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Archive – Technical Training

Autodesk Topobase Administrator

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SQL Sheet 6.0.74.0 - HYDROGRAPHY@orcl

File Edit Execute Scripts Tools

Tables (all)

- RIVER (~38)
  - Indexes
  - Triggers
- STREAM (~138)
  - Indexes
  - Triggers

RIVER_AREA
RIVER_GEOMETRY
RIVER_ID
RIVER_NAME

SQL Sheet 6.0.74.0 - HYDROGRAPHY@orcl

File Edit Execute Scripts Tools

Tables (all)

- JOB_SWITCH (~)
- RIVER (~38)
  - Indexes
  - Triggers
    - RIVER_FID
  - Relations
- STREAM (~138)
- TB_ATTRIBUTE (~)
- TB_COLUMN_MAPPING (~)

AREA
FID
GEOM
RIVER_AREA
RIVER_ID
RIVER_NAME

Execution time 00:00:01.3281250

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Chapter Overview

- This chapter teaches you how to use Autodesk Topobase 2009 Oracle schema conversion.

Oracle Schema Conversion

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Chapter Objectives

By the end of this chapter, you will be able to:

- Convert an Oracle schema with spatial data into a Topobase document.
- Convert non-Topobase tables with spatial data into tables with Topobase-structure.

10.1 Chapter Business Challenge

- You have the hydrography data for Simrose as a Oracle spatial dataset.
- Your task is to convert that data into your Topobase structure, so that it can be used as a document in different workspaces.

10.2 Complete Schema Conversion

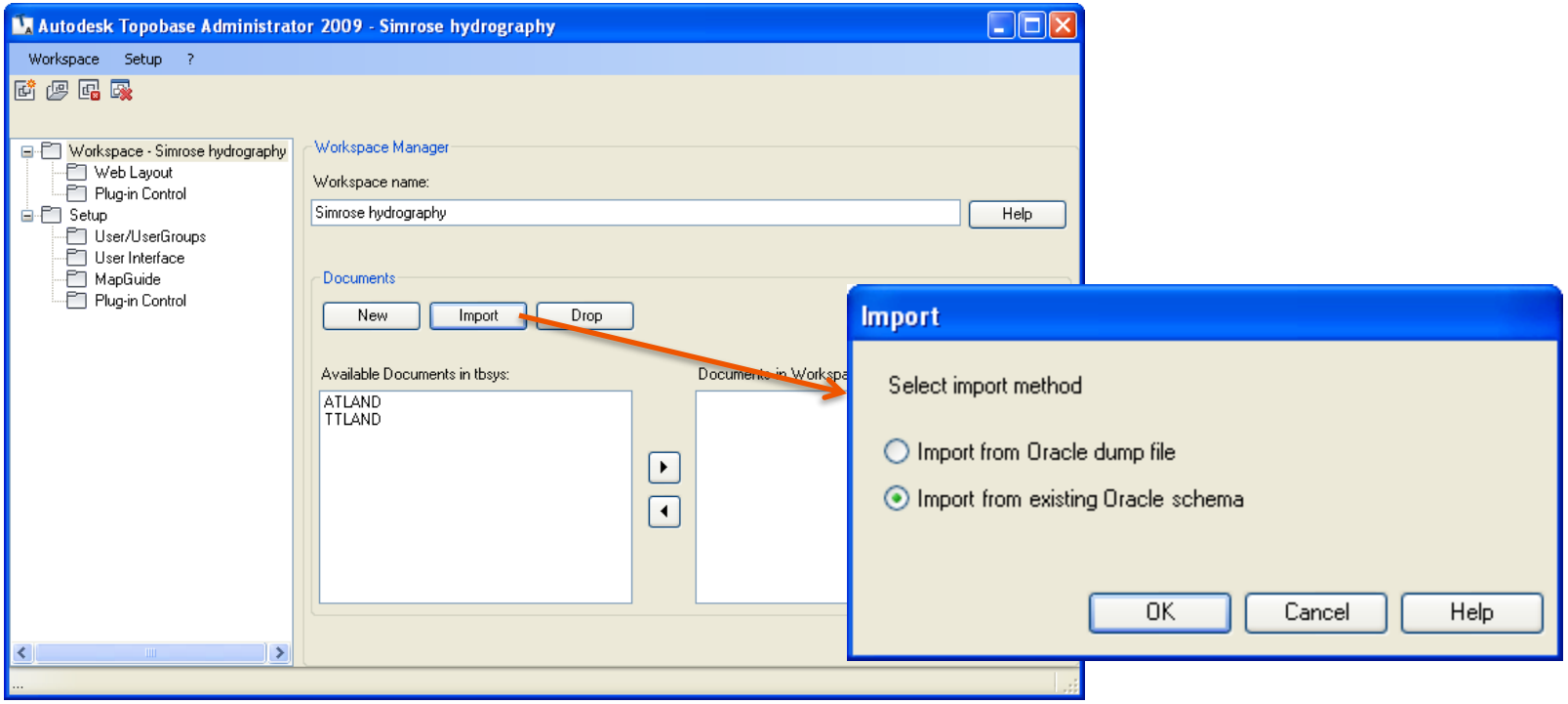
- The user selects a non-Topobase Oracle schema.
- Topobase converts the complete schema into a Topobase structure.
  - Existing tables get all the additional attributes, constraints, triggers, etc. to work as feature classes in a Topobase document.
  - Topobase system tables are also created in the schema.
- This conversion function is implemented in the import utility of the Topobase Administrator 2009.

10.2.1 Example

- The schema HYDROGRAPHY is an Oracle schema with 2 tables:
- River (polygon type)
  - with the attributes river_name, river_area, river_id and river_geometry
- Stream (line type)
  - with the attributes stream_name, stream_length, stream_id and stream_geometry

10.2.2 Start Import Schema

- Launch Topobase Administrator 2009.
- Create a workspace **Simrose hydrography**.



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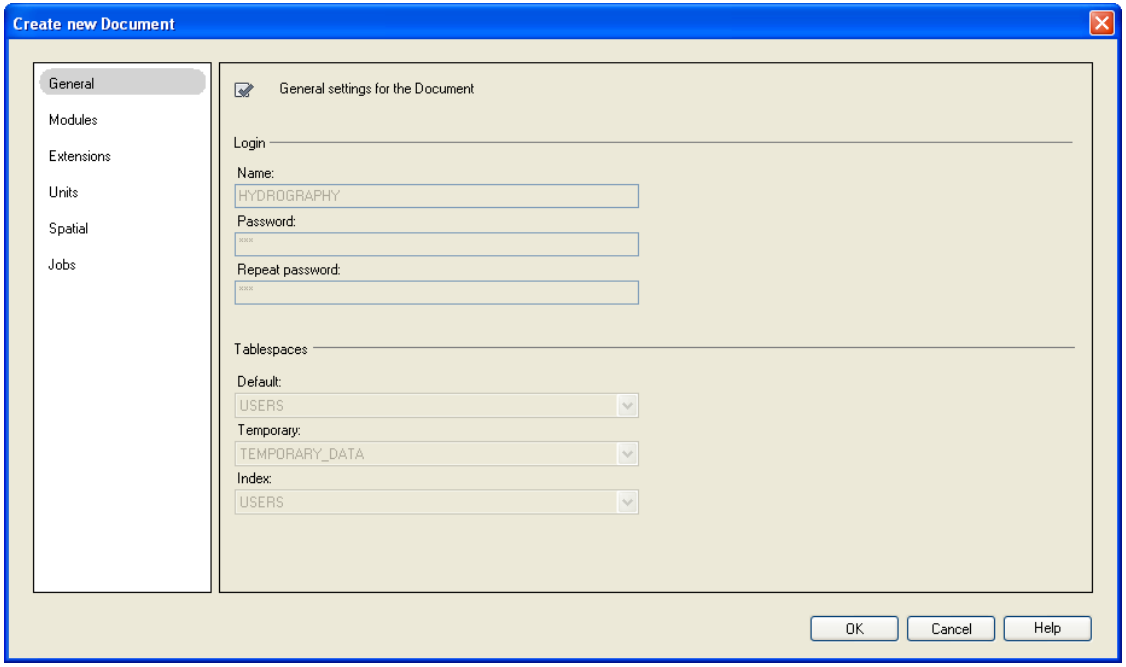
10.2.3 Select Schema

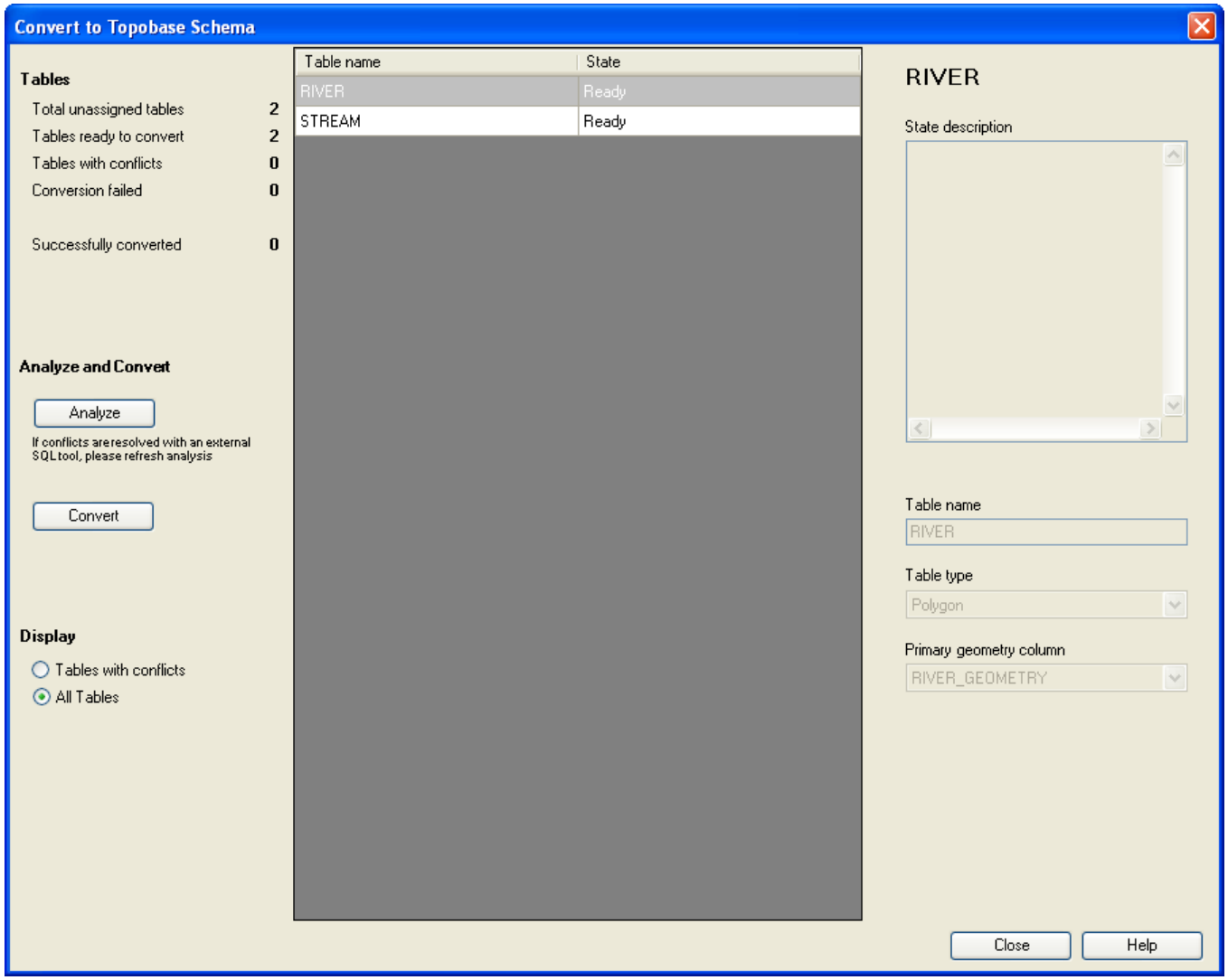
- To see schemas without Topobase structure, toggle off

  ☐ Show only Topobase schemas and select **HYDROGRAPHY**.

- Type the password for the original schema, and confirm creation of the schema.
- Fill in the Create new Document tabs:



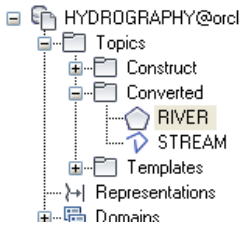
10.2.4 Convert to Topobase Schema Window



10.2.5 Starting the Conversion

- Click Convert. The conversion of the Oracle spatial tables is performed.

- The resulting tables have the standard attributes of Topobase feature classes.

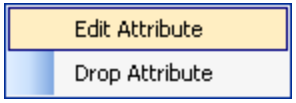


Name	Caption	Unit	Data Type	Length/Prec.	Scale	Optional
RIVER_ID	RIVER_ID		Number	10		True
GEOM	Geometry		Geometry	1		True
RIVER_AREA	RIVER_AREA		Number	20	8	True
RIVER_NAME	RIVER_NAME		Varchar2	100		True
FID	Feature ID		Number	10		False
AREA	Area of the polygon	square meter	Number	20	8	True

10.2.6 Edit Attributes

- Some new attributes are marked orange; this means that the configuration of the attributes is not complete.
  - No entry in table TB_ATTRIBUTE

- Now edit the attribute properties by **left-clicking** the orange marked attributes and selecting **Edit Attribute**.



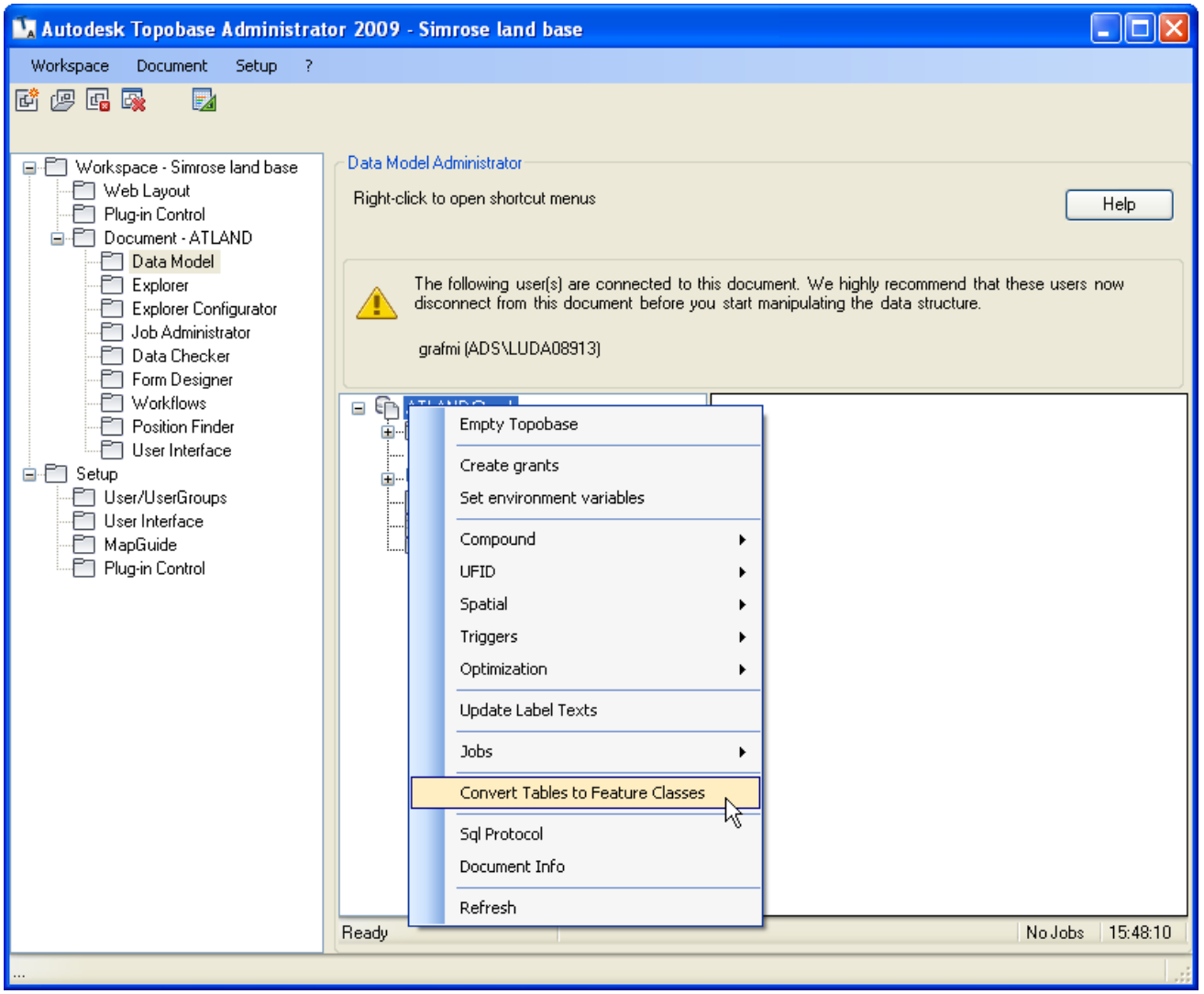
- Fill in the appropriate values in the Edit Attributes window.

10.3.1 Table Conversion

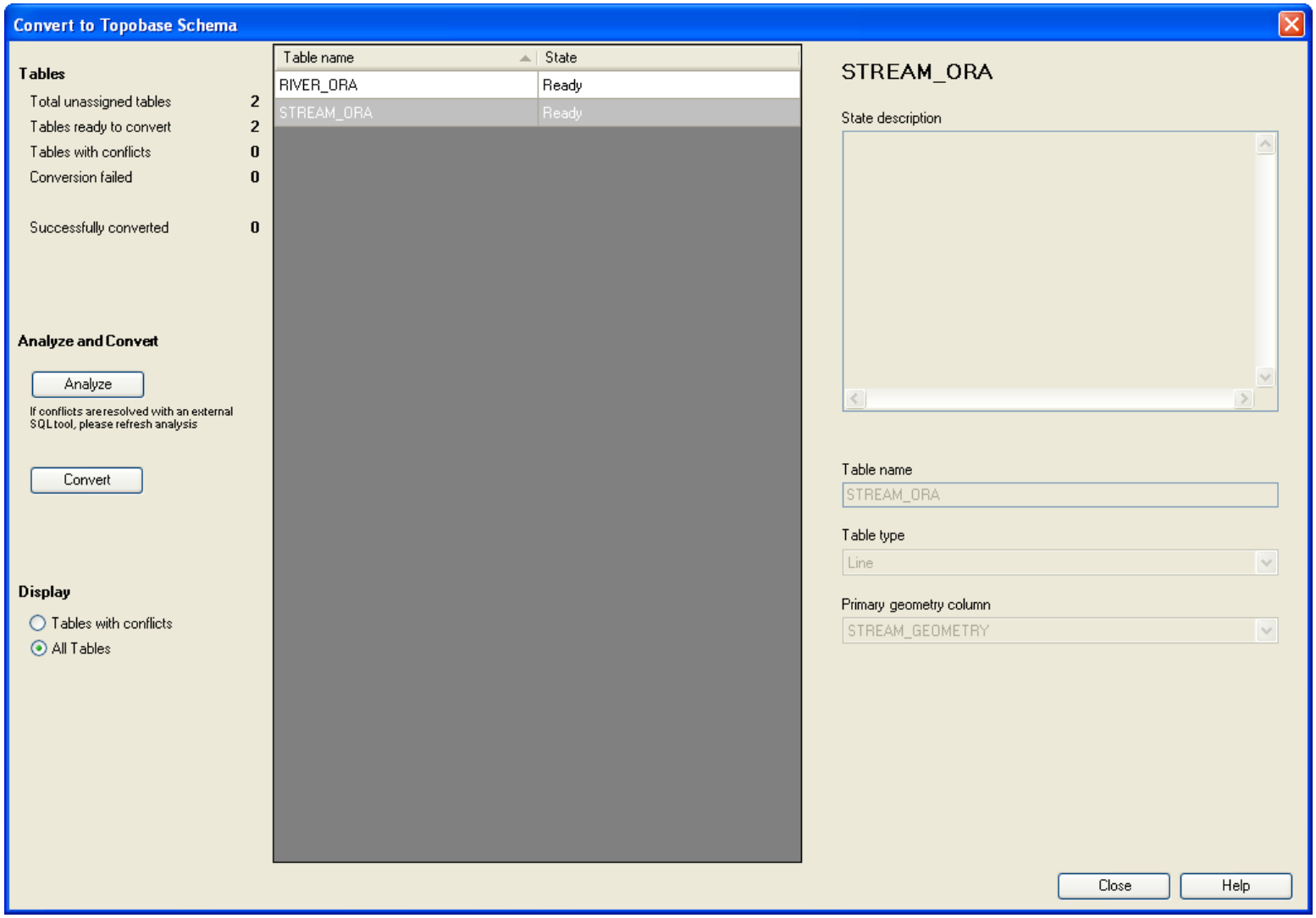
- You can convert single tables into Topobase feature classes directly within the document.

- Example
  - Imagine the same Oracle spatial data used in the last example is also stored in the ATLAND document.
  - The table names would be
    - STREAM_ORA and
    - RIVER_ORA

10.3.2 Start Table Conversion



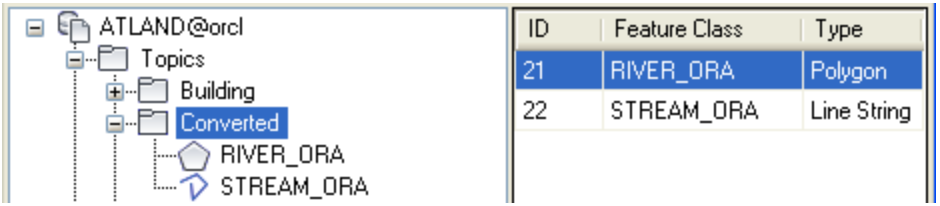
10.3.3 Convert to Topobase Schema Window



10.3.4 Conversion

- Click Convert.
- A warning appears; click OK to change the data tables.

- The converted tables are grouped together in the tree view.



10.4 Structure Modifications

- During the conversion steps the following modifications have been applied to the data structure:
  - Convert an Oracle table to a Topobase feature class. Add Topobase related columns; rename the geometry column to GEOM if necessary.
  - Identify the feature class type by analyzing the GTYPE of the geometries. A mix results in a Collection type class.
  - FID needs to be the new primary key. Set the old primary key as unique constraint.
  - Set the FID trigger and the triggers for the default server side feature rules.
  - Write entries in TB_DICTIONARY, TB_RELATION, TB_UFID, etc.

10.5 Type Mapping

- The Topobase schema converter converts tables that store geometry according to the GTYPE of the geometry data, as described below:
  - Line, Multiline → Line feature class
  - Polygon, Multipolygon → Polygon feature class
  - label feature class and point feature class → point feature class
  - Multipoint (2D), Mixed types → Collection feature class
  - Unsupported geometry types, such as LRS, 3D Point Cloud, Composite Surface, Solid → Attribute feature class

10.6 After the Conversion

- The conversion of an Oracle schema to a Topobase document does not perform the following:
  - Fill length or area.
  - Fill the table TB_ATTRIBUTES (because many parameters are unknown).
  - Create new spatial indices.
  - Validate geometry.
  - View conversion.
  - Handle job functionality.
  - Set feature rules, other than the default feature rules.

10.8 Chapter Summary

You should now be able to:

- Convert an Oracle schema with spatial data into a Topobase document.
- Convert non-Topobase tables with spatial data into tables with Topobase-structure.

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