

How to Generate ERD from DDL?

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<u>Visual Paradigm</u> enables you to create a database model from an existing database. Entity Relationship Diagram (ERD) graphically shows the structure of a database so you can see how database elements, such as tables and views, relate to each other without viewing the actual data. This can streamlines creating a new database or understanding the structure of an existing database.

For existing database, ERD can be generated from database schema through reverse engineering. However, what if your database is not accessible to perform the reverse engineering? (i.e. the production database is not accessible for such purpose). So what is the alternative to achieve this, when we encounter this kind of situation?

Generating DDL file from Database

Actually, most of the Database Management System (DBMS) such as Oracle, Microsoft SQL Server, MySQL, etc... support to export the schema of database into a Data Definition Language (DDL) file. In this tutorial you will first learn how to reverse the DDL file, and then learn how to visualize your database in ERD by reversing engineering the DDL file. A video demo is also provided at the end of this tutorial.

Microsoft SQL Server will be used as an example throughout the tutorial. To generate DDL file for your SQL Server database:

1. Open the SQL Server Management Studio and connect to your database.



2. Right-click on the database which you want to be reversed to and select **Tasks > Generate Scripts...**



3. Click Next in Generate and Publish Scripts dialog.

2	Generate and Publish Scripts – 🗖 🗙
Introduction	😧 Help
Choose Objects Set Scripting Options	Generate scripts for database objects.
Summary Save or Publish Scripts	This witcard generates a script of selected database objects. The scripts can be saved for later use in creating databases in an instance of the Database Ergine, or to publish a database to a Database Publishing Web Service.
	There are four steps to complete this wizard:
	1. Select database objects.
	2. Specify scripting or publishing options.
	3. Review your selections.
	4. Generate scripts, then save or publish them.
	To begin the sorgic generation process, click Next.
	< Previous Next > Prish Cancel

4. Choose **Select specific database objects**, then choose all **Tables** in the list and press **Next** to proceed.



5. Specify the path for outputting the script file in the **File name** field.

Generate and Publish Scripts -			
Set Scripting	Options		
Introduction Choose Objects Set Scripting Options Summary Save or Publish Scripts	Specify how scripts show Output Type Save scripts to a spec Publish to Web service	uld be saved or published. offic location ce	
	Save to file Files to generate: File name:	Single file Single file per object C.\Users\Rain\Documents\script.sql Overwrite existing file	Advanced

6. Select **ANSI text** in the **Save as** field, then press **Next** to proceed.

Choose Objects	Specify how scripts sho	uld be saved or published.		
Set Scripting Options				
Summary	Output Type			
Save or Publish Scripts	 Save scripts to a specific location 			
	 Publish to Web service 			
	 Save to file 			
	Files to generate:	 Single file 		
	File name:	 Single file per object 		
		C:\Users\Rain\Documents\script.sql		
		 Overwrite existing file 		
	Save as:	 Unicode text 		
		ANSI text		

7. Review the selection and press **Next** to start generating DDL script.



8. Press **Finish** when the process is done.

2	Generate and Publish Scripts	- • ×
Save or Pub	lish Scripts	
Introduction Choose Objects Set Scripting Options	Saving or publishing scripts.	😧 Help
Summary	Action	Result
Save or Publish Scripts	Getting the list of objects from 'RacingGame'.	Success
	Preparing dbo.Brand	Success
	Preparing dbo.Car	Success
	Preparing dbo.Player	Success
	Preparing dbo.Race	Success
	Preparing dbo.Race_Player	Success
	Preparing dbo.RaceSeries	Success
	Preparing dbo.RaceSeries_Car	Success
	Preparing dbo. Tracks	Success
	Save to file	Success

For other popular databases

MySQL

For MySQL, the database schema can be exported by using the mysqldump command with the following arguments.

Mysqldump -u %user% -p -no-data %db_name% > %path_to_script_file%

This will extract the schema of your specified database into a script file in the path you specified.

Oracle

For Oracle, the database schema can be exported by using the expdb command with the following arguments.

expdb %user_name%/%password%@%host% schema=%schema% dumpfile=%path_to_script_file% content=metadata_only

This will extract the schema of your specified database into the dump file path specified under the dumpfile argument.

PostgreSQL

For PostgreSQL, the database schema can be exported by using the pg_dump command with the following arguments.

pg_dump -h %hostname% -u %user_name% -port %port% --schema-only %database_name% > %path_to_script_file%

This will extract the schema of your specified database into a script file in the path you specified.

Reverse DDL file into ERD

Once we got the DDL file ready, we can then reverse it into ERD. To reverse your DDL file:

1. Go to **Tools > Database > Reverse DDL...**

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File Edit View Modeling To	ols Teamwork Window Help		
Project Save Cut Copy	UeXceler Report	,	Requirement Enterprise SoaML Diagrams
Diag 📔 Mode 🔄 C 🕅 Diagram Navigator	Project Publisher Code Engineering	,	
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Intitled	Hibernate	,	h Reverse Database
G-G-UML Diagrams	Configure Programming Language		A Generate Database
- 🔠 Use Case Diagram	IDE Integration		Reverse DDL
- 🔯 Sequence Diagram - 🔡 Communication Diagr 🖄	Visio Integration Shape Editor		Reverse Enterprise Object Framework

2. Specify the path of the DDL file we exported in previous step in the **File path** field.



3. Specify the database of the DDL file which was created from the **Database** combo box.



4. Select **Generate ERD** check box to allow Visual Paradigm to generate the ERD for you automatically.



5. Press **OK** to proceed.



After that, the ERD of your database will be generated and you can analyze it or simply work on it.

Watch this Tutorial on YouTube

How to Reverse Database Schema into ERD without connecting to Database

Related Links

- What is Entity Relationship Diagram (ERD)?
- How to Produce Database Specification
- Database Design tools in Visual Paradigm
- From Data Modeling to Data Dictionary



Visual Paradigm home page (https://www.visual-paradigm.com/)

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