Ferramentas CASE Para Modelagem de BD´s

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Introdução

Apresentação

- Ferramenta CASE (Computer Aided Software Engineering)

"CASE é a automação do desenvolvimento de software”

A idéia básica é que CASE proveria um conjunto integrado de Ferramentas para economia de trabalho, ligando e automatizando todas as fases do ciclo de vida de software.

Ferramentas CASE para modelagem de BANCO DE DADOS

Cenário Atual:
- Projetos usando a tecnologia cliente/servidor
- Bancos de dados relacionais
- Interface gráficas

O uso de uma ferramenta CASE visa dar maior produtividade no desenvolvimento de sistemas, gerando esquemas nos bancos de dados bem como fazendo a engenharia reversa, e provendo uma documentação do modelo de dados do cliente/projeto.

Objetivos

TESTAR E AVALIAR

- Auxiliar na criação de modelo de dados

- Facilitar a geração de esquemas para os Sistemas Gerenciadores de Bancos de Dados Relacionais (SGBDR´s).

TESTES

• Os testes foram feitos com a finalidade de se conhecer melhor as ferramentas.

Foram verificados:

- A forma de representação utilizada
- A criação e verificação do Modelo ou entre modelos
- A geração de esquema
- Engenharia reversa
- As formas de navegação/utilização

É ideal Avaliar:

- O potencial da ferramenta;
- A aceitação do uso da mesma pelo analista;
- O impacto no processo de desenvolvimento;
- A facilidade de aprendizado e uso;
- Os pontos negativos e positivos da ferramenta.

É ideal Avaliar:

- Quais os diagramas a ferramenta gera e qual o nível de inteligência de cada um desses diagramas;

- Qual o nível de geração de scripts e quais os bancos de dados compatíveis;

- Recursos que a ferramenta disponibiliza ou deixa de disponibilizar;

- Quais os documentos gerados.

Ferramentas CASE

- Criação do modelo de dados;
- Engenharia reversa dos modelos já criados;
- Apoio às atividades de projeto lógico e físico;
- Geração de esquemas;
- Interoperabilidade com outros bancos;
- Simplicidade de instalação e uso;
- Facilidade de aprendizado em curto espaço de tempo;
- Não ter a necessidade de que seja feita uma customização da ferramenta para que possa ser usada, de acordo com os padrões da empresa, o que despenderia um certo tempo e um determinado custo para que isto aconteça.

GNU/Ferret

modeling data with freedom...

- 2004: GerWin -> GNU/FERRET (Versão atual Ferret 0.6)
  - Computer Associates INC: Dono da marca o Erwim;
- Acronimo: FERRET ("Free Entity Relationship and Reverse Engineering Tool") idéia de Víctor Ruiz;
- Projetado e Desenvolvido por José E. Marchesi <jemarch@gnu.org>
- Mantido pela FSF
- Distribuido com Debian e Ubuntu. (# apt-get install ferret)

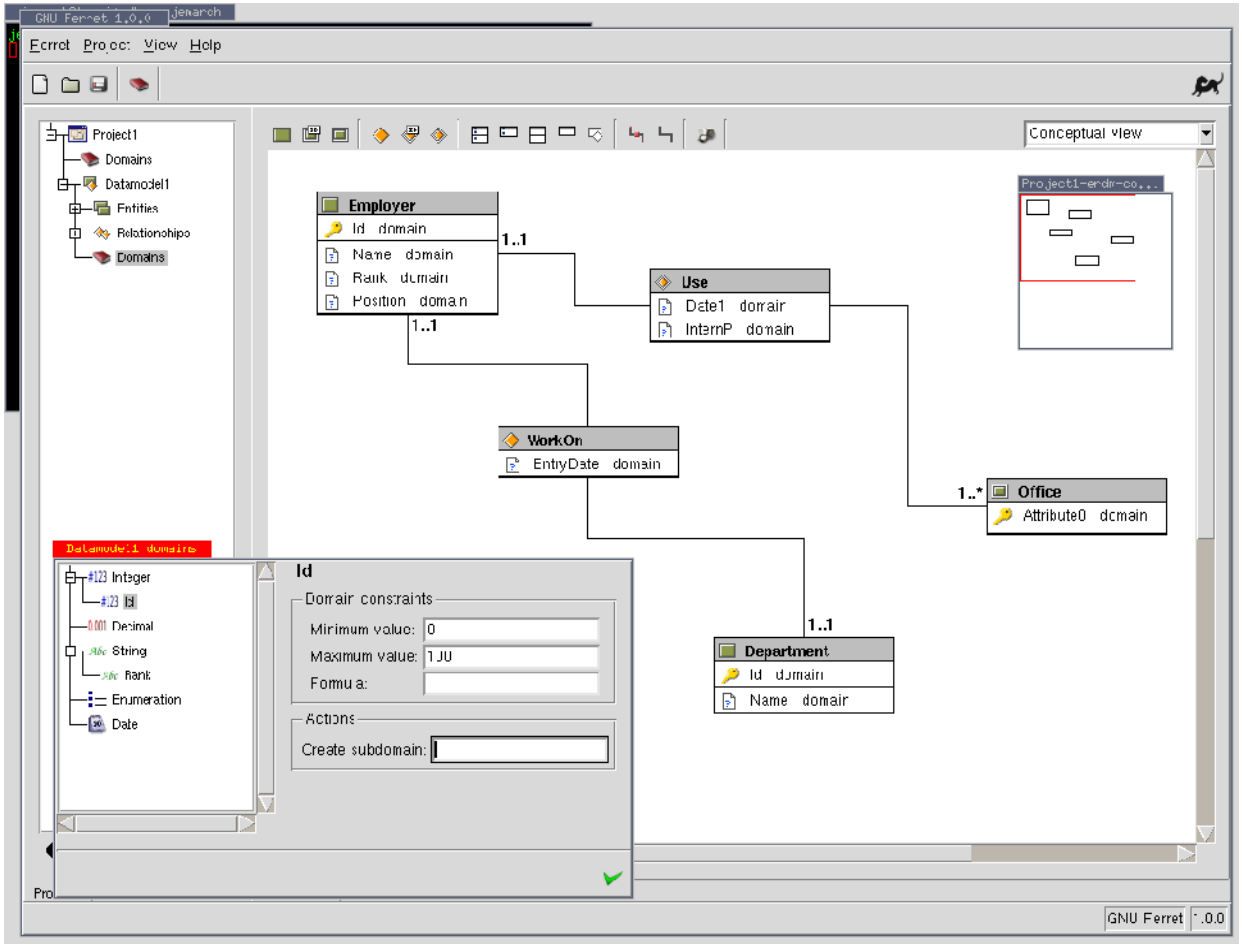
GNU/Ferret

modeling data with freedom...

- Características:
  - Entidade/Relacionamento (Dr. Peter Chen.)
    - MER
      - Modelo conceitual
      - ***Modelo lógico***
      - ***Modelo físico***
  - Gera o Diagrama das Tabelas
  - Gera scripts: postgresql, mysql, sql92 e GerwinML
  - Controle de Versões - CVS

Novas Versões

modeling data with freedom...



Previsões GNU/Ferret:

“GerWin 0.7” ou Ferret 1.0.0

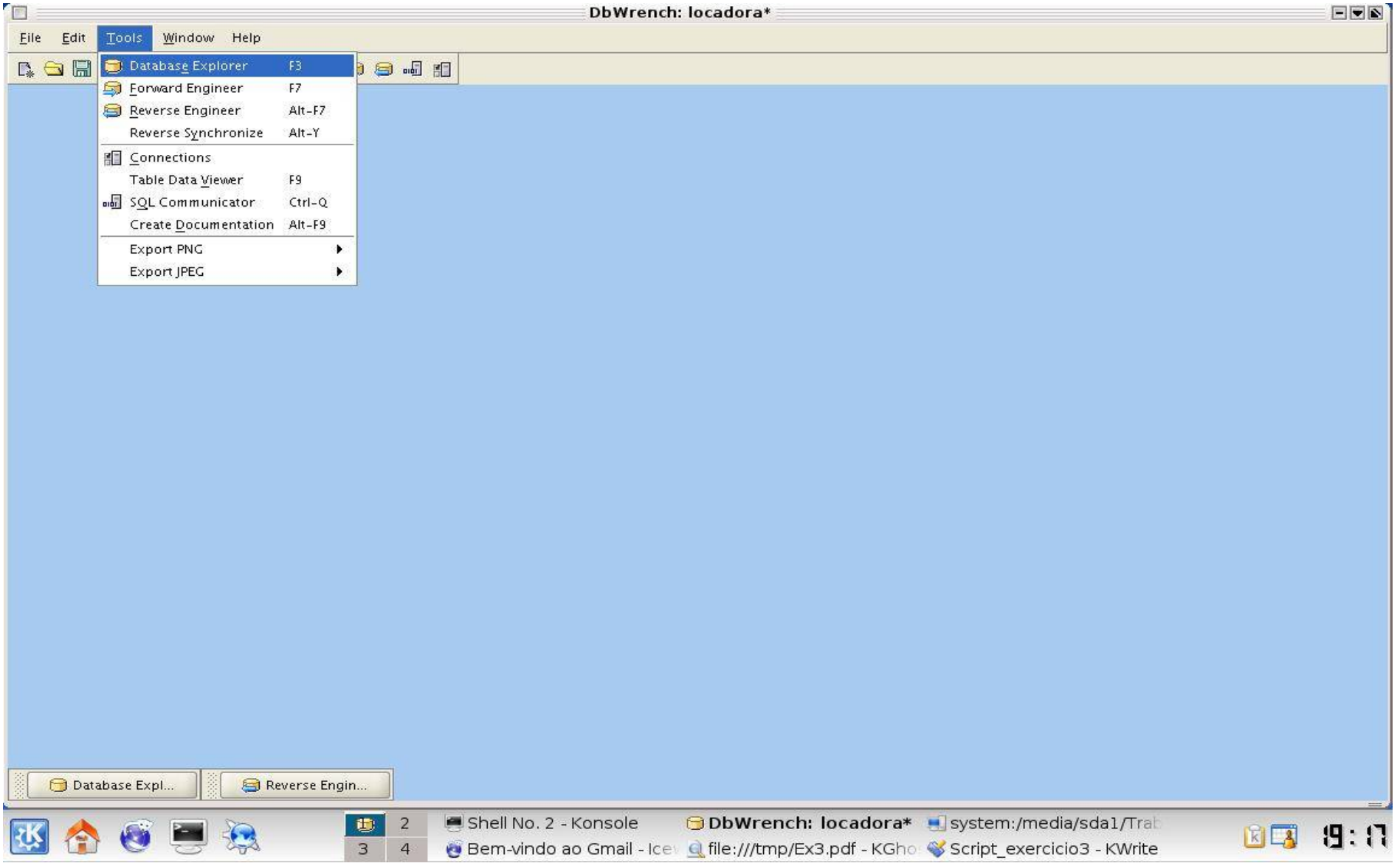
DbWrench

- Lançado: 14 de Junho de 2001
- Sistema Operacional: Windows, Linux e Mac.
- Banco de Dados: Microsoft SQL Server, MySQL e PostgreSQL

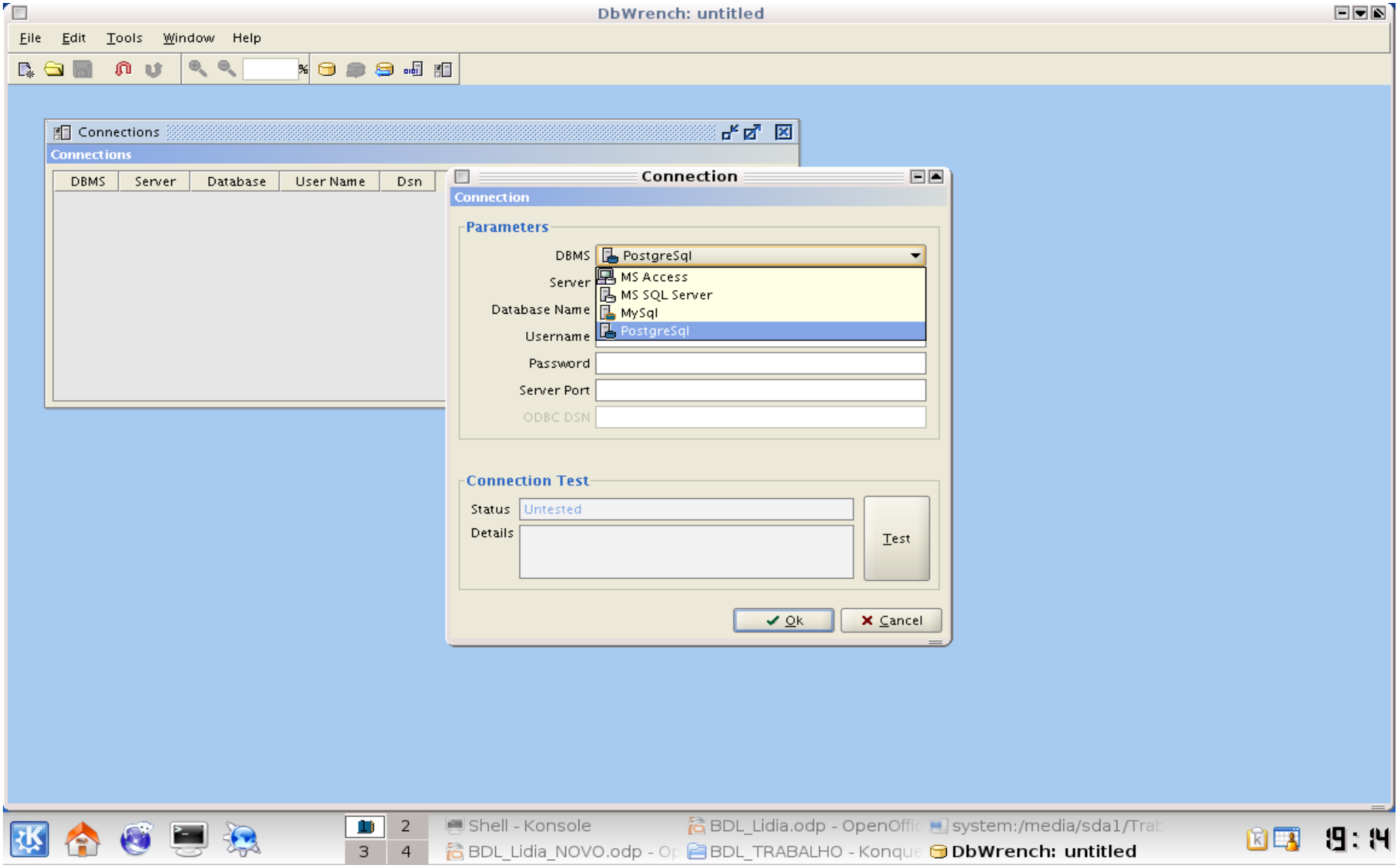
DbWrench

- Ferramentas:
  - DataBase Explorer
  - Forward Engineer
  - Reverse Engineer
  - Table Data View
  - Export PNG/JPEG

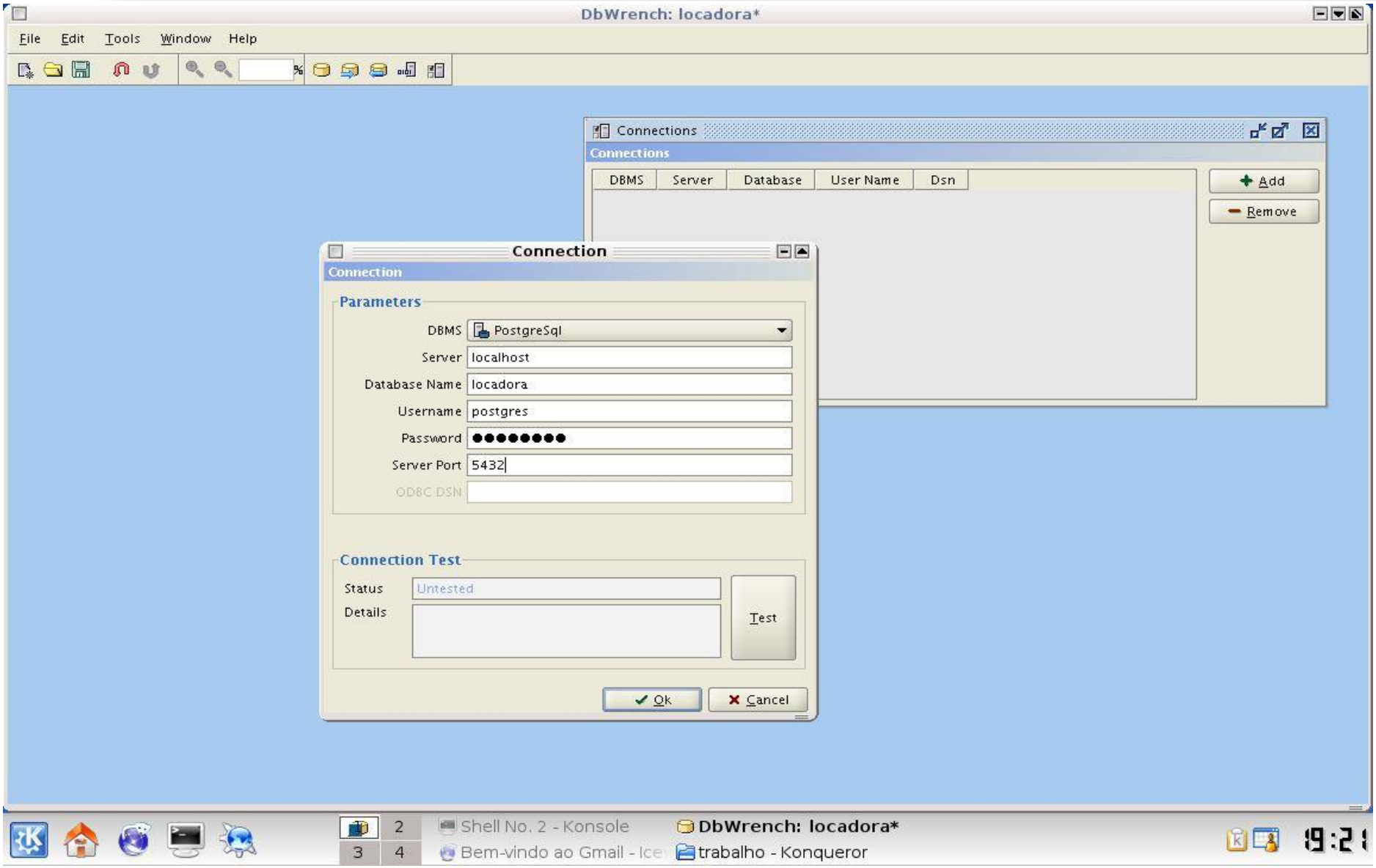
DbWrench – Tools



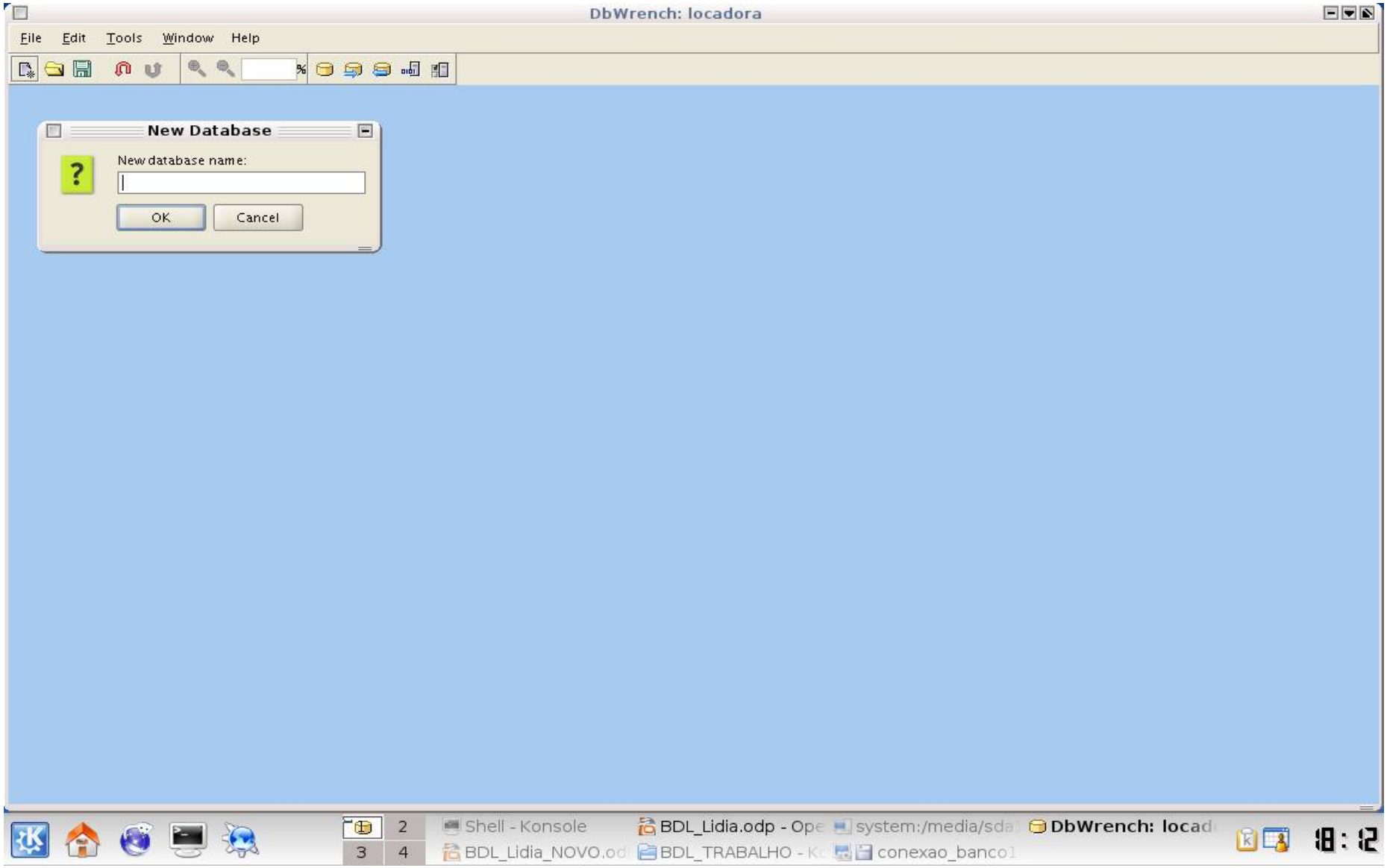
DbWrench – Connections



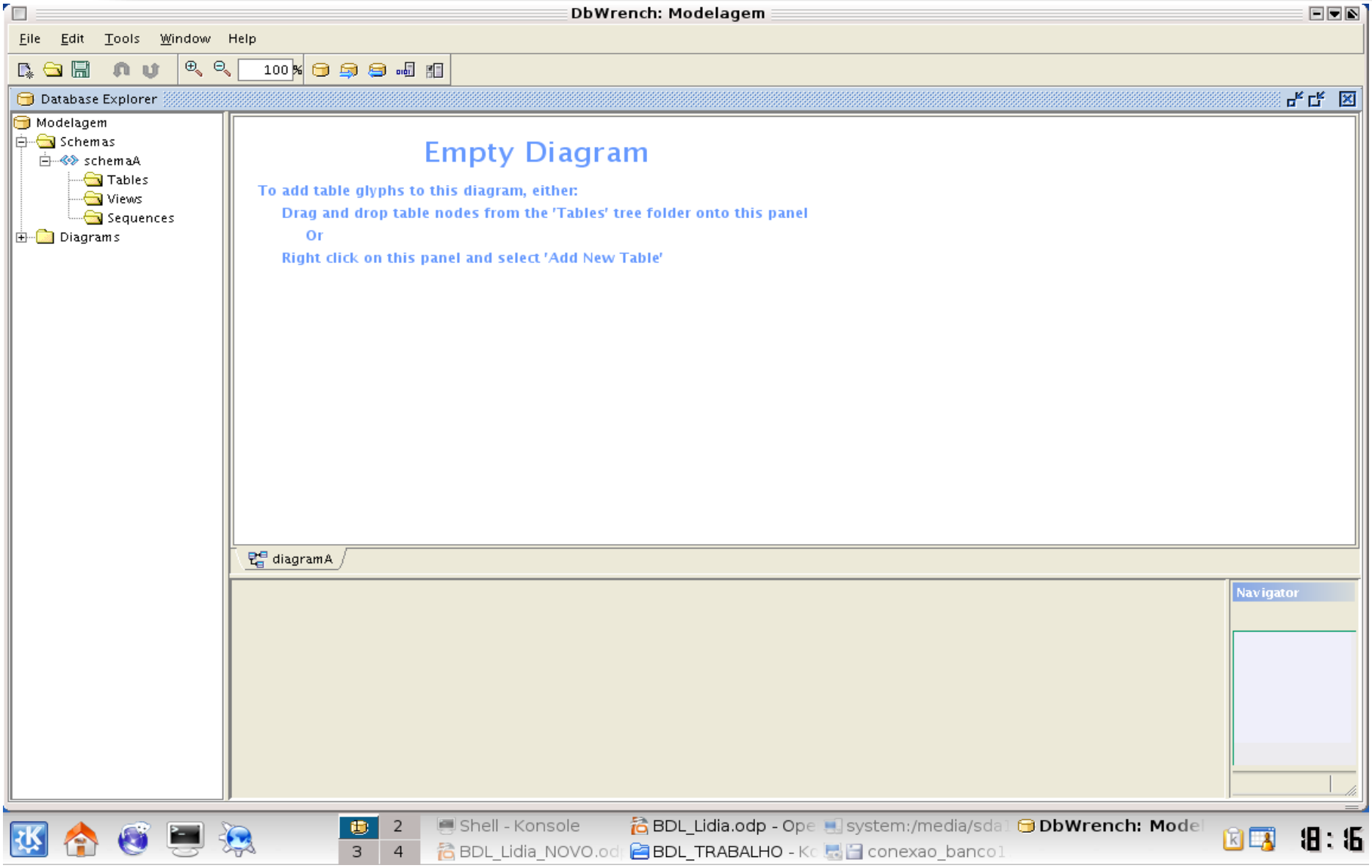
DbWrench – Connections



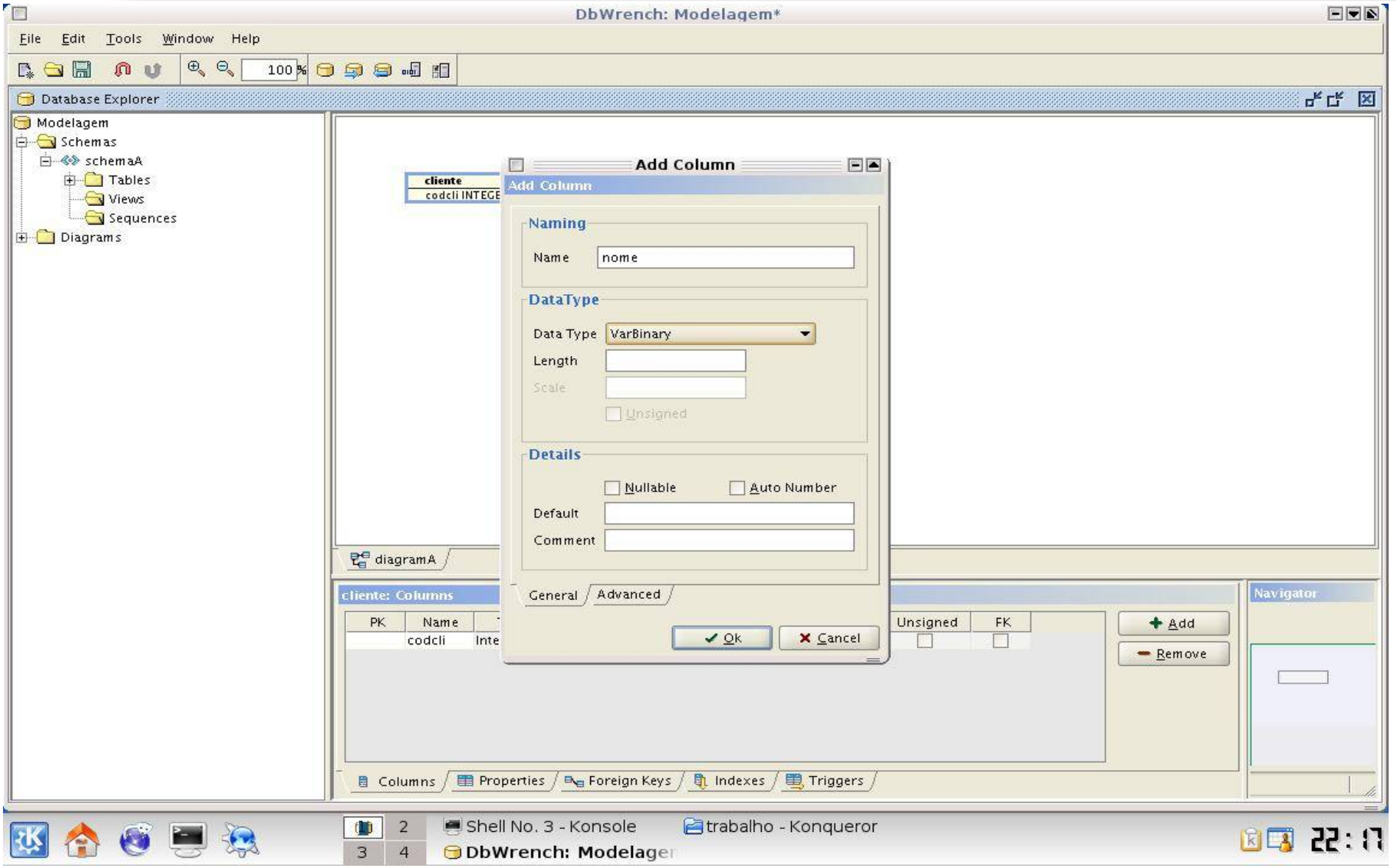
DbWrench – New Database



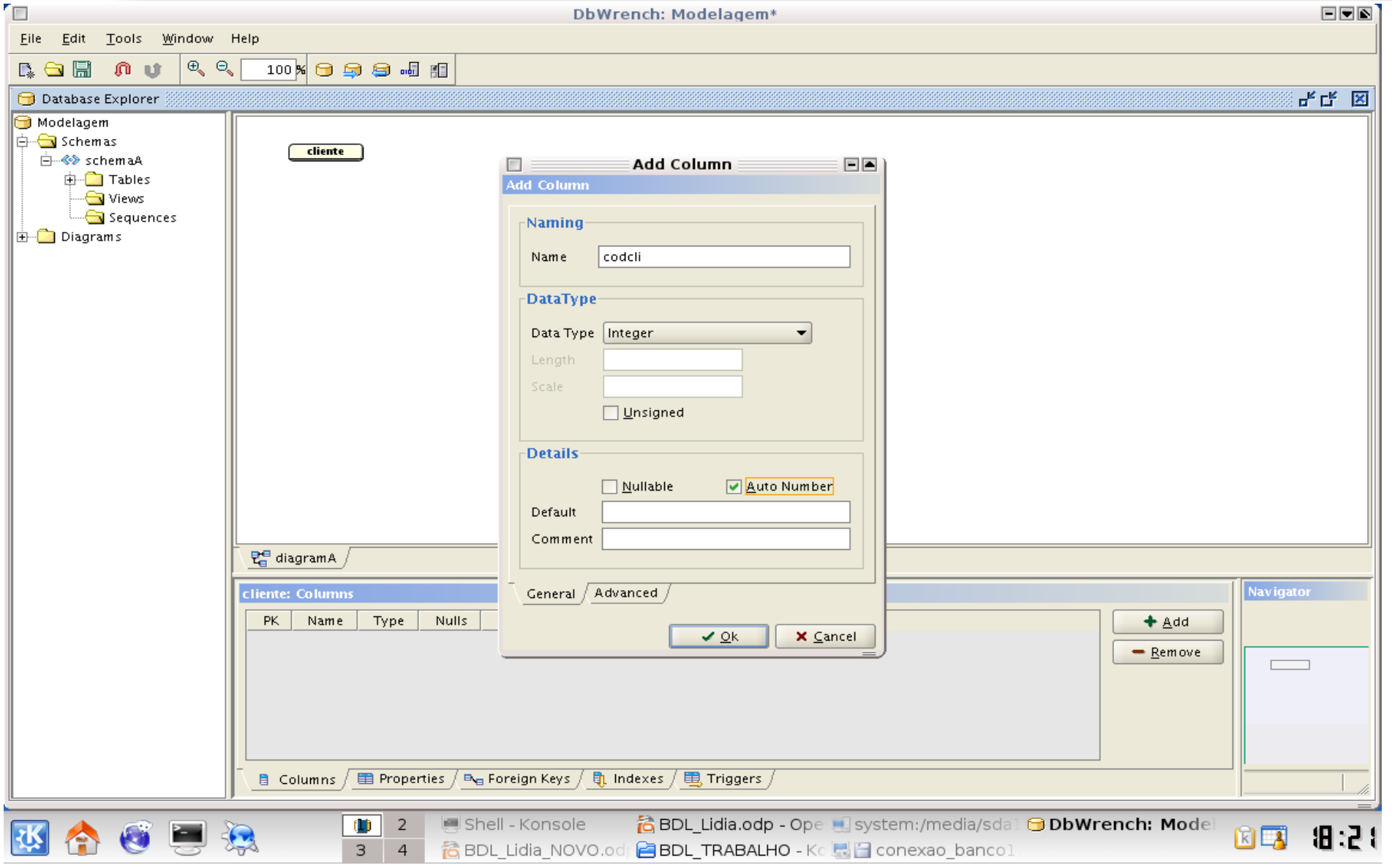
DbWrench – New Database



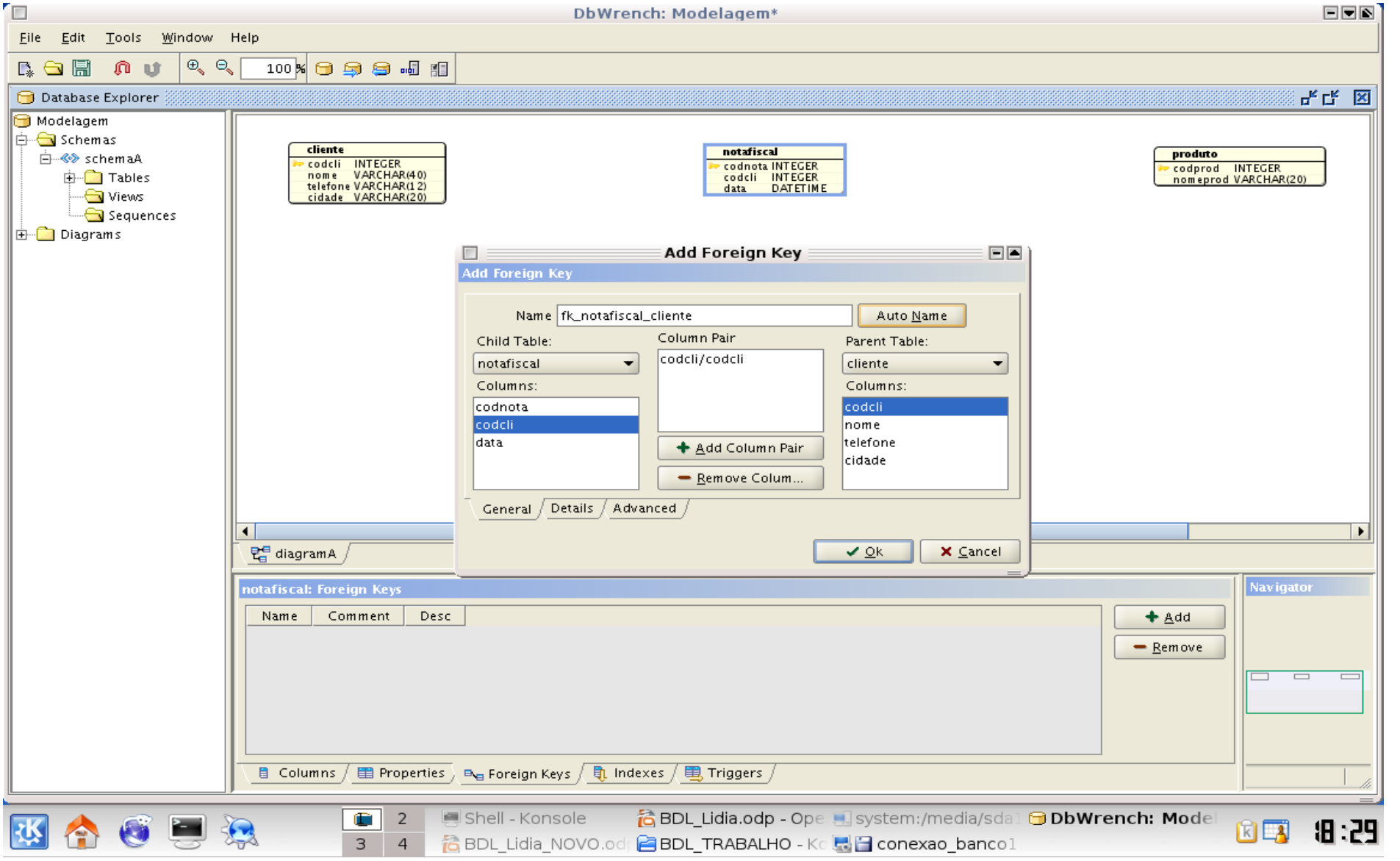
DbWrench – Create Table



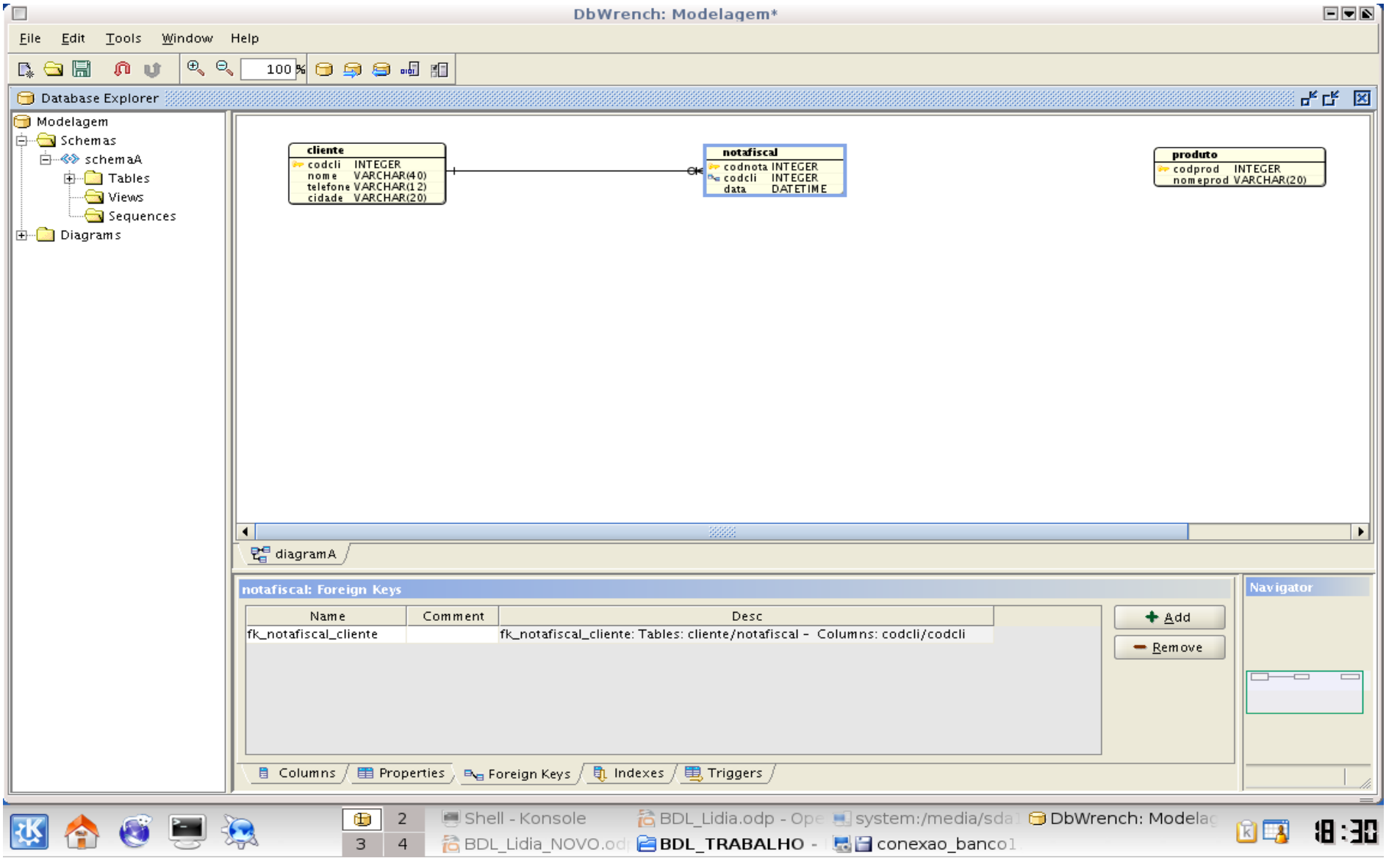
DbWrench – Add Column



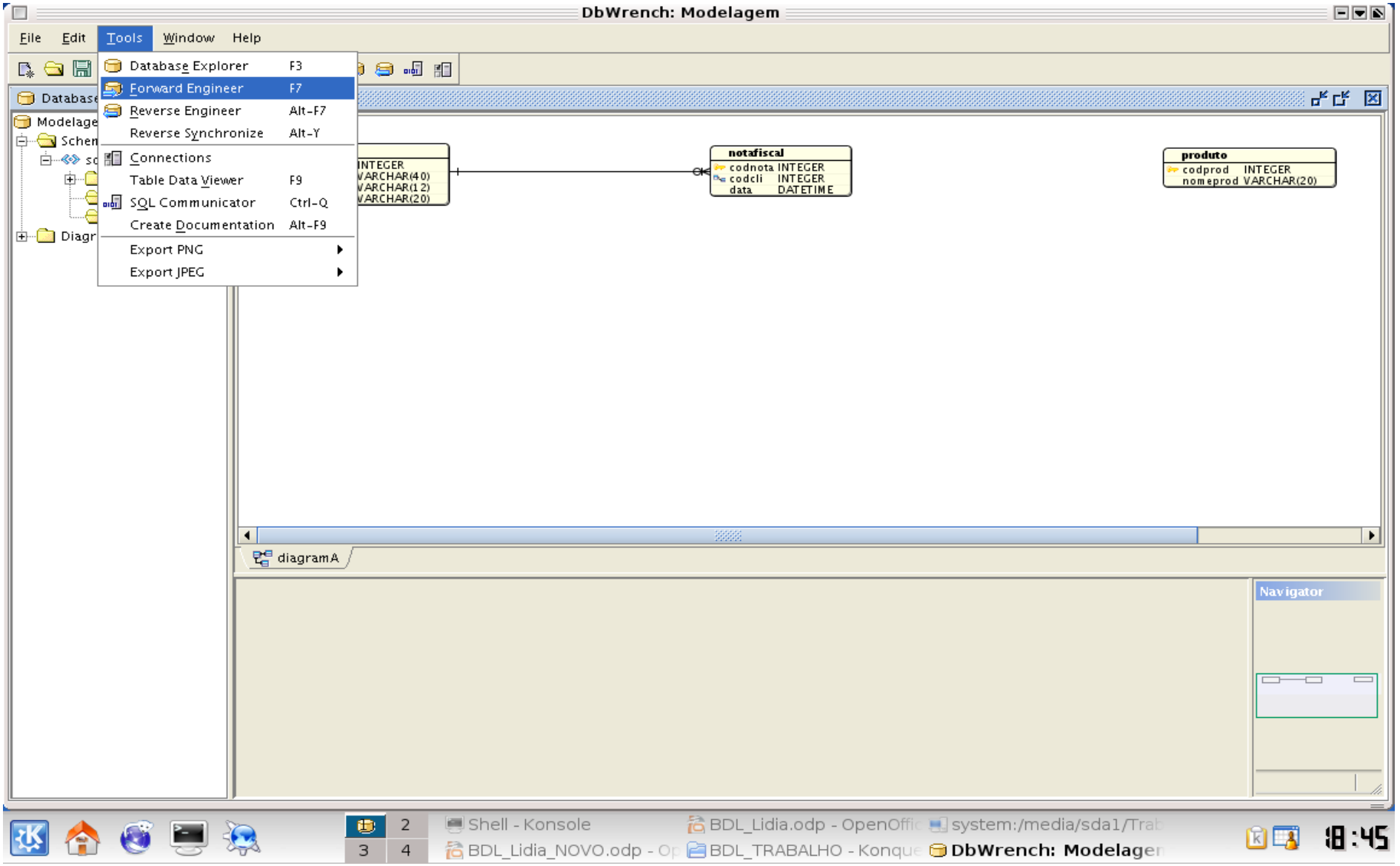
DbWrench – Add Foreign Key



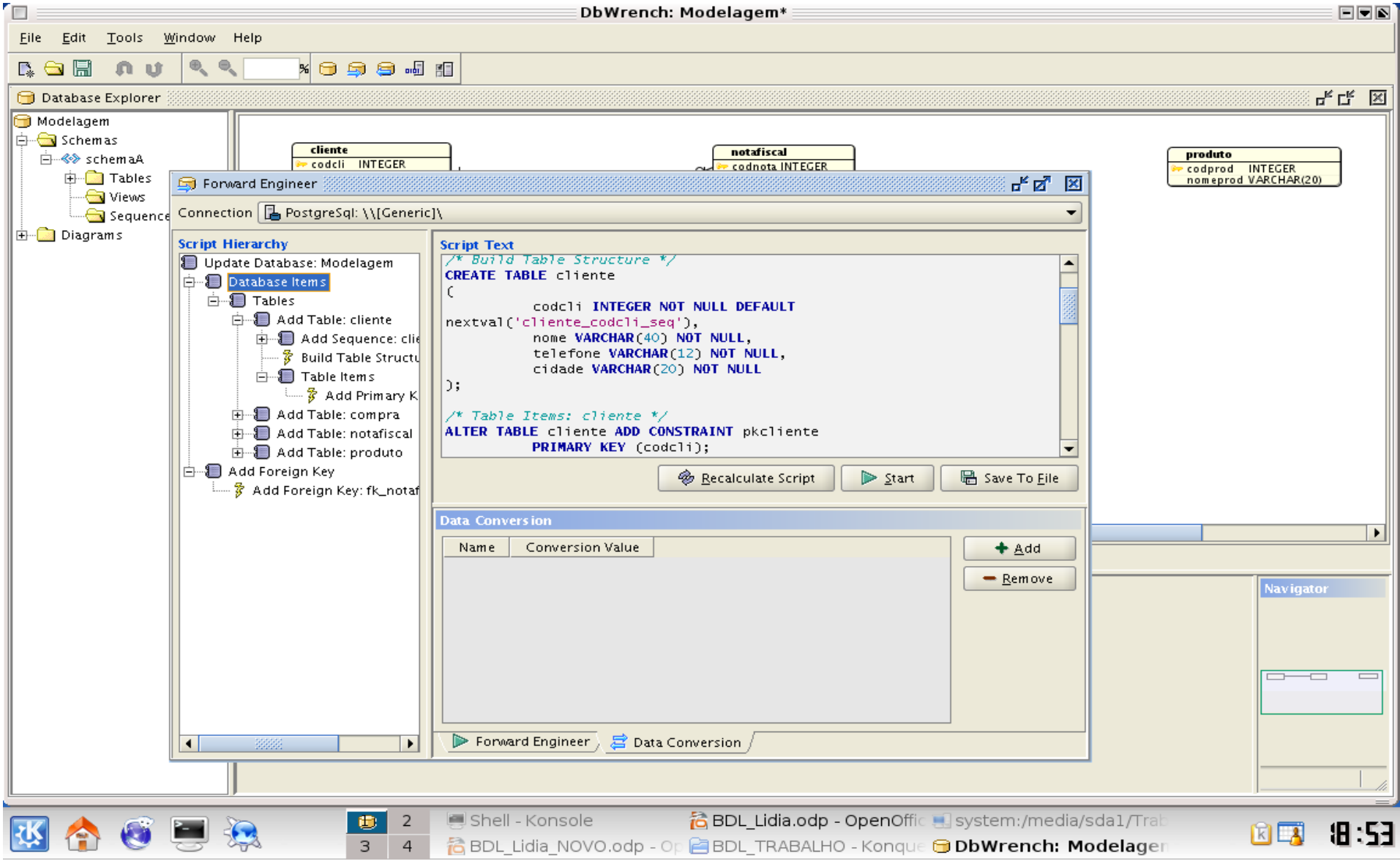
DbWrench – Foreign Key



DbWrench – Forward Engineer



DbWrench – Forward Engineer



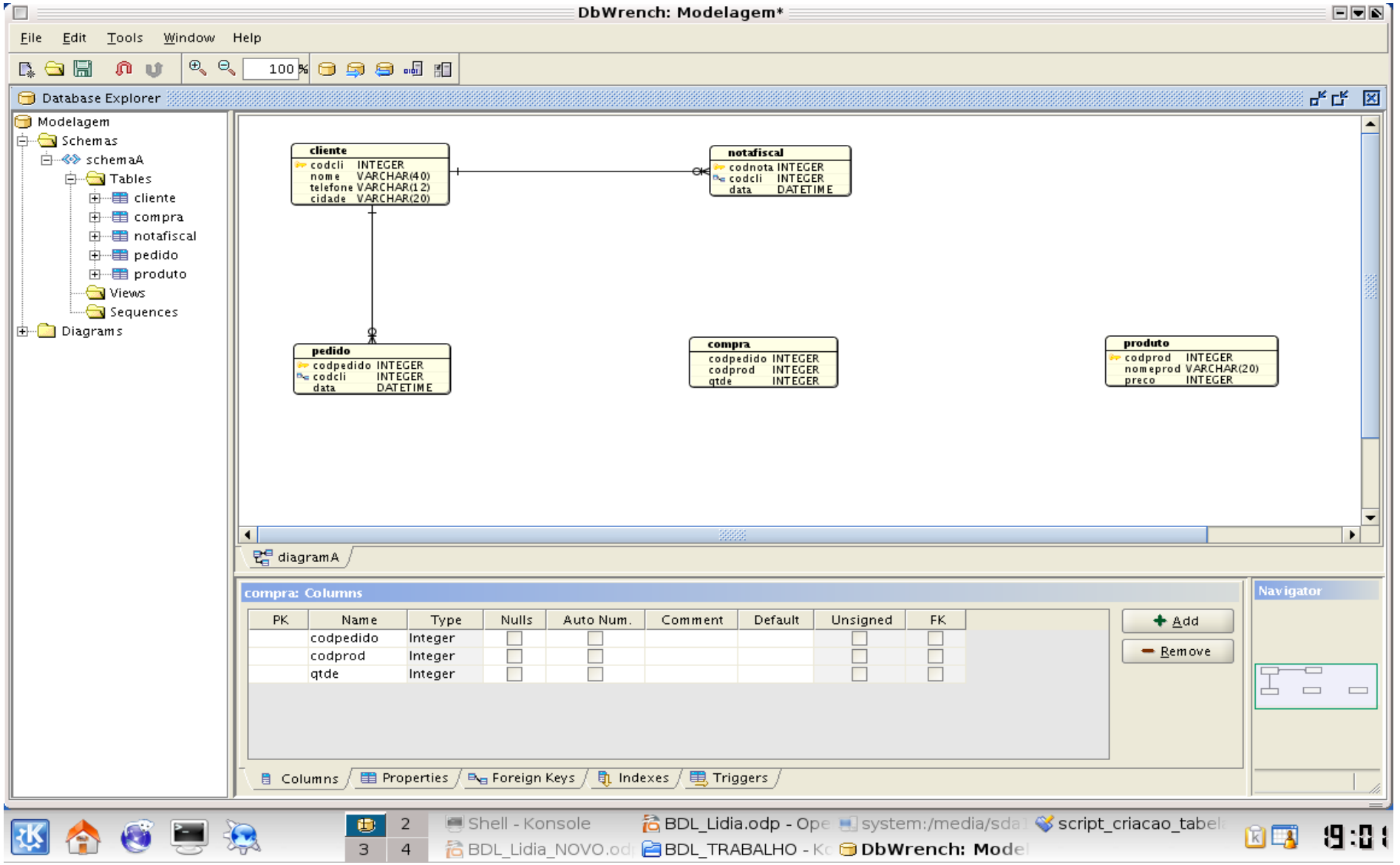
DbWrench – Script - Forward Engineer

script_criacao_tabela - KWrite

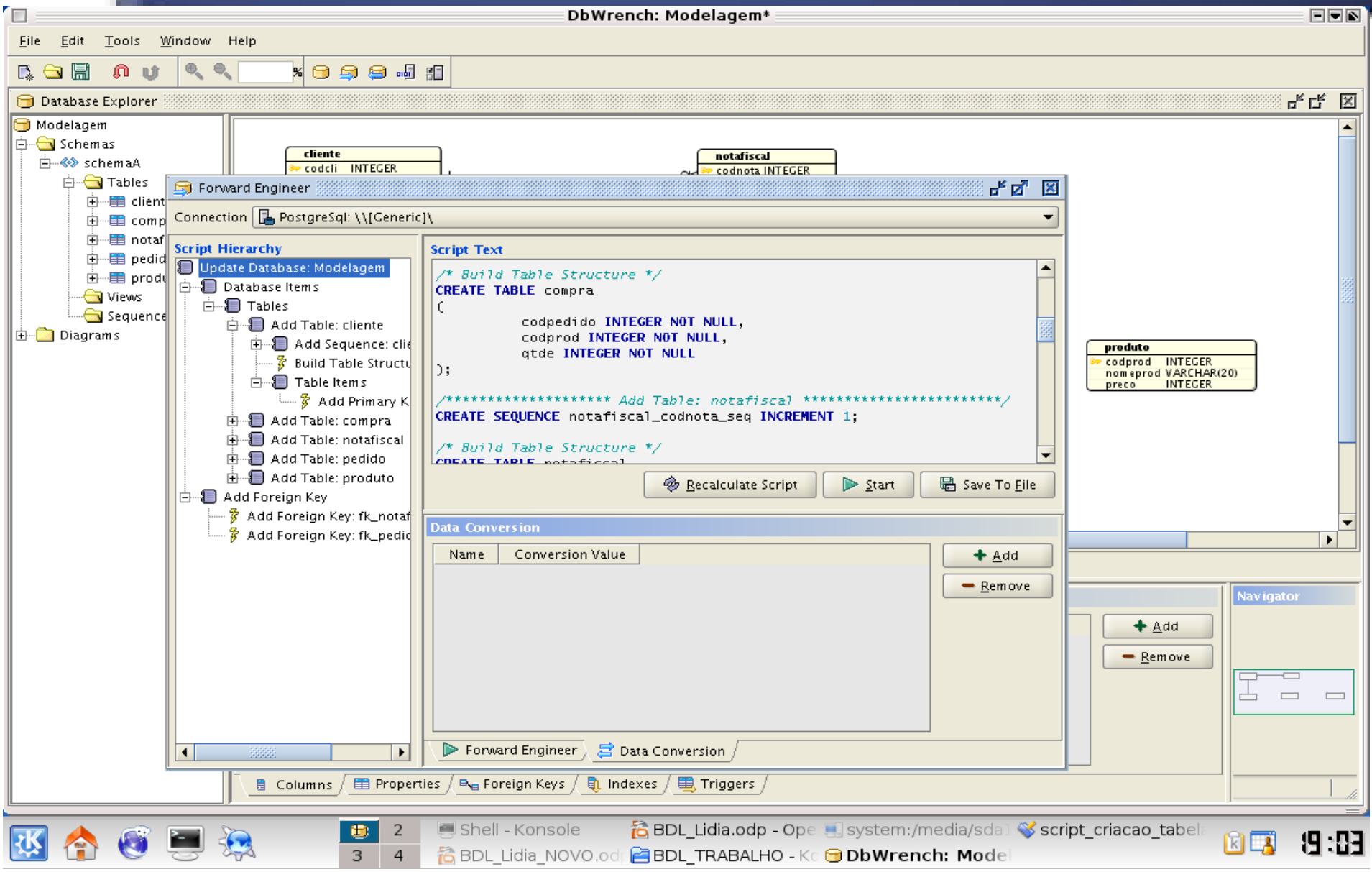
File Edit View Bookmarks Tools Settings Help

```
/************* Update: Tables ****************/

/********************* Add Table: cliente *************************/
CREATE SEQUENCE cliente_codcli_seq INCREMENT 1;

/* Build Table Structure */
CREATE TABLE cliente
(
.       codcli INTEGER NOT NULL DEFAULT nextval('cliente_codcli_seq'),
.       nome VARCHAR(40) NOT NULL,
.       telefone VARCHAR(12) NOT NULL,
.       cidade VARCHAR(20) NOT NULL
);

/* Table Items: cliente */
ALTER TABLE cliente ADD CONSTRAINT pkcliente
.       PRIMARY KEY (codcli);

/********************* Add Table: compra *************************/

/* Build Table Structure */
CREATE TABLE compra
(
.       codcli INTEGER NOT NULL,
.       codprod INTEGER NOT NULL
);

/********************* Add Table: notafiscal *************************/
CREATE SEQUENCE notafiscal_codnota_seq INCREMENT 1;

/* Build Table Structure */
CREATE TABLE notafiscal
(
.       codnota INTEGER NOT NULL DEFAULT nextval('notafiscal_codnota_seq'),
.       codcli INTEGER NOT NULL,
.       data TIMESTAMP NOT NULL
);
```

DbWrench – Alterando Banco



DbWrench – Alterando Forward Engineer



DbWrench – Executando Script

Shell - Konsole

Session Edit View Bookmarks Settings Help

```
bin/            etc/            initrd.img.old  mnt/            root/           tmp/            vmlinuz.old
boot/           home/           lib/            opt/            sbin/           usr/
cdrom/          initrd/         lost+found/     pos/            srv/            var/
modelagem=# \i /BDL_TRABALHO/
adicionando_chave_estrangeira.png  database_explorer.png            new_database_modelagem
adicionando_colunas.png            empty_diagram.png                nome_new_database.png
alteracao_banco.png                forward_engineer1.png            refazendo_script.png
antes_chave_estrangeira2.png       forward_engineer2.png            script_alteracao
apos_chave_estrangeira1.png        forward_engineer3.png            script_alteracao_banco.png
BDL_Lidia_NOVO.odp                 forward_engineer.png             script_alteracao.png
criando_chave_estrangeira.png      Modelagem.xml                    script_arquivo.png
database_explorer2.png             new_database                     script_criacao_tabela
modelagem=# \i /BDL_TRABALHO/script_criacao_tabela
CREATE SEQUENCE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:17: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkcliente" na tabela "cliente"
ALTER TABLE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:31: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkcompra" na tabela "compra"
ALTER TABLE
CREATE SEQUENCE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:46: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pknotafiscal" na tabela "notafis
cal"
ALTER TABLE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:60: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkpedido" na tabela "pedido"
ALTER TABLE
CREATE SEQUENCE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:75: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkproduto" na tabela "produto"
ALTER TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
modelagem=#
```

Shell

2 3 4 Shell - Konsole BDL_Lidia.odp - OpenOffi system:/media/sda1/Trab BDL_Lidia_NOVO.odp - Op BDL_TRABALHO - Konque 19:08

DbWrench – Tabelas criadas pelo Script

Shell - Konsole

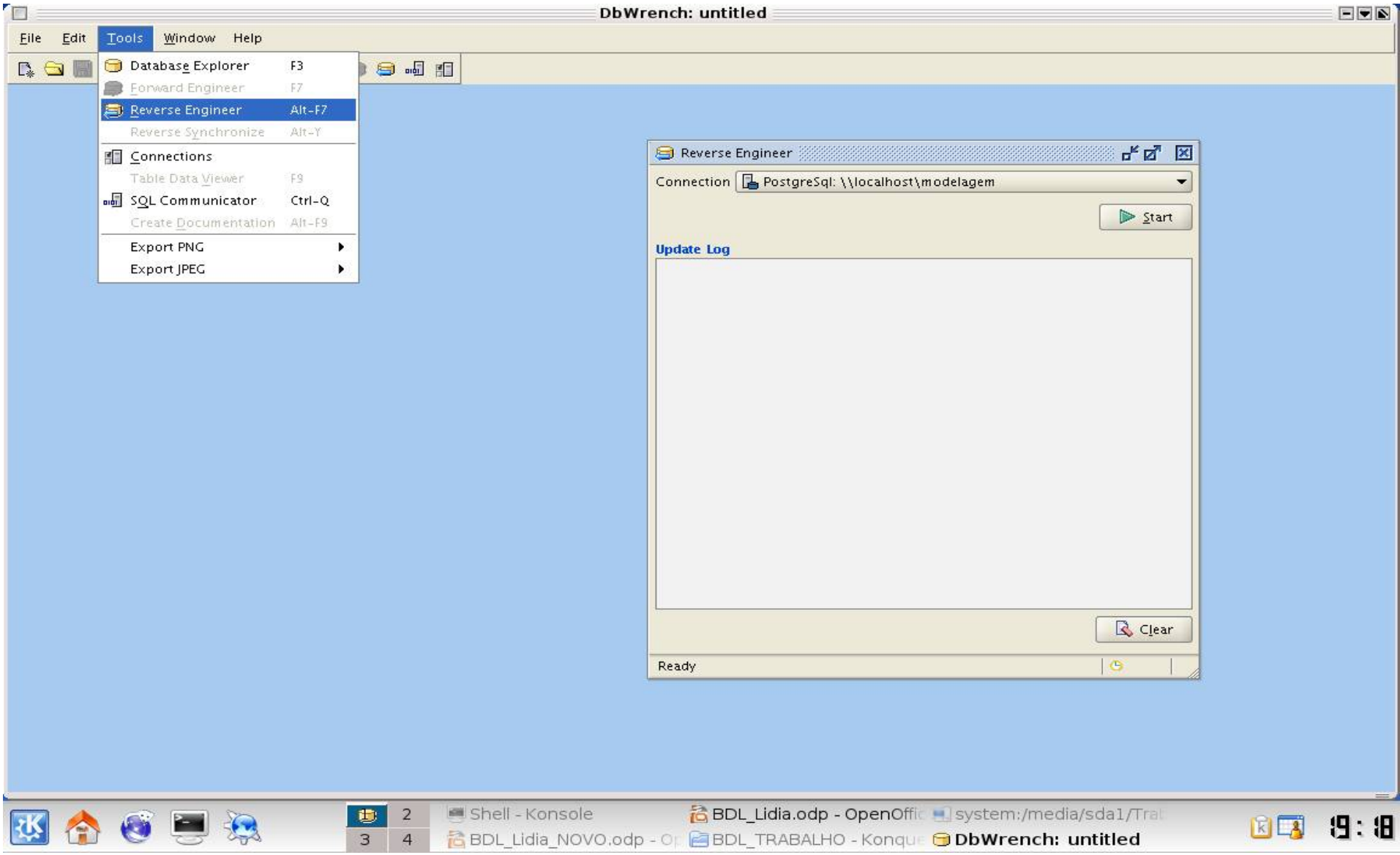
Session Edit View Bookmarks Settings Help

```
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:17: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkcliente" na tabela "cliente"
ALTER TABLE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:31: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkcompra" na tabela "compra"
ALTER TABLE
CREATE SEQUENCE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:46: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pknotafiscal" na tabela "notafis
cal"
ALTER TABLE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:60: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkpedido" na tabela "pedido"
ALTER TABLE
CREATE SEQUENCE
CREATE TABLE
psql:/BDL_TRABALHO/script_criacao_tabela:75: NOTA:  ALTER TABLE / ADD PRIMARY KEY criará índice implícito "pkproduto" na tabela "produto"
ALTER TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
ALTER TABLE
modelagem=# \d
                  Lista de relações
 Esquema |          Nome          |   Tipo    |   Dono
---------+------------------------+-----------+----------
 public  | cliente                | tabela    | postgres
 public  | cliente_codcli_seq     | sequência | postgres
 public  | compra                 | tabela    | postgres
 public  | notafiscal             | tabela    | postgres
 public  | notafiscal_codnota_seq | sequência | postgres
 public  | pedido                 | tabela    | postgres
 public  | produto                | tabela    | postgres
 public  | produto_codprod_seq    | sequência | postgres
(8 registros)

modelagem=#
```

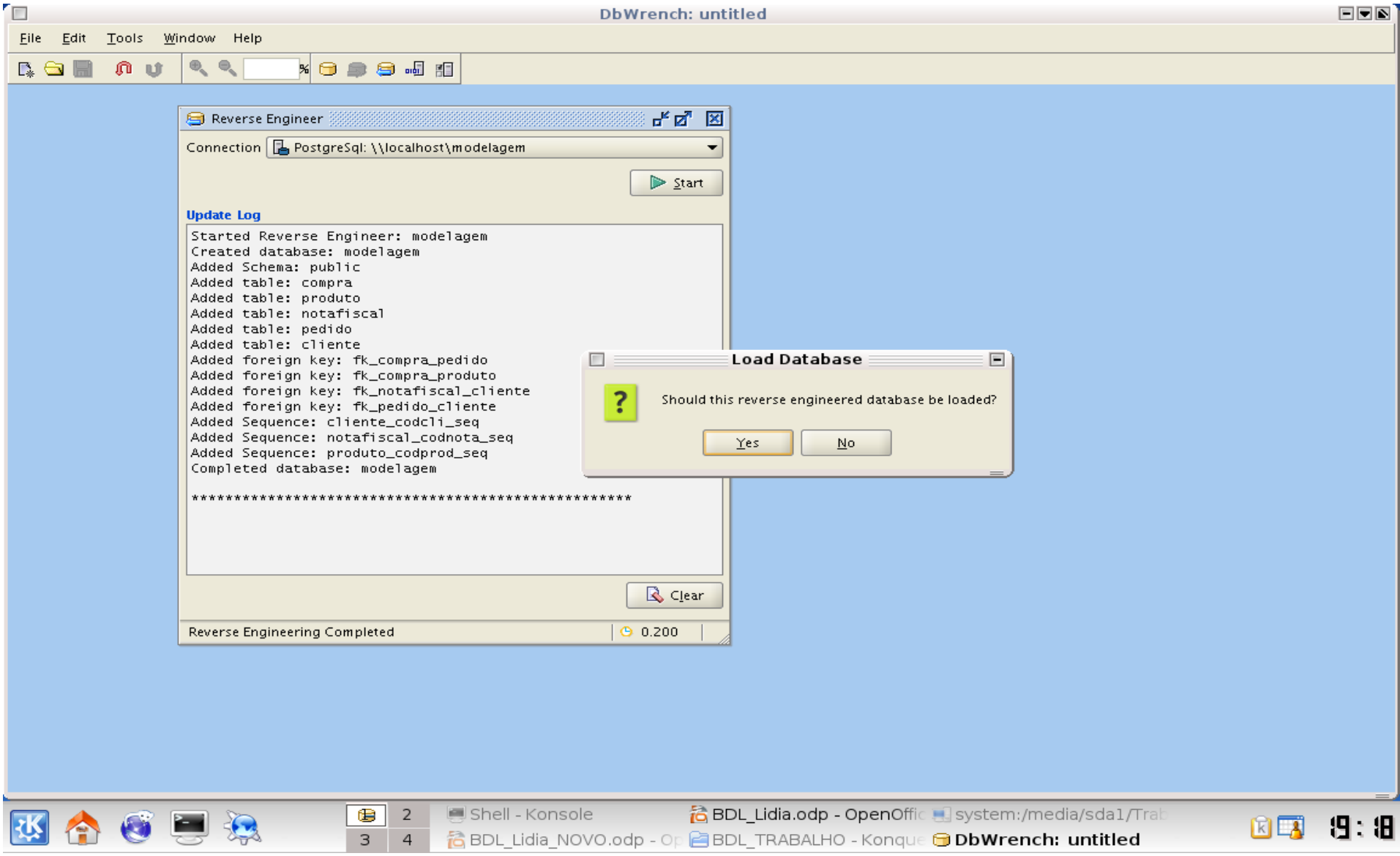
Shell

2 3 4 Shell - Konsole BDL_Lidia.odp - OpenOffi system:/media/sda1/Trab BDL_Lidia_NOVO.odp - Op BDL_TRABALHO - Konque 19:09

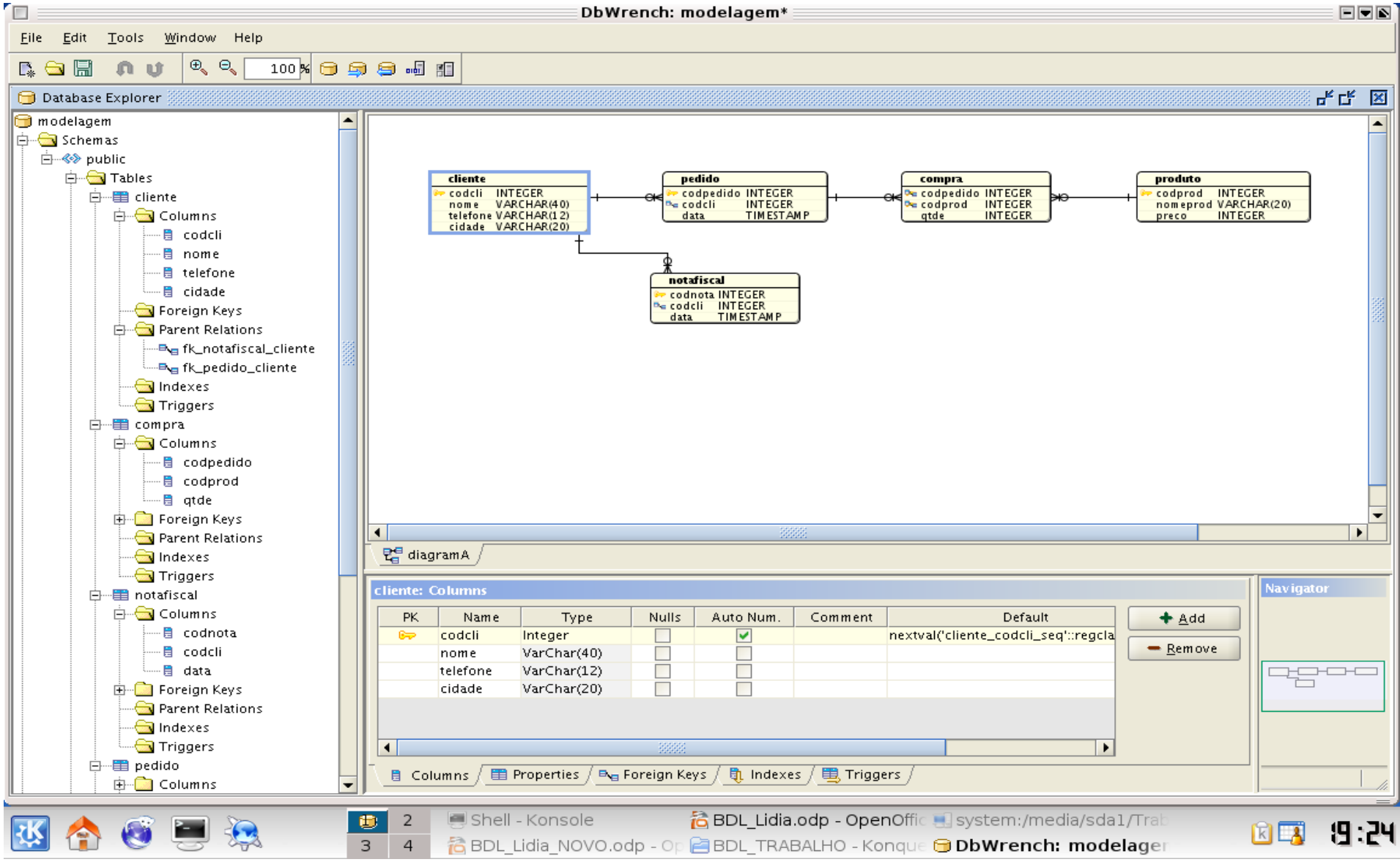
DbWrench – Reverse Engineer



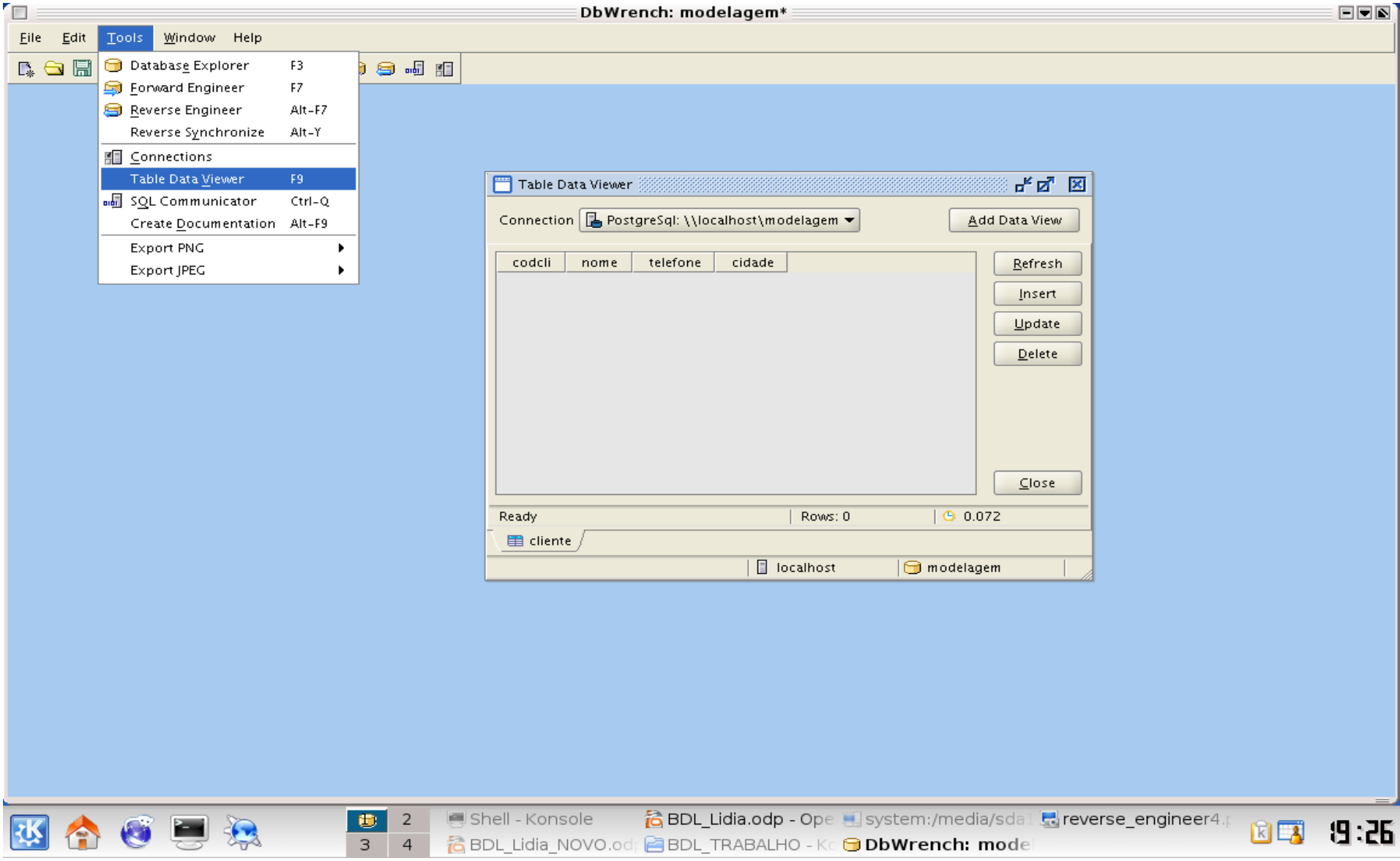
DbWrench – Reverse Engineer



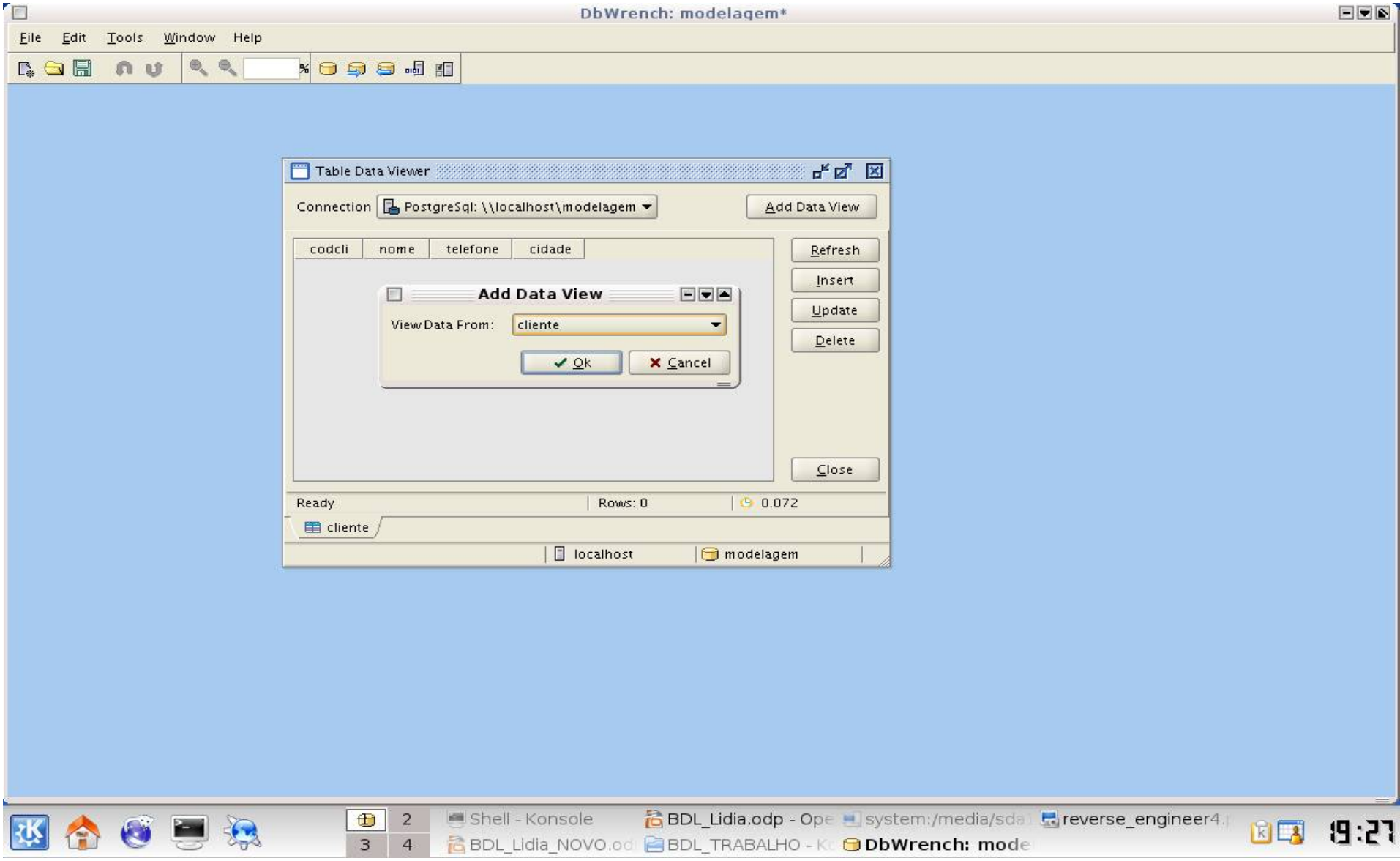
DbWrench – Diagrama - Reverse Engineer



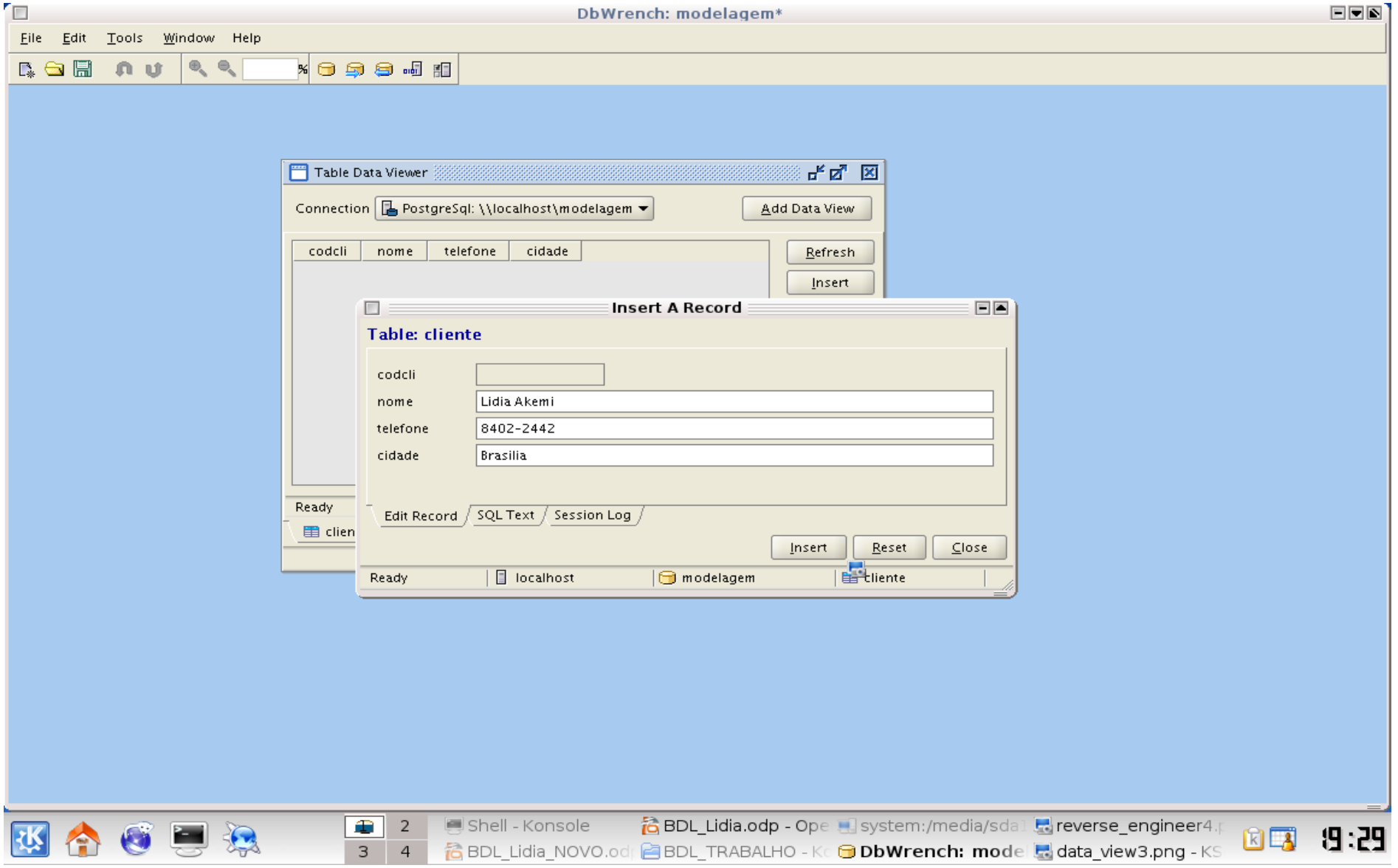
DbWrench – Table Data View



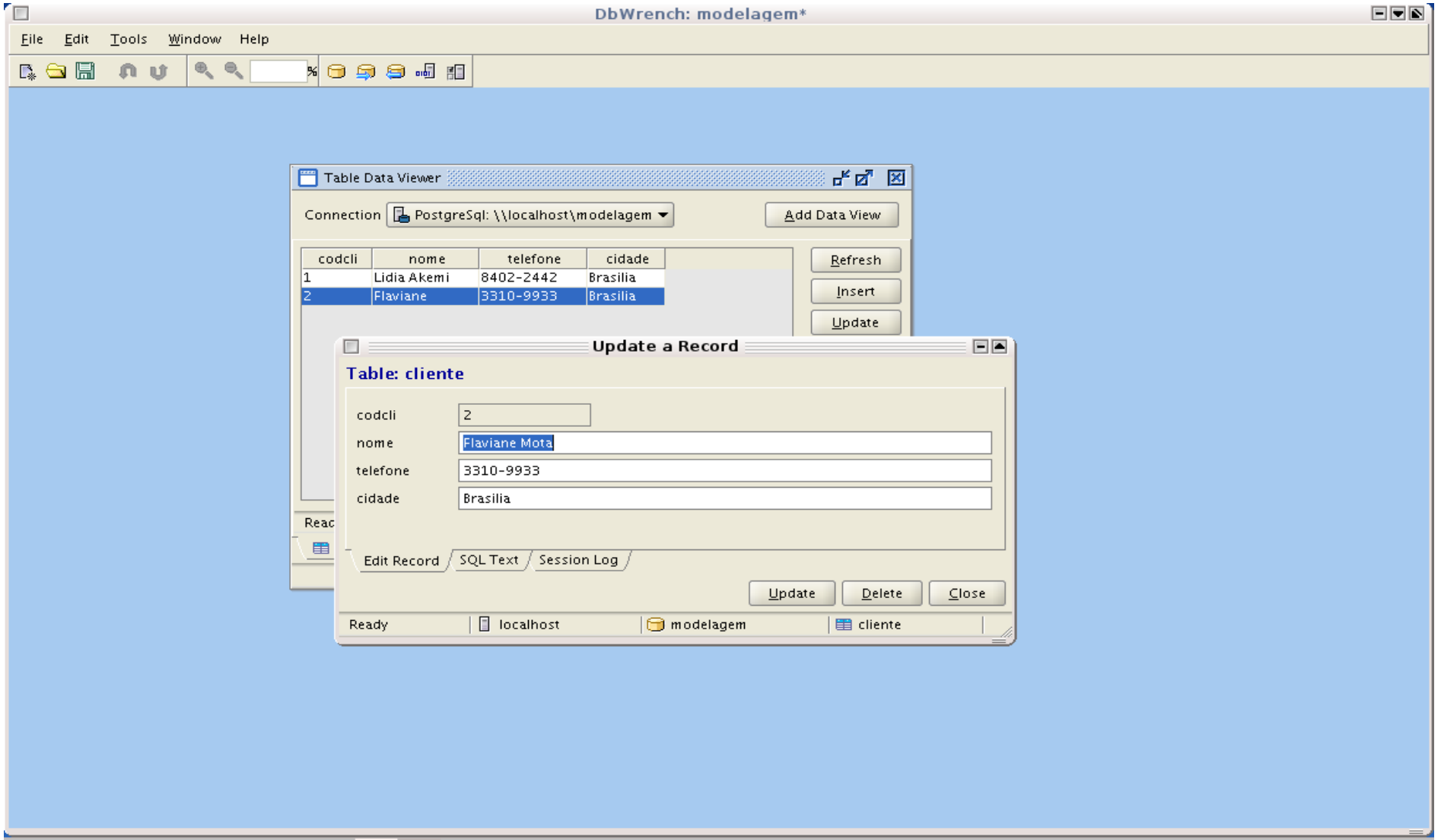
DbWrench – Table Data View



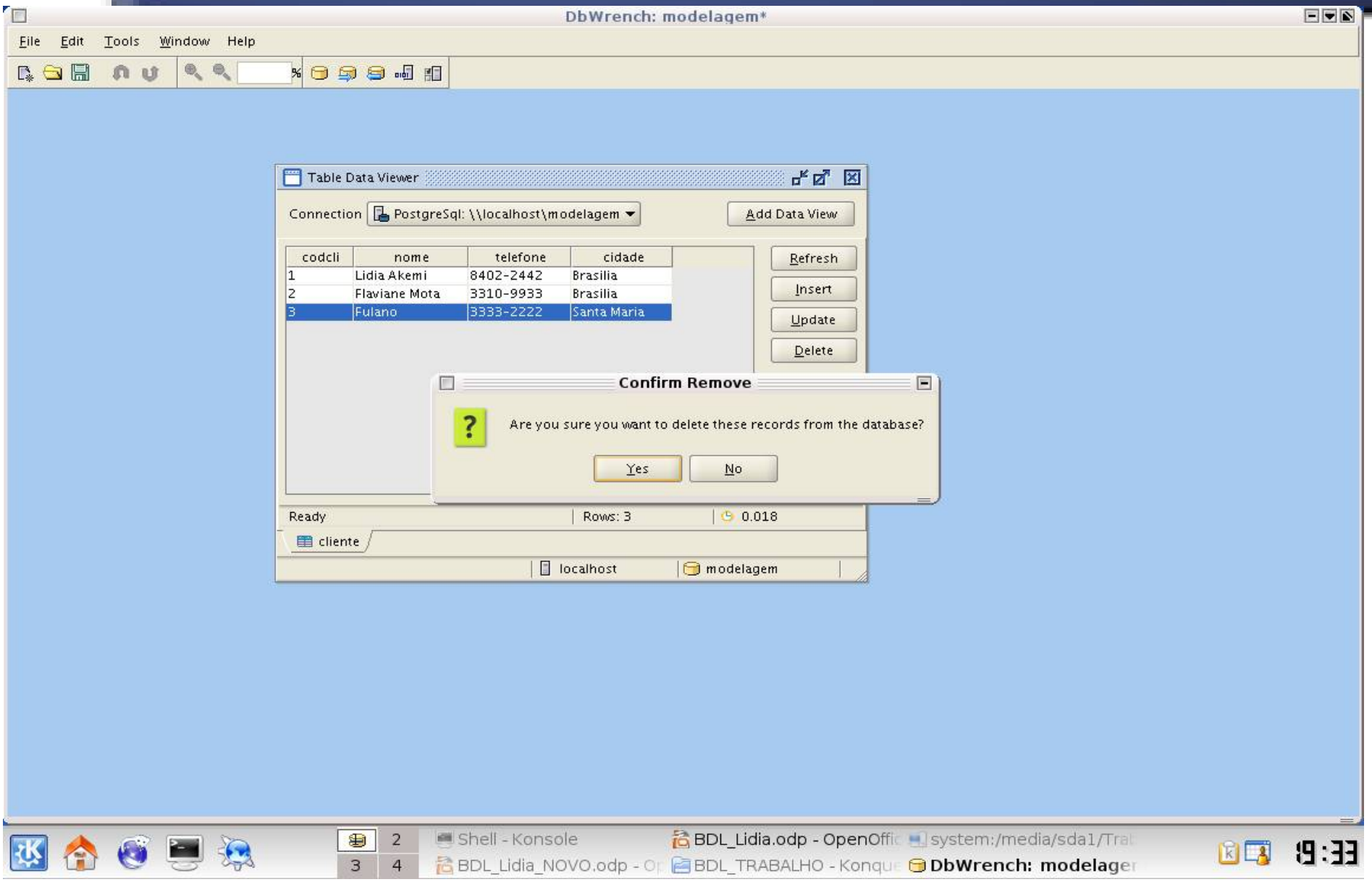
DbWrench – Table Data View - INSERT



DbWrench – Table Data View - UPDATE



DbWrench – Table Data View - DELETE



DbWrench – Table Data View

Shell - Konsole

Session Edit View Bookmarks Settings Help

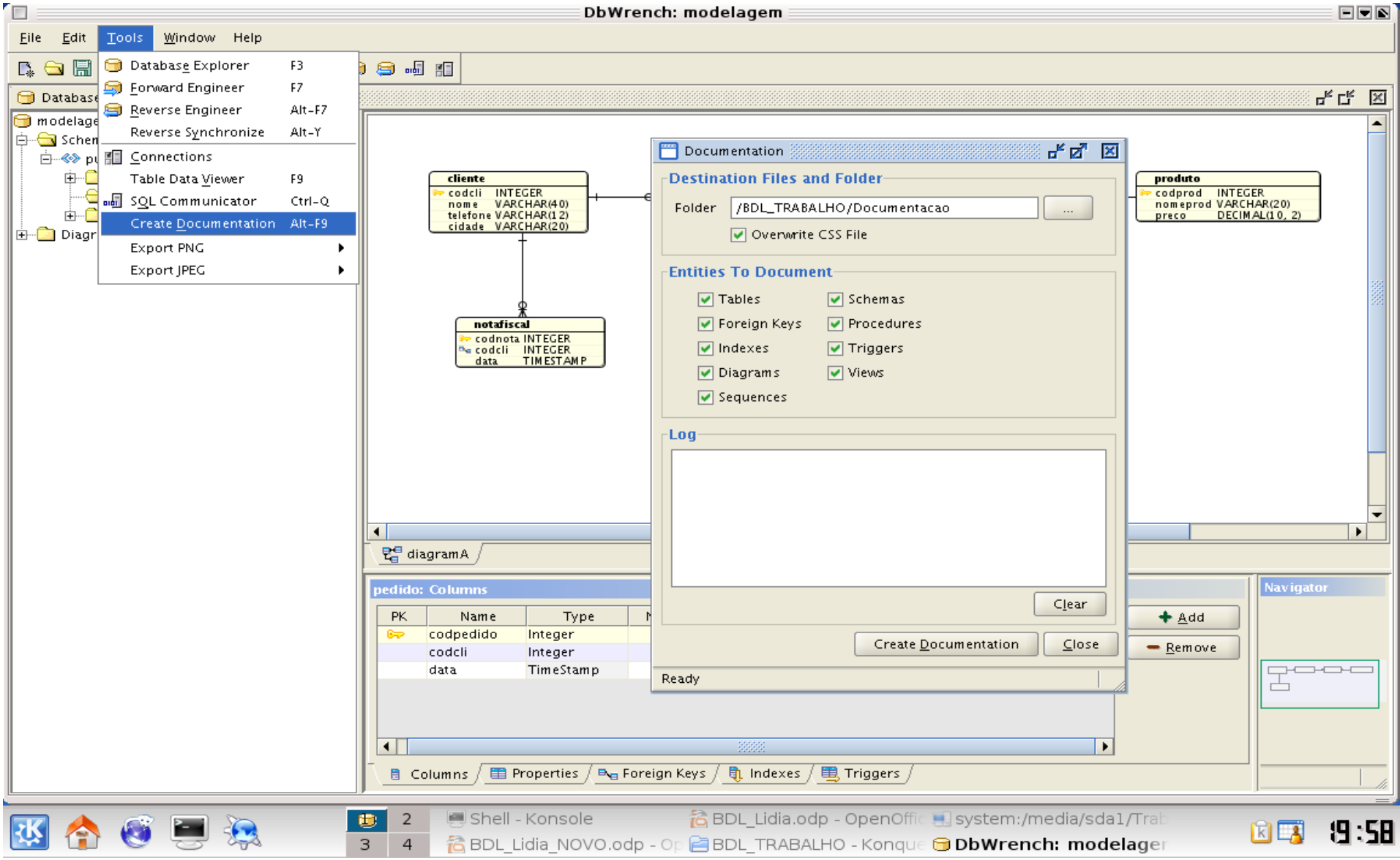
```
 public  | notafiscal_codnota_seq | sequência | postgres
 public  | pedido                 | tabela    | postgres
 public  | produto                | tabela    | postgres
 public  | produto_codprod_seq    | sequência | postgres
(8 registros)

modelagem=# \d
                 Lista de relações
 Esquema |          Nome          |   Tipo    |   Dono
---------+------------------------+-----------+----------
 public  | cliente                | tabela    | postgres
 public  | cliente_codcli_seq     | sequência | postgres
 public  | compra                 | tabela    | postgres
 public  | notafiscal             | tabela    | postgres
 public  | notafiscal_codnota_seq | sequência | postgres
 public  | pedido                 | tabela    | postgres
 public  | produto                | tabela    | postgres
 public  | produto_codprod_seq    | sequência | postgres
(8 registros)

modelagem=# select * from cliente;
 codcli |     nome      | telefone  |  cidade
--------+---------------+-----------+----------
      1 | Lidia Akemi   | 8402-2442 | Brasilia
      2 | Flaviane Mota | 3310-9933 | Brasilia
(2 registros)

modelagem=# select * from cliente;
 codcli |     nome      | telefone  |  cidade
--------+---------------+-----------+----------
      1 | Lidia Akemi   | 8402-2442 | Brasilia
      2 | Flaviane Mota | 3310-9933 | Brasilia
      4 | Marcos        | 3322-2233 | Brasilia
      5 | Thiago        | 4433-2255 | Unai
(4 registros)

modelagem=#
```

Shell

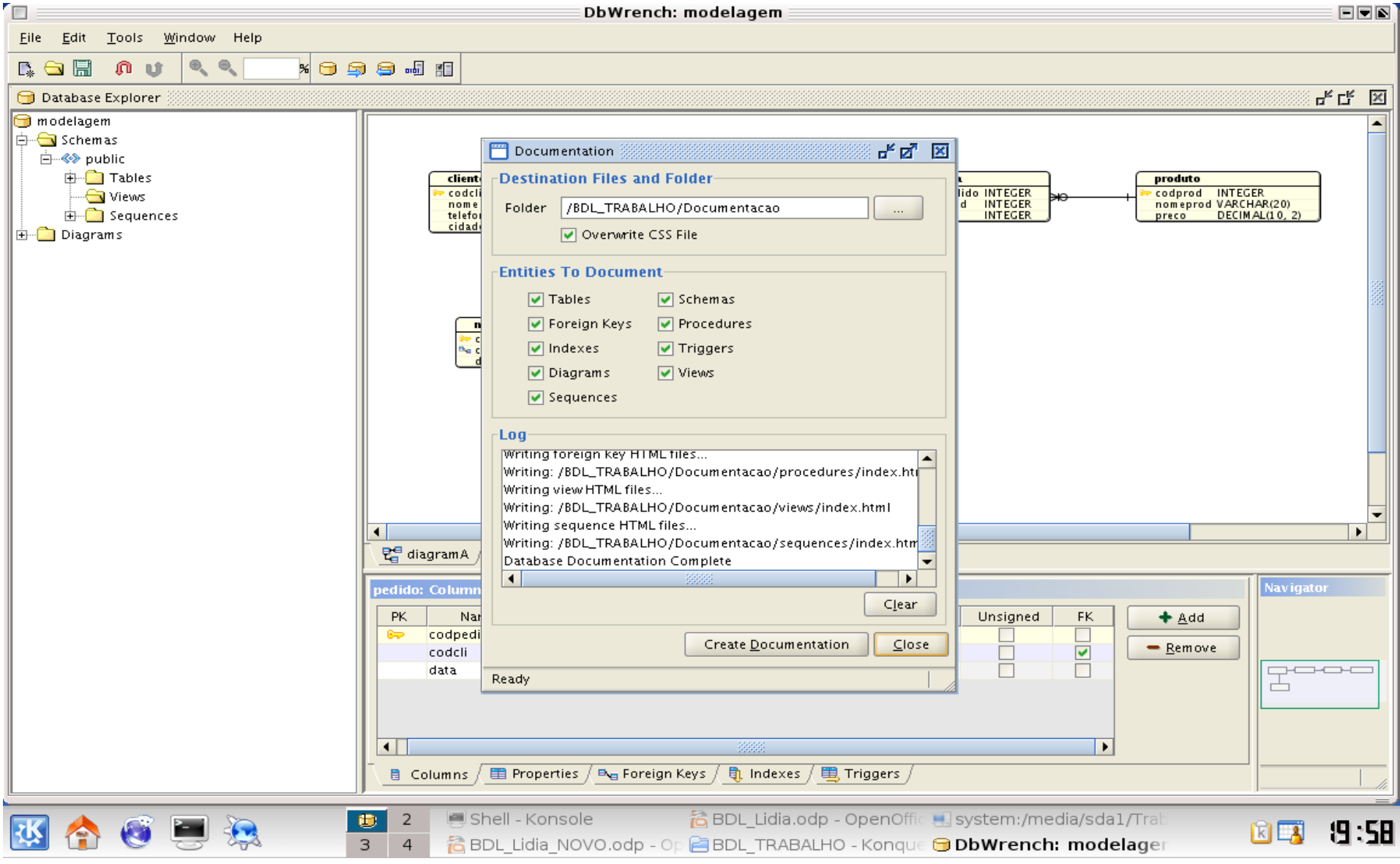
Shell - Konsole | BDL_Lidia.odp - OpenOffi | system:/media/sda1/Trat | BDL_Lidia_NOVO.odp - Op | BDL_TRABALHO - Konque | DbWrench: modelagem

19:49

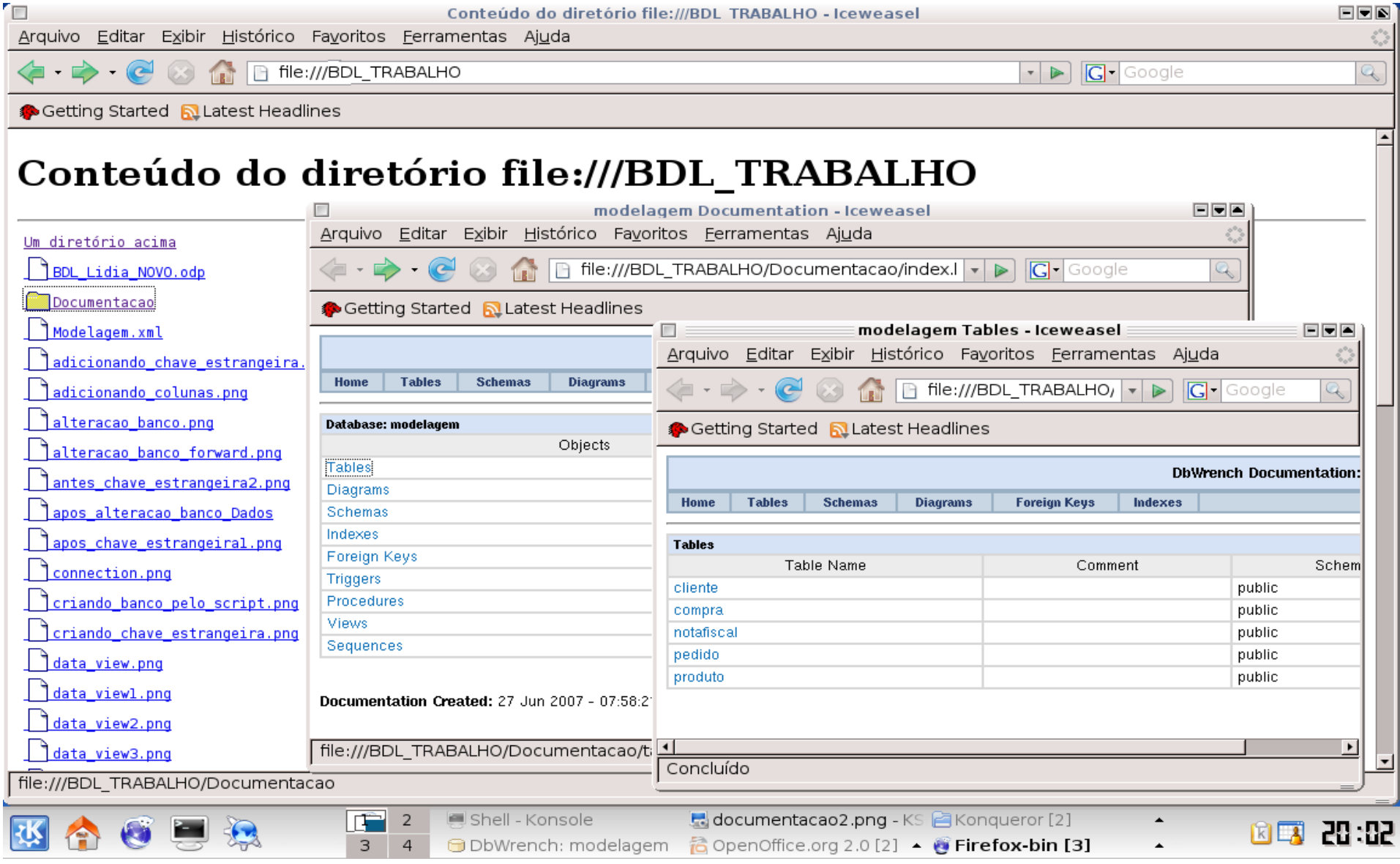
DbWrench – Documentation



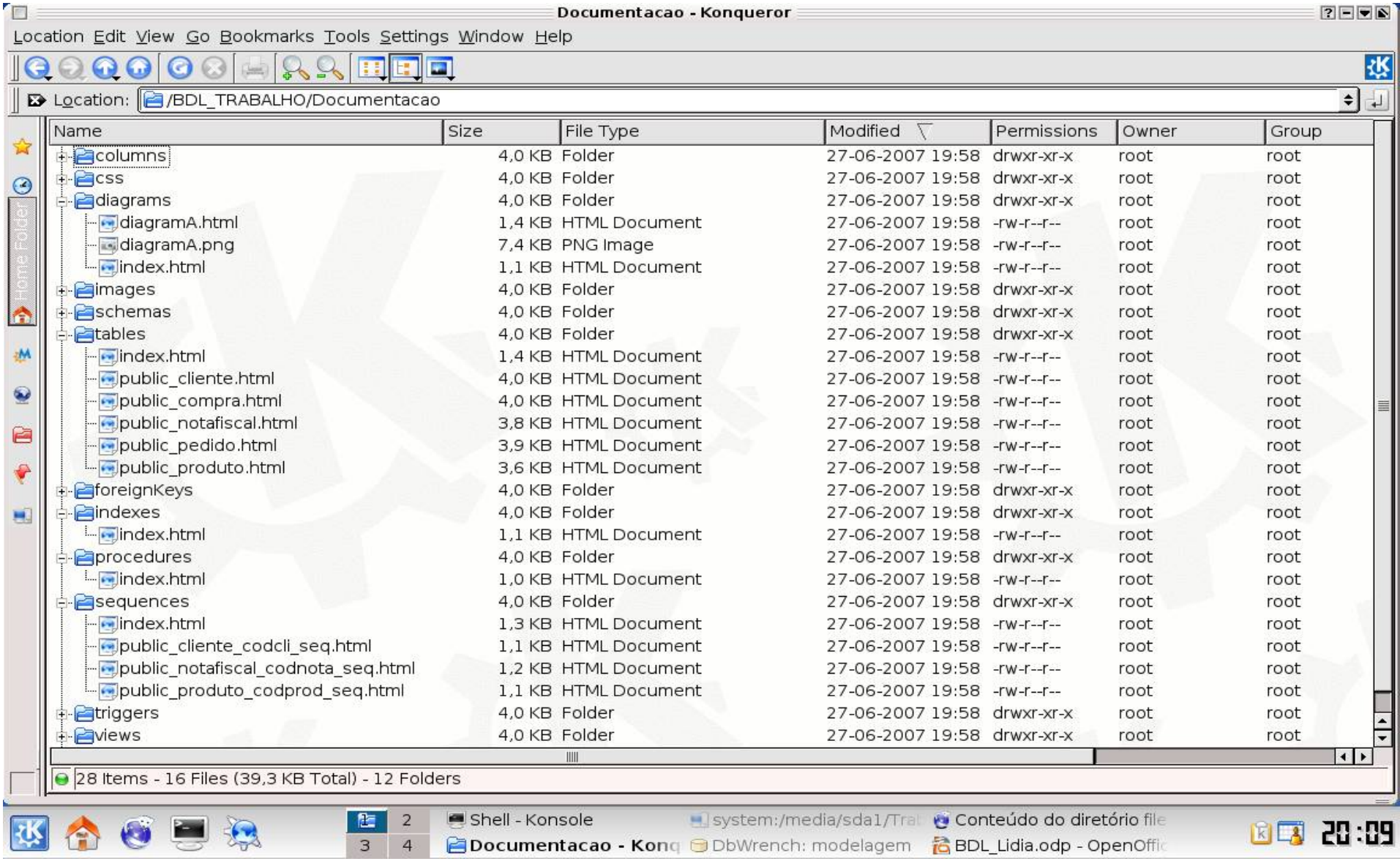
DbWrench – Documentation



DbWrench – Documentation



DbWrench – Documentation - Arquivos



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columns	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
css	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
diagrams	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
diagramA.html	1,4 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
diagramA.png	7,4 KB	PNG Image	27-06-2007 19:58	-rw-r--r--	root	root
index.html	1,1 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
images	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
schemas	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
tables	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
index.html	1,4 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_cliente.html	4,0 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_compra.html	4,0 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_notafiscal.html	3,8 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_pedido.html	3,9 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_produto.html	3,6 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
foreignKeys	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
indexes	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
index.html	1,1 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
procedures	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
index.html	1,0 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
sequences	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
index.html	1,3 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_cliente_codcli_seq.html	1,1 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_notafiscal_codnota_seq.html	1,2 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
public_produto_codprod_seq.html	1,1 KB	HTML Document	27-06-2007 19:58	-rw-r--r--	root	root
triggers	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root
views	4,0 KB	Folder	27-06-2007 19:58	drwxr-xr-x	root	root

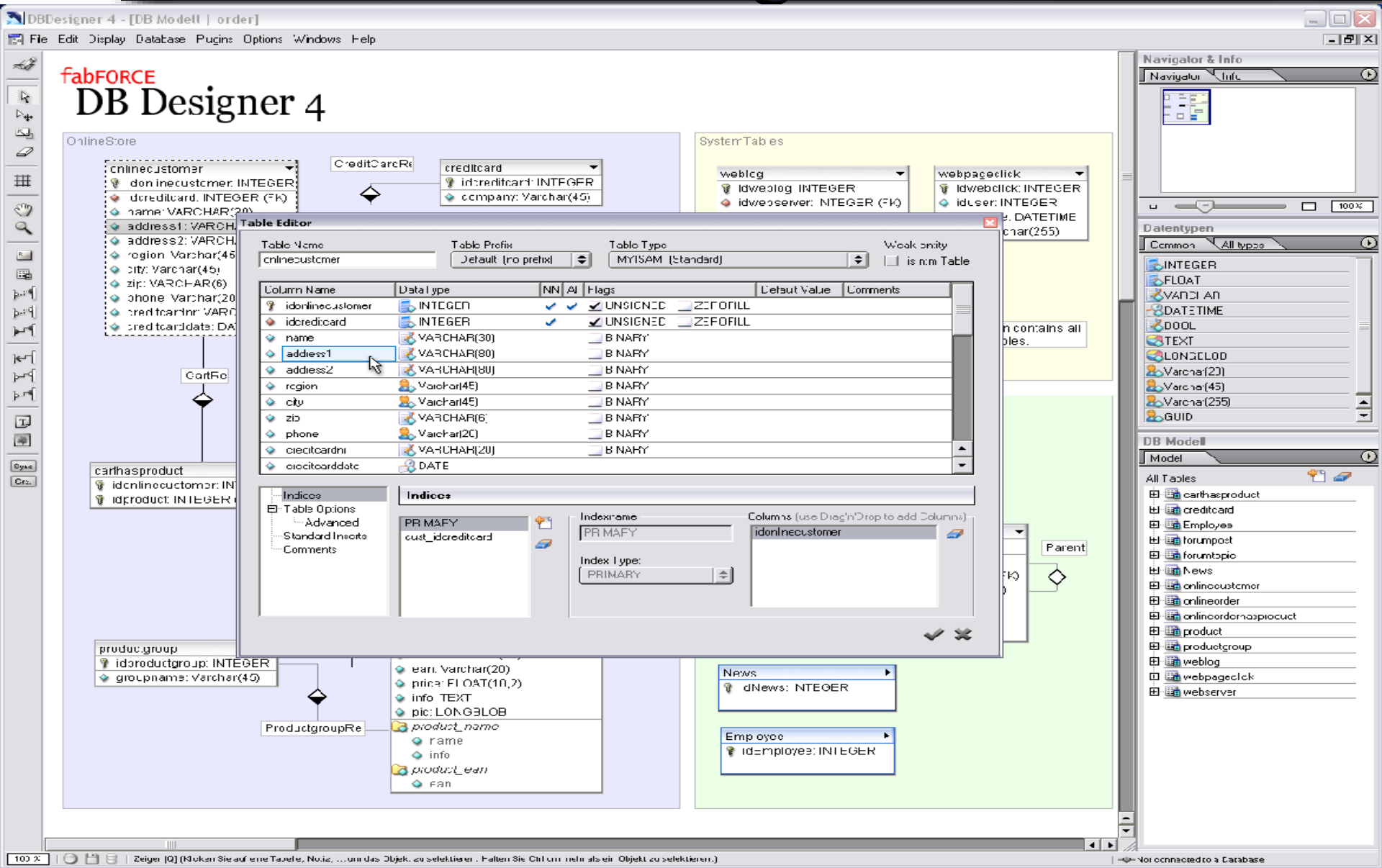
DBDesigner

- fabFORCE - Fabulous Force DataBase tools
- Michael G. Zinner

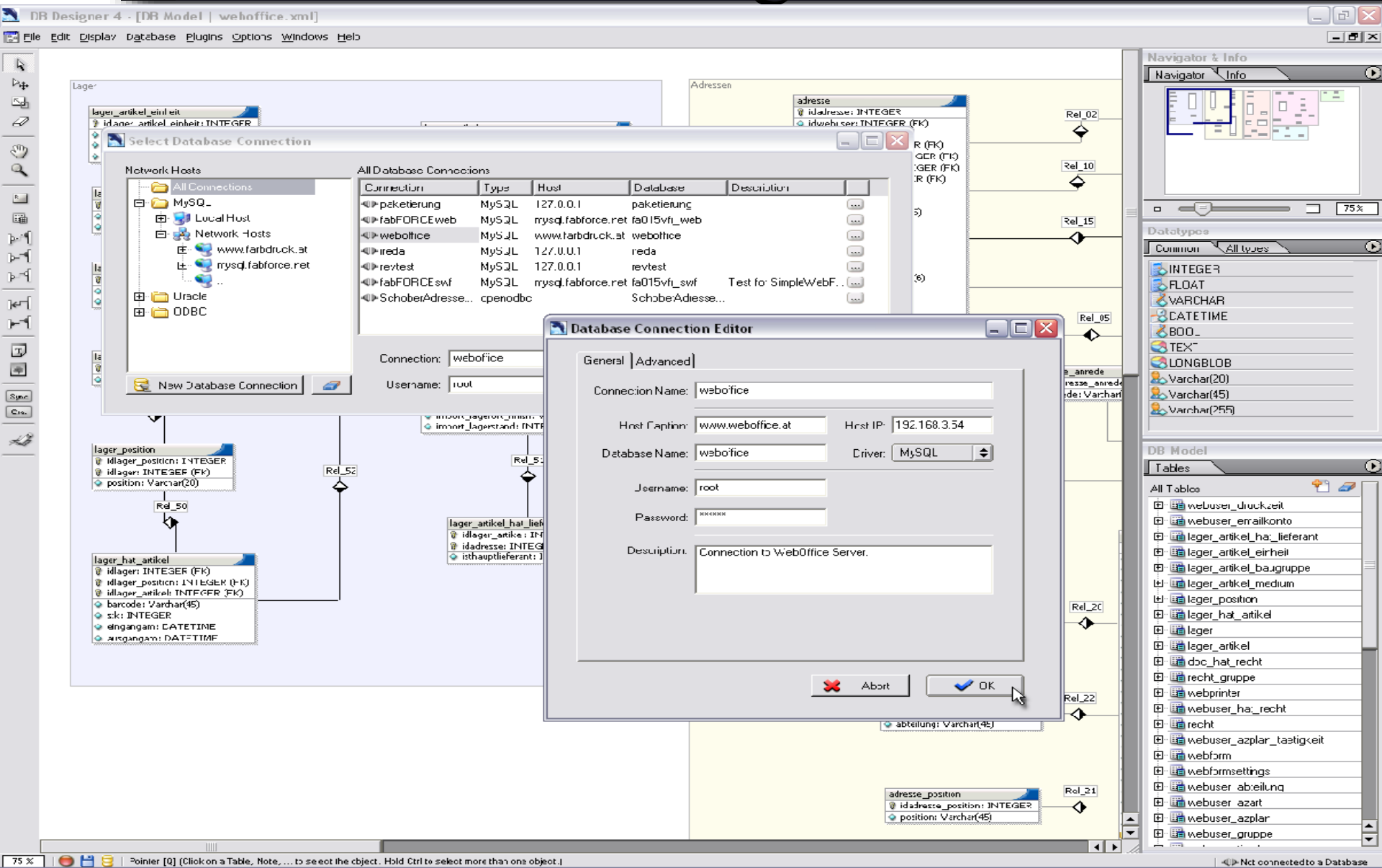
DBDesigner

- GNU/GPL
- DBDesigner 4 é um sistema visual de projeto de base de dados que integra projeto de base de dados, modela, criação e manutenção num ambiente único.
- Combina características profissionais e um interface clara e simples de operador.
- Oferecer o meio bem eficiente manipular suas bases de dados.
- DBDesigner 4 é desenvolvido e é optimizado para a MySQL-Base de dados open source para apoiar operadores de MySQL com um poderoso e ferramenta disponível livre de projeto.
- Versão - DBDesigner 4.0.5 para Windows e Linux
- * DBDesigner2PG * - programa desenvolvido em shellscript que gera scripts SQL de criação de tabelas e constraints, para o banco de dados PostgreSQL usando o arquivo salvo pelo DBDesigner4 - AUTO_INCREMENT do MySQL é substituido pelo tipo SERIAL do PostgreSQL

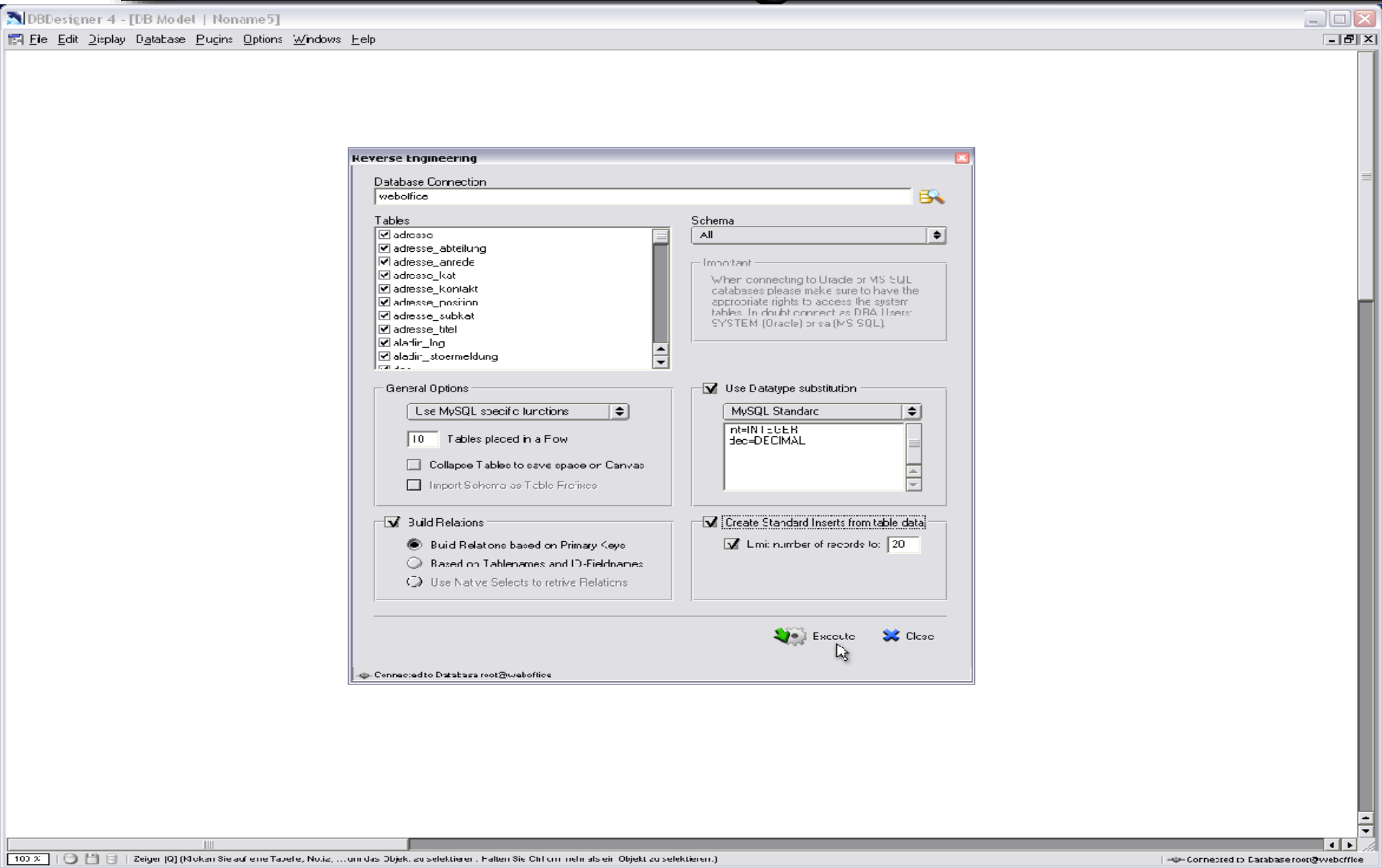
DBDesigner


DBDesigner 4 - [DB Modell | order]
File Edit Display Database Plugins Options Windows Help
fabFORCE
DB Designer 4
OnlineStore
SystemTables
Table Editor
Table Name
Table Prefix
Table Type
Weak entity
is n:m Table
Column Name
Data Type
NN
AI
Flags
Default Value
Comments
idonlinecustomer
idcreditcard
name
address1
address2
region
city
zip
phone
idcreditcardnr
creditcarddate
INTEGER
VARCHAR(30)
VARCHAR(80)
VARCHAR(45)
VARCHAR(255)
DATE
UNSIGNED
ZEROFILL
BINARY
Indices
Table Options
Advanced
Standard Inserts
Comments
PRIMARY
cust_idcreditcard
Indexname
Index Type:
Columns (use Drag'n'Drop to add Columns)
Navigator & Info
Datentypen
DB Modell
Model
All Tables
onlinecustomer
creditcard
Employee
forumpost
forumtopic
News
onlineorder
onlineordershoppingcart
product
productgroup
weblog
webpageclick
webserver

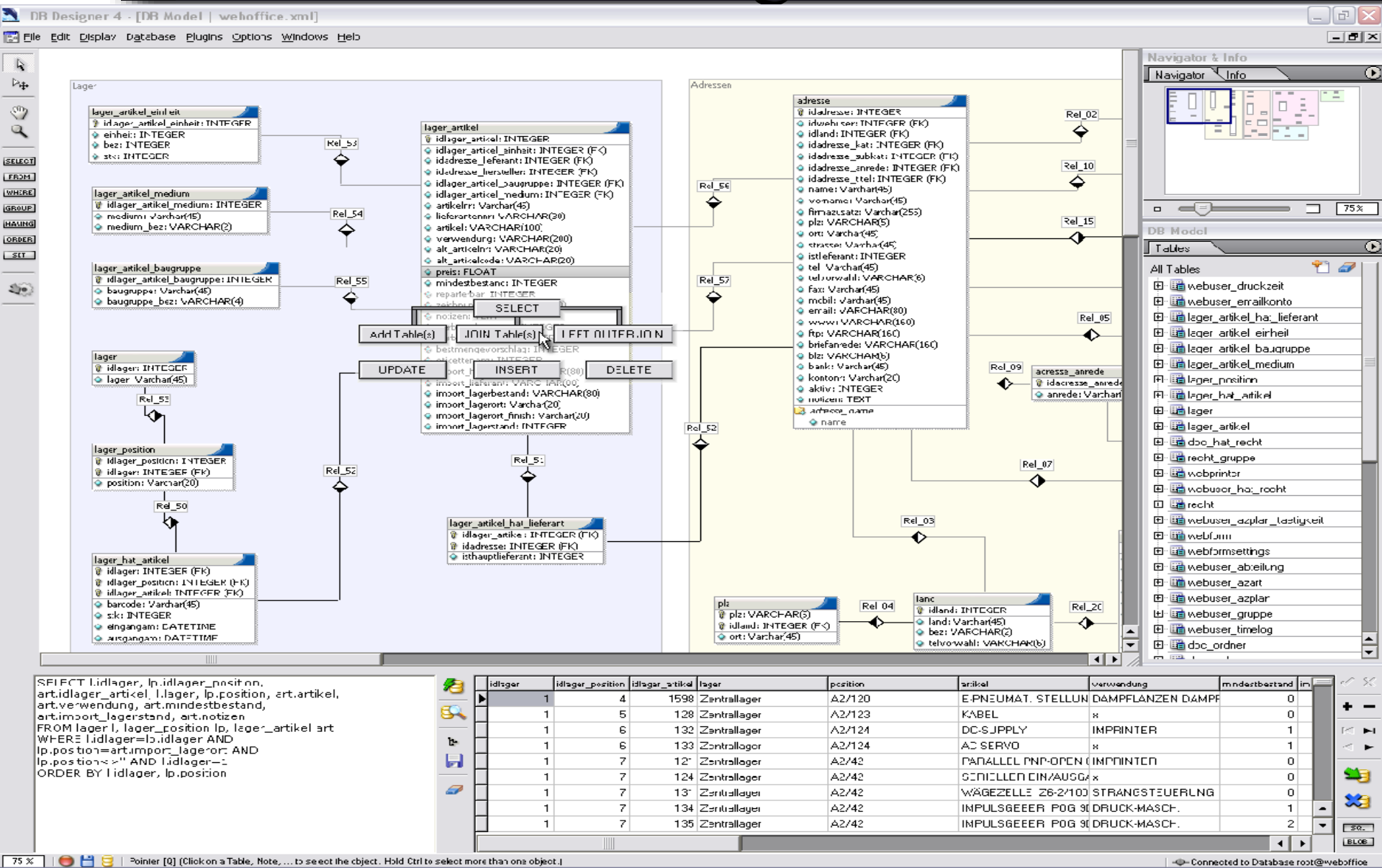
DBDesigner


DB Designer 4 - [DB Model | weboffice.xml]
File Edit Display Database Plugins Options Windows Help
Select Database Connection
Network Hosts
All Connections
MySQL
Local Host
Network Hosts
www.farbdruck.at
mysql.fabforce.net
Oracle
ODBC
All Database Connections
Connection Type Host Database Description
paketierung MySQL 127.0.0.1 paketierung
fabFORCEweb MySQL mysql.fabforce.net fa015vfi_web
weboffice MySQL www.farbdruck.at weboffice
reda MySQL 127.0.0.1 reda
revtest MySQL 127.0.0.1 revtest
fabFORCEswf MySQL mysql.fabforce.net fa015vfi_swf Test for SimpleWebF...
SchoberAdresse... cpenodbc SchoberAdresse...
New Database Connection
Connection: weboffice
Username: root
Database Connection Editor
General Advanced
Connection Name: weboffice
Host Caption: www.weboffice.at
Host IP: 192.168.3.54
Database Name: weboffice
Driver: MySQL
Username: root
Password: ******
Description: Connection to WebOffice Server.
Abort
OK
Navigator & Info
Navigator Info
Datatypes
Common All types
INTEGER
FLOAT
VARCHAR
DATETIME
BOOL
TEXT
LONGBLOB
Varchar(20)
Varchar(45)
Varchar(255)
DB Model
Tables
All Tables
webuser_druckzeit
webuser_emailkonto
lager_artikel_haupt_lieferant
lager_artikel_einheit
lager_artikel_baugruppe
lager_artikel_medium
lager_position
lager_hat_artikel
lager
lager_artikel
doc_hat_recht
recht_gruppe
webprinter
webuser_haupt_recht
recht
webuser_azplar_taetigkeit
webform
webformsettings
webuser_abteilung
webuser_azart
webuser_azplar
webuser_gruppe
Lager
Adressen
lager_position
lager_hat_artikel
adresse_position
Rel_02
Rel_10
Rel_15
Rel_05
Rel_50
Rel_52
Rel_20
Rel_22
Rel_21
Pointer [Q] (Click on a Table, Note, ... to select the object. Hold Ctrl to select more than one object.)
Not connected to a Database

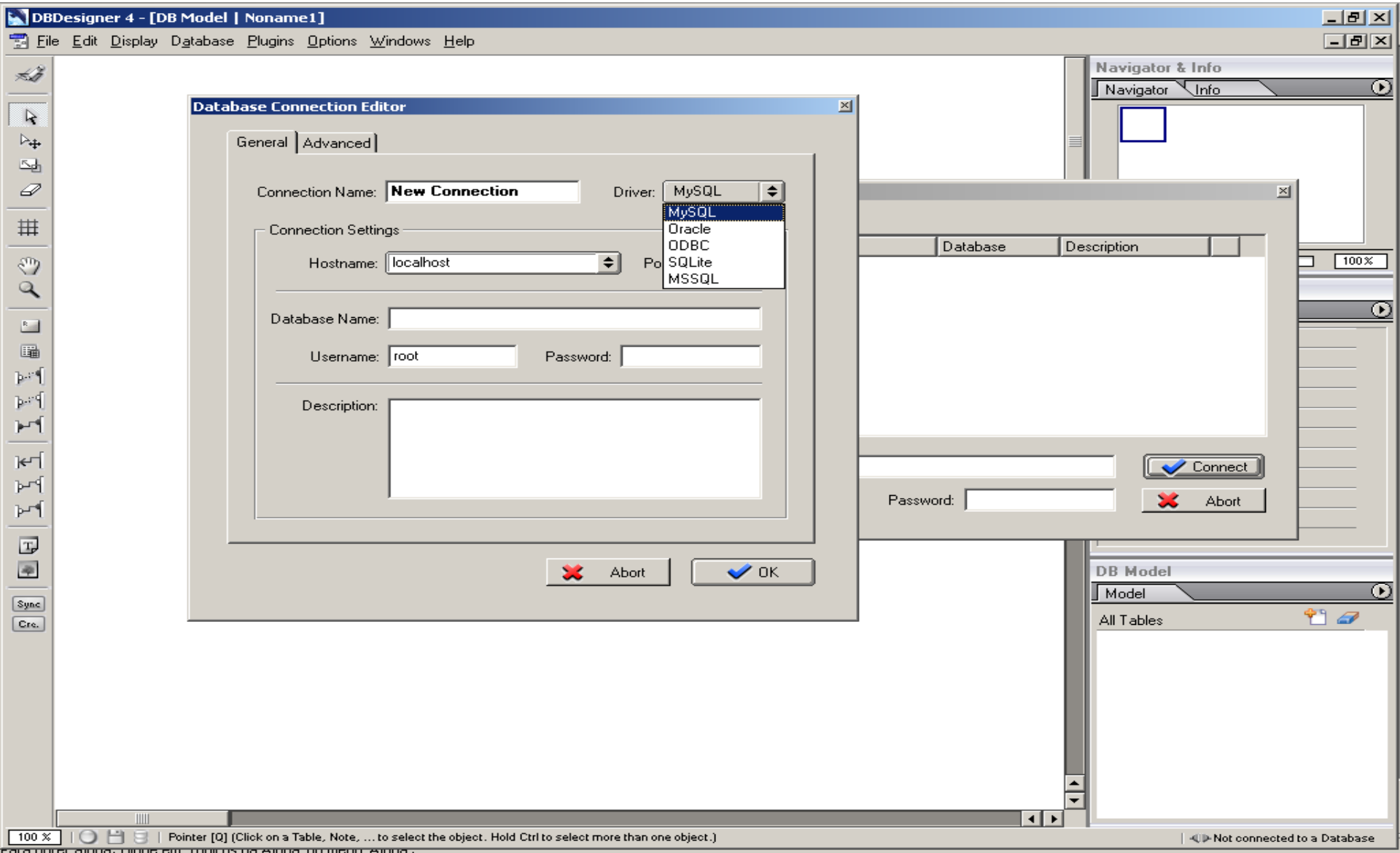
DBDesigner


DBDesigner 4 - [DB Model | Noname5]
File Edit Display Database Pugins Options Windows Help
Reverse Engineering
Database Connection
webolfice
Tables
adresse
adresse_abteilung
adresse_anrede
adresse_kat
adresse_kontakt
adresse_position
adresse_subkat
adresse_titel
aladir_log
aladir_stoermeldung
Schema
All
Important
When connecting to Oracle or MS SQL databases please make sure to have the appropriate rights to access the system tables. In doubt connect as DBA Users: SYSTEM (Oracle) or sa (MS SQL)
General Options
Use MySQL specific functions
10 Tables placed in a Row
Collapse Tables to save space on Canvas
Import Schema as Table Prefixe
Use Datatype substitution
MySQL Standard
int=INTEGER
dec=DECIMAL
Build Relations
Build Relations based on Primary Keys
Based on Tablenames and ID-Fieldnames
Use Native Selects to retrive Relations
Create Standard Inserts from table data
Limit number of records to: 20
Execute
Close
Connected to Database root@webolfice
Connected to Database root@webolfice

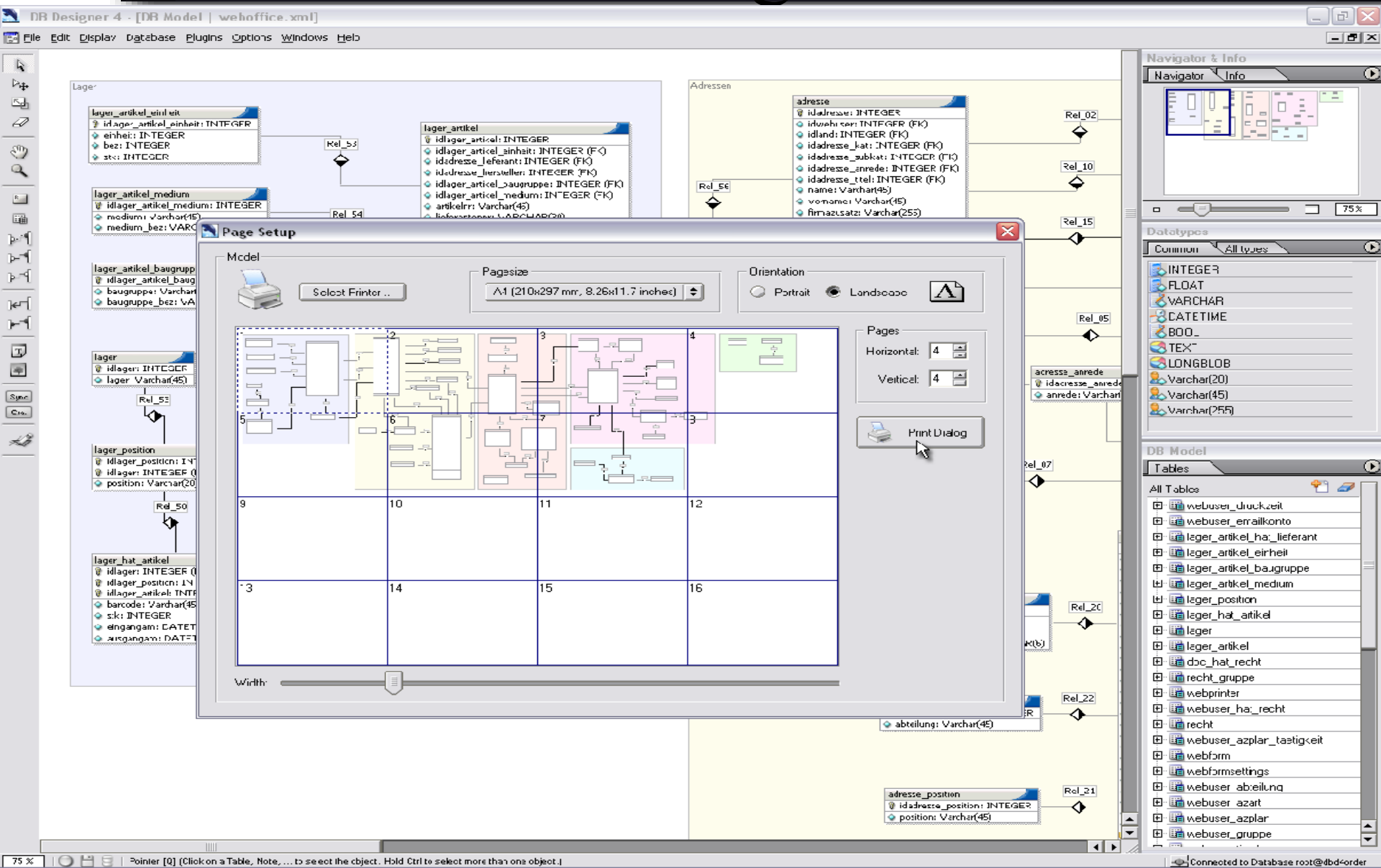
DBDesigner


DB Designer 4 - [DB Model | weboffice.xml]
File Edit Display Database Plugins Options Windows Help
Lager
Adressen
lager_artikel_einheit
lager_artikel
lager_artikel_medium
lager_artikel_baugruppe
lager
lager_position
lager_hat_artikel
lager_artikel_hat_lieferart
adresse
plz
land
acresse_anrede
SELECT
Add Table(s)
JOIN Table(s)
LEFT OUTER JOIN
UPDATE
INSERT
DELETE
Navigator & Info
Navigator
Info
DB Model
Tables
All Tables
webuser_druckzeit
webuser_emailkonto
lager_artikel_ha:_lieferant
lager_artikel_einheit
lager_artikel_baugruppe
lager_artikel_medium
lager_position
lager_hat_artikel
lager
lager_artikel
doc_hat_recht
recht_gruppe
webprinter
webuser_ha:_recht
recht
webuser_azplar_taetigkeit
webform
webformsettings
webuser_abteilung
webuser_azart
webuser_azplar
webuser_gruppe
webuser_timelog
doc_ordner
SELECT l.idlager, lp.idlager_position,
art.idlager_artikel, l.lager, lp.position, art.artikel,
art.verwendung, art.mindestbestand,
art.import_lagerstand, art.notizen
FROM lager l, lager_position lp, lager_artikel art
WHERE l.idlager=lp.idlager AND
lp.position=art.import_lagerort AND
lp.position<>'' AND l.idlager=1
ORDER BY l.idlager, lp.position
idlager | idlager_position | idlager_artikel | lager | position | artikel | verwendung | mindestbestand
1 | 4 | 1598 | Zentrallager | A2/120 | E-PNEUMAT. STELLUN | DAMPFLANZEN DAMPF | 0
1 | 5 | 128 | Zentrallager | A2/123 | KABEL | x | 0
1 | 6 | 132 | Zentrallager | A2/124 | DC-SUPPLY | IMPRINTER | 1
1 | 6 | 133 | Zentrallager | A2/124 | AC SERVO | x | 1
1 | 7 | 12 | Zentrallager | A2/42 | PARALLEL PNP-OPEN | IMPRINTER | 0
1 | 7 | 124 | Zentrallager | A2/42 | SERIELLEN EIN/AUSG | x | 0
1 | 7 | 13 | Zentrallager | A2/42 | WÄGEZELLE Z6-2/100 | STRANGSTEUERUNG | 0
1 | 7 | 134 | Zentrallager | A2/42 | IMPULSGEBER POG 9 | DRUCK-MASCH. | 1
1 | 7 | 135 | Zentrallager | A2/42 | IMPULSGEBER POG 9 | DRUCK-MASCH. | 2
Pointer [Q] (Click on a Table, Note, ... to select the object. Hold Ctrl to select more than one object.)
Connected to Database root@weboffice

DBDesigner


DBDesigner 4 - [DB Model | Noname1]
File Edit Display Database Plugins Options Windows Help
Navigator & Info
Navigator Info
Database Connection Editor
General Advanced
Connection Name: New Connection
Driver: MySQL
MySQL
Oracle
ODBC
SQLite
MSSQL
Connection Settings
Hostname: localhost
Database Name:
Username: root
Password:
Description:
Abort
OK
Database Description
Connect
Password:
Abort
DB Model
Model
All Tables
100 %
Pointer [Q] (Click on a Table, Note, ... to select the object. Hold Ctrl to select more than one object.)
Not connected to a Database

DBDesigner


DB Designer 4 - [DB Model | weboffice.xml]
File Edit Display Database Plugins Options Windows Help
Page Setup
Model
Select Printer ..
Pagesize
A4 (210x297 mm, 8.26x11.7 inches)
Orientation
Portrait
Landscape
Pages
Horizontal: 4
Vertical: 4
Print Dialog
Width:
Navigator & Info
Navigator
Info
Datatypes
Common
All types
INTEGER
FLOAT
VARCHAR
DATETIME
BOOL
TEXT
LONGBLOB
Varchar(20)
Varchar(45)
Varchar(255)
DB Model
Tables
All Tables
webuser_druckzeit
webuser_emailkonto
lager_artikel_hat_lieferant
lager_artikel_einheit
lager_artikel_baugruppe
lager_artikel_medium
lager_position
lager_hat_artikel
lager
lager_artikel
doc_hat_recht
recht_gruppe
webprinter
webuser_hat_recht
recht
webuser_azplar_taetigkeit
webform
webformsettings
webuser_abteilung
webuser_azart
webuser_azplar
webuser_gruppe
Pointer [Q] (Click on a Table, Note, ... to select the object. Hold Ctrl to select more than one object.)
Connected to Database root@dbdesigner

Forum

Due to several attacks against the DBDesigner4 forum it has now been closed down.
We simply cannot understand the sick motivation of people to attack Open Source projects.
So please understand that we will not provide any support from now on.

We will continue to host the DBD4 download till the release of the MySQL Workbench, its successor application that will be an official MySQL product. Then this project will rest in peace.

Best regards,
fabFORCE.net team

Perguntas

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- http://www.pr.gov.br/batebyte/edicoes/1996/bb56/aquisi.htm
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- http://www.fabforce.net
- http://www.mysql.org
- http://dbdesigner2pg.codigolivre.org.br/