

Fakultet tehničkih nauka, Novi Sad

Predmet:

Baze podataka 1

dr Ivan Luković

dr Vladimir Dimitrieski

Angelina Vujanović

Marina Nenić

Nikola Todorović

Vladimir Ivković

Marko Vještica

Sistem ocenjivanja

- Ukupno: 100 bodova

	Predispitne obaveze	Završni ispit	Σ
Teoretski deo (predavanja)	30	30	60
Praktični deo (vežbe)	40+10	0	40+10
Σ	70	30	100

Praktični deo – vežbe (1/3)

- **40 bodova**
 - U toku nastave
 - 4 zadatka (Z1 – Z4)
 - realizacija zadatka na vežbama
 - » »SQL
 - » »ER model podataka
 - » »Relacioni model podataka
 - » »Struktura i organizacija datoteka
 - –Maks. 4 x 10 bodova
 - –Plus 10 bodova na 4. zadatku

Praktični deo – vežbe (2/3)

- Pravila realizacije obaveza
 - Zadatak (Z1-Z4)
 - polaganje na času vežbi, koji je za to unapred planiran, pred asistentom
 - u toku semestra
 - student dobija na vežbama primere i zadatke koji predstavljaju pripremu za realizaciju testova
 - najviše jedan test može se ponoviti, odnosno popraviti, na kraju semestra

Praktični deo – vežbe (3/3)

- Softverska podrška
 - SUBP Oracle
 - SQL Developer
 - Oracle SQL Developer Data Modeler


Rad u učionici (1/2)

- Baze podataka (db2016):
 - Studentska korisnička šema (user schema)
 - pod nazivom **raXY**
 - User name: raXY
 - Password: ftn
 - gde je *X* broj indeksa, a *Y* godina upisa


Rad u učionici (2/2)

- Podaci potrebni za konektovanje na bazu podataka (db2016):
 - Host Name:
 - 192.168.0.102
 - Port Number: 1522
 - Oracle SID, database name:
 - db2016

Instalacija Oracle Database Express Edition 11g



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Oracle Database Express Edition 11g Release 2

June 4, 2014


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 - Unzip the download and run the DISK1/setup.exe
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 - Unzip the download and run the DISK1/setup.exe
- 📄 Oracle Database Express Edition 11g Release 2 for Linux x64
 - Unzip the download and the RPM file can be installed as normal


You may also be interested in the following downloads:

- 📄 Oracle SQL Developer
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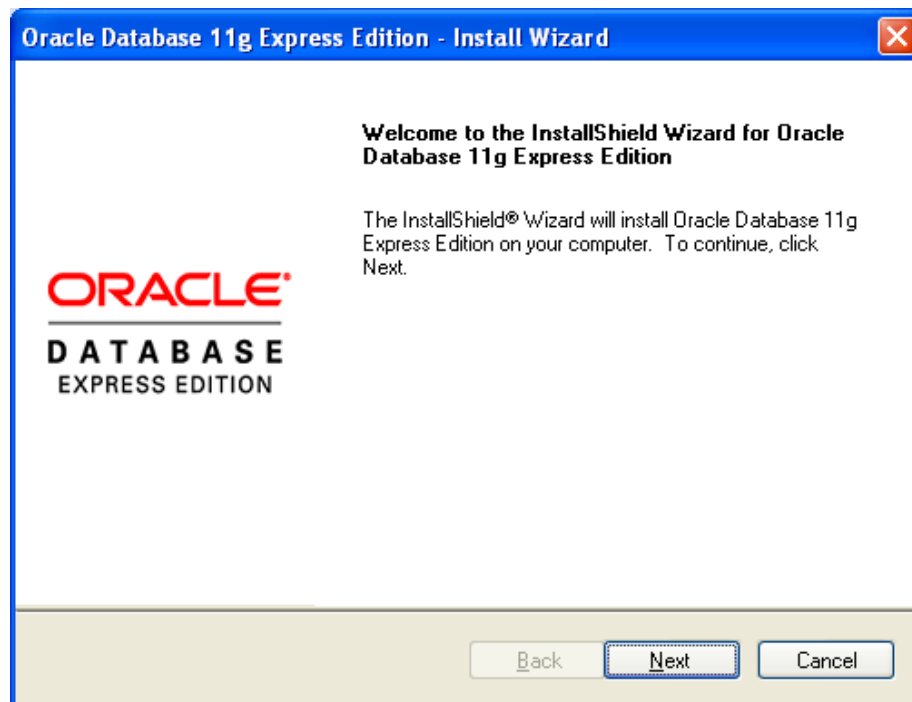
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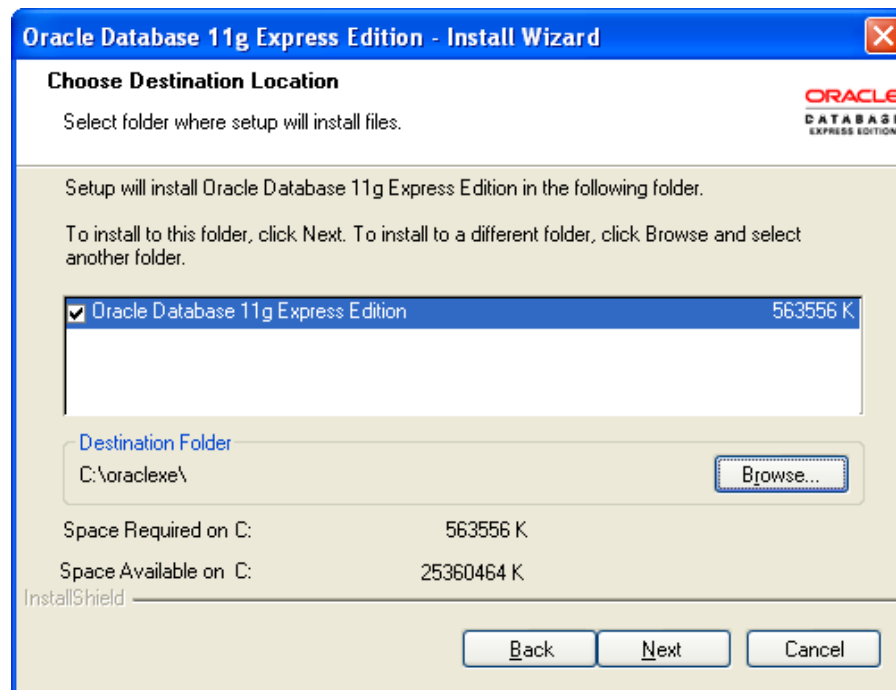
Instalacija Oracle Database Express Edition 11g

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.



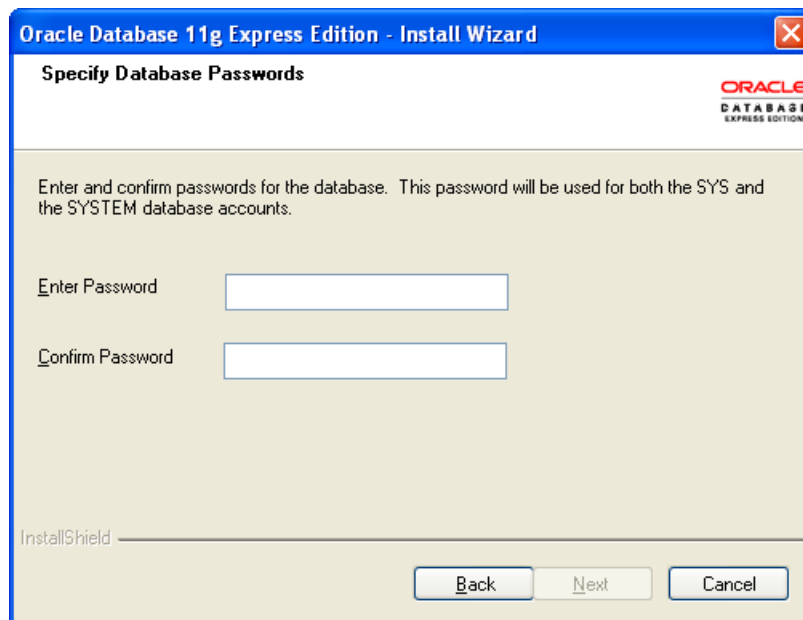
Instalacija Oracle Database Express Edition 11g

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

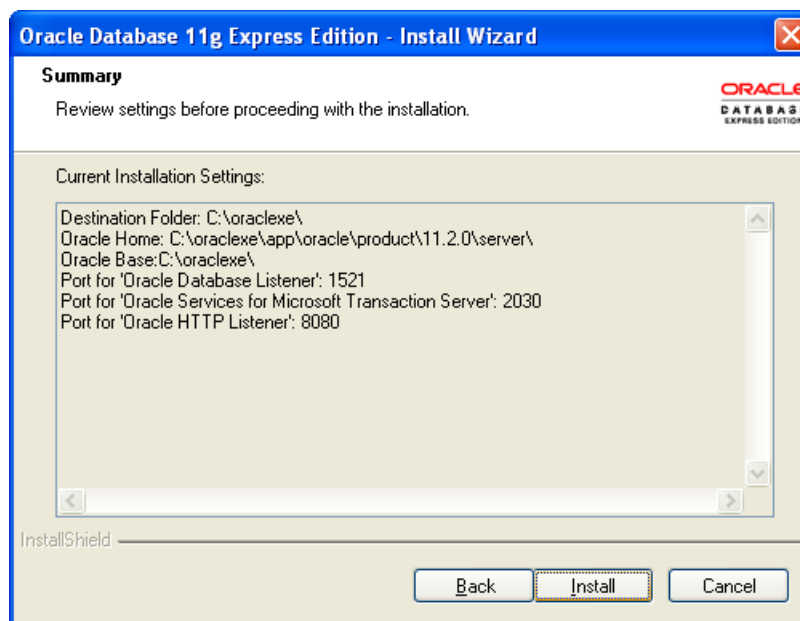
6. U okviru prozora *Specify Database Passwords* potrebno je uneti šifru za SYS i SYSTEM naloge. (SYS i SYSTEM nalozi imaju administratorska prava i ne koriste se za rutinske operacije)



The screenshot shows a Windows-style dialog box titled "Oracle Database 11g Express Edition - Install Wizard". The main heading is "Specify Database Passwords". In the top right corner, there is an Oracle logo and the text "ORACLE DATABASE EXPRESS EDITION". The main text area contains the instruction: "Enter and confirm passwords for the database. This password will be used for both the SYS and the SYSTEM database accounts." Below this, there are two input fields: "Enter Password" and "Confirm Password", each with a corresponding text label to its left. At the bottom left, there is a progress indicator labeled "InstallShield". At the bottom right, there are three buttons: "Back", "Next", and "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 ->*

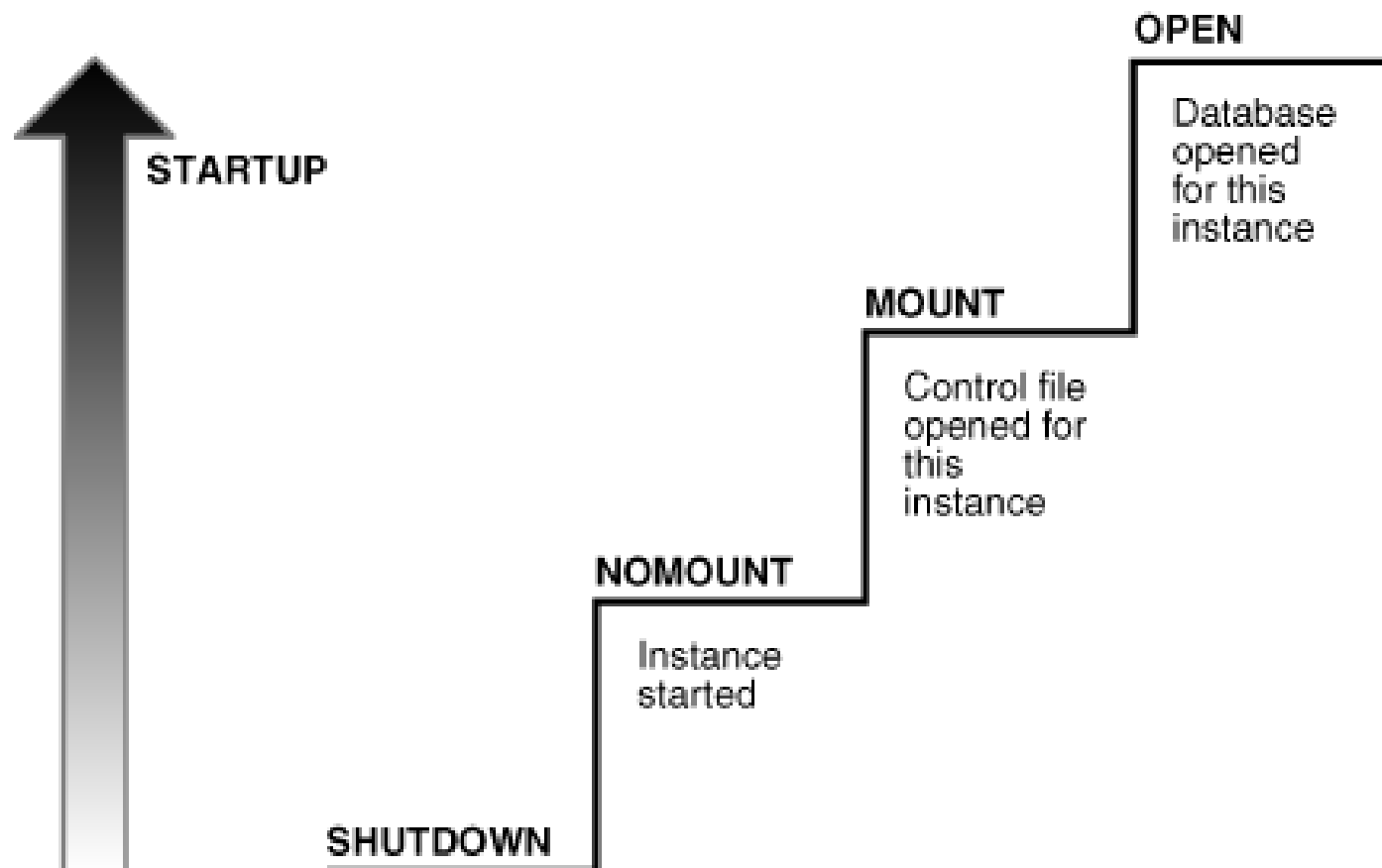
Services (Local)

Name	Description	Status	Startup Type	Log On As	
Microsoft .NET Runtime Opti...	Microsoft .NET Runtime Opti...	Manual	Local System	Local System	
Alert	Notifies sel...	Disabled	Local Service	Local System	
Application Layer G...	Provides s...	Started	Manual	Local System	
Application Manage...	Provides s...	Manual	Local System	Local System	
AutoP.NET State Ser...	Provides s...	Manual	Network S...	Local System	
Automatic Updates	Enables th...	Started	Automatic	Local System	
Background Intellig...	Transfers ...	Manual	Local System	Local System	
Clipboard	Enables CL...	Disabled	Local System	Local System	
COM+ Event System	Supports S...	Started	Manual	Local System	
COM+ System Appl...	Manages t...	Manual	Local System	Local System	
Computer Browser	Maintains a...	Automatic	Local System	Local System	
Cryptographic Serv...	Provides th...	Started	Automatic	Local System	
DCOM Server Proc...	Provides la...	Started	Automatic	Local System	
DHCP Client	Manages h...	Automatic	Local System	Local System	
Distributed Link Tra...	Maintains l...	Started	Automatic	Local System	
Distributed Transac...	Coordinate...	Manual	Network S...	Local System	
DNS Client	Resolves a...	Started	Automatic	Network S...	Local System
Error Reporting Ser...	Allows erro...	Started	Automatic	Local System	Local System
Event Log	Enables ev...	Started	Automatic	Local System	Local System
Extensible Authenti...	Provides w...	Manual	Local System	Local System	
Fast User Switching...	Provides m...	Started	Manual	Local System	Local System
Health Key and Cer...	Manages h...	Manual	Local System	Local System	
Help and Support	Enables He...	Started	Automatic	Local System	Local System
HTTP SSL	This servic...	Manual	Local System	Local System	
Human Interface D...	Enables ge...	Disabled	Local System	Local System	
IMAPI CD-Burning ...	Manages C...	Manual	Local System	Local System	
Indexing Service	Indexes co...	Manual	Local System	Local System	
InstallDriver Table ...	Provides s...	Manual	Local System	Local System	
IPSEC Services	Manages I...	Started	Automatic	Local System	Local System
Java Quick Starter	Prefetches...	Started	Automatic	Local System	Local System
Logical Disk Manager	Detects an...	Started	Automatic	Local System	Local System
Logical Disk Manag...	Configures...	Manual	Local System	Local System	
Messenger	Transmits ...	Disabled	Local System	Local System	
MS Software Shado...	Manages s...	Manual	Local System	Local System	
Net Logon	Supports p...	Manual	Local System	Local System	
Net.Tcp Port Sharin...	Provides a...	Disabled	Local Service	Local System	
NetMeeting Remot...	Enables a...	Manual	Local System	Local System	
Network Access Pr...	Allows w...	Manual	Local System	Local System	
Network Connections	Manages	Manual	Local System	Local System	
Network DDE	Provides	Disabled	Local System	Local System	
Network DDE DSM	Manages	Manual	Local System	Local System	
Network Location A...	Collects	Manual	Local System	Local System	
Network Provision...	Manages	Manual	Local System	Local System	
NT LM Security Sup...	Provides	Manual	Local System	Local System	
OracleJobSchedule...		Started	Automatic	Local System	
OracleJobSchedulerXE		Disabled	Local System	Local System	
OracleMTSRecoveryService		Manual	Local System	Local System	
OracleServiceXE		Automatic	Local System	Local System	
OracleXEClrAgent		Manual	Local System	Local System	
OracleXETNSListener		Automatic	Local System	Local System	

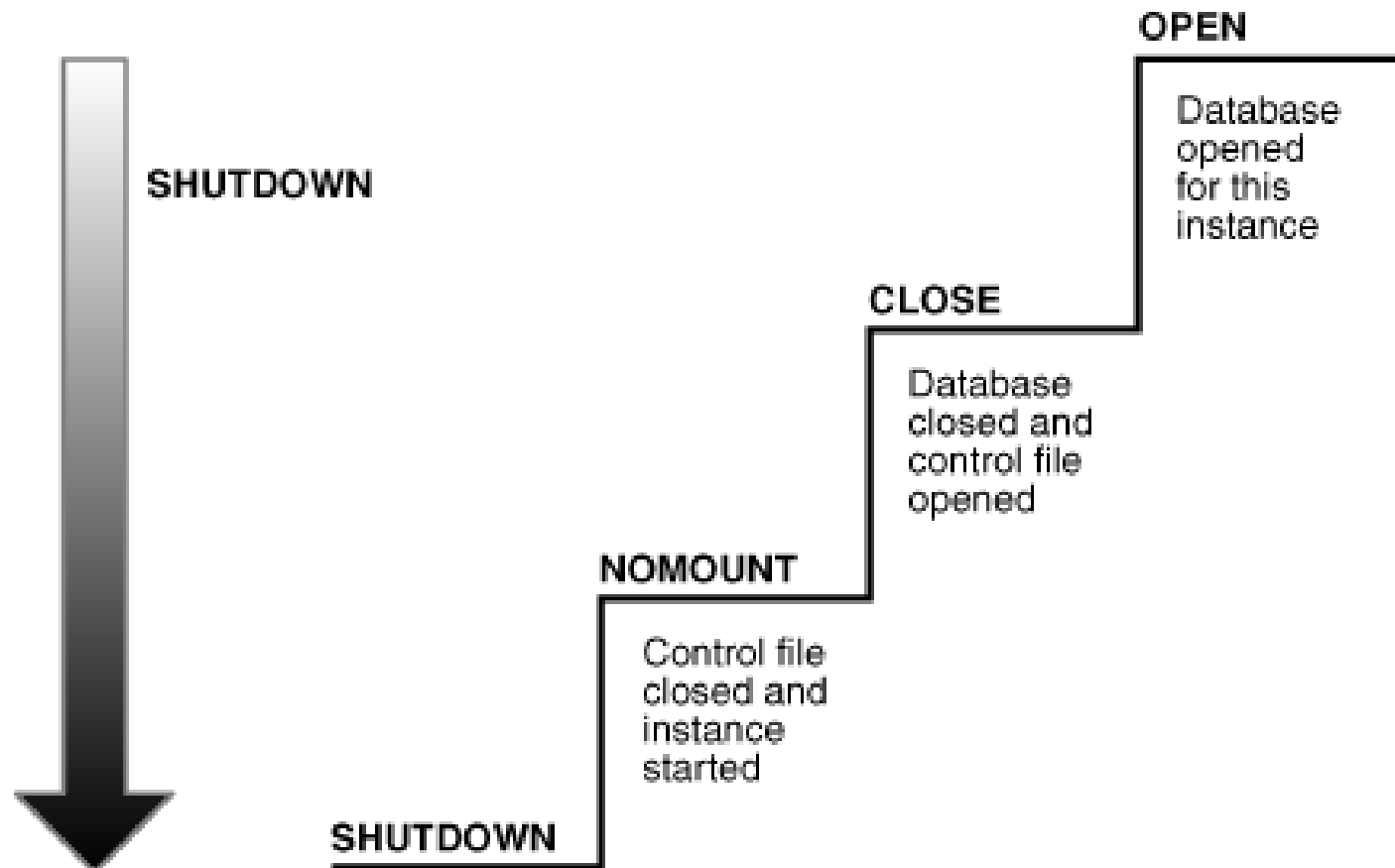
SQL Plus

- `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

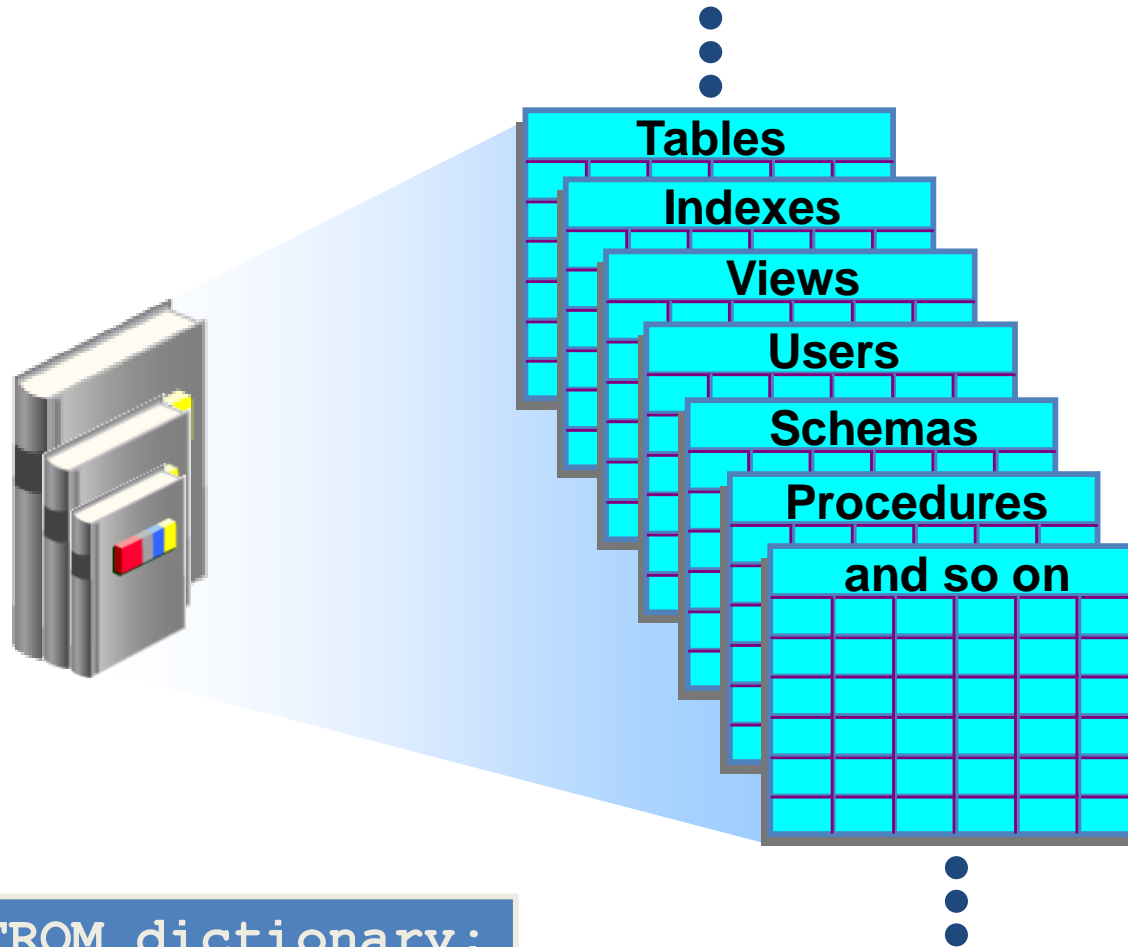
Primeri rada sa instancom

- 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



```
SELECT * FROM dictionary;
```

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.

Rečník 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

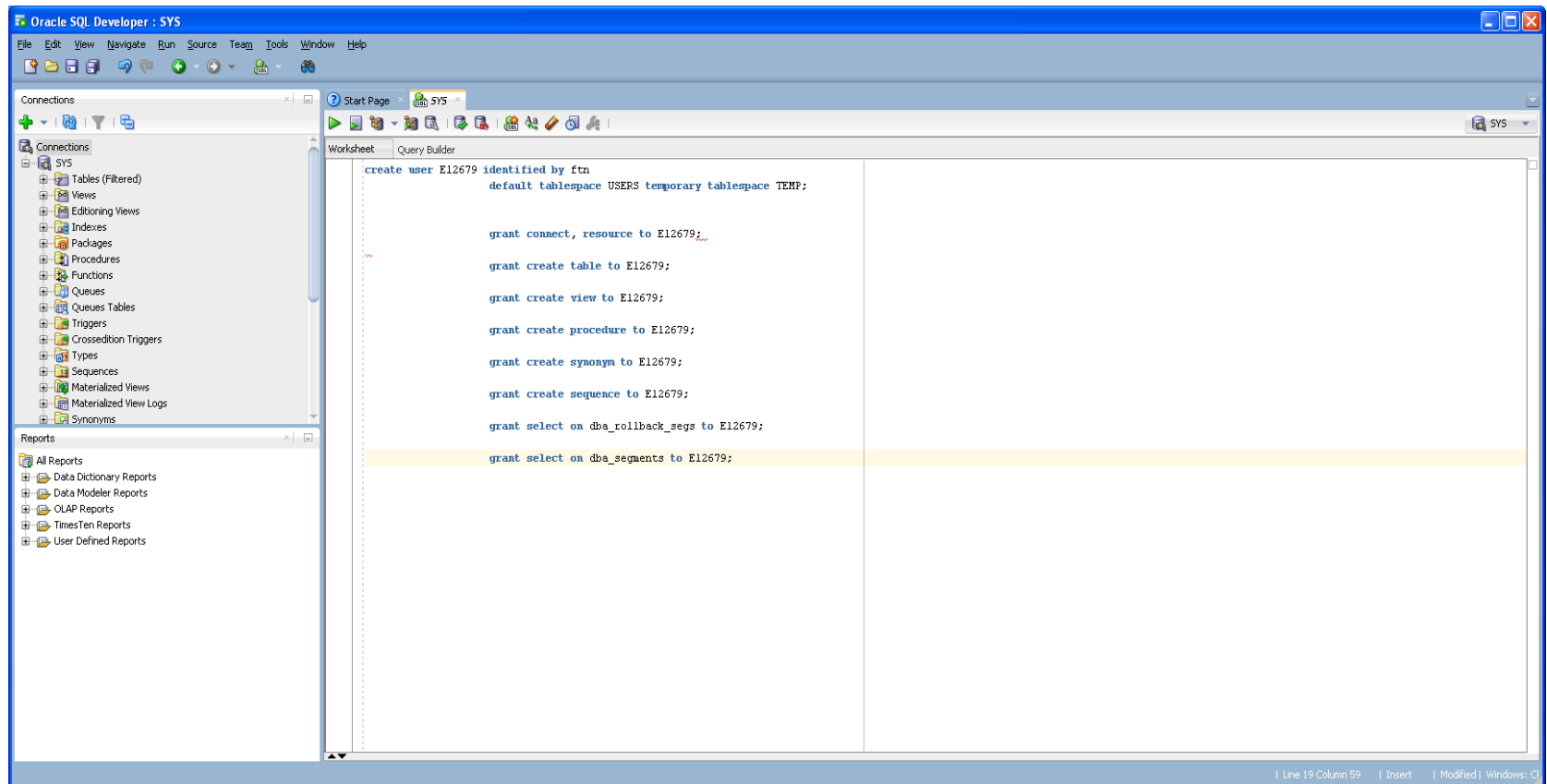
Connection Type: Basic Role: SYSDBA

Hostname: localhost
Port: 1521
☒ SID: xe
☐ Service name:

☐ OS Authentication ☐ Kerberos Authentication

Status :

Kreiranje novog korisnika



Kreiranje nove konekcije za kreiranog korisnika

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 projekat

- **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