Syftet med detta dokument är att ge studenterna de nödvändiga kunskaperna för att snabbt komma igång med att använda IBM DB2 för Windows / NT.

**DB2 v 6.1 är en i grunden en relationsdatabas** men det finns tillägg DB2 extenders. Exempel på några av de vanligaste **DB2 extenders** är "TextExtender", "Video , Audio och Image Extender" och XML extenders.

Det finns även möjlighet att göra "Java - kopplingar" mot DB2 enligt diverse standarder som ODBC, SQLj mm.

Det finns i princip olika sätt att arbeta mot DB2

- Via "Kommandon": Syntaxen till de vanligaste DB2 kommandona finns att hitta på följande plats:
- NetworkNeighborhood, Db-srv-1, StudKursInfo, AllmäntDB2, VanligaDB2KommandonSyntax
  Via "grafiska gränssnitt":



Eftersom syftet med detta dokument är att vara enkelt så kommer jag att beskriva några "Grafiska verktyg" och var man hittar information för att komma vidare

- Control Center
- Command Center
- Information Center
- DB2demo

Men det går naturligtvis även att arbeta kommandovägen gärna ihop med "batfiler"

• DB2 Command Window

Arbetar man grafiskt så markerar man ett "objekt" på skärmen med "vänster" musknapp och sedan så kan man alltid trycka på "höger" musknapp och erhålla undermenyer.

### **Control Center:**

Control Center är "spindeln i nätet" härifrån kan man göra allt om man har rättigheter till detta.

De vanligaste uppgifterna för en "student" består av att:

- Skapa databaser
- Skapa databastabeller
- Skapa Index
- Fylla databastabellerna med värden
- Göra utsökningar mot databasen

### **Command Center:**

Används oftast för att exekvera SQL

- DML
  - Select, Update, Delete, Insert
- DDL
  - Create ..
- DCL
  - Grant ..

### **Information Center:**

- Manualer (http://www-4.ibm.com/software/data/db2/library/publications/)
- Felkoder
- Litteratur
- WWW
- Övningsprogram

#### DB2demo:

IBM's demoprogram, Nyheter mm

Vid DSV har vi tillgång till DB2 från våra NT - arbetsstationer. För att kunna arbeta med db2 så krävs det att man får tillgång till ett speciellt "db2 - konto" som ger användaren lokala administratörsrättigheter på den lokala datorn.

- 1. Logga in på din NT arbetsstation med ditt "db2 konto"
- 2. Starta DB2 Control Center: Start, Programs, DB2 for Windows NT, Control Center



#### 3. Nu måste du logga in till Control Center



| 💽 DB2 Control Center - localhost - Signed i | in as=jdb038 Defau | lt userid=jdb03 | 8                |               |                     | _ 🗆 🗵      |
|---|--------------------|-----------------|------------------|---------------|---------------------|------------|
| Control Center Selected Edit                | View Tools         | Help            |                  |               |                     |            |
| 19 19 19 19 19 19                           | E 🗹 ?              |                 |                  |               |                     |            |
| 🗁 Systems                                   | Systems            |                 |                  |               |                     |            |
| 🗄 – 🗐 GX1IMAGE                              | Name               | Node name       | Operating system | Type Protocol | Protocol parameters | Comment    |
| É <b>_</b> LOCAL                            | 🗐 GX1IMAGE         | GX1IMAGE        | Windows NT       | Unkn Local    | Instance name=DB2   | Local work |
|   | 🗐 LOCAL            | LOCAL           | Windows NT       | Unkn Local    | Instance name=DB2   | Local work |
|   |                    | ∞ ► ≥           |                  |               |                     |            |
|   | ļ                  |                 |                  |               |                     |            |

Börja med att med vänster musknapp klicka på "+" tecknet till vänster om Systems

Nu kommer du att se vilka system du kan koppla upp dig mot. "Local" betecknar den lokala DB2 installationen som finns installerad lokalt på den dator du arbetar vid. Den version av DB2 som är lokalt installerad är "DB2 – Universal Database Personal Edition v6.1" (med fixpak3).

Det finns en mängd olika "Editions" förpackningar av "DB2" för diverse operativsystem (Se nedanstående bild), Det kommer nya versioner minst en gång per år och uppgraderingar av dessa sker med fixpak. Nästa version som släpps blir version 7.1



Om du expanderar den lokala DB2 installationen så kan du se vilken eller vilka **lokala instanser** det finns av denna version av DB2. Vi har endast en instans och den heter passande nog **"DB2".** 

| 📴 DB2 Control Center - localhost - Signed | n as=jdb038 Default userid=j | db038               |                        |                      |
|---|------------------------------|---------------------|------------------------|----------------------|
| Control Center Selected Edit              | View Tools Help              | )                   |                        |                      |
| 19 🖻 🖬 🞑 🗊 🖼 🕴                            | : 4 2                        |                     |                        |                      |
| 🗁 Systems                                 | Systems                      |                     |                        |                      |
| Ē∎Ĵ GX1IMAGE                              | Name Node na                 | me Operating system | Type Protocol Protocol | parameters Comment   |
|   | 🗐 GX1IMAGE GX1IMAG           | E Windows NT        | Unkn Local Instance    | aname=DB2 Local work |
| instances                                 | 🗾 LOCAL LOCAL                | Windows NT          | DB2 V6 Local Instance  | aname=DB2 Local work |
| 🗄 👻 😽 DB2                                 |                              |                     |                        |                      |
|   |                              |                     |                        |                      |
|   |                              |                     |                        |                      |
|   | 🛃 🌵 🕀 🔌 🕅                    | 12-                 |                        |                      |
|   |                              |                     |                        |                      |

Om man expanderar den lokala instansen "DB2" så ser man ett **antal databaser** som följer med vid en DB2 installation hos oss på DSV.

| 强 DB2 Control Center - localhost - Signed i | n as=jdb038 Default | userid=jdb038                 |       |          |        |       |         | _ 🗆 2 |
|---|---------------------|-------------------------------|-------|----------|--------|-------|---------|-------|
| Control Center Selected Edit                | View Tools          | Help                          |       |          |        |       |         |       |
| 12 🖄 🗊 🚨 🗊 🖼 🕅                              | : 4                 |                               |       |          |        |       |         |       |
| C Systems                                   | LOCAL - DB2 - Data  | bases                         |       |          |        |       |         |       |
| 🗄 🗐 GX1IMAGE                                | Name                | Alias                         | Type  | Database | Path   | State | Comment |       |
| 🗄 🗐 LOCAL                                   | MYTEXTOB            | MYTEXTOB                      | Local | MYTEXTDB | D:\DB2 |       |         |       |
| 🗄 🛅 Instances                               | SAMPLE              | SAMPLE                        | Local | SAMPLE   | D:\DB2 |       |         |       |
| 🖻 💘 DB2                                     |                     |                               |       |          |        |       |         |       |
| Databases                                   |                     |                               |       |          |        |       |         |       |
| I MYTEXTDB                                  |                     |                               |       |          |        |       |         |       |
|   |                     |                               |       |          |        |       |         |       |
| · ⊡ Gateway Connections                     |                     |                               |       |          |        |       |         |       |
|   |                     |                               |       |          |        |       |         |       |
|   | 4: 🕸 🛨 🤊            | 🗞 <b>h</b> + D <sub>2</sub> - |       |          |        |       |         |       |
|   |                     |                               |       |          |        |       |         |       |

**SAMPLE databasen är en "övningsdatabas" som IBM använder i sina manualer**. Den innehåller ett antal "tabeller" som är laddade med "data". Den används även av DB2demo applikationen (mer om detta senare)

Vi vill nu se vilka tabeller som IBM's övningsdatabas SAMPLE innehåller. Tryck på "+" tecknet till vänster om SAMPLE

| 🛐 DB2 Control Center - localhost - Signed | in as=jdb038 Default userid= | db038    |      |             |                   | _                     | . 🗆 ×    |
|---|------------------------------|----------|------|-------------|-------------------|-----------------------|----------|
| Control Center Selected Edit              | View Tools Hel;              | )        |      |             |                   | ~                     | 12 Avre  |
| 12 🖻 🗊 🕰 🖣 🖼                              | : 3                          |          |      |             |                   |                       |          |
| 📄 Systems 📃                               | LOCAL - DB2 - SAMPLE - Ta    | ables    |      |             |                   |                       |          |
| 🗄 🗐 GX1IMAGE                              | Name                         | Schema   | Туре | Table space | Index table space | Long data table space | Ci       |
|   | DEPARTMENT                   | DB2ADMIN | Т    | USERSPACE1  |                   |                       |          |
| 🗄 🧰 Instances                             | EMP_ACT                      | DB2ADMIN | т    | USERSPACE1  |                   |                       |          |
| ⊡¥≓ DB2                                   | 🔠 ЕМР_РНОТО                  | DB2ADMIN | т    | USERSPACE1  |                   |                       |          |
| 📄 💼 Databases 👘                           | EMP_RESUME                   | DB2ADMIN | т    | USERSPACE1  |                   |                       |          |
| · III MYTEXTDB                            | EMPLOYEE                     | DB2ADMIN | т    | USERSPACE1  |                   |                       |          |
| B SAMPLE                                  | ORG                          | DB2ADMIN | т    | USERSPACE1  |                   |                       |          |
| 🗁 Tables                                  | PROJECT                      | DB2ADMIN | т    | USERSPACE1  |                   |                       | <b>-</b> |
| Views                                     | •                            |          |      |             |                   |                       |          |
| Aliases                                   | 🛃 🤹 🕂 🗞 🕅                    | ⊳=       |      |             |                   |                       |          |
| , <u> </u>                                | ۱µــــــ                     |          |      |             |                   |                       |          |

Klicka nu på **Tables med vänster musknapp** så markerar du Tables

Vi vill nu se vilka "attribut" som finns i tabellen "DEPARTMENT"

Markera "DEPARTMENT" och tryck sedan på höger musknapp så erhålls en ny meny. Välj där Sample contents

| 🚡 DB2 Control Center - localhost - Signed in | n as=jdb038 Default userid=j | db038       |             |                   |                       | _ 🗆 ×    |
|--|------------------------------|-------------|-------------|-------------------|-----------------------|----------|
| Control Center Selected Edit                 | View Tools Help              | •           |             |                   | 2                     |          |
| 12 🖻 🗊 🕰 🗊 🐄 🗐                               | = { 🗹 🔹                      |             |             |                   |                       |          |
| 🗄 📲 🚺 SAMPLE                                 | LOCAL - DB2 - SAMPLE - Ta    | bles        |             |                   |                       |          |
| 🗁 Tables                                     | Name                         | Schema Type | Table space | Index table space | Long data table space | Corr     |
| Views  | I DEPARTMENT                 | DB2ADMIN T  | USERSPACE1  | 0 Marin           |                       |          |
| 🔂 Aliases                                    | EMP_ACT                      | DB2ADMIN T  | USERSPACE1  | Alter             |                       |          |
| Triggers                                     | EMP_PHOTO                    | DB2ADMIN T  | USERSPACE1  | Dron              |                       |          |
| Schemas                                      | EMP_RESUME                   | DB2ADMIN T  | USERSPACE1  | Conv              |                       |          |
| Indexes                                      | EMPLOYEE                     | DB2ADMIN T  | USERSPACE1  | Privileges        |                       |          |
| Table Spaces                                 | I ORG                        | DB2ADMIN T  | USERSPACE1  | Sample Con        | topte                 |          |
| Connections 🛁                                | PROJECT                      | DB2ADMIN T  | USERSPACE1  | Import            | tents                 | <b>_</b> |
|  | 1                            |             |             | Export            |                       | •        |
| Replication Sub 🚽                            | 4t #* + % **                 | <b>&gt;</b> |             | Load              |                       |          |
|  |                              |             |             | Quiesce           |                       |          |
|  |                              |             |             | Reorganize        |                       |          |

| 🙀 Sample C | Contents - DEPARTMENT              |        |          |          |     |
|------------|------------------------------------|--------|----------|----------|-----|
| LOCAL - DB | 2 - SAMPLE - DB2ADMIN - DEPARTMENT | г      |          |          |     |
| DEPTNO     | DEPTNAME                           | MGRNO  | ADMRDEPT | LOCATION |     |
| A00        | SPIFFY COMPUTER SERVICE DIV.       | 000010 | A00      |          |     |
| B01        | PLANNING                           | 000020 | A00      |          |     |
| C01        | INFORMATION CENTER                 | 000030 | A00      |          |     |
| D01        | DEVELOPMENT CENTER                 |        | A00      |          |     |
| D11        | MANUFACTURING SYSTEMS              | 000060 | D01      |          |     |
| D21        | ADMINISTRATION SYSTEMS             | 000070 | D01      |          |     |
| E01        | SUPPORT SERVICES                   | 000050 | A00      |          |     |
| E11        | OPERATIONS                         | 000090 | E01      |          |     |
| E21        | SOFTWARE SUPPORT                   | 000100 | E01      |          |     |
|            |                                    |        |          |          |     |
|            |                                    |        |          | Close H  | elp |

Genom att välja "Alter" så kan man ändra samt få viktig information om hur "Tabellen" är konstruerad

| 📴 DB2 Control Center - localhost - Signed in | n as=jdb038 Default userid=jdb038 |                              |  |
|--|-----------------------------------|------------------------------|--|
| Control Center Selected Edit                 | View Tools Help                   |                              |  |
| 12 🖻 🖬 🚨 🕄 🖽                                 | E G 2                             |                              |  |
| 🗄 🗐 LOCAL 📃                                  | LOCAL - DB2 - SAMPLE - Tables     |                              |  |
| instances                                    | Name                              | Schema Type Tabl             | le space Index table space Long data table s |
| ⊟-≪ DB2                                      | DEPARTMENT                        | Alter                        | SPACE1                                       |
| 🛱 🧰 Databases                                | EMP_ACT                           | Rename                       | ISPACE1                                      |
| 🗄 🗍 MYTEXTDB                                 | EMP_PHOTO                         | Drop                         | ISPACE1                                      |
| E SAMPLE                                     | EMP_RESUME                        | Copy                         | ISPACE1                                      |
| 🗁 Tables                                     | EMPLOYEE                          | Privileges                   | ISPACE1                                      |
|  | I LARGE_TABLE                     | Sample Contents              | ISPACE1                                      |
|  | 🔠 ORG                             | Import                       | ISPACE1                                      |
| Triggers                                     | PROJECT                           | Export                       | ISPACE1                                      |
| Schemas                                      | E RICH                            | Load                         | SPACE1                                       |
|  | B SALES                           | Quiesce                      | SPACE1                                       |
| Table Spaces                                 | THE STAFF                         | Reorganize                   | ISPACE1                                      |
| Deplication Cou                              | SYSATTRIBUTES                     | Run Statistics               | ATSPA  |
| Replication Sou                              | SYSBUFFERPOOLNODES                | Set Constraints              | ATSPA  |
| Buffer Poole                                 |                                   | Define as replication source | 1TOD 1                                       |
| Application Obje                             | 40 M T O 14 M                     | Show Related                 |  |
|  | 27 78 🛨 🔌 👫 🞼                     | Concrete DDI                 |  |
|  |                                   | Performance monitoring       |  |

| Alter Table - DEPAR<br>LOCAL - DB2 - SAMPLE - | TMENT<br>DB2ADMIN - DEPARTMENT                            | X |
|---|---|---|
| Table Columns Prim                            | nary Key Foreign Keys Check Constraints                   |   |
| Table schema                                  | DB2ADMIN  |   |
| Table name                                    | DEPARTMENT  |   |
| Table space                                   | USERSPACE1  |   |
| Index table space                             | y .   |   |
| Long data table space                         | y .   |   |
| Comment                                       |   |   |
| Lock size                                     | <b></b>   |   |
| Percentage of free spa                        | ce to be left during load or reorganization) <sup>0</sup> |   |
| 🗖 Data capture for pro                        | pagation  |   |
| 🔲 Include long variabl                        |   |   |
| 🗖 Append table data to                        | o the end of the last table page                          |   |
| 🗖 Cardinality varies si                       | gnificantly at run time (from empty to quite large)       |   |
|   |   |   |
|   |   |   |
|   |   |   |
|   |   |   |
|   |   |   |
|   |   |   |
|   |   |   |
|   | OK Cancel Show SQL Estimate Size Help                     |   |

### Skapa en egen lokal Databas i DB2

Vi vill nu skapa en egen databas lokalt på den dator som vi arbetar vid. Efter det att databasen skapats är den "tom" och består då endast av systemtabeller.

Vi ger databasen ett lämpligt namn. Eftersom jag i denna övning loggat in med kontot "jdb038" så ger jag databasen namnet "jdb038db". OBS!! Ett databasnamn i DB2 får ej vara längre än 8 tecken (i denna och tidigare versioner)

Markera **Databases** och tryck på höger musknapp välj **Create, Database using SmartGuide** 

| 🔢 DB2 Control Center - localhost - Signed i | n as=jdb038 Default userid=jdb038 📃 🗖 🗙 |
|---|---|
| Control Center Selected Edit                | View Tools Help                         |
| 19 🖻 🗊 🛥 🗊 🖼 🤮                              |   |
| 🚞 Systems                                   | LOCAL - DB2 - SAMPLE                    |
| 🗷 🗐 GX1IMAGE                                | Name                                    |
| 🖻 🗐 LOCAL                                   | 🛅 Tables 🗖                              |
| 🖃 💼 Instances                               | 🗁 Views                                 |
| 🗄 👻 🖶 DB2                                   | C Allases                               |
| Detabases                                   | C Trissor                               |
| E Create                                    | Database using SmartGuide               |
| E. Add                                      | Database from Backup                    |
| Performance monitoring                      |   |
| Refresh                                     | Lane Spac                               |
|   | Connections                             |
|   | 21 🍄 🕂 🗞 N <sup>+</sup> N <sup>-</sup>  |
| 1   |   |

Fyll i ditt databasnamn. Jag fyller i mitt namn"jdb038db".

En nyhet i version 6.1 är att DB2 visar de kommandon som exekveras när man arbetar "grafiskt" mot DB2.

| 腹 Create Database Si   | martGuide   |  |   |                | ×              |
|--|---|--|---|----------------|----------------|
| 1. Database Name   | 2. User Tables  | 3. Catalog Tables  | 4. Temporary Tables                               | 5. Performance | < <b>&gt;</b>  |
| First Step: Specif   | 'y a name for yo  | ur new database.   |   |                |                |
| This SmartGuide will I<br>database, enter a new<br>database to your requ | help you create and<br>v name, select a dri<br>irements, click on N | tailor a new database<br>ve, and click on Done.<br>lext to continue. | e. To create a basic<br>If you want to tailor the |                |                |
| New database name  | jdb038db  |  |   |                |                |
| Default drive  | D: 💌 1627 MB Av   | /ailable   |   |                |                |
| Comment  |   |  |   |                | <i>6119</i> 00 |
| Database alias   |   |  |   |                |                |
|  |   |  |   |                |                |
|  | < Back  | Next > Show  | w Command Do                                      | ne Cancel      | Help           |

Tryck på Show Command:



och trycker sedan på Close, Done

Nu skapas DB2 databasen åt dig ...

| Progress 🔀                   |
|------------------------------|
| Creating Database - JDB038DB |
| Elapsed time                 |

Den innehåller endast systemtabeller ...

| B DB2 Control Center - localhost - Signer | d in as=jdb038 Default userid=jdb038 |        |      |             |                   | _ 🗆 ×              |
|---|--------------------------------------|--------|------|-------------|-------------------|--------------------|
| Control Center Selected Edit              | View Tools Help                      |        |      |             |                   |                    |
| 12 🖻 🗊 🛥 🗊 🖼 🗄                            | ] 🖪 🗹 ?                              |        |      |             |                   |                    |
| 📄 Systems                                 | LOCAL - DB2 - JDB038DB - Tables      |        |      |             |                   |                    |
| 🗄 🗐 GX1IMAGE                              | Name                                 | Schema | Type | Table space | Index table space | Long data table sp |
| É∎] LOCAL                                 | SYSTABOPTIONS                        | SYSIBM | т    | SYSCATSPA   |                   | <b></b>            |
| 🖻 🧰 Instances                             | SYSTBSPACEAUTH                       | SYSIBM | т    | SYSCATSPA   |                   |                    |
| ⊡   | SYSTRANSFORMS                        | SYSIBM | т    | SYSCATSPA   |                   |                    |
| 🖻 🛄 Databases 🗕                           | SYSTRIGGERS                          | SYSIBM | т    | SYSCATSPA   |                   |                    |
|   | SYSTYPEMAPPINGS                      | SYSIBM | т    | SYSCATSPA   |                   |                    |
| SAMPLE                                    | SYSUSERAUTH                          | SYSIBM | т    | SYSCATSPA   |                   |                    |
|   | SYSUSEROPTIONS                       | SYSIBM | т    | SYSCATSPA   |                   | -                  |
| Tables Viewo                              | •                                    |        |      |             |                   | <u> </u>           |
| Views                                     | 🛨 🛃 🤹 🕂 🖗 👫 🕅                        |        |      |             |                   |                    |
|   | - 1                                  |        |      |             |                   |                    |

# Skapa tabeller i den egna databasen:

| 🛐 DB2 Control Center - localhost - Signed in as=jdb038 Defau | ılt userid=jdb( | )38                    |             |       |             | _ 🗆 ×           |
|--|-----------------|------------------------|-------------|-------|-------------|-----------------|
| Control Center Selected Edit View Tools                      | Help            |                        |             |       |             | No Cart         |
| 12 🖻 🖬 🛥 🗊 🐄 🖬 🖌 🗃 🕿   | ]               |                        |             |       |             |                 |
| Systems  | <b>_</b>        | LOCAL - DB2 - JDB      | 1038DB - Ta | ables |             |                 |
|  |                 | Name                   | Schema      | Туре  | Table space | Index table spa |
|  |                 | 🖽 SYSATTRIB :          | SYSIBM      | Т     | SYSCATSPA   | <b>_</b>        |
| 🖹 💼 Instances  |                 | I SYSBUFFE :           | SYSIBM      | Т     | SYSCATSPA   |                 |
|  |                 | I SYSBUFFE :           | SYSIBM      | Т     | SYSCATSPA   |                 |
| ☐ ☐ Databases  |                 | I 🖽 SYSCHECKS :        | SYSIBM      | Т     | SYSCATSPA   |                 |
|  |                 | 🖽 SYSCOLAU :           | SYSIBM      | Т     | SYSCATSPA   |                 |
|  |                 | 🖽 SYSCOLC              | SYSIBM      | Т     | SYSCATSPA   |                 |
| Tables.  | Table           |                        | SYSIBM      | Т     | SYSCATSPA   |                 |
| Views Create   | Table           | a ReportQuido          | SYSIBM      | Т     | SYSCATSPA   |                 |
| Aliases Penormance monitoring P                              | Table Usin      |                        | SYSIBM      | Т     | SYSCATSPA   |                 |
| Patron Patron  |                 | 🖽 SYSCOLU              | SYSIBM      | Т     | SYSCATSPA   |                 |
| Schem Reiresn  |                 | 🖽 SYSCONST :           | SYSIBM      | Т     | SYSCATSPA   |                 |
|  |                 | 🖽 SYSDATAT             | SYSIBM      | Т     | SYSCATSPA   |                 |
| Connections  |                 | 🖽 SYSDBAUTH            | SYSIBM      | Т     | SYSCATSPA   |                 |
| Denliestion Courses  |                 | SYSDEPEN               | SYSIBM      | Т     | SYSCATSPA   |                 |
| Replication Sources  |                 | SYSEVENT               | SYSIBM      | Т     | SYSCATSPA   |                 |
|  |                 | SYSEVENTS              | SYSIBM      | т     | SYSCATSPA   |                 |
| Application Objects  |                 |                        | SYSIBM      | т     | SYSCATSPA   | -               |
| Group Objects  |                 | 1                      |             |       |             | Þ               |
|  | -               | <b><u>4</u>:</b> ♣ ♣ < | 🗞 kt        | 5     |             |                 |
|  |                 |                        |             |       |             |                 |

Skapa tabellen Kund

| 🚹 Create Table        |   | x |
|-----------------------|---|---|
| LOCAL - DB2 - JDB038D | B   |   |
| Table Columns Prin    | nary Key   Foreign Keys   Check Constraints |   |
| Table schema          | JDB038                                      |   |
| Table name            | Kund  |   |
| Table space           | <b></b>                                     |   |
| Index table space     | v   |   |
| Long data table space | v   |   |
| Comment               |   |   |
| Data capture for pro  | pagation                                    |   |
|                       | OK Cancel Show SQL Estimate Size Help       |   |

Välj fliken Colums, tryck på ADD och skapa attributen enligt nedan

| Create Table               | 038DB                            |                    |                               |                 | ×                |
|----------------------------|----------------------------------|--------------------|-------------------------------|-----------------|------------------|
| Table Columns              | Primary Key   Fore               | eign Keys Check Co | onstraints                    |                 |                  |
| Column name<br>KNR<br>NAMN | Datatype<br>CHARACTER<br>VARCHAR | Length Precisio    | on Scale Nullable<br>No<br>No | Default LOB ut  | Add              |
|                            |                                  |                    |                               |                 | Remove<br>Select |
|                            |                                  |                    |                               | Þ               | Move Up          |
|                            |                                  | ок                 | Cancel Show SQ                | L Estimate Size | Help             |

### Skapa primärnyckel enligt nedan

| E Create Table                         | X                                     |
|--|---------------------------------------|
| Table Columns Primary Key Foreign Keys | Check Constraints                     |
| Available columns                      | Primary key columns                   |
| NAMN<br>Constraint name                | <pre>KNR </pre>                       |
|  |                                       |
|  | DK Cancel Show SQL Estimate Size Help |

Tryck på OK och tabellen är skapad

| 🚯 DB2 Control Center - localhost - Sig | gned in as=jdbl | )38 Default u: | erid=jdb | 138                        |       |             |                   |
|--|-----------------|----------------|----------|----------------------------|-------|-------------|-------------------|
| Control Center Selected E              | dit View        | Tools          | Help     |                            |       |             | A CAN             |
| 12 🖻 🗊 🛥 🗊 🖼 🤇                         | 💀 📰 🗧           | 2              |          |                            |       |             |                   |
| C Systems                              |                 |                | <b></b>  | LOCAL - DB2 - JDB038DB - T | ables |             |                   |
| 😟 🗐 GX1IMAGE                           |                 |                |          | Name * Schema              | Type  | Table space | Index table space |
| 🗄 🚽 🗐 LOCAL                            |                 |                |          | I KUND JDB038              | т     | USERSPACE1  | <u> </u>          |
| instances                              |                 |                |          | I SYSATTRIB SYSIBM         | Т     | SYSCATSPA   | _                 |
|  |                 |                |          | I SYSBUFFE SYSIBM          | т     | SYSCATSPA   |                   |
| 🖻 🧰 Databases                          |                 |                |          | I SYSBUFFE SYSIBM          | т     | SYSCATSPA   | -                 |
| I ■ MYTEXTDB                           |                 |                |          | <u>त</u>                   |       |             |                   |
| i⊒[] JDB038DB                          |                 |                |          | 40 JR T & 14               | D.=   |             |                   |
| 🗁 Tables                               |                 |                | -        | 24 🕬 🎞 🕺 🕅                 | 13    |             |                   |
|  |                 |                |          |                            |       |             |                   |

Skapa tabellen BIL

| 🙀 Create Table  |                          |                       |       |          |         |          | ×      |
|---|--------------------------|-----------------------|-------|----------|---------|----------|--------|
| LOCAL - DB2 - JDB038                                      | DB                       |                       |       |          |         |          |        |
| Table Columns Pri   | mary Key 🛛 Foreign       | Keys Check Constr     | aints |          |         |          |        |
| Table schema  | JDB038                   |                       |       |          |         |          | •      |
| Table name  | Bil                      |                       |       |          |         |          |        |
| Table space   |                          |                       |       |          |         |          | •      |
| Index table space   |                          |                       |       |          |         |          | Ŧ      |
| Long data table space                                     | e                        |                       |       |          |         |          | 7      |
| Comment   |                          |                       |       |          |         |          | _      |
| Data capture for pr                                       | opagation                |                       |       |          | 1       |          | 1 1    |
|   |                          | OK Ca                 | ncel  | Show SQL | Estim   | ate Size | Help   |
| Ercate Table<br>LOCAL - DB2 - JDB038<br>Table Columns Pri | DB<br>mary Key   Foreigr | ı Keys   Check Constr | aints |          |         |          | ×      |
| Column name D   | atatype                  | Length Precision      | Scale | Nullable | Default | LOB      | Add    |
| REGNR C   | HARACTER                 | 6                     | -     | - No     |         |          | Change |
| MARKE V   | ARCHAR                   | 20                    | -     | - No     |         |          | onange |
| MIL IN  | ITEGER                   | -                     | -     | - No     | 0       | _        | Remove |
| KNR C   | HARACTER                 | 10                    | -     | - Yes    |         |          |        |
| •   |                          |                       |       |          |         |          |        |

Cancel

Show SQL Estimate Size..

Help

ок

| Ecreate Table<br>LOCAL - DB2 - JDB038DB<br>Table Columns Primary Key Foreign Keys Chec | k Constraints                      |
|--|------------------------------------|
| Available columns  | Primary key columns                |
| MARKE<br>MIL<br>KNR  | REGNR                              |
| Constraint name  |                                    |
|  |                                    |
| OK   | Cancel Show SQL Estimate Size Help |

Välj nu fliken Foreign Key, Tryck på ADD

| 🛓 Add Foreign K                           | ey             |               |                    |   | × |
|---|----------------|---------------|--------------------|---|---|
| Parent table —                            |                |               |                    |   |   |
| Table schema<br>Table name                | JDB038<br>KUND | ¥<br>•        | Primary key<br>KNR | 1 | ٦ |
| Available columr<br>REGNR<br>MARKE<br>MIL | IS             | ><br>>><br>5, | Foreign key<br>KNR |   |   |
| On delete                                 | SET NULL       | <<            |                    |   |   |
| Our constants                             | RESTRICT       | -             |                    |   |   |
| On update<br>Constraint name              |                |               |                    |   |   |

### Tryck på OK

| LOCAL - DB2 - JDB038DB                                   | <u>A</u>               |
|--|------------------------|
|  |                        |
| Table Columns Primary Key Foreign Keys Check Constraints |                        |
| Constraint name Column name Table schema Table name On d | elete On update        |
| KNR JDB038 KUND SET                                      | NULL RESTRICT          |
|  |                        |
| OK Cancel Show   | SQL Estimate Size Help |

Välj fliken Check Constraints

| Ecreate Table LOCAL - DB2 - JDB038DB                     | ×    |
|--|------|
| Table Columns Primary Key Foreign Keys Check Constraints |      |
| Constraint name Check condition Comment                  | Add  |
| OK Cancel Show SQL Estimate Size                         | Help |

Tryck Add

Skriv in nedanstående

| 🔚 Create  | e Table      |                         |        |               |            |               | ×    |
|-----------|--------------|-------------------------|--------|---------------|------------|---------------|------|
| LOCAL - E | DB2 - JDB038 | IDB                     |        |               |            |               |      |
| Table     | Columns Pr   | imary Key   Foreign Key | s Chec | k Constraints |            |               |      |
|           |              |                         |        |               | l          |               |      |
| Constr    | raint name   | Check condition         |        | Comment       |            |               |      |
| CHEC      | KMIL         | mil between 0 and 10    | 000    |               |            |               |      |
|           |              |                         |        |               |            |               | Add  |
| -         |              |                         |        |               |            |               |      |
|           |              |                         |        |               | 1          | 1             |      |
|           |              |                         | OK     | Cance         | I Show SQL | Estimate Size | Help |

#### Tryck på Show SQL

| Te Show SQL  | ×   |
|--|-----|
| CREATE TABLE JDB038.BIL (REGNR CHARACTER (6) NOT NULL , MARKE VARCHAR (20) NOT NULL , MIL INTEGER NOT NULL WITH DEFAULT 0, KNR<br>CHARACTER (10) , PRIMARY KEY (REGNR) , FOREIGN KEY (KNR) REFERENCES JDB038.KUND (KNR) ON DELETE SET NULL ON UPDATE RESTRICT,<br>CONSTRAINT CHECKMIL CHECK (mil between 0 and 10000) ) DATA CAPTURE CHANGES |     |
| Select Save Script to create a new script.   |     |
| Close Save Script  | elp |

Tryck på Save Script, Skapa sedan en katalog på M: på lämpligt sätt (jag skapar M:\jdb038db\MyDB2Scripts)

| 🔃 Edit Command     | Script - Script ID                     |
|--------------------|--|
|                    |  |
| Instance           | DB2                                    |
| New script name    | M:\jdb038\MyDB2Scripts\bil.sql         |
| Script description | Skapar tabellen bil                    |
| Working directory  |  |
| Script type        | O OS command O DB2 command             |
| CREATE TABLE       | IDB038.BIL (REGNE CHARACTER (10) NOT N |
|                    | ······································ |
|                    |  |
|                    | OK Cancel Help                         |

Observera att lagra scriptet på din hemmakatalog (M:\jdb038db\MyDB2Scripts\bil.sql). Tryck sedan på *OK* Tryck *Close* i "show SQL" fönstret

| E  | Create Table       |                             |               |          |               |        | × |
|----|--------------------|-----------------------------|---------------|----------|---------------|--------|---|
| LC | CAL - DB2 - JDB038 | DB                          |               |          |               |        |   |
| ſ  | able Columns Pri   | imary Key Foreign Keys Chec | k Constraints | ]        |               |        |   |
|    | Constraint name    | Check condition             | Comment       |          |               |        |   |
|    | CHECKMIL           | mil between 0 and 10000     |               |          |               | Add    |   |
|    |                    |                             |               |          |               |        | - |
|    |                    |                             |               |          |               |        | _ |
|    |                    | OK                          | Cancel        | Show SQL | Estimate Size | . Help |   |

Skapa sedan tabellen bil genom att trycka OK

| 🚯 DB2 Control Center - loca | alhost - Signed   | in as=jdb038. | Default u | serid=jdb( | 038              |            |       |             | -                 | . 🗆 🗙   |
|-----------------------------|-------------------|---------------|-----------|------------|------------------|------------|-------|-------------|-------------------|---------|
| Control Center Select       | ted Edit          | View          | Tools     | Help       |                  |            |       |             | 1                 | SAULT I |
| 12 🖻 🗊 🛥 🗉                  | ] 🖼 🗧 🖽           |               | ?         |            |                  |            |       |             |                   |         |
| Systems                     |                   |               |           | <b>_</b>   | LOCAL - DB2 - JD | B038DB - T | ables |             |                   |         |
| 🗄 🗐 GX1IMAGE                |                   |               |           |            | Name *           | Schema     | Туре  | Table space | Index table space | L       |
| 🗄 🗐 LOCAL                   |                   |               |           |            | 🔠 BIL            | JDB038     | Т     | USERSPACE1  |                   | <b></b> |
| 📄 💼 Instances               |                   |               |           |            | 🖽 KUND           | JDB038     | т     | USERSPACE1  |                   |         |
| 🖻 😤 DB2                     |                   |               |           |            | 🖽 SYSATTRIB      | SYSIBM     | Т     | SYSCATSPA   |                   |         |
| 🖻 🧰 Database                | s                 |               |           |            |                  | 0.000      | -     |             |                   |         |
| 🗎 🔅 🗍 MYTE)                 | KTDB              |               |           |            |                  | A 14       | N =   |             |                   |         |
|                             | 38DB              |               |           | -          | 21 🍄 🛨           | × 4.       | 13    |             |                   |         |
| DBA2022L Command script*    | '2" was created r | successfully. |           |            |                  |            |       |             |                   |         |

Tabellerna Kund och Bil är skapade.



Här finns det möjlighet att se vilka relationer som finns mellan tabellerna bil och kund

| 🔚 Show Related - BIL 🛛 🔀                          |           |           |     |             |         |          |         |       |   |      |
|---|-----------|-----------|-----|-------------|---------|----------|---------|-------|---|------|
| Table - L   | OCAL - DE | 92 - JDB0 | 38C | )B - JDB038 | - BIL   |          |         |       |   | •    |
| WARNING: Only first level dependencies are shown. |           |           |     |             |         |          |         |       |   |      |
| Aliases   | Indexes   | Tables    | Та  | ble Spaces  | Views   | Triggers | UDTs    | UDFs  |   |      |
| Name  |           |           |     | Schema      | Table s | chema    | Table n | iame  |   |      |
| 💼 SQL   | .00050313 | 35320130  |     | SYSIBM      | JDB038  | 3        | BIL     |       |   |      |
|   |           |           |     |             |         |          |         |       |   |      |
|   |           |           |     |             |         |          |         |       |   |      |
| <u> </u>  |           |           |     |             |         |          |         |       |   |      |
|   |           |           |     |             |         | Show SQL |         | Close | 1 | Help |
|   |           |           |     |             |         |          |         |       |   |      |

### 🚡 Show SQL

SELECT DISTINCT A.TABSCHEMA, A.TABNAME, A.INDNAME, A.INDSCHEMA FROM SYSCAT.INDEXES A, SYSCAT. TABLES B WHERE (A. TABNAME=B. TABNAME AND A. TABSCHEMA=B. TABSCHEMA AND B. TYPE='T'AND B.TABNAME='BIL'AND B.TABSCHEMA='JDB038') FOR FETCH ONLY

Select Save Script to create a new script.

Close

Save Script.

×

Help

| 🔚 Show Related -   | BIL   |           |                |                      | ×                 |  |  |  |
|--------------------|---|-----------|----------------|----------------------|-------------------|--|--|--|
| Table - LOCAL - DE | Table - LOCAL - DB2 - JDB038DB - JDB038 - BIL |           |                |                      |                   |  |  |  |
| WARNING: Only fir  | st level d                                    | ependenci | es are shown.  |                      |                   |  |  |  |
| Aliases Indexes    | Tables  | Table Spa | aces Views Tri | iggers UDTs UDFs     |                   |  |  |  |
| Name               | Schema  | Туре      | Table space    | Index table space    | Long data table : |  |  |  |
| I KUND             | JDB038  | Т         | USERSPACE1     |                      |                   |  |  |  |
|                    |   |           |                |                      |                   |  |  |  |
|                    |   |           |                |                      | •                 |  |  |  |
|                    |   |           | Sho            | ow SQL <u>C</u> lose | Help              |  |  |  |
|                    |   |           |                |                      |                   |  |  |  |

| 📴 Show SQL   | ×    |
|--|------|
| WITH T (TABNAME, TABSCHEMA) AS (SELECT REFTABNAME, REFTABSCHEMA FROM SYSCAT.REFERENCES WHERE TABNAME='BIL' AND<br>TABSCHEMA='JDB038' UNION ALL SELECT TABNAME, TABSCHEMA FROM SYSCAT.REFERENCES WHERE REFTABNAME='BIL' AND<br>REFTABSCHEMA='JDB038')SELECT DISTINCT A.TABSCHEMA, A.TABNAME, A.TYPE, A.TBSPACE, A.INDEX_TBSPACE, A.LONG_TBSPACE,<br>A.DATACAPTURE, A.DEFINER, A.REMARKS FROM SYSCAT.TABLES A, T WHERE (A.TYPE='T' AND A.TABNAME=T.TABNAME AND<br>A.TABSCHEMA=T.TABSCHEMA ) FOR FETCH ONLY |      |
| Select Save Script to create a new script.   |      |
| Close Save Script  | lelp |

# Command Window: (ett sätt att arbeta mot DB2 kommandovägen)

#### Start, Programs, DB2 For windows NT, Command Window

| 🗱 DB2 CLP               |   |
|-------------------------|---|
| M:\jdb038\MyDB2Scripts> |   |
|                         |   |
|                         |   |
|                         |   |
|                         |   |
|                         |   |
|                         | - |
|                         |   |

Från ett DB2 Command Window kan du exekvera DB2 kommandon och SQL – kommandon. Vill man inte arbeta grafiskt så är detta alternativ att föredra. (man kan även arbeta grafiskt och sedan spara de genererade SQL satserna på lämpligt ställe och sedan köra DB2 kommandovägen).

Vi kommer nu att lägga in några rader i tabellerna kund och bil via DB2 command window.

#### C:\SQLLIB\bin>db2 connect to sample

Database Connection Information Database server = DB2/NT 6.1.0 SQL authorization ID = JDB038 Local database alias = SAMPLE

\*\*\* OBS!! När vi skapade tabellen kund angav vi namn som char(10)

C:\SQLLIB\BIN>db2 INSERT INTO kund VALUES ('6106066250','Lasse Larsson')

DB21034E The command was processed as an SQL statement because it was not a valid Command Line Processor command. During SQL processing it returned: SQL0433N Value "Lasse Larsson" is too long. SQLSTATE=22001

C:\SQLLIB\BIN>**db2 INSERT INTO kund VALUES ('6106066250','Lasse A')** DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>**db2 INSERT INTO kund VALUES** ('6106066251','Lasse B') DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>**db2 INSERT INTO kund VALUES ('7106066251','Eva Hjo')** DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>**db2 INSERT INTO kund VALUES ('7106066255','Lena Berg')** DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>db2 select \* from kund

#### KNR NAMN

6106066250 Lasse A 6106066251 Lasse B 7106066251 Eva Hjo 7106066255 Lena Berg 4 record(s) selected.

C:\SQLLIB\BIN>**db2 INSERT INTO bil VALUES** ('**ABC123','Volvo',1000,'7106066255'**) DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>db2 INSERT INTO bil VALUES ('BBB123','Volvo',1000,'xxxxxxxx') DB21034E The command was processed as an SQL statement because it was not a valid Command Line Processor command. During SQL processing it returned: SQL0530N The insert or update value of the FOREIGN KEY "JDB038.BIL.SQL000503135320900" is not equal to any value of the parent key of the parent table. SQLSTATE=23503

C:\SQLLIB\BIN>db2 INSERT INTO bil VALUES ('BBB123','Volvo',1000,'6106066251') DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>**db2 INSERT INTO bil VALUES ('CCC123','Mercedes',4000,'6106066251')** DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>**db2 INSERT INTO bil VALUES ('DDD123','Ford',24000,'6106066251')** DB21034E The command was processed as an SQL statement because it was not a valid Command Line Processor command. During SQL processing it returned: SQL0545N *The requested operation is not allowed because a row does not satisfy the check constraint "JDB038.BIL.CHECKMIL". SQLSTATE=23513* 

C:\SQLLIB\BIN>db2 select \* from bil

| REGNR MARKE     | MIL KNR         |
|-----------------|-----------------|
| ABC123 Volvo    | 1000 7106066255 |
| BBB123 Volvo    | 1000 6106066251 |
| CCC123 Mercedes | 4000 6106066251 |

3 record(s) selected.

C:\SQLLIB\BIN>**db2 delete kund where knr='6106066251'** DB21034E The command was processed as an SQL statement because it was not a valid Command Line Processor command. During SQL processing it returned: SQL0104N An unexpected token "delete" was found following "BEGIN-OF-STATEMENT". Expected tokens may include: "<from>". SQLSTATE=42601

### \* Här får jag hjälp med SQL syntaxen av DB2

C:\SQLLIB\BIN>**db2 help delete** DB21052I "db2ic" has been submitted for execution.

# \* Du skapas ett "Explorer fönster" med aktuell dokumentation för SQL verbet delete. Här hittar jag den hjälp som jag behöver ..

C:\SQLLIB\BIN>**db2 delete from kund where knr='6106066251'** DB20000I The SQL command completed successfully.

C:\SQLLIB\BIN>db2 select \* from kund

KNR NAMN

-----6106066250 Lasse A

7106066251 Eva Hjo

7106066255 Lena Berg

7100000233 Lella Berg

3 record(s) selected.

# M.Persson **\* Den främmande nyckeln har ändrats till "null"**

#### C:\SQLLIB\BIN>db2 select \* from bil

| REGNR MARKE                     | MIL              | KNR        |
|---------------------------------|------------------|------------|
| ABC123 Volvo                    | 1000 7           | 7106066255 |
| BBB123 Volvo<br>CCC123 Mercedes | - 1000 -<br>4000 | 1-         |

3 record(s) selected.

#### C:\SQLLIB\BIN>db2 list tables

| Table/View | Schema | Type Creation time           |
|------------|--------|------------------------------|
| BIL        | JDB038 | T 2000-05-03-13.53.19.281000 |
| KUND       | JDB038 | T 2000-05-03-13.12.20.015001 |

3 record(s) selected.

#### C:\SQLLIB\BIN>**db2 drop table bil** DB20000I The SQL command completed successfully.

#### C:\SQLLIB\BIN>**db2 list tables**

| Table/View | Schema | Typ | be Creation time           |
|------------|--------|-----|----------------------------|
| KUND       | JDB038 | Т   | 2000-05-03-13.12.20.015001 |

2 record(s) selected.

# Byt till den katalog där du sparade dina DB2Scripts:

#### Cd M:\jdb038\MyDB2Scripts

# \*\*\* Visa innehållet i den aktuella katalogen

M:\jdb038\MyDB2Scripts>dir

Volume in drive M is KursKatalog Aktiv Volume Serial Number is 6420-8DF4

Directory of M:\jdb038\MyDB2Scripts

| 05/03/00 01:34p | <dir></dir> |           |
|-----------------|-------------|-----------|
| 05/03/00 01:34p | <dir></dir> |           |
| 05/03/00 01:34p | 337         | bil.sql   |
| 3 File(s)       | 337 by      | tes       |
| 3,09            | 6,707,072 b | ytes free |

# \*\*\* Visa innehållet i filen bil.sql

M:\jdb038\MyDB2Scripts>type bil.sql

CREATE TABLE JDB038.BIL (REGNR CHARACTER (6) NOT NULL , MARKE VARCHAR (20) NOT NULL , MIL CHARACTER (10) , PRIMARY KEY (REGNR) , FOREIGN KEY (KNR) REFERENCES JDB038.KUND (KNR) ON ONSTRAINT CHECKMIL CHECK (mil between 0 and 10000) ) DATA CAPTURE CHANGES

# \*\*\* Exekvera filen bil.sql

M:\jdb038\MyDB2Scripts>**db2 -f bil.sql** DB20000I The SQL command completed successfully.

# \*\*\* Tabellen Bil är skapad på nytt

M:\jdb038\MyDB2Scripts>db2 list tables

| Table/View | Schema | Type Creation time           |
|------------|--------|------------------------------|
| BIL        | JDB038 | T 2000-05-03-14.56.14.420000 |
| KUND       | JDB038 | Т 2000-05-03-13.12.20.015001 |

3 record(s) selected.

# \*\*\* Tabellen Bil innehåller inga bilar

M:\jdb038\MyDB2Scripts>db2 select \* from bil

REGNR MARKE MIL KNR

0 record(s) selected.

#### M:\jdb038\MyDB2Scripts>db2 select \* from kund

KNR NAMN

6106066250 Lasse A 7106066251 Eva Hjo 7106066255 Lena Berg

3 record(s) selected.

### • Skapa en fil med nedanstående innehåll med t.ex notepad

C:\SQLLIB\bin>notepad bilar.insert.sql

```
      ■ bilar.insert.sql - Notepad
      ■ ■ ×

      File
      Edit
      Search
      Help

      INSERT
      INTO
      bil
      VALUES
      ('ABC123','Volvo',1000,'7106066255')

      INSERT
      INTO
      bil
      VALUES
      ('BBB123','Volvo',1000,'7106066251')

      INSERT
      INTO
      bil
      VALUES
      ('CCC123', 'Mercedes',4000,'7106066251')
```

# **\*\*\*** Exekvera filen (skapa tre tabellrader)

M:\jdb038\MyDB2Scripts>**db2 -f bilar.insert.txt** DB20000I The SQL command completed successfully.

DB20000I The SQL command completed successfully.

DB200001 The SQL command completed successfully.

M:\jdb038\MyDB2Scripts>db2 select \* from bil

| REGNR MARKE                     | MIL K                 | NR                |
|---------------------------------|-----------------------|-------------------|
| ABC123 Volvo                    | 1000 7106             | 066255            |
| BBB123 Volvo<br>CCC123 Mercedes | 1000 7106<br>4000 710 | 066251<br>6066251 |

# Göra en "backup" av min databas i min egen hemmakatalog.

Till varje "db2 konto" så finns det en katalog som kan användas för backuper. Den monteras automatiskt när du loggar in på din dator. Den ligger på enhet M:

Eftersom jag i denna övning använder kontot "jdb038" så finns min hemmakatalog på M:\jdb038



### Öppna ett DB2 Command Window:

Ge Dos kommandot: M: (tryck Enter)



Ge sedan Dos kommadot: cd \jdb??? där ??? är ditt kontonr (jag ger kommandot cd \jdb038)

Skapa där en katalog med namnet Backup\jdb038db (ni anger här namnet på er databas)



#### Byt sedan katalog till Backup\jdb038

| 🟀 DB2 CLP                    |      |
|------------------------------|------|
| M:∖jdb038>cd backup∖jdb038db | -    |
|                              |      |
|                              |      |
|                              |      |
|                              |      |
|                              | -    |
|                              | ► // |

### Ge sedan följande kommandon:

### \*\*\* The DISCONNECT statement destroys one or more connections when there is no active unit of work (that is, after a commit or rollback operation).

M:\jdb038\Backup\jdb038DB>**db2 disconnect all** DB20000I The SQL DISCONNECT command completed successfully.

### \*\*\* Terminates the Command line processors back end process. Terminate causes the database connection to be lost

M:\jdb038\Backup\jdb038DB>**db2 terminate** DB20000I The TERMINATE command completed successfully.

### **\*\*\*** Forces local or remote users or applications off the system

M:\jdb038\Backup\jdb038DB>**db2 force application all** DB20000I The FORCE APPLICATION command completed successfully. DB21024I This command is asynchronous and may not be effective immediately.

#### M:\jdb038\Backup\jdb038DB>**db2 backup database jdb038db to M:\jdb038\Backup\jdb038DB**

Backup successful. The timestamp for this backup image is : 20000504134841

Det har nu skapats en filstruktur i "Backup katalogen" som kan användas till att återskapa databasen med vid ett senare tillfälle. Det är viktigt att spara tidstämpeln som man erhåller i samband med backup eftersom den är nödvändig i samband med restore av databasen

| 💐 Exploring - M:\jdb038\Backup\jdb038DB\JDB038DB.0\DB2\NODE0000\CATN0000\20000504 |                                  |                     |                               |            |  |  |  |  |
|---|----------------------------------|---------------------|-------------------------------|------------|--|--|--|--|
| <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>I</u> ools <u>H</u> elp                 |                                  |                     |                               |            |  |  |  |  |
| All Folders   | Contents of 'M:\jdb038\Backup\jc | 6038DB\JDB038DB.0\D | DB2\NODE0000\CATN0000\2000050 | 4'         |  |  |  |  |
|   | Name                             | Size Typ            | pe Modified                   | Attributes |  |  |  |  |
| 🖨 🧰 Backup  | 134841.001                       | 12,320KB 001        | 1 File 5/4/00 1:34 PM         | А          |  |  |  |  |
| i idb038DB  |                                  |                     |                               |            |  |  |  |  |
| 📄 🧰 Jdb038db.0  |                                  |                     |                               |            |  |  |  |  |
| 📄 📄 Db2 🚽   | 4                                |                     |                               |            |  |  |  |  |
| 🖻 🧰 Node0000  |                                  |                     |                               |            |  |  |  |  |
| 🗖 🧰 Catn0000  |                                  |                     |                               |            |  |  |  |  |
| 20000504  | 1                                |                     |                               |            |  |  |  |  |
|   | ]]                               |                     |                               |            |  |  |  |  |
| 1 object(s) selected 12.0MB   |                                  |                     |                               |            |  |  |  |  |

Observera att tidstämpeln återfinns i filnamnet ovan: 20000504134841 (ÅÅÅÅMMDDTTMMSS.sekvnr)

# Ta bort tabellen du nyss skapat:

Tag bort tabellen kund

Markera först tabellen tryck sedan på höger musknapp och välj Drop

| 🛐 DB2 Control Center - localhost - Sign | ed in | as=jdb038 Defau   | lt userid=jdl | 6038  |             |                   |                       |         | _ 🗆 🗵    |
|---|-------|-------------------|---------------|-------|-------------|-------------------|-----------------------|---------|----------|
| Control Center Selected Edit            | t     | View Tools        | Help          |       |             |                   |                       |         | Land and |
| 1 🖄 🗊 🚨 🗊 🖼 🕴                           | 48    | II 🛛 🗹 🕐          |               |       |             |                   |                       |         |          |
|   |       | LOCAL - DB2 - JD  | B038DB - T    | ables |             |                   |                       |         |          |
| 🚊 🗂 Databases                           |       | Name              | Schema        | Туре  | Table space | Index table space | Long data table space | Comment |          |
|   |       | III BIL           | JDB038        | Т     | USERSPACE1  |                   |                       |         | <b>_</b> |
|   |       | 🖽 KUND            | JDB038        | Т     | USERSPACE1  | Alto              |                       |         |          |
| Tables                                  |       | I SYSATTRIB       | SYSIBM        | т     | SYSCATSPA   | - Allel<br>Ron    | <br>omo               |         |          |
| Views                                   |       | I SYSBUFFE        | SYSIBM        | т     | SYSCATSPA   | Dro               | ame                   |         |          |
| Aliases                                 |       | I SYSBUFFE        | SYSIBM        | т     | SYSCATSPA   | Cop               | V                     |         | -        |
| Triggers                                |       | 41 1% 44          | S 1+          | >-    |             | Privi             | leaes                 | -       |          |
|   |       | <b>2+ 7</b> 8' 10 | × .           | 00    |             | San               | inle Contents         | -       |          |
|   |       |                   |               |       |             | linan             | npro-o-ornorno<br>sut |         |          |

### Ta bort databasen som jag skapat

Markera först databasnamnet tryck sedan på höger musknapp och välj Drop

| 🔀 DB2 Control Center - localhost - Signe | ed in as=jdb038 Default userid=jdb038 |          |
|--|---------------------------------------|----------|
| Control Center Selected Edit             | View Tools Help                       |          |
| 12 🖻 🗊 🚨 🗐 🖘 🕴                           |                                       |          |
|  | LOCAL - DB2 - JDB038DB                |          |
| 🗄 🗂 Databases                            | Name                                  |          |
|  | Tables                                | <b>_</b> |
| E⊷ 🚺 JDB038DB                            | Views                                 |          |
| Alter.                                   |                                       |          |
| Views Drop                               |                                       |          |
| Aliases Rem                              | iove                                  | -        |
| Trigger: Rest                            | art N=                                |          |
| Conr                                     | nect                                  |          |
| Disco                                    | onnect                                |          |

# Återskapa databasen som jag tog bort med hjälp av backupen:

### a) Skapa en kopia av orginaldatabasen med ett annat namn (jdb038a)

#### C:\SQLLIB\BIN>db2 ? restore

RESTORE DATABASE source-database-alias { restore-options | CONTINUE | ABORT }

restore-options:

[USER username [USING password]] [{TABLESPACE ONLINE | TABLESPACE (tblspace-name [ {,tblspace-name } ... ]) [ONLINE] | HISTORY FILE [ONLINE]}] [{USE ADSM [OPEN num-sess SESSIONS] | FROM dir/dev [ {,dir/dev } ... ] | LOAD shared-lib [OPEN num-sess SESSIONS] ] [TAKEN AT date-time] [TO target-directory] [INTO target-database-alias] [NEWLOGPATH directory] [WITH num-buff BUFFERS] [BUFFER buffer-size] [DLREPORT file-name] [REPLACE EXISTING] [REDIRECT] [PARALLELISM n] [WITHOUT ROLLING FORWARD] [WITHOUT DATALINK] [WITHOUT PROMPTING]

C:\SQLLIB\BIN>db2 restore db jdb038db from M:\jdb038\Backup\jdb038DB taken at 20000504134841 into jdb038a DB20000I The RESTORE DATABASE command completed successfully.

| 腹 DB2 Control Center - localhost - Signed i | n as=jdb038 Defau | lt userid=jdb038 |       |          |        |       |         |  | _ 🗆 × |
|---|-------------------|------------------|-------|----------|--------|-------|---------|--|-------|
| Control Center Selected Edit                | View Tools        | Help             |       |          |        |       |         |  |       |
| 🔁 💆 🗊 🚨 🗊 🖼 🖓                               | E 🗹 2             | ]                |       |          |        |       |         |  |       |
| C Systems                                   | LOCAL - DB2 - D;  | itabases         |       |          |        |       |         |  |       |
| 😐 🗐 GX1IMAGE                                | Name              | Alias            | Type  | Database | Path S | State | Comment |  |       |
| Éj LOCAL                                    | MYTEXTOB          | MYTEXTDB         | Local | MYTEXTOB | C:\DB2 |       |         |  |       |
| 🗄 🧰 Instances                               | JDB038A           | JDB038A          | Local | JDB038A  | E:\DB2 |       |         |  |       |
| 🖻 🗠 🔫 DB2                                   | SAMPLE            | SAMPLE           | Local | SAMPLE   | C:\DB2 |       |         |  |       |
| ⊨- 🦳 <mark>Databases</mark>                 |                   |                  |       |          |        |       |         |  |       |
| E-U MYTEXTDB                                |                   |                  |       |          |        |       |         |  |       |
| I JDB038A                                   |                   |                  |       |          |        |       |         |  |       |
| B SAMPLE                                    |                   |                  |       |          |        |       |         |  |       |
| · Gateway Connections                       |                   |                  |       |          |        |       |         |  |       |
|   | 44 48. 25         | S 1+ N-          |       |          |        |       |         |  |       |
|   | 31 +% H           | K K. 13          |       |          |        |       |         |  |       |
|   |                   |                  |       |          |        |       |         |  |       |

# b) Återskapa orginaldatabasen

C:\SQLLIB\BIN>**db2 restore db jdb038db from M:\jdb038\Backup\jdb038DB taken at 20000504134841** DB20000I The RESTORE DATABASE command completed successfully.

| 🗽 DB2 Control Center - localhost - Signed                    | in as=jdb038 Defa | ılt userid=jdb038 |       |          |        |       |         |  |
|--|-------------------|-------------------|-------|----------|--------|-------|---------|--|
| Control Center Selected Edit                                 | View Tools        | Help              |       |          |        |       |         |  |
| 12 🖻 🗊 🛥 🗊 🖼 🕅   |                   | ]                 |       |          |        |       |         |  |
| C Systems  | LOCAL - DB2 - D   | atabases          |       |          |        |       |         |  |
| 🖶 🗐 GX1IMAGE   | Name              | Alias             | Type  | Database | Path   | State | Comment |  |
| É LOCAL  | MYTEXTOB          | MYTEXTDB          | Local | MYTEXTOB | C:IDB2 |       |         |  |
| 🗄 🧰 Instances  | JDB038DB          | JDB038DB          | Local | JDB038DB | E:\DB2 |       |         |  |
| 🖻 🔫 DB2  | JDB038A           | JDB038A           | Local | JDB038A  | E:\DB2 |       |         |  |
| B-C Databases<br>B-C MYTEXTDB<br>B-C JDB038DB<br>B-C JDB038A | SAMPLE            | SAMPLE            | Local | SAMPLE   | C:\DB2 |       |         |  |
| Gateway Connections  | ± ‡ ±             | <b>% K</b> ⁺ №-   |       |          |        |       |         |  |

På detta sätt kan man "ta med sig" sin databas och installera den på en annan dator. Observera dock att ta bort databasen efter dig eftersom den annars bara ligger kvar och "skräpar". Detta gäller bara om ni byter till en annan dator än den som ni blivit tilldelad. Det gäller olika förutsättningar för olika kurser. Hör med din lärare vad som gäller för den aktuella kursen.

# Här raderar jag databasen kommandovägen:

C:\SQLLIB\BIN>db2 drop db jdb038db

DB20000I The DROP DATABASE command completed successfully.

# Här ser jag vilka databaser som finns "katalogiserade" på min dator

#### C:\SQLLIB\BIN>db2 list db directory

System Database Directory

Number of entries in the directory = 2

Database 1 entry:

| Database alias           | = MYTEXTDB   |
|--------------------------|--------------|
| Database name            | = MYTEXTDB   |
| Local database directory | $= C: \ DB2$ |
| Database release level   | = 9.00       |
| Comment                  | =            |
| Directory entry type     | = Indirect   |
| Catalog node number      | = 0          |
|                          |              |

Database 2 entry:

| Database alias           | = SAMPLE     |
|--------------------------|--------------|
| Database name            | = SAMPLE     |
| Local database directory | $= C: \ DB2$ |

# Koppla upp dig mot DSV's databasserver via Control Center

DSV tillhandahåller med en databasserver där studenterna på vissa kurser centralt kan lagra sina databaser

Gör på följande sätt för att koppla upp dig mot DSV's centrala DB2 – databasserver.

1. Markera "Systems" i Control Center, tryck på höger musknapp välj Add,

| 1 DB2 Contro | l Center - localhost - | Signed i | n as=jdb038 De | efault userid=jdb038 |                  |        |          |                     | _ 🗆 ×      |
|--------------|------------------------|----------|----------------|----------------------|------------------|--------|----------|---------------------|------------|
| Control Cent | er Selected            | Edit     | View To        | ools Help            |                  |        |          |                     |            |
| 🔁 🖻 I        | 1 🚨 🗊 🔁                | 48       |                | ?                    |                  |        |          |                     |            |
| 🗁 Systems    |                        | _        | Systems        |                      |                  |        |          |                     |            |
|              | Add                    |          | Name           | Node name            | Operating system | Туре   | Protocol | Protocol parameters | Comment    |
|              | List monitors          |          | 🛛 🗾 GX1IMAG    | E GX1IMAGE           | Windows NT       | Unkn   | Local    | Instance name=DB2   | Local work |
|              | Stop ALL monitors      | _        | 🔄 🗾 LOCAL      | LOCAL                | Windows NT       | DB2 V6 | Local    | Instance name=DB2   | Local work |
| 4            | Refresh                |          |                |                      |                  |        |          |                     |            |
|              |                        |          | <b>4</b> : 🚸 : | 🗄 🌾 K* 🕞             |                  |        |          |                     |            |
|              |                        |          |                |                      |                  |        |          |                     |            |

2. Skriv in db-srv-1 som Host name tryck Retrive

| 🔁 Add System                             | ×               |
|--|-----------------|
|  |                 |
| System name                              | Refresh         |
|  |                 |
|  |                 |
|  |                 |
|  |                 |
| Remote instance                          |                 |
| Operating system Windows NT              | <b>•</b>        |
| Protocol TCP/IP                          | •               |
| Protocol parameters                      |                 |
|  |                 |
|  |                 |
| Host name db-srv-1                       | Retrieve        |
| Service name 523                         |                 |
|  |                 |
|  |                 |
|  |                 |
| Comment                                  |                 |
|  |                 |
|  |                 |
| OK Cancel Apply Reset Sh                 | ow Command Help |
| Press refresh to search for new systems. |                 |

#### Tryck sedan Apply, Close

| 🔁 Add System  |                            | ×        |
|---|----------------------------|----------|
| System name   | DB-SRV-1                   | Refresh  |
| Remote instance   | DB2DAS00                   |          |
| Operating system  | Windows NT                 |          |
| Protocol  | TCP/IP                     |          |
| Protocol parame<br>Host name d<br>Service name 5<br>Comment | b-srv-1                    | Retrieve |
| ОК Са   | ncel Apply Reset Show Comm | and Help |

### Tryck på '+' bredvid systems i Control Center, Tryck på '+' bredvid db-srv-1

| 🔞 DB2 Control Center - localhost - Sig | ned i      | n as=jdb038 Defau | lt userid=jdb03 | 8                |        |          |                     |            |
|--|------------|-------------------|-----------------|------------------|--------|----------|---------------------|------------|
| Control Center Selected E              | lit        | View Tools        | Help            |                  |        |          |                     | The Party  |
| 12 🖻 🗊 🛥 🗐 🖘 🤇                         | <b>₽</b> ₿ | = { 🖪 ?           | ]               |                  |        |          |                     |            |
| 🛅 Systems                              |            | Systems           |                 |                  |        |          |                     |            |
| Ē- <b></b> GX1IMAGE                    |            | Name              | Node name       | Operating system | Туре   | Protocol | Protocol parameters | Comment    |
| 🗄 🗄 🚽 🗐 LOCAL                          |            | 🗾 🗐 GX1IMAGE      | GX1IMAGE        | Windows NT       | Unkn   | Local    | Instance name=DB2   | Local work |
| ⊡ DB-SRV-1                             |            | 🔄 🗾 LOCAL         | LOCAL           | Windows NT       | DB2 V6 | Local    | Instance name=DB2   | Local work |
| Instances                              |            | 🗐 DB-SRV-1        | GENERATE        | Windows NT       | DB2 V6 | TCP/IP   | Host name=db-srv-1, |            |
|  |            | 4: 🕸 🕀            | 🗞 <b>h</b> + D= |                  |        |          |                     |            |
| r.                                     |            |                   |                 |                  |        |          |                     |            |

Markera Instances för DB-SRV-1 och tryck på höger musknapp, välj Add

| 🔞 DB2 Control Center - localhost - Signed | in as=jdb038 Defau | lt userid=jdb03 | 8                |               |                     |            |
|---|--------------------|-----------------|------------------|---------------|---------------------|------------|
| Control Center Selected Edit              | View Tools         | Help            |                  |               |                     | The second |
| 12 🖻 🗊 🛥 🗊 🖘 🧧                            | 🗉 🖌 🗹 🙎            | ]               |                  |               |                     |            |
| C Systems                                 | Systems            |                 |                  |               |                     |            |
| 🗄 🖳 🗐 GX1IMAGE                            | Name               | Node name       | Operating system | Type Protocol | Protocol parameters | Comment    |
| E   | 🗐 GX1IMAGE         | GX1IMAGE        | Windows NT       | Unkn Local    | Instance name=DB2   | Local work |
| ⊟   | 📕 🗾 LOCAL          | LOCAL           | Windows NT       | DB2 V6 Local  | Instance name=DB2   | Local work |
| Instances                                 | DB-SRV-1           | GENERATE        | Windows NT       | DB2 V6 TCP/IP | Host name=db-srv-1, |            |
| Add                                       |                    | A 14 N-         |                  |               |                     |            |
| Performance monito                        | ring 🕨 🌃 🎌         | 🕺 🛃 🖓           |                  |               |                     |            |
| Refresh                                   |                    |                 |                  |               |                     |            |

### Tryck på **Refresh**

| Add Instance                                 |
|--|
| DB-SRV-1                                     |
| Remote instance Refresh                      |
| Protocol parameters                          |
| Host name Service name                       |
| Comment                                      |
| OK Cancel Apply Reset Show Command Help      |
| ress refresh to get a list of new instances. |

Tryck på Apply, Close. Markera sedan '+' tecknet bredvid DB2

| E Add Instance                          |
|---|
| DB-SRV-1                                |
| Remote instance DB2                     |
| Protocol TCP/IP                         |
| Protocol parameters                     |
| Host name db-srv-1                      |
| Service name 50000                      |
|   |
| Comment                                 |
| OK Cancel Apply Reset Show Command Help |

#### Markera databases och tryck på höger musknapp välj Add

| 🚡 DB2 Control Center - localhost - Signed | n as=jdb038 Default u | serid=jdb038                |          |      |       |         | _ 🗆 × |
|---|-----------------------|-----------------------------|----------|------|-------|---------|-------|
| Control Center Selected Edit              | View Tools            | Help                        |          |      |       |         | A CAN |
| 1 1 1 1 1                                 | : 3                   |                             |          |      |       |         |       |
| C Systems                                 | DB-SRV-1 - DB2 - Da   | tabases                     |          |      |       |         |       |
| 🗄 🗐 GX1IMAGE                              | Name Ali              | ias Type                    | Database | Path | State | Comment |       |
| É   |                       |                             |          |      |       |         |       |
| ங்⊷_த] DB-SRV-1                           |                       |                             |          |      |       |         |       |
| 🗄 💼 Instances                             |                       |                             |          |      |       |         |       |
| ⊡¥≓ DB2                                   |                       |                             |          |      |       |         |       |
| Databases                                 |                       |                             |          |      |       |         |       |
| Create                                    | •                     |                             |          |      |       |         |       |
| Add                                       |                       |                             |          |      |       |         |       |
| Performanc                                | e monitoring 🕨        |                             |          |      |       |         |       |
| Refresh                                   | e 🗞                   | <b>₩</b> + D <sub>2</sub> - |          |      |       |         |       |
|   |                       |                             |          |      |       |         |       |

#### Tryck *Refresh*

| 🔁 Add Database                                | ×       |
|---|---------|
| DB-SRV-1 - DB2                                |         |
| Database name                                 | Refresh |
| Alias   |         |
| Comment                                       |         |
|   |         |
| OK Cancel Apply Reset Show Command            | Help    |
| Press refresh to get a list of new databases. |         |

#### Välj en databas (din databas om du har någon på servern)

| 🚡 Add Database |                                 | ×       |
|----------------|---------------------------------|---------|
| DB-SRV-1 - DB2 |                                 |         |
| Database name  | ×62065                          | Refresh |
| Alias          | MYTEXTDB<br>X62065              |         |
| Comment        | SAMPLE                          |         |
| ОК             | Cancel Apply Reset Show Command | Help    |
|                |                                 |         |

### **Tryck Apply**

Nu kan ni komma åt databasen via TCP/IP och manipulera den via Control Center som om den varit lagrad lokalt. Ni måste dock ha rättigheter att arbeta i databasen på servern ... Och det har ni ej om ni ej är ägare av "databasen"

| 🐚 DB2 Control Center - localhost - Signed in | n as=jdb038 Default userid=jdb038           | _ 🗆 🗵 |
|--|---|-------|
| Control Center Selected Edit                 | View Tools Help                             | Y CAL |
| 12 🖻 🗊 🛥 🗊 🖘 🧍                               |   |       |
| C Systems                                    | DB-SRV-1 - DB2 - Databases                  |       |
| 🗄 🖳 🗐 GX1IMAGE                               | Name Alias Type Database Path State Comment |       |
| 🗄 🗐 LOCAL                                    | 🗍 X62065 X62065 Rem X62065 Incon            |       |
| ⊡ <b></b> ] DB-SRV-1                         |   |       |
| 🗄 🛅 Instances                                |   |       |
| ⊡¥≓ DB2                                      |   |       |
| ⊟/ Databases                                 |   |       |
| i±[]] ×62065                                 |   |       |
|  |   |       |
|  | <b>红 珍 亜 ≫ ヽ</b> №                          |       |
|  |   |       |

# **Command Center:**



Man kan använda Command Center för att skriva och testa sin SQL:

Man måste alltid förs "koppla upp sig " mot sin DB2 – databas

| 📴 Command Center   | _ 🗆 🗙 |
|--|-------|
| <u>S</u> cript <u>E</u> dit <u>H</u> elp                                   |       |
| Script Results   |       |
|  |       |
|  |       |
| connect to sample;<br>set current schema= "DB2ADMIN";<br>select * from org | 4     |
|  |       |
|  |       |
|  |       |
|  | V     |
|  |       |
|  |       |

Tryck på "kugghjulen" för att exekvera kommandot:

| 📴 Command Center                          |                      |
|---|----------------------|
| <u>R</u> esults <u>E</u> dit <u>H</u> elp |                      |
| 000 L 00                                  |                      |
| Script Results                            |                      |
|   |                      |
| connect to sample:                        | na enterea 🔺         |
| set current schema= "DB2ADMIN":           |                      |
| select * from orq                         |                      |
|   |                      |
| Database Connection Information           | n                    |
| Database server = DB2/NT (                | 6.1.0                |
| SQL authorization ID = JDB038             |                      |
| Local database alias = SAMPLE             |                      |
|   |                      |
| DB200001 The SOL command complete         | ed successfullu      |
|   |                      |
|   |                      |
| DEPTNUMB DEPTNAME MANAGER D               |                      |
| 10 Head Office 160 Co                     | orporate New York    |
| 15 New England 50 Ea                      | astern Boston        |
| 20 Mid Atlantic 10 Ea                     | astern Washington    |
| 38 South Atlantic 30 Ea                   | astern Atlanta       |
| 42 Great Lakes 100 MJ<br>51 Plains 140 Mi | idwest billagu       |
| 66 Pacific 270 We                         | estern San Francisco |
| 84 Mountain 290 We                        | estern Denver        |
|   | -                    |
| 8 record(s) selected.                     |                      |
|   |                      |
|   |                      |
|   |                      |

Det går även att göra mer komplicerade SQL satser som nedanstående bild visar... (Filen finns på **Network Neighborhood**, **Db-srv-1**, **StudKursInfo**, **Is4Ht2000**, **SjukVårdsDB**, **create.sukvard** som du kan öppna med t.ex. Notepad)

| 🖀 Command Center   |
|--|
|  |
| Script Results Access Plan   |
| © Interactive © Sgript   |
| disconnect sample;   |
| DROP DATABASE sjukvard;<br>CREATE DATABASE sjukvard;<br>CONNECT TO sjukvard;                                 |
| CREATE TABLE anvandare (anvandarlD VARCHAR(15) NOT NULL, fornamn VARCHAR(20) NOT NULL, efternamn VARCHAF     |
| CREATE TABLE patient (anvandarID VARCHAR(15) NOT NULL, kon VARCHAR(6) NOT NULL, langd SMALLINT, vikt SMALLI  |
| CREATE TABLE personal ( anvandarID VARCHAR(15) NOT NULL, PRIMARY KEY (anvandarID), FOREIGN KEY (anvandarII   |
| CREATE TABLE lakare (anvandarID VARCHAR(15) NOT NULL, specialitet VARCHAR(20), PRIMARY KEY (anvandarID), FOF |
| CREATE TABLE sjukskoterska (anvandarID VARCHAR(15) NOT NULL, PRIMARY KEY (anvandarID), FOREIGN KEY (anvan    |
| ۲ <u>ــــــــــــــــــــــــــــــــــــ</u>  |
| File "M:\idb038\MvSiukvardDB\create.siukvard" was opened successfully.                                       |

Man bör alltid göra disconnect <databas> innan man avslutar sin session.

| 📴 Command Center                         |          |
|--|----------|
| <u>S</u> cript <u>E</u> dit <u>H</u> elp |          |
| 000 LO                                   |          |
| Script Results                           |          |
|  |          |
|  | •        |
| disconnect sample                        | <u> </u> |
|  |          |

| DB2 kommandot: ? listar alla DB2 – kommando |
|---|
|---|

| 9           | Command Center                                  |                              |  |           |
|-------------|---|------------------------------|--|-----------|
| <u>R</u> e: | sults <u>E</u> dit <u>H</u> elp                 |                              |  |           |
| Ø           |   |                              |  |           |
| ~           |   |                              |  |           |
| 60          | int Besults                                     |                              |  |           |
| 50          | ipt meaning                                     |                              |  |           |
| F           |   | Command entered              |  |           |
|             | ?   |                              |  |           |
| 1           |   |                              |  |           |
|             | ACTIVATE DATABASE                               | ECHO                         | PRUNE HISTORY/LOGFILE                            |           |
|             | ATTACH  | EAPURI<br>FORCE APPLICATION  | QUERY GLIENI<br>NIITESSE TARI ESPACES            |           |
|             | ATTACH TO                                       | GET/RESET/IIPDATE ADMIN CEG  | NIIT   |           |
|             | BACKUP DATABASE                                 | GET AUTHORIZATIONS           | REBIND   |           |
|             | BIND  | GET CONNECTION STATE         | RECONCILE  |           |
|             | CATALOG APPC NODE                               | GET INSTANCE                 | REDISTRIBUTE NODEGROUP                           |           |
|             | CATALOG APPCLU NODE                             | GET MONITOR SWITCHES         | REGISTER   |           |
|             | CATALOG APPN NODE                               | GET SNAPSHOT                 | RELEASE  |           |
|             | CATALUG DATABASE                                | GET/RESET/UPDATE DD 050      | REURG TABLE                                      |           |
|             | CATALOG DES DATABASE<br>CATALOG CLOBAL DATABASE | GET/RESET/UPDATE DB GFG      | REUNGUIN<br>RESET MONITOR                        |           |
|             | CATALOG IPXSPX NODE                             | HEIP                         | BESTART DATABASE                                 |           |
|             | CATALOG LDAP DATABASE                           | IMPORT                       | RESTORE DATABASE                                 |           |
|             | CATALOG LDAP NODE                               | INITIALIZE TAPE              | REWIND TAPE                                      |           |
|             | CATALOG LOCAL NODE                              | INVOKE                       | ROLLFORWARD DATABASE                             |           |
|             | CATALOG NETBIOS NODE                            | LIST ACTIVE DATABASES        | RUNSTATS   |           |
|             | CATALOG NPIPE NODE                              | LIST APPLICATIONS            | SET CLIENT                                       |           |
|             | CATALOG UDBC DATA S.                            | LIST COMMOND ODITONS         | SET DUNTED FORFE                                 |           |
|             | CHIHLUG IGPIP NUDE<br>PUONCE DOTODOSE POMMENT   | LIST DATADASE DIDECTODY      | SET TADIESDAGE CONTAINEDS                        |           |
|             |   | LIST DES APPLICATIONS        | SET TAPE POSITION                                |           |
|             | CONNECT   | LIST DCS DIRECTORY           | TERMINATE  |           |
|             | CONNECT RESET                                   | LIST INDOUBT TRANSACTIONS    | UNCATALOG DATABASE                               |           |
|             | CONNECT TO                                      | LIST NODE DIRECTORY          | UNCATALOG DCS DATABASE                           |           |
|             | CREATE DATABASE                                 | LIST NODEGROUPS              | UNCATALOG LDAP DATABASE                          |           |
|             | DB2START/DB2STOP                                | LIST NODES                   | UNCATALOG LDAP NODE                              |           |
|             | DEBEGISTED<br>DEHCIIVHIE DHIHRH2E               | TI21 DDRC DHIH 200KGE2       | UNCHIHLUG NUDE                                   |           |
|             | DEREGISTER                                      | LIST TARIESPACE CONTAINERS   | UNCHINLUG UDDE DHIN S.<br>HPRATE PAMMANN APTIANS |           |
|             | DETACH  | LIST TABLESPACES             | UPDATE HISTORY                                   |           |
|             | DISCONNECT                                      | LOAD                         | UPDATE LDAP NODE                                 |           |
|             | DROP DATABASE                                   | LOAD QUERY                   | UPDATE MONITOR SWITCHES                          |           |
|             | DROP NODE                                       | PREP/PRECOMPILE              |  |           |
|             | _   |                              |  |           |
| L           |   |                              |  | <u> </u>  |
| _           |   |                              |  |           |
| -           | exact Distance Musideneous 1                    | WR Misses B Mard Jahrshild D | Cantral Cantan Land                              |           |
|             | Start Storing - M: (Jabu38/DB2                  | Wilciosoft word - Introdukti |  | - 3:08 PM |

? "DB2 kommando" ger syntax för DB2 kommandor



| 📴 Command Center  | _ 🗆 × |
|---|-------|
| <u>Results</u> Edit <u>H</u> elp  |       |
|   |       |
| Script Results  |       |
| connect to sample.<br>selcet * from org   |       |
| SQL0104N An unexpected token "selcet" was found following " <identifier>".<br/>Expected tokens may include: "USER". SQLSTATE=42601</identifier> |       |
|   |       |

DB2 kommandot: ? SQLCode ger felmeddelandet i klartext

| 📴 Command Center   | _ 🗆 🗡 |
|--|-------|
| <u>R</u> esults <u>E</u> dit <u>H</u> elp  |       |
|  |       |
| Script Results   |       |
|  |       |
|  |       |
| Command entered  |       |
| ? SQL0104N   |       |
| · · · · · · · · · · · · · · · · · · ·  |       |
| SQL0104N An unexpected token " <token>" was found following<br/>"<text>". Expected tokens may include:<br/>"<token-list>".</token-list></text></token>   |       |
| Explanation: A syntax error in the SQL statement was detected at<br>the specified token following the text " <text>". The "<text>"<br/>field indicates the 20 characters of the SQL statement that<br/>preceded the token that is not valid.</text></text> |       |
| As an aid to the programmer, a partial list of valid tokens is provided in the SQLERRM field of the SQLCA as " <token-list>". This list assumes the statement is correct to that point.</token-list>   |       |
| The statement cannot be processed.   |       |
| User Response: Examine and correct the statement in the area of the specified token.   |       |
| sqlcode: -104  |       |
| sqlstate: 42601  |       |
|  |       |
|  |       |

Help SQL VERB ger syntax information mm via DB2 manualerna

| 📴 Command Center                                   | _ 🗆 🗵 |
|--|-------|
| <u>R</u> esults <u>E</u> dit <u>H</u> elp          |       |
|  |       |
| Script Results                                     |       |
| Correct optourd                                    |       |
| help update  |       |
| DB21052I "db2ic" has been submitted for execution. |       |
|  |       |
|  |       |
|  |       |

| 🛎 SQL Reference - Microsoft Internet Explorer   |                         |
|---|-------------------------|
| <u>File E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp  | <u>(11</u>              |
| Hack Forward Stop Refresh Home Search Favorites History Mail Print Ec   | Ź -                     |
| Address 🕖 C:\SQLLIB\doc\html\db2s0\sqls0668.htm   | 💽 🧬 Go 🛛 Links 🎽        |
|   | <u>*</u>                |
|   |                         |
|   |                         |
| SQL Reference   |                         |
| UPDATE  |                         |
| The UPDATE statement updates the values of specified columns in rows of a table or view. Updates a row of its base table. | pdating a row of a view |
| The forms of this statement are:  |                         |
| <ul> <li>The Searched UPDATE form is used to update one or more rows (optionally determining condition).</li> </ul>       | ed by a search          |
| <ul> <li>The <i>Positioned</i> UPDATE form is used to update exactly one row (as determined by th cursor).</li> </ul>     | e current position of a |
| Invocation  | ×                       |
| 😂 Done  | 🦳 🥼 My Computer 🛛 🎢     |

| 🖉 SQL Reference - Microsoft Internet Explorer 📃 🗆 🗙   |
|---|
| <u>File Edit View Favorites Tools H</u> elp   |
| ← → ⊗ I ← A OQ I I ← J ← I ← A OQ I ← A OQ I ← A OP F A |
| Address 🚳 C:\SQLLIB\doc\html\db2s0\sqls0668.htm   |
| Example 1: Change the job (JOB) of employee number (EMPNO) '000290' in the EMPLOYEE table to     'LABORER'.   |
| UPDATE EMPLOYEE<br>SET JOB = 'LABORER'<br>WHERE EMPNO = '000290'  |
| <ul> <li>Example 2: Increase the project staffing (PRSTAFF) by 1.5 for all projects that department (DEPTNO) 'D21' is responsible for in the PROJECT table.</li> <li>UPDATE PROJECT         SET PRSTAFF = PRSTAFF + 1.5         WHERE DEPTNO = 'D21'</li> </ul>   |
| <ul> <li>Example 3: All the employees except the manager of department (WORKDEPT) 'E21' have been<br/>temporarily reassigned. Indicate this by changing their job (JOB) to NULL and their pay (SALARY, BONUS,<br/>COMM) values to zero in the EMPLOYEE table.</li> </ul>  |
| UPDATE EMPLOYEE<br>SET JOB=NULL, SALARY=O, BONUS=O, COMM=O<br>WHERE WORKDEPT = 'E21' AND JOB <> 'MANAGER'   |
| This statement could also be written as follows.  |
| 🖉 Done 🛛 🖉 My Computer  |

### **Information Center:**

#### Programs, DB2 for Windows NT, Information Center

| My Computer                      | 📾 Accessories                      |    | 🧓 Rational Rose 2000 Enterprise E | dition 🕨     |                 |               |                     |         |
|----------------------------------|------------------------------------|----|-----------------------------------|--------------|-----------------|---------------|---------------------|---------|
|                                  | 📻 Startup                          | •  | 適 Real                            | +            |                 |               |                     |         |
| <b>马 🛪</b>                       | 🎇 Command Prompt                   |    | 適 SAP Frontend                    | •            |                 |               |                     |         |
|                                  | 🧐 Windows Messaging                |    | 適 Select                          | +            |                 |               |                     |         |
| Network XWin32<br>Neighborhood   | 🔍 Windows NT Explorer              |    | 適 Shockmachine                    | •            |                 |               |                     |         |
|                                  | Accessories                        | •  | 適 SICStus Prolog                  | •            |                 |               |                     |         |
| 🧶 📜                              |                                    |    | 適 Startup                         | •            |                 |               |                     |         |
| Inbox Outlook                    | B Rodard Dolobi 4                  |    | 適 Tera Term Pro                   | +            |                 |               |                     |         |
| Express                          | Borland Depni 4                    |    | 適 Weft 2.0                        | •            |                 |               |                     |         |
|                                  | DB2 Extenders                      | ,  | 適 Winamp                          | •            |                 |               |                     |         |
| Internet WinZin                  | BB2 for Windows NT                 |    |                                   | +            |                 |               |                     |         |
| Explorer                         | Db2demo                            | •  | Information                       | ו<br>און Cor | trol Center     |               |                     |         |
|                                  | Diskeeper Lite                     |    | Certification                     |              | 2 Opline Books  |               |                     |         |
| <b>Q</b>                         | Dr Solomon's AVTK                  | •  | Client Configuration Assistant    | DB:          | 2 Belease Notes |               |                     |         |
| Recycle Bin                      | R Eudora                           | •  | Command Center                    | 🥼 Info       | rmation Center  |               |                     |         |
|                                  | FirstClass®                        | •  | Command Line Processor            |              |                 |               |                     |         |
|                                  | 🗔 Gnu Emacs                        | •  | Command Window                    |              |                 |               |                     |         |
| Netscape SmartUpdate             | IBM VisualAge for Java for Windows | •  | 🔂 Control Center                  |              |                 |               |                     |         |
| Öppna Office-dokument            | iBM WebSphere                      | •  | 3 Event Analyzer                  |              |                 |               |                     |         |
|                                  | InterBase 5.1.1                    | •  | 🔜 Event Monitor                   |              |                 |               |                     |         |
| Skapa nytt Office-dokument       | 🚍 Internet Explorer                | •  | 🔏 First Steps                     |              |                 |               |                     |         |
|                                  | 🔲<br>i Iomega Tools för Windows NT | •  | 👳 Start HTML Search Server        |              |                 |               |                     |         |
| Programs                         | 👝 Jasmine                          | •  | 🙍 Stop HTML Search Server         |              |                 |               |                     |         |
| 🖕 🔷 Documents 🔹 🕨                | 📵 Kerberos Telnet                  | •  | 🚰 Stored Procedure Builder        |              |                 |               |                     |         |
|                                  | 🧾 License Use Runtime              | •  | 🖳 Support through Internet        |              |                 |               |                     |         |
| Seturitys                        | 適 Micrografx                       | •  | 🏐 Uninstall                       |              |                 |               |                     |         |
| 🧧 🕵 Eind 🔹 🕨                     | Microsoft Office 97 Pro            | ۰T |                                   | -            |                 |               |                     |         |
| 🗧 🛷 Help                         | Modellator®                        | •  |                                   |              |                 |               |                     |         |
| S                                | Netscape Communicator              | •  |                                   |              |                 |               |                     |         |
| A 200 Bun                        | 適 Odbo                             | •  |                                   |              |                 |               |                     |         |
|                                  | 🧓 PureVoice                        | •  |                                   |              |                 |               |                     |         |
| Shut Down                        | 闥 QuickDraw 3D                     | •  |                                   |              |                 |               |                     |         |
| Start 🔍 Exploring - M:\jdb038\DB | 國 QuickTime                        | •  |                                   |              | 🚺 🐔 SQL Referen | ce - Microsof | <b>₩</b> ₩ <b>₩</b> | 3:16 PM |
|                                  |                                    |    |                                   |              |                 |               |                     |         |

| 🛐 Control Cent | er Sign On localhost 🛛 💶 🗙 |
|----------------|----------------------------|
| Enter your use | rid and password           |
| User ID        | jdb038                     |
| Password       | *****                      |
| OK             | Cancel Help                |

Behöver man information av olika slag om DB2 så är "Information Center" ett bra ställe att utgå ifrån:

| Generation Center  |   |
|--|---|
| File Options   |   |
| Tasks Books Reference Troubleshooting Sample Programs  | Web   |
| To find instructions for a particular task, choose the category and the  | e task, then click on View.   |
| Adding a database<br>Adding an instance<br>Adding a system<br>Adding check constraints when altering a table<br>Adding columns when altering a table<br>Adding foreign keys when altering a table<br>Adding run-time processing statements to the SQL statement box<br>Administering DB2 for OS/390 subsystems<br>Administering DB2 using graphical tools<br>Administering satellite systems<br>Administering user licenses<br>Altering an operator to performance problems<br>Altering a buffer pool<br>Altering a database<br>Altering a table<br>Altering a table<br>Altering a table space<br>Altering a table space<br>Altering a view<br>Attaching to an instance<br>Attaching to a system | Enter text to search for in the list:   Find Next   Apply Filter   Show All   Select a category of items:   All task categories |
|  | Search View Close Help  |
|  |   |

### Diverse DB2 manualer

| GDB2 Information Center   | _ O ×   |
|---|---|
| File Options  |   |
| Tasks Books Reference Troubleshooting Sample Programs Web   |   |
| To view the product books, choose the category and the book, then click on View   | Ν.  |
| Administration Guide<br>Administrative API Reference<br>Application Building Guide<br>Application Development Guide<br>CLI Guide and Reference<br>Command Reference<br>Data Movement Utilities Guide<br>DB2 Personal Edition for OS2 and Windows NT Quick Beginnings<br>DB2 Query Patroller Administration Guide<br>DB2 Query Patroller Quick Beginnings<br>DB2 Query Patroller User's Guide<br>DB2 release notes<br>Glossary<br>Installation and Configuration Supplement<br>Message Reference<br>Replication Guide<br>SQL Getting Started<br>SQL Reference<br>System Monitor Guide & Reference<br>Troubleshooting Guide<br>What's New | Enter text to search for in the list: Find Next Apply Filter Show All Select a category of items: All books |
| Search  | View Close Help   |
|   |   |

| WB2 Information Center  |  |
|---|--|
| File Options  |  |
| Tasks Books Reference Troubleshooting Sample Programs Web   |  |
| To look up a keyword, choose the category and the keyword, then click on View.  |  |
| ABS or ABSVAL<br>Access control<br>ACOS<br>ACTIVATE DATABASE<br>ADD FILE MANAGER<br>ADD NODE<br>ADSTAR Distributed Storage Manager (ADSM)<br>Aliases<br>ALTER BUFFERPOOL<br>ALTER NICKNAME<br>ALTER NODEGROUP<br>ALTER SERVER<br>ALTER TABLE<br>ALTER TABLE<br>ALTER TABLESPACE<br>ALTER TYPE (Structured)<br>ALTER USER MAPPING<br>ALTER VIEW<br>ASCII<br>ASIN<br>ATAN<br>ATAN | Enter text to search for in the list.<br>Find Next<br>Apply Filter<br>Show All<br>Select a category of items:<br>All reference items |
| Search  | View Close Help  |
|   |  |

#### Felkoder:

| Weight DB2 Information Center   |   |  |  |  |  |  |  |
|---|---|--|--|--|--|--|--|
| File Options  |   |  |  |  |  |  |  |
| Tasks Books Reference Troubleshooting Sample Programs Web   |   |  |  |  |  |  |  |
| To find the answer to a problem or message, choose a category and the problem or message, then click on View.   |   |  |  |  |  |  |  |
| SPM messages<br>SQL0000-SQL0099 messages<br>SQL0100-SQL0199 messages<br>SQL0200-SQL0299 messages<br>SQL0300-SQL0399 messages<br>SQL0500-SQL0599 messages<br>SQL0600-SQL0699 messages<br>SQL0600-SQL0699 messages<br>SQL0800-SQL0899 messages<br>SQL0800-SQL0899 messages<br>SQL10000-SQL1099 messages<br>SQL10000-SQL1099 messages<br>SQL1000-SQL1099 messages<br>SQL1100-SQL1099 messages<br>SQL1200-SQL199 messages<br>SQL1200-SQL1399 messages<br>SQL1300-SQL1399 messages<br>SQL1400-SQL1499 messages<br>SQL1400-SQL1499 messages<br>SQL1500-SQL1599 messages | Enter text to search for in the list: Find Next Apply Filter Show All Select a category of items: All troubleshooting items |  |  |  |  |  |  |
| SQL1600-SQL1699 messages<br>SQL1700-SQL1799 messages  |   |  |  |  |  |  |  |
| SQL1800-SQL1899 messages  |   |  |  |  |  |  |  |
| Search  | View Close Help   |  |  |  |  |  |  |
|   |   |  |  |  |  |  |  |

Diverse övningsprogram ofta mot SAMPLE databasen

| Market Conter  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
| File Options   |  |  |  |  |  |  |  |
| Tasks Books Reference Troubleshooting Sample Programs Web  |  |  |  |  |  |  |  |
| To view information about a sample program, choose the category and the sample, then click on View.  |  |  |  |  |  |  |  |
| C++ samples<br>Call-level interface (CLI) samples<br>COBOL samples<br>Command-line processor samples<br>C samples<br>Explanation of sample programs<br>FORTRAN samples<br>Java samples<br>LotusScript and Lotus Approach<br>Microfocus COBOL samples<br>REXX samples<br>Visual Basic samples | Enter text to search for in the list:<br>Find Next<br>Apply Filter<br>Show All<br>Select a category of items:<br>All samples |  |  |  |  |  |  |
| Search   | View Close Help  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Den senaste informationen finns att hitta via WWW

| WB2 Information Center   |   |  |  |  |  |
|--|---|--|--|--|--|
| File Options   |   |  |  |  |  |
| Tasks Books Reference Troubleshooting Sample Programs  | Web   |  |  |  |  |
| To browse DB2 information on the World Wide Web, choose the categories   | ory and the URL, then click on View.  |  |  |  |  |
| DB2 for AS/400 documentation on the Internet<br>DB2 for OS/390 documentation on the Internet<br>DB2 home page<br>DB2 Professional Certification Program<br>DB2 Technical Library<br>Download DB2 documentation in Postscript or PDF format<br>IBM data management home page<br>IBM home page | Enter text to search for in the list: Find Next Apply Filter Show All Select a category of items: All DB2-related web sites |  |  |  |  |
| Search View Close Help   |   |  |  |  |  |
|  |   |  |  |  |  |

# **DB2DEMO – DB2 Demonstration program**

#### Start, Programs, DB2DEMO, DB2DEMO

DB2 Demonstration Program består av 5 fönster Windows

| 🕼 DB2 Demonstration Program             |                          |                              |               |          |          |
|---|--------------------------|------------------------------|---------------|----------|----------|
|   | <u> </u>                 | ⊥ ≴ [≫] <b>6</b> ]           | Performance   | 0.42%    |          |
| . ⊕ Object Relational                   |                          |                              | i ononianoo j | 0.423    |          |
| Advanced SQL                            | set curre                | nt schema="DB2ADMIN";        |               |          | <u>^</u> |
| Additional Information on Advanced SQL  | select * 1               | from department              |               |          |          |
| Cuter Join     Show Department Table    |                          |                              |               |          |          |
| - Show Departments and their employees  |                          |                              |               |          |          |
| - Show missing department               |                          |                              |               |          |          |
| Show all Department records             |                          |                              |               |          |          |
|   |                          |                              |               |          |          |
| H     Nested Table Expressions     ■    |                          |                              |               |          |          |
| Recursive SQL                           |                          |                              |               |          |          |
| H Miscellaneous SQL                     |                          |                              |               |          |          |
| He Business Intelligence Features       | <b>T</b>                 |                              |               |          | Ŧ        |
|   |                          | DEPTNAME                     | MGRNO         | ADMRDEPT | LOCATION |
|   | A00                      | SPIFFY COMPUTER SERVICE DIV. | 000010        | A00      |          |
|   | BO1                      | PLANNING                     | 000020        | A00      |          |
| 101001                                  | C01                      | INFORMATION CENTER           | 000030        | A00      |          |
| Show Department Table                   | D01                      | DEVELOPMENT CENTER           |               | A00      |          |
| This mean will show the sentents of the | 110                      | MANUFACTURING SYSTEMS        | 000060        | D01      |          |
| denortment table. Note that one of the  | D21                      | ADMINISTRATION SYSTEMS       | 000070        | D01      |          |
| departments has no manager              | EO1                      | SUPPORT SERVICES             | 000050        | A00      |          |
|   | E1 1                     | OPERATIONS                   | 000090        | EO1      |          |
|   | E21                      | SOFTWARE SUPPORT             | 000100        | EO1      |          |
|   | SQL Corr                 | pleted successfully          |               |          | ×        |
| Start 🔯 Exploring - M:\jdb038\DB2 💖 Mic | rosoft Word - Introdukti | DB2 Demonstration P          |               |          |          |

Tanken från IBM är att man skall kunna köra SQL genom att markera den SQL som behandlas i "SQL commands" fönstret få den presenterad i "DB2 Demonstration program" och därifrån exekvera denna SQL dynamiskt och se resultat i fönstret "SQL Output" samt få information "Command Information". Dessutom så finns det ett antal "OH –bilder" med nyttig information om DB2.

För att programmet skall fungera i vår "säkra" miljö på DSV så måste man lägga till en rad enligt nedan.

Eftersom databasen SAMPLE skapades med schema DB2ADMIN och när ni loggar in så erhåller ni ett annat default schema av DB2 så måste ni ändra schemanamnet till DB2ADMIN. Detta man genom att lägga till **set current schema = ''DB2ADMIN''** enligt nedanstående bild.

| 🕼 DB2 Demonstration Program                         |          |  |                    |                    |
|---|----------|--|--------------------|--------------------|
|   |          | ▶ 🏔 🔟 💰 🐼 🚯 🐞                          | Performance 0.0    | <u>10s</u>         |
| ⊕ Object Relational                                 |          |  | r onomiditoo j 0.0 |                    |
| Advanced SQL  |          | select deptname, lastname from         |                    | <u> </u>           |
| Additional Information on Advanced SQL              |          | department left outer join employee on |                    |                    |
| Outer Join  |          | deptho = workdept,                     |                    |                    |
| - Show Departments and their employees              |          |  |                    |                    |
| - Show missing department                           |          |  |                    |                    |
| Show all Department records                         |          |  |                    |                    |
| Temporary Tables                                    |          |  |                    |                    |
| Nested Table Expressions                            |          |  |                    |                    |
| H- Recursive SQL                                    |          |  |                    |                    |
| + Data Integrity                                    |          |  |                    |                    |
| He Business Intelligence Features                   | -        |  |                    | ×                  |
|   | <b>A</b> | DEPTNAME                               | LASTNAME           |                    |
|   |          | SPIFFY COMPUTER SERVICE DIV.           | HAAS               |                    |
|   |          | SPIFFY COMPUTER SERVICE DIV.           | LUCCHESSI          |                    |
| 101001  |          | SPIFFY COMPUTER SERVICE DIV.           | O'CONNELL          |                    |
| Show all Department records                         |          | PLANNING                               | THOMPSON           |                    |
| T1: 001 11 1 1                                      |          | INFORMATION CENTER                     | KWAN               |                    |
| Inis SUL will do the same query as before, but      |          | INFORMATION CENTER                     | QUINTANA           |                    |
| employees. This is referred to as a left outer join |          | INFORMATION CENTER                     | NICHOLLS           |                    |
| since the null value is found on the LEFT side of   |          | DEVELOPMENT CENTER                     |                    |                    |
| the equation.                                       |          | MANUFACTURING SYSTEMS                  | STERN              |                    |
|   |          | MANUFACTURING SYSTEMS                  | ADAMSON            |                    |
|   |          | MANUFACTURING SYSTEMS                  | PIANKA             |                    |
|   |          | MANUFACTURING SYSTEMS                  | YOSHIMURA          |                    |
|   |          | MANUFACTURING SYSTEMS                  | SCOUTTEN           |                    |
|   |          | MANUFACTURING SYSTEMS                  | WALKER             |                    |
|   |          | MANUFACTURING SYSTEMS                  | BROWN              |                    |
|   |          | MANUFACTURING SYSTEMS                  | JONES              |                    |
|   |          | MANUFACTURING SYSTEMS                  | LUTZ               |                    |
|   |          | ADMINISTRATION SYSTEMS                 | PULASKI            |                    |
|   |          | ADMINISTRATION SYSTEMS                 | JEFFERSON          |                    |
|   |          | ADMINISTRATION SYSTEMS                 | MARINO             |                    |
|   |          | ADMINISTRATION SYSTEMS                 | SMITH              | -                  |
|   |          | SQL Completed successfully             |                    | <u>×</u>           |
|   | -        |  |                    | <b></b>            |
| 😭 Start 🔍 Exploring - M:\jdb038\DB2 🕎 Microsoft We  | /ord ·   | Introdukti                             |                    | 🥁 🕄 🍕 🖤 🌖 11:07 AM |

# **Ytterligare om DB2 Command Window**

Välj Programs, DB2 for Windows NT, DB2 Command Window för att öppna ett DB2 Command Window

Ett annat sätt att arbeta mot DB2 är att ge DB2 kommandon direkt via DB2 Command Window (Detta är det sätt som man använde innan de grafiska gränssnitten konstruerades).

Alla db2 kommandon måste inledas med db2.

Ge t.ex. kommandot: db2 Connect to SAMPLE (Tryck Enter) db2 select \* from db2admin.department (Tryck Enter);

| 🎇 Selec                             | t DB2 CLP  |          |          |          | _ 🗆 🗵 |  |  |
|-------------------------------------|--|----------|----------|----------|-------|--|--|
| C:\SQLLIB\BIN>db2 connect to sample |  |          |          |          |       |  |  |
| Data                                | Database Connection Information  |          |          |          |       |  |  |
| Databa<br>SQL au<br>Local           | Database server = DB2/NT 5.2.0<br>SQL authorization ID = JDB038<br>Local database alias = SAMPLE |          |          |          |       |  |  |
| C:\SQLI                             | JIB\BIN>db2 select * from db2a   | dmin.de; | partment |          |       |  |  |
| DEPTNO                              | DEPTNAME   | MGRNO    | ADMRDEPT | LOCATION |       |  |  |
| A00                                 | SPIFFY COMPUTER SERVICE DIV.   | 000010   | A00      | _        |       |  |  |
| BØ1                                 | PLANNING   | 000020   | A00      |          |       |  |  |
| CØ1                                 | INFORMATION CENTER   | 000030   | A00      |          |       |  |  |
| DØ1                                 | DEVELOPMENT CENTER   |          | A00      |          |       |  |  |
| D11                                 | MANUFACTURING SYSTEMS  | 000060   | DØ1      |          |       |  |  |
| D21                                 | ADMINISTRATION SYSTEMS   | 000070   | DØ1      |          |       |  |  |
| EØ1                                 | SUPPORT SERVICES   | 000050   | ษยย      |          |       |  |  |
| E11                                 | OPERATIONS   | 000030   | EU1      |          |       |  |  |
| E21                                 | SOFIWARE SUPPORT   | 000100   | ЕЮІ      |          |       |  |  |
|                                     |  |          |          |          |       |  |  |
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Ett mycket användbart sätt att arbeta med i samband med DB2 Command Window är att lägga sina db2 kommandon i "dos – batfiler" och på så sätt exekvera en mängd testade DB2 – kommandon. (Man slipper skriva om samma kommando gång efter gång, detta är speciellt användbart i samband med tester av olika slag)

Jag skall ge er ett exempel:

För att testa av om DB2 – TextExtender fungerar vid er dator så har jag skapat två "batfiler" som har till uppgift att sätta upp miljön och sedan exekvera "IBM's" exempel på DB2 TextExtender.

#### Logga in via Network Neigborhood, Db-srv-1,StudKurs\_info\Is4Ht2000\DB2TextExtender\MyTextExtTest

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| Name   | Size | Туре              | Modified        |  |  |
| MyDb2Command.bat   | 1KB  | MS-DOS Batch File | 6/22/99 1:42 PM |  |  |
| MyTextTest.bat   | 1KB  | MS-DOS Batch File | 6/22/99 1:57 PM |  |  |
| 🗐 readme.txt   | 1KB  | Text Document     | 6/22/99 1:31 PM |  |  |
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Skapa sedan en ny katalog "**MyTextExtTest**" i den katalog du har kopplad till ditt konto. I detta exempel **M:\jdb038\MyTextExtTest.** Kopiera filerna **MyTextTest.bat** och **MyDb2Command.bat** till den nya kataslogen.

Öppna ett DB2 Command Window och placera dig i den katalog du skapat:

**OBS !!!** I detta kompendium har jag inte för avsikt att lära ut hur man skriver batfiler eller lära ut "DOS –kommandon" utan skall endast visa användbarheten av att arbeta med "bat-filer" och db2- command window. Det är upp till den enskilde studenten att sätta sig in i och repetera de aktuella avsnitten.

Exekvera filen MyTextTest. (Skriv filnamnet och tryck Enter)



Det filen "MyTextTest.bat" gör är följande:

- 1. Startar ett DB2 program som exekverar som en "process" på din dator. (call txstart)
- 2. Öppnar ett nytt db2 Command Window på din dator. I detta fönster exekveras innehållet i filen MyDB2Command.bat

Det filen "MyDb2Command.bat" gör är följande:

- 1. Byter enhet till C:
- 2. Byter till katalogen c:\dmb\samples
- 3. Kopplar upp sig mot den lokala db2 databasen MyTextDB. (db2 connect to MyTextDB)
- 4. Exekverar de db2 kommandon som finns i filen c:\dmb\samples\txsample.udf (db2 -tvf txsample.udf där -tvf står för test verbose file och är mycket användbart om man vill exekvera "filer", filen txsample anropar i sin tur ytterligare filer för den intresserade)