

PRACTICAL INFORMATION REGARDING ORACLE

All students in INF3100 are defined as ORACLE users.

Username (or login ID) is identical to your usual Ifi-username.

Password is the same as your username (for first time users).

The ORACLE client is named SQL*Plus. It may be started with the command `sqlplus`. However, if you choose to do so, the Delete, Backspace and arrow keys won't work. Therefore, use the command `gqlplus` (a GNU version) instead.

Hence, log on to ORACLE/SQL from LINUX (login@ifi.uio.no) as follows:

```
>gqlplus username@ifiora
```

where *username* is your own username.

SQL*Plus responds with "Enter password:" where you enter your ORACLE password.

For first time users: When you have come as far as the prompt "SQL>", i.e. once you are logged on to ORACLE, change your password immediately. This is done like this:

```
SQL> alter user username identified by newpassword ;
```

Don't forget the semicolon (it terminates the command). If forgotten, you get a number as prompt, which means that ORACLE expects the command to continue on the next line.

It is possible to start SQL*Plus first, and enter username and password when prompted. The dialog will be as follows (starting as you write `gqlplus` at the LINUX prompt):

```
>gqlplus
Enter user-name: username@ifiora
Enter password: password
SQL>
```

Note that the username is your Ifi-username + `@ifiora` in one word, i.e. `username@ifiora`.

NB! SQL*Plus is not case-sensitive (so e.g. `username@IFIORA` works just as well).

For those who can't log on: This will probably be due to one of the following:

- 1) You are still not defined as an ORACLE-user
- 2) You are an ORACLE-user, and have forgotten your password (or using a password that is not valid)
- 3) You are typing errors.

If (1) or (2), kindly send an e-mail to drift@ifi.uio.no and ask to be defined as an ORACLE-user or to have your password reset (write Oracle in the subject field).

Command files

Instead of writing long SQL queries directly into SQL*Plus, one can write queries into a text file, e.g. *filename.sql*, and run the file using the command

```
SQL> start filename.sql
```

INFORMATION FOR THOSE WISHING TO USE ORACLE FROM WINDOWS

The machine running Oracle is named *delphinium.ifi.no* and listens to port 1521. SID for the database is IFIORA.

ORACLE DOCUMENTATION

There are 2 alternative ways to get the documentation for ORACLE 9i of which we recommend the first:

- 1) View the documentation as Web pages in your Internet browser at the address:

<http://www.ifi.uio.no/doc/oracle/ora9i/>

- 2) Go to */store/share/doc/ifi/oracle/* (on a UNIX system)

Notice that some of the links (linking to ORACLE's own Web site) requires "registered membership", i.e. username and password that are NOT the same as your ORACLE username and password at Ifi, or your Ifi-username and password. BUT... you get exactly the same information from the documentation in alternative 1).

CREATING THE "FILMDATABASEN" DATABASE

You are to create your own copy of the "Filmdatabasen".

This is done by issuing the command `>~inf3100/install_filddb.sh`

This script writes lots of messages to your screen, messages you may safely ignore.

If no fatal errors occur, after some minutes the script will terminate by writing these lines:

```
All logs saved in ~/Filmdatabaselogger  
All done, have a fine day ☺
```

All logs from the run are now in the directory "Filmdatabaselogger" in your root directory. You may delete this directory once your database has been created.

GOOD LUCK!

Accessing Oracle from Java programs:

The Oracle database runs at `delphinium.ifi.uio.no` and listens to port 1521. SID for the database is IFIORA. To use Java against Oracle the CLASSPATH must contain `/store/share/java/classes` (This is default for all student accounts)

Steps: (Source: *Inf3180/4180 mandatory exercise*, Igor V. Rafienko)

1. Load the JDBC driver
2. Register it with the JDBC Driver Manager
3. Open a connection to a database.

You need your username and password, and an URL giving info about the database server as parameters to the `getConnection()` method when connecting to the Oracle database.

The URL: `jdbc:oracle:thin:@delphinium.ifi.uio.no:1521:IFIORA`

The Java API documentation:

<http://java.sun.com/j2se/1.5.0/docs/api/>

Example code: (Source: *moviedb.java*, v 1.6, author: Igor V. Rafienko)

```
import java.util.*;
import java.sql.*;

/*Oracle drivers */
import oracle.jdbc.driver.*;
...

//Load and register the JDBC driver
public static void registerOracle() {
    try{
        DriverManager.registerDriver(
            new oracle.jdbc.driver.OracleDriver() );
    }
    catch (Exception e) {
        ...
    }
}

//Connecting to Oracle
public static Statement getStatement() throws Exception {
    Properties props = new Properties();

    //You are adviced NOT to put your password in plaintext here.
    //Put it in a file that is not readable by anyone but you.
    props.put( "user", "your_username");
    props.put("password","your_password");

    String url =
        "jdbc.:oracle:thin:@delphinium.ifi.uio.no:1521:IFIORA";
    Connection con = DriverManager.getConnection( url, props);
    return con.createStatement();
}
```

SQL query example:

```
...
/*This is a very small example: the query finds first name and surname
for all persons registered with surname "Welles" in the table Person
(in the "Filmdatabasen")*/

public static void exampleQuery(){
    try{
        Statement statem = getStatement();
        String theQuery= "SELECT FirstName, Surname "+
            "FROM Person "+
            "WHERE Surname='Welles'";

        ResultSet r = statem.executeQuery(theQuery);

        while(r.next()) {
            System.out.println(
                r.getString("Surname") + ", " +
                r.getString("FirstName"));
        }

    }
    catch (Exception e){
        ...
    }
}
...
```

SQL Update query example:

```
...
/*Simple example of update, executes INSERT on a table Mintest that has
attributes 'Lastname' and 'Firstname'*/

public static void exampleUpdateQuery(){
    try{
        Statement statem = getStatement();
        String theQuery = "INSERT into Mintest VALUES
('Hansen','Anne')";

        int updatedRows = statem.executeUpdate(theQuery);
        System.out.println( "Number of rows updated: "+updatedRows);

    }catch (Exception e) {
        ...
    }
}
...
```

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