



## Generating Database Change Script

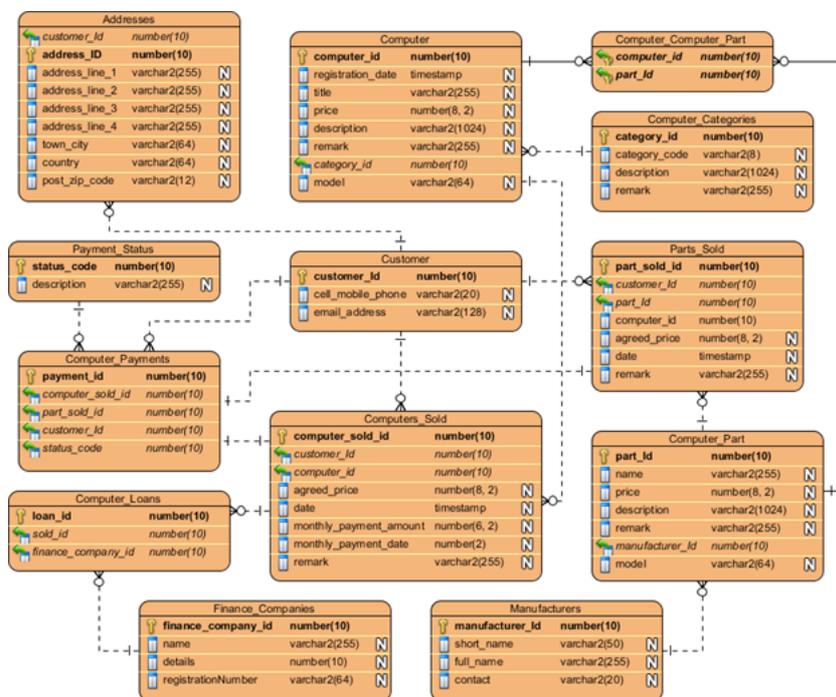
Written Date : September 1, 2009

In order to patch existing database to newer version, database administrator need to prepare DDL (Data Definition Language) scripts with commands of updates. [Visual Paradigm](#) is capable in updating database, or just to generate the DDL required, by comparing differences between the design, which is the ERD(s), and the database, and to generate the DDL scripts accordingly. In addition to generating update scripts, Visual Paradigm can also generate scripts for creating and dropping database. In this tutorial, we will focus on generating the update scripts.

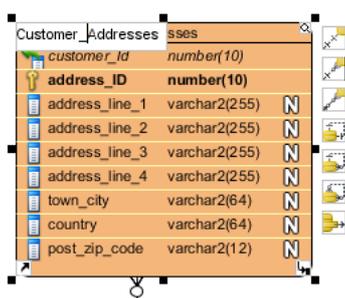
### Topics

1. Update database design - the ERD
2. Generate database scripts for "Update Database"
3. Execute scripts in Oracle

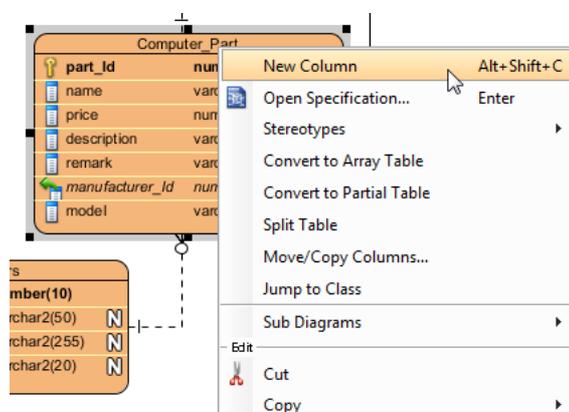
The original database design for the *Computer Sales* project:



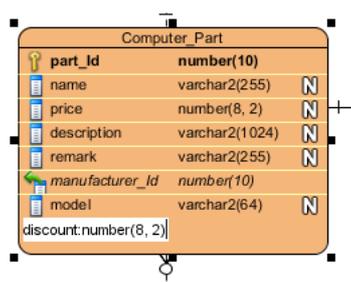
1. Let's update the design. Rename entity *Addresses* to *Customer\_Addresses*.



2. Add a new column to entity *Computer\_Part* by right clicking on it and selecting **New Column** from the popup menu.

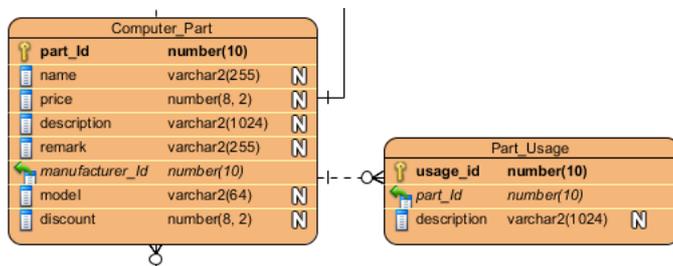


3. Enter *discount : numeric(8, 2)* as the column definition, press the **Enter** key and then the **Esc** key to confirm editing.

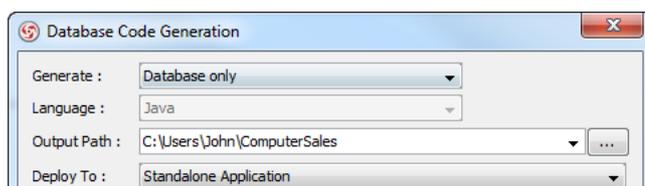


4. Move the mouse cursor over *Computer\_Part*, press on the **One-to-Many Relationship -> Entity** icon in the resource-centric interface, and drag to the empty region to create a new entity. Enter *Part\_Usage* as entity name.
5. Rename the automatically created FK (foreign key) column to *part\_id*.

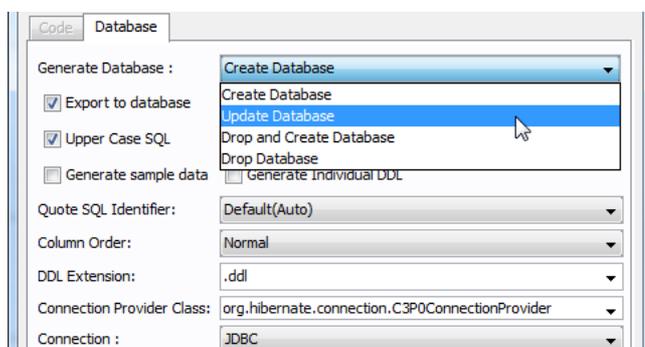
6. Repeat the previous steps to add the following columns to *Part\_Usage*.
  - **+usage\_id : number(10)**
  - **description : varchar2(1024)**



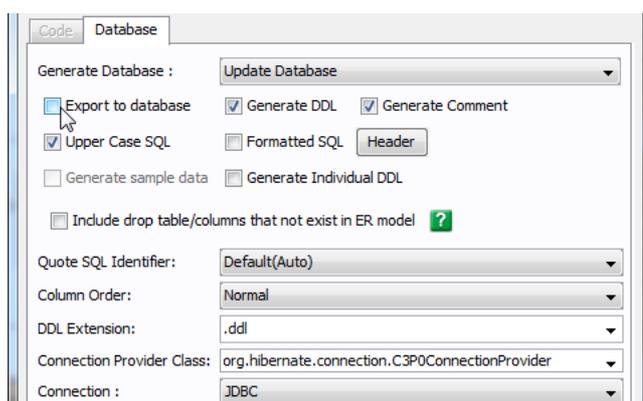
7. The design is now updated. To generate the scripts of changes, select **Tools > Database > Generate Database...** from the main menu.
8. In the **Database Code Generation** dialog box, specify the output path of the DDL script file.



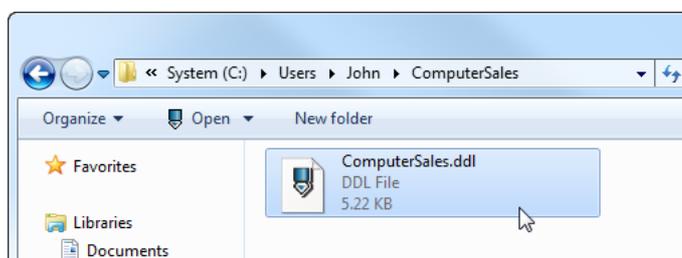
9. Select **Update Database** as the type of generation.



10. Un-check **Export to database** to make it generate scripts file only.



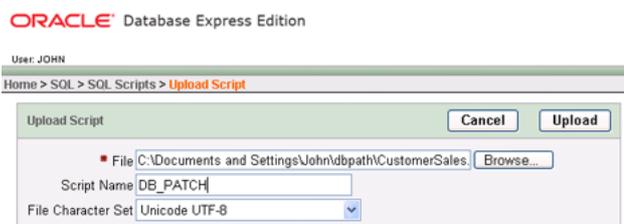
11. Click **OK** to start generation.
12. The script is generated to the given path.



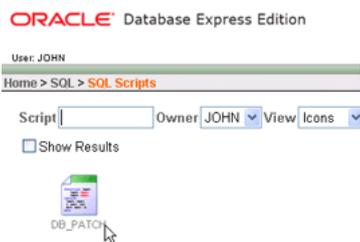
13. Let's take a look at the generated scripts.

```
1 CREATE TABLE Customer_Addresses (customer_id number(10) NOT NULL, address_id number(10) NOT NULL, o
2 ALTER TABLE Computer_Part ADD discount number(8, 2);
3 CREATE TABLE Part_Usage (usage_id number(10) NOT NULL, description varchar2(1024), part_id number(1
4 ALTER TABLE Customer_Addresses ADD CONSTRAINT FKCustomer_A330997 FOREIGN KEY (customer_id) REFERENC
5 ALTER TABLE Part_Usage ADD CONSTRAINT FKPart_Usage45987 FOREIGN KEY (part_id) REFERENCES Computer_P
6 CREATE SEQUENCE seq_Customer_Addresses;
7 CREATE SEQUENCE seq_Part_Usage;
8
```

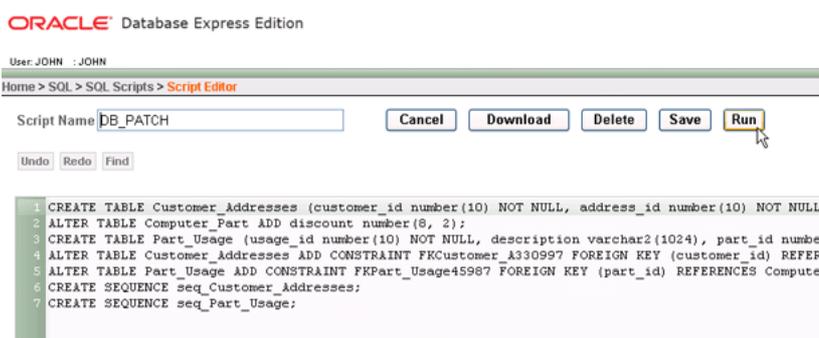
14. To execute the scripts, open the Oracle Web client, select **SQL > SQL Scripts**, and click **Upload** to upload the generated DDL file.



- Once the file is uploaded, click the script icon.



- Click **Run** to execute the scripts to database.



- Click **Run** again to confirm.



- Click the file icon to check the result.



19. The scripts are executed successfully. Database is updated.

ORACLE Database Express Edition

User: JOHN

Home > SQL > SQL Scripts > Results

Script: DB\_PATCH Status: Complete

View:  Detail  Summary Display 15

Number	Elapsed	Statement	Feedback	Rows
1	0.05	CREATE TABLE Customer_Addresses (customer_id number(10) NOT	Table created.	0
2	0.12	ALTER TABLE Computer_Part ADD discount number(8, 2)	Table altered.	0
3	0.02	CREATE TABLE Part_Usage (usage_id number(10) NOT NULL, descr	Table created.	0
4	0.00	ALTER TABLE Customer_Addresses ADD CONSTRAINT FKCustomer_A33	Table altered.	0
5	0.01	ALTER TABLE Part_Usage ADD CONSTRAINT FKPart_Usage45887 FORE	Table altered.	0
6	0.00	CREATE SEQUENCE seq_Customer_Addresses	Sequence created.	0
7	0.00	CREATE SEQUENCE seq_Part_Usage	Sequence created.	0

row(s) 1 - 7 of 7

Statements Processed 7  
Successful 7  
With Errors 0

20. We can see the changes in the Object Browser.

ORACLE Database Express Edition

User: JOHN

Home > Object Browser

Tables

CUSTOMER\_ADDRESSES

Column Name	Data Type	Nullable	Default	Primary Key
ADDRESS_ID	NUMBER(10,0)	No	-	1
CUSTOMER_ID	NUMBER(10,0)	No	-	-
ADDRESS_LINE_1	VARCHAR2(255)	Yes	-	-
ADDRESS_LINE_2	VARCHAR2(255)	Yes	-	-
ADDRESS_LINE_3	VARCHAR2(255)	Yes	-	-
ADDRESS_LINE_4	VARCHAR2(255)	Yes	-	-
TOWN_CITY	VARCHAR2(64)	Yes	-	-
COUNTRY	VARCHAR2(64)	Yes	-	-
POST_ZIP_CODE	VARCHAR2(12)	Yes	-	-

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#### Related Links

- [What is Entity Relationship Diagram \(ERD\)?](#)
- [Evaluate Visual Paradigm for FREE](#)

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