

# PowerDesigner 中文教程

## 1. 下载并安装 powerdesigner

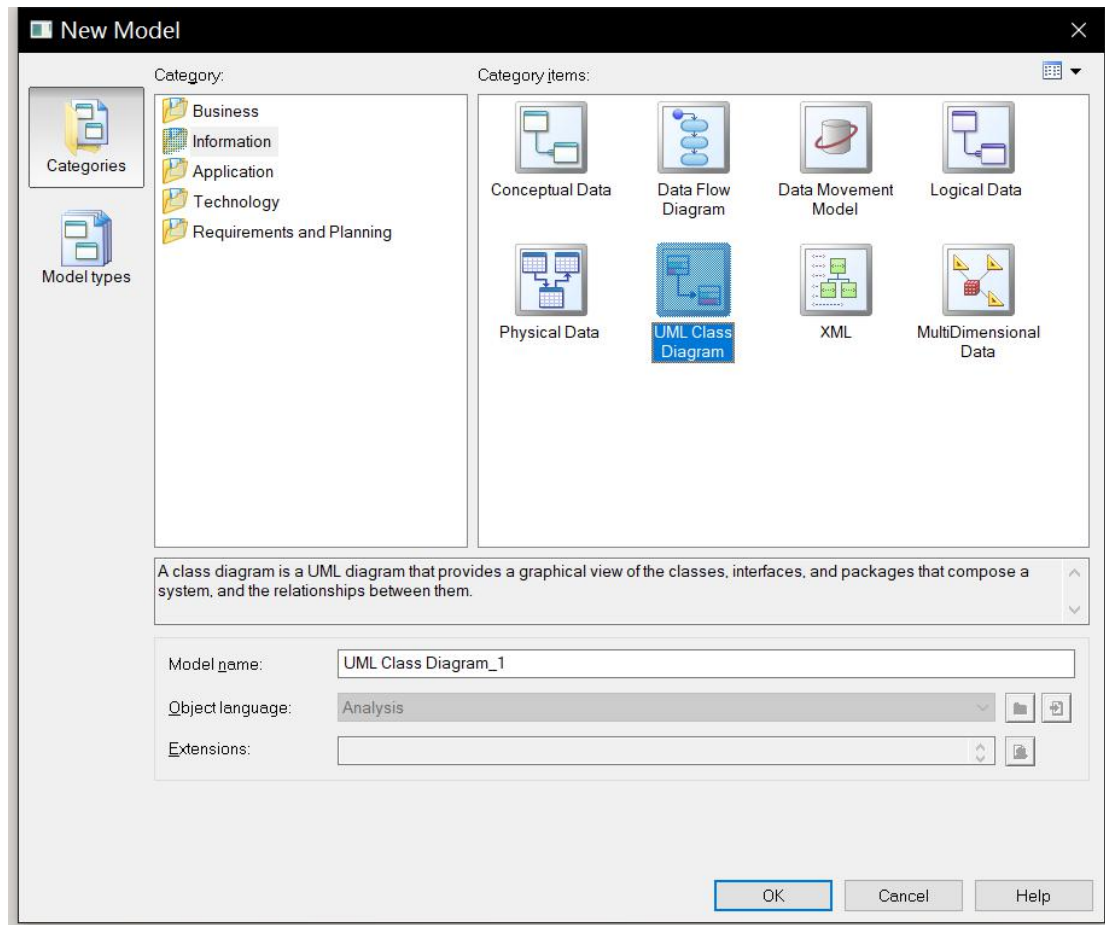
<https://www.sap.com/cmp/td/sap-powerdesigner-trial.html>

SAP/powerdesigner 官方网站

## 2. 创建 powerdesigner 项目

File/new project

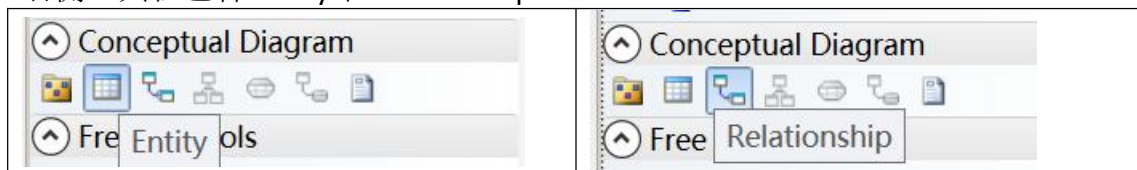
File/new module



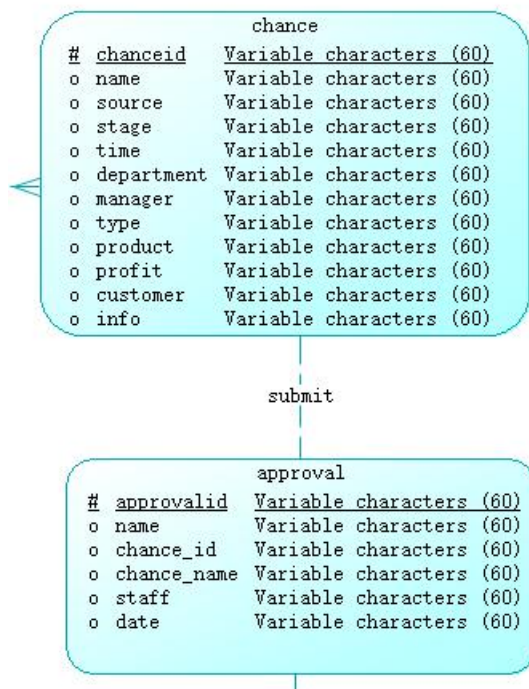
常用的有 UML CLASS DIAGRAM/CONCEPTUAL DATA MODEL

## 3. 创建 conceptual data model 概念数据模型，绘制 entity relationship diagram ER 图

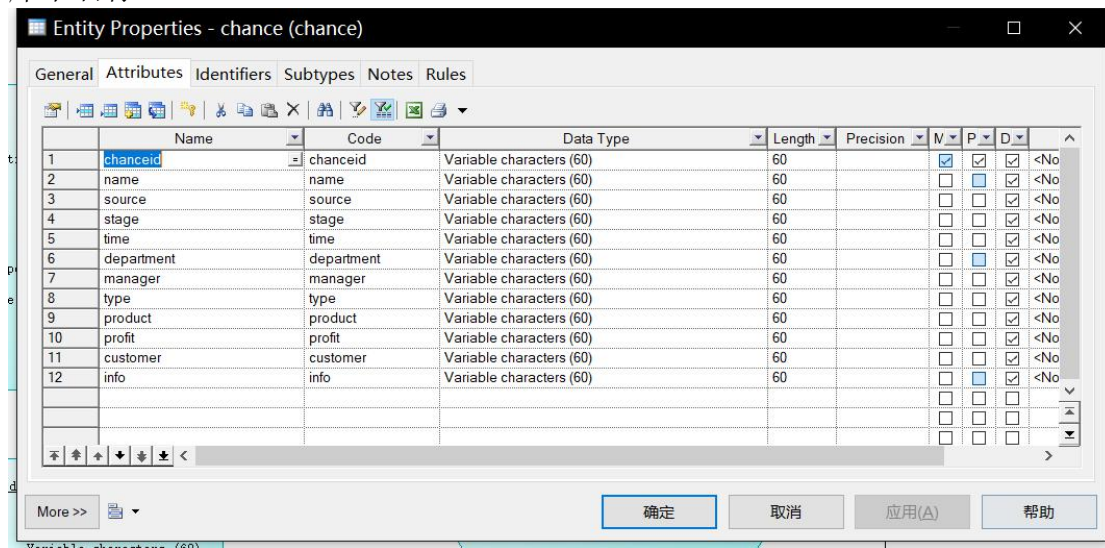
右侧工具栏包含 entity 和 relationship



双击实体编辑属性，修改 general/attributes



其中 name 可以是中文或英文，最终显示在表上，code 必须为英文，是实际数据库中名称

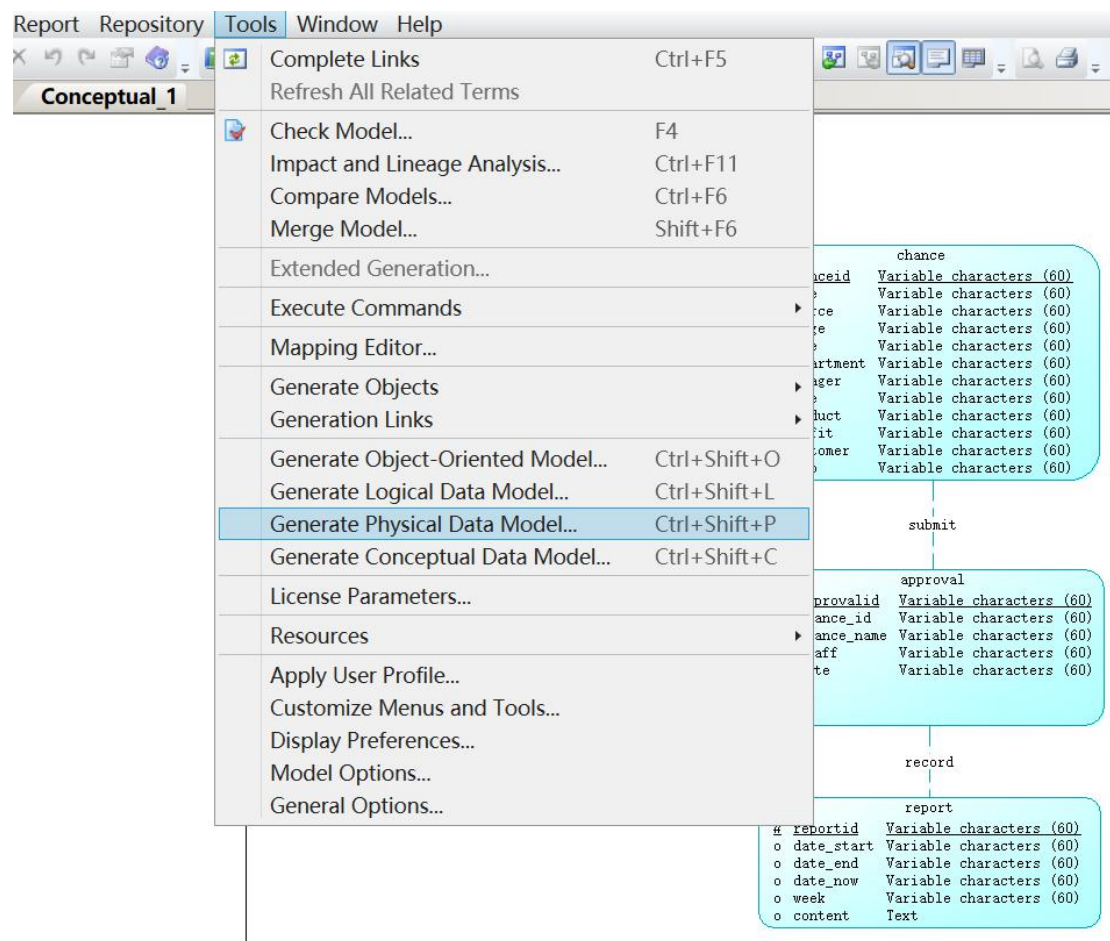


#### 4. Powerdesigner 中出现的名词

- ❖ Name: 是设计表的说明，数据字典的说明
- ❖ Code: 数据库中的字段名，一般用英文如 User
- ❖ Comment: 表字段的详细介绍说明。
- ❖ Domain 域表示属性取值范围如可以创建 10 个字符的地址域
- ❖ M:Mandatory 强制属性，表示该属性必填。不能为空
- ❖ P:Primary Identifier 是主标识符，表示主键
- ❖ D:Displayed 表示在图中显示出来，默认全部勾选

#### 5. 生成 physical model 物理模型

## Tools/generate physical data model



选择对应的数据库，修改模型名字

**PDM Generation Options**

General Detail Target Models Selection

☒ Generate new Physical Data Model

DBMS: MySQL 5.0

Name: Profit\_Physical\_Model

Code: Profit\_Physical\_Model

Configure Model Options...

☐ Update existing Physical Data Model

Select model: <None>

DBMS:

☒ Preserve modifications

确定 取消 应用(A) 帮助

在 ER 图中设置的关系会自动转变为物理模型中的外键，要自己修改为想要的设计，修改完成之后右键生成 SQL 语句

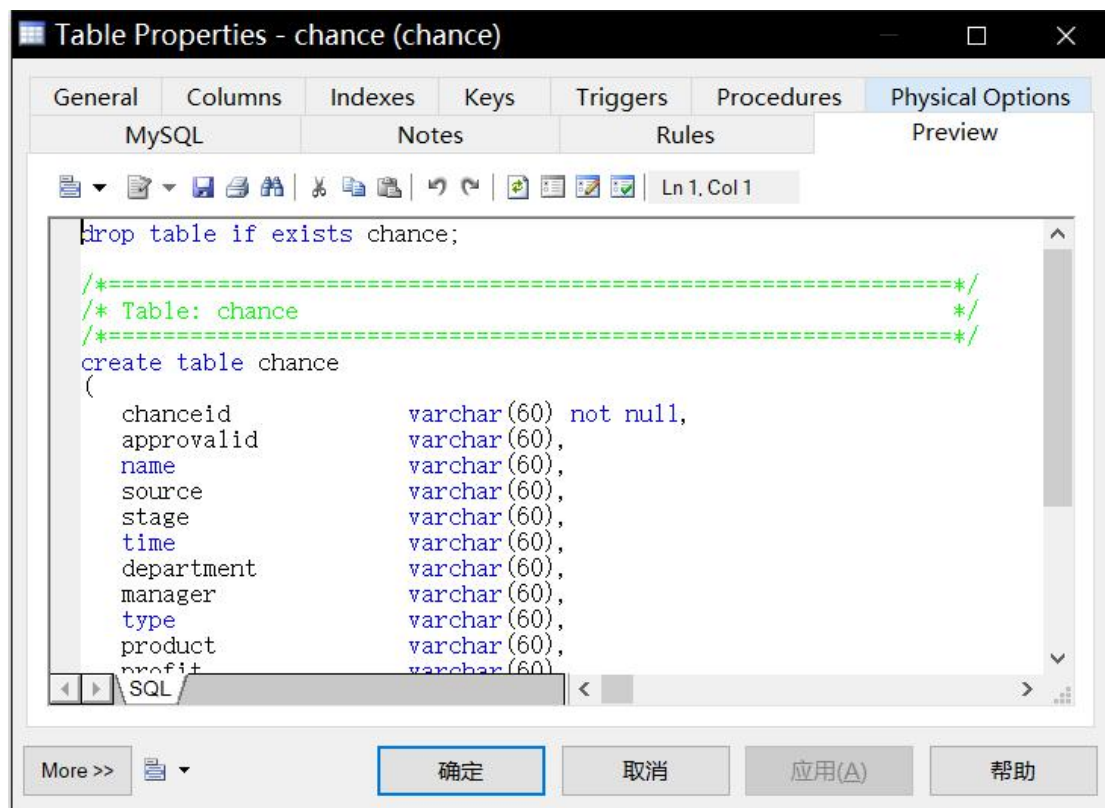
chance		
chanceid	varchar(60)	<pk>
approvalid	varchar(60)	<fk>
name	varchar(60)	
source	varchar(60)	
stage	varchar(60)	
time	varchar(60)	
department	varchar(60)	
manager	varchar(60)	
type	varchar(60)	
product	varchar(60)	
profit	varchar(60)	
customer	varchar(60)	
info	varchar(60)	

approval		
approvalid	varchar(60)	<pk>
reportid	varchar(60)	<fk2>
chanceid	varchar(60)	<fk1>
chance_id	varchar(60)	
chance_name	varchar(60)	
staff	varchar(60)	
date	varchar(60)	

report		
reportid	varchar(60)	
approvalid	varchar(60)	
date_start	varchar(60)	
date_end	varchar(60)	
date_now	varchar(60)	
week	varchar(60)	
content	text	

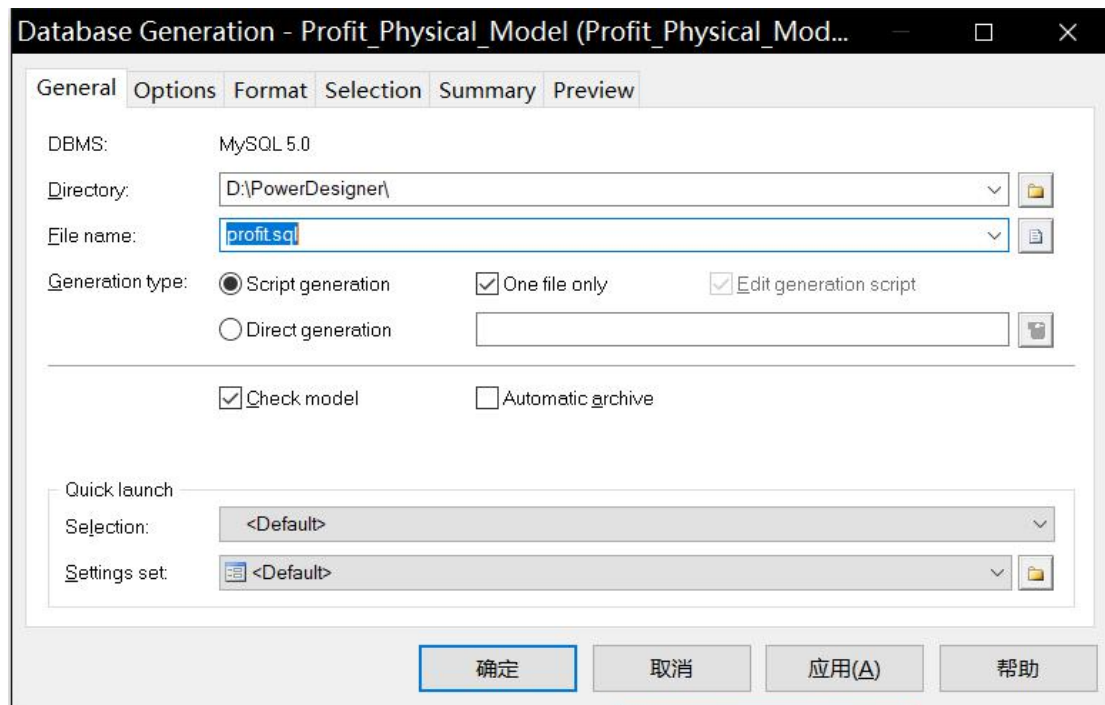
- Find in Browser Ctrl+B
- Impact and Lineage Analysis... Ctrl+F11
- Columns...
- Indexes...
- Keys...
- Triggers...
- Physical Options...
- SQL Preview...
- View Data...
- Horizontal Partitioning...
- Vertical Partitioning...
- Column Denormalization...
- Update Statistics
- Related Diagram >
- Format... Ctrl+T
- Sub-objects Format...
- Change Image...
- Get Format
- Apply Format
- Adjust to Text Ctrl+J
- Disposition >
- Order >
- Edit >
- Rename F2
- Properties Alt+Enter





复制到数据库当中即可创建表  
如果需要整个数据库的创建

Database	Report	Repository	Tools	Window	Help
Change Current DBMS...					
Edit Current DBMS...					
Default Physical Options...					
Generate Database...					Ctrl+G
Apply Model Changes to Database...					
Update Model from Database...					Ctrl+R
Estimate Database Size...					
Generate Test Data...					Ctrl+Shift+D
Generate Extraction Scripts...					
Execute SQL...					Ctrl+Shift+E
Configure Connections...					
Connect...					Ctrl+Shift+N
Disconnect...					
Connection Information...					



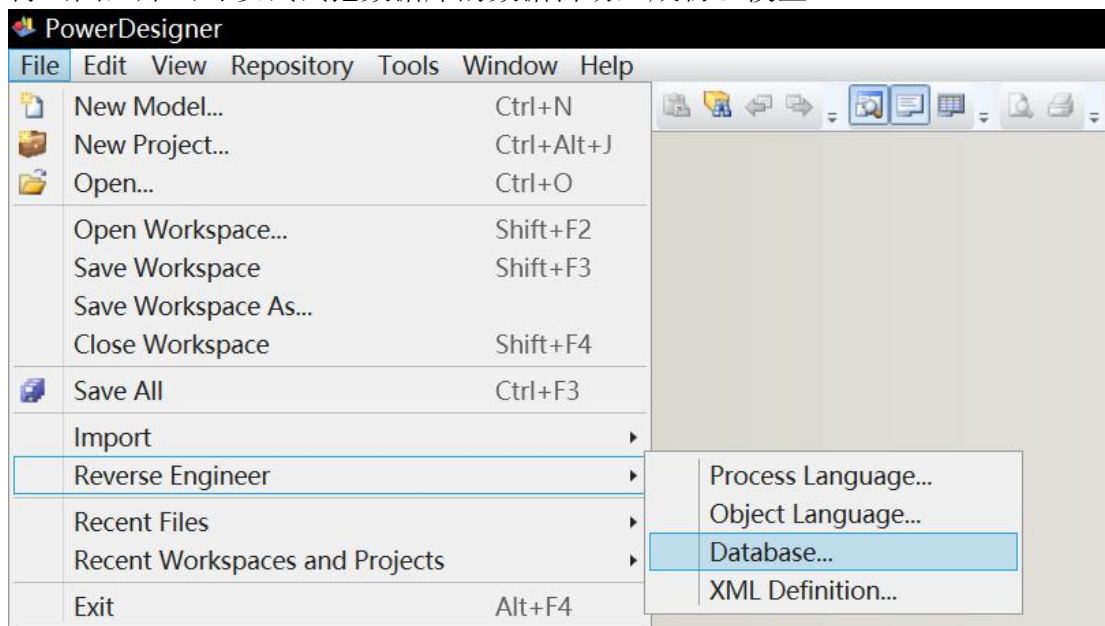
修改文件路径和文件名，生成的单个 SQL 文件是全部表的创建

## 6. 按键操作

- ❖ CTRL+鼠标滚轮:改变图片大小
- ❖ 鼠标拖拽区域选中+Edit/Export Image:导出为图片

## 7. 额外内容(选修)

如果你不按照先设计后执行的原则来做，我知道很多人都是这样，先写好了代码再画图，那么可以试试把数据库的数据自动生成物理模型



Database Reverse Engineering Options

Selection Options Target Models

Current DBMS  
MySQL 5.0

☒ Using script files:

C:\Users\MSI\_NB\Desktop\Dump20210630.sql

☐ Using a data source:

☐ Reverse engineer using administrator's permissions

确定 取消 帮助

correspond		
<u>id</u>	varchar(45)	<pk>
name	varchar(45)	
department	varchar(45)	
position	varchar(45)	
telephone	varchar(45)	
cellphone	varchar(45)	
fax	varchar(45)	
email	varchar(45)	
QQ	varchar(45)	
wechat	varchar(45)	

role		
<u>id</u>	int	<pk>
name	varchar(64)	
nameZh	varchar(64)	

relationship		
<u>id</u>	varchar(45)	<pk>
hid	varchar(45)	
hcompany	varchar(45)	
gid	varchar(45)	
gcompany	varchar(45)	
relation	varchar(45)	



userrole		
<u>id</u>	int	<pk>
uid	int	
rid	int	



user		
<u>id</u>	int	<pk>
UserName	varchar(64)	
Password	varchar(64)	

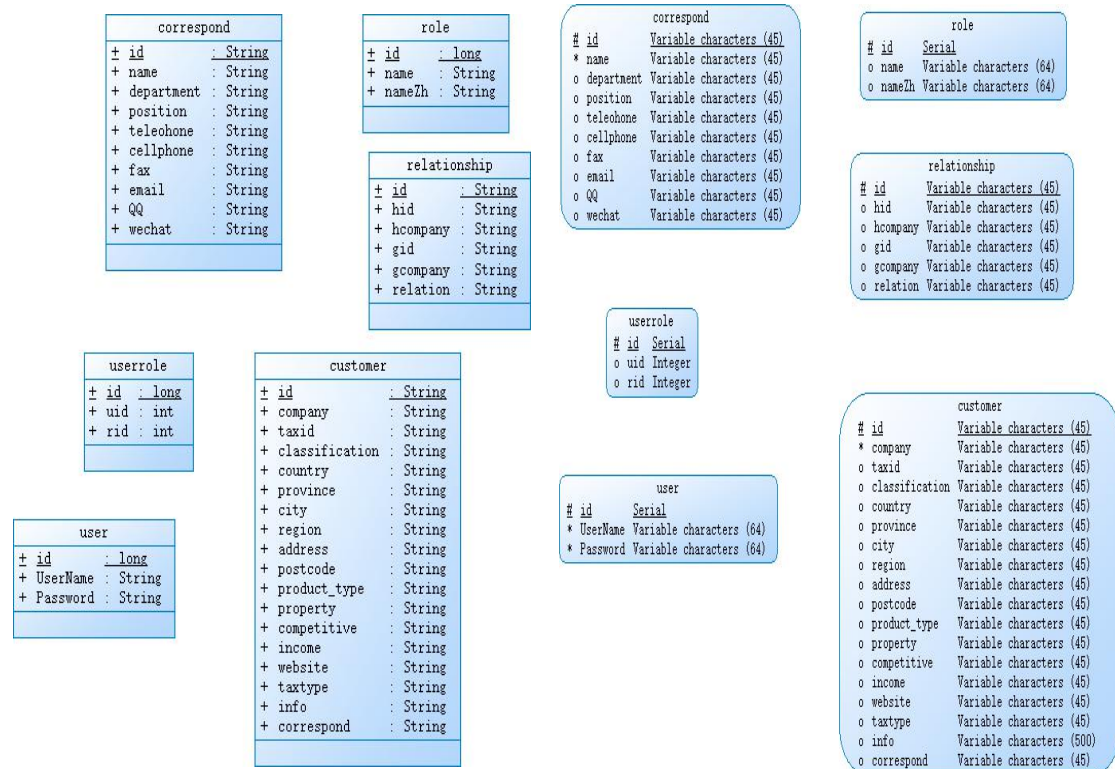
customer		
<u>id</u>	varchar(45)	<pk>
company	varchar(45)	
taxid	varchar(45)	
classification	varchar(45)	
country	varchar(45)	
province	varchar(45)	
city	varchar(45)	
region	varchar(45)	
address	varchar(45)	
postcode	varchar(45)	
product_type	varchar(45)	
property	varchar(45)	
competitive	varchar(45)	
income	varchar(45)	
website	varchar(45)	
taxtype	varchar(45)	
info	varchar(500)	
correspond	varchar(45)	

由数据库生成的物理模型还能继续转变为类图和概念图



Tools	Window	Help
	Complete <u>L</u> inks	Ctrl+F5
	<u>R</u> efresh All Related Terms	
	C <u>h</u> eck <u>M</u> odel...	F4
	<u>I</u> mpact and Lineage Analysis...	Ctrl+F11
	<u>C</u> ompare Models...	Ctrl+F6
	<u>M</u> erge Model...	Shift+F6
	<u>E</u> xtended Generation...	
	SAP BusinessObjects	
	<u>E</u> xecute Commands	
	M <u>a</u> pping Editor...	
	Generate <u>O</u> bjects	
	Generation <u>L</u> inks	
	Generate <u>O</u> bject-Oriented Model...	Ctrl+Shift+C
	Generate <u>X</u> ML Model...	Ctrl+Shift+N
	Generate <u>L</u> ogical Data Model...	Ctrl+Shift+L
	Generate <u>P</u> hysical Data Model...	Ctrl+Shift+P
	Generate <u>C</u> onceptual Data Model...	Ctrl+Shift+C
	<u>C</u> reate <u>V</u> iew...	Ctrl+Shift+V
	<u>R</u> ebuild Objects	
	<u>D</u> enormalization	
	M <u>u</u> ltidimensional Objects	
	<u>U</u> pdate Statistics...	
	Test <u>D</u> ata Profile	
	<u>P</u> owerBuilder	
	<u>L</u> icense Parameters...	
	<u>R</u> esources	
	A <u>p</u> ply User Profile...	
	<u>C</u> ustomize Menus and Tools...	
	<u>D</u> isplay Preferences...	
	M <u>o</u> del <u>O</u> ptions...	
	G <u>e</u> neral <u>O</u> ptions...	

Tools	Window	Help
	Complete <u>L</u> inks	Ctrl+F5
	<u>R</u> efresh All Related Terms	
	C <u>h</u> eck <u>M</u> odel...	F4
	<u>I</u> mpact and Lineage Analysis...	Ctrl+F11
	<u>C</u> ompare Models...	Ctrl+F6
	<u>M</u> erge Model...	Shift+F6
	<u>E</u> xtended Generation...	
	SAP BusinessObjects	
	<u>E</u> xecute Commands	
	M <u>a</u> pping Editor...	
	Generate <u>O</u> bjects	
	Generation <u>L</u> inks	
	Generate <u>O</u> bject-Oriented Model...	Ctrl+Shift+C
	Generate <u>X</u> ML Model...	Ctrl+Shift+N
	Generate <u>L</u> ogical Data Model...	Ctrl+Shift+L
	Generate <u>P</u> hysical Data Model...	Ctrl+Shift+P
	Generate <u>C</u> onceptual Data Model...	Ctrl+Shift+C
	<u>C</u> reate <u>V</u> iew...	Ctrl+Shift+V
	<u>R</u> ebuild Objects	
	<u>D</u> enormalization	
	M <u>u</u> ltidimensional Objects	
	<u>U</u> pdate Statistics...	
	Test <u>D</u> ata Profile	
	<u>P</u> owerBuilder	
	<u>L</u> icense Parameters...	
	<u>R</u> esources	
	A <u>p</u> ply User Profile...	
	<u>C</u> ustomize Menus and Tools...	
	<u>D</u> isplay Preferences...	
	M <u>o</u> del <u>O</u> ptions...	
	G <u>e</u> neral <u>O</u> ptions...	



至此，powerdesigner 的使用介绍完毕，更多内容需要实际操作尝试