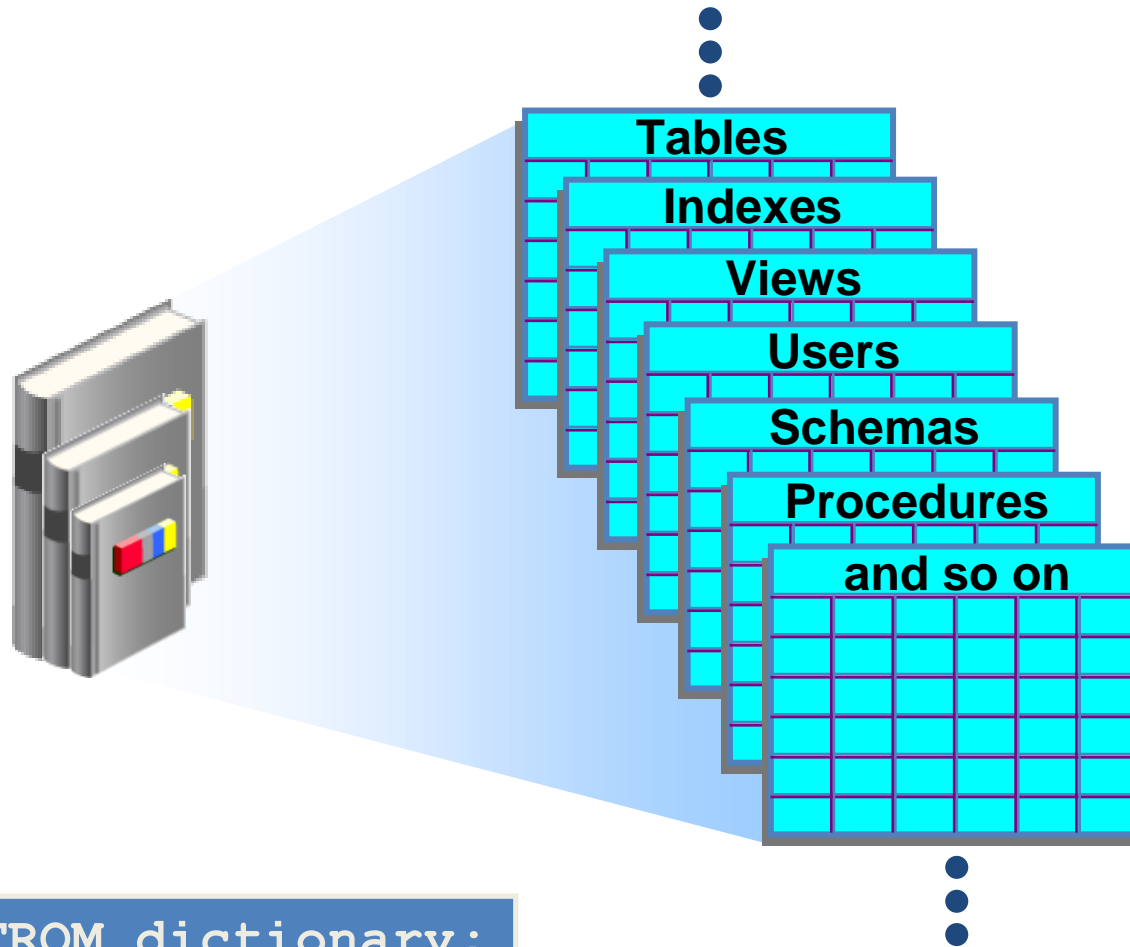
Primeri rada sa instancom

- Startup instance
 - STARTUP
 - STARTUP NOMOUNT
 - STARTUP MOUNT
 - STARTUP OPEN

Primeri rada sa instancom

- Izmena režima pokrenute instance moguća je jedino u sledećim slučajevima:
 - Iz nomount režima u mount režim
`ALTER DATABASE MOUNT`
 - Iz mount režima u open režim
`ALTER DATABASE OPEN`

Rečník podataka



Rečnik podataka

	Who Can Query	Contents	Subset of	Notes
DBA_	DBA	Everything	N/A	May have additional columns meant for DBA use only
ALL_	Everyone	Everything that the user has privileges to see	DBA_ views	Includes user's own objects
USER_	Everyone	Everything that the user owns	ALL_ views	Is usually the same as ALL_ except for the missing OWNER column. Some views have abbreviated names as PUBLIC synonyms.

Rečnik podataka

Instance/Database

V\$DATABASE
V\$INSTANCE
V\$PARAMETER
V\$SPPARAMETER
V\$SYSTEM_PARAMETER
V\$PROCESS
V\$BGPROCESS
V\$PX_PROCESS_SYSSTAT
V\$SYSTEM_EVENT

Memory

V\$BUFFER_POOL_STATISTICS
V\$LIBRARYCACHE
V\$SGAINFO
V\$PGASTAT

Disk

V\$DATAFILE
V\$FILESTAT
V\$LOG
V\$LOG_HISTORY
V\$DBFILE
V\$TEMPFILE
V\$TEMPSEG_USAGE
V\$SEGMENT_STATISTICS

Contention

V\$LOCK
V\$UNDOSTAT
V\$WAITSTAT
V\$LATCH

Oracle SQL Developer

- Oracle SQL Developer je besplatan grafički alat koji povećava produktivnost i pojednostavljuje rad sa bazom podataka.
- Bitno: SQL Developer zahteva JDK 7 ili napredniju verziju i prilikom pokretanja SQL Developer-a potrebno je navesti putanju u okviru sistema gde je instalirana.

Kreiranje nove konekcije za SYS i SYSTEM korisnike

New / Select Database Connection

Connection Name	Connection Details
SYS	sys@//localhost:15...

Connection Name: SYS
Username: sys
Password: ...
☐ Save Password ☒ Connection Color

Oracle Access

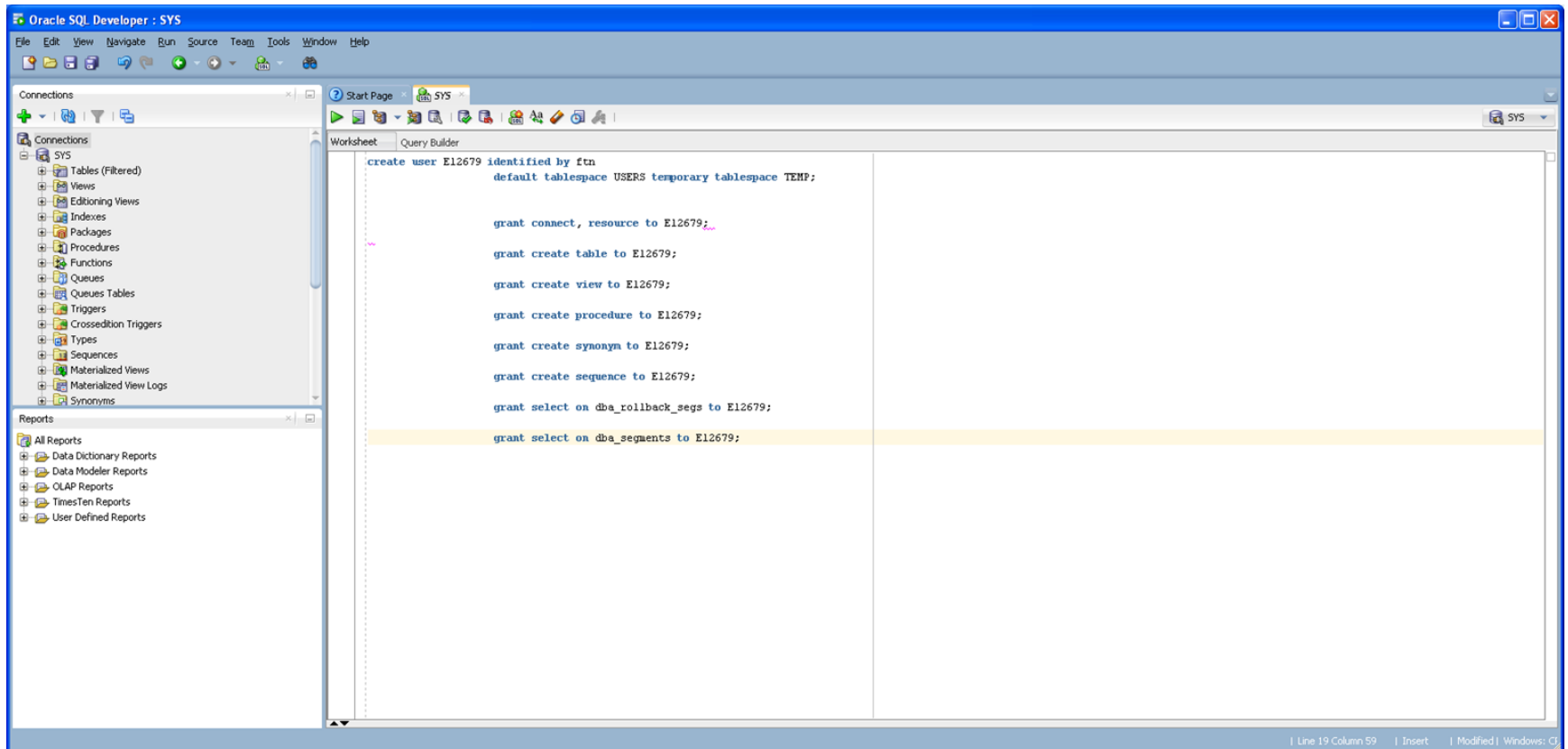
Connection Type: Basic Role: SYSDBA

Hostname: localhost
Port: 1521
☒ SID: xe
☐ Service name:
☐ OS Authentication ☐ Kerberos Authentication

Status :

Kreiranje novog korisnika

- Kreirati korisnike pokretanjem skripte *user.sql*



Kreiranje nove konekcije za kreiranog korisnika

- Konektovati se sa novokreiranim korisnikom

New / Select Database Connection

Connection Name	Connection Details
SYS	sys@//localhost:15...

Connection Name: Student

Username: E12679

Password: ...

☐ Save Password ☒ Connection Color

Oracle Access

Connection Type: Basic Role: default

Hostname: localhost

Port: 1521

☒ SID: xe

☐ Service name

☐ OS Authentication ☐ Kerberos Authentication

Status : Success

Oracle Database Error Messages

11g Release 2

- http://docs.oracle.com/cd/E11882_01/server.112/e17766/toc.htm

Primer

radnik({Mbr, Ime, Prz, Sef, Plt, God,Pre}, {Mbr}),
projekat({Spr, Ruk, Nap, Nar}, {Spr}),
radproj({Spr, Mbr, Brc}, {Spr + Mbr}),

radnik[Sef] \subseteq radnik[Mbr],
projekat[Ruk] \subseteq radnik[Mbr],
radproj[Mbr] \subseteq radnik[Mbr],
radproj[Spr] \subseteq projekat[Spr].

Tabela radnik

- **Mbr** - maticni broj radnika
- **Ime** - ime radnika
- **Prz** - prezime radnika
- **Sef** - maticni broj direktno nadredjenog rukovodioca - radnika
- **Plt** - mesecni iznos plate radnika
- **God** - Datum rodjenja radnika
- **Pre** – godišnja premija na platu radnika

Obeležja Mbr, Ime, Prz ne smeju imati null vrednost.
Plata ne sme biti manja od 500

Tabela projektat

- **Spr** - sifra projekta
- **Ruk** - rukovodilac projekta
- **Nap** - naziv projekta
- **Nar** - narucilac projekta

Obeležja Spr i Ruk ne smeju imati null vrednost, dok obeležje Nap mora imati jedinstvenu vrednost

Tabela radproj

- **Spr** - sifra projekta
- **Mbr** - maticni broj radnika
- **Brc** - broj casova nedeljnog angazovanja na projektu

Sva tri obeležja ne smeju da imaju null vrednost