

Building the SSAS Tabular 2012 Foundation

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Objectives

- **Establish a Development Environment**
- **Create a New Tabular Project**
- **Object Inventory of a Tabular Model**
- **Looking Ahead: PowerPivot to SSAS Tabular**

Establish a Development Environment

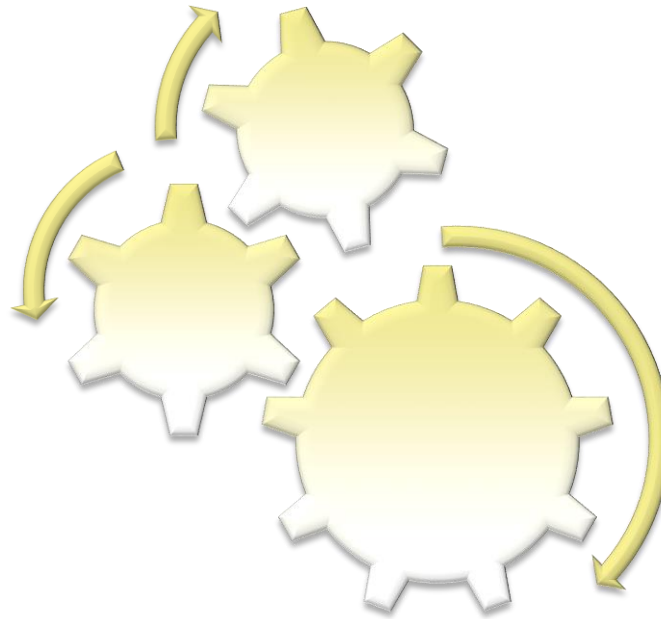
Components of a Development Environment

- Development Workstation
- Development Server
- Workspace Database Server

Development Workstation

- Tabular models are designed here, via SQL Server Data Tools (“SSDT” – was “BIDS”)
- Once Tabular model is designed, build and deploy the project

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Let's Take a Look:
Start SSDT and Look it Over ...

Development Server

- Server with an SSAS instance, Tabular mode
- Used to host development models
- Project destination from Development Workstation
- Development Workstation and Development Server ideally in same domain
- Deployed Tabular model can be queried by anyone with permission

Development Server

- A dedicated Development Server
- Single “departmental server” implementation fine for evaluation

Workspace Database Server

- SSDT has its own “private” database
- In most cases, best for Workspace Database Server and Development Database to share same machine

Create a New Tabular Project

Create a New Tabular Project:

- ... From Scratch
- ... Import a Deployed SSAS 2012 Tabular Model
- ... Import a PowerPivot Model

Create a New Tabular Project – From Scratch

- **The Steps ...**
- **Configure a New Project**
- **Object Inventory of a Tabular Project**

Create a New Tabular Project – *From Scratch*

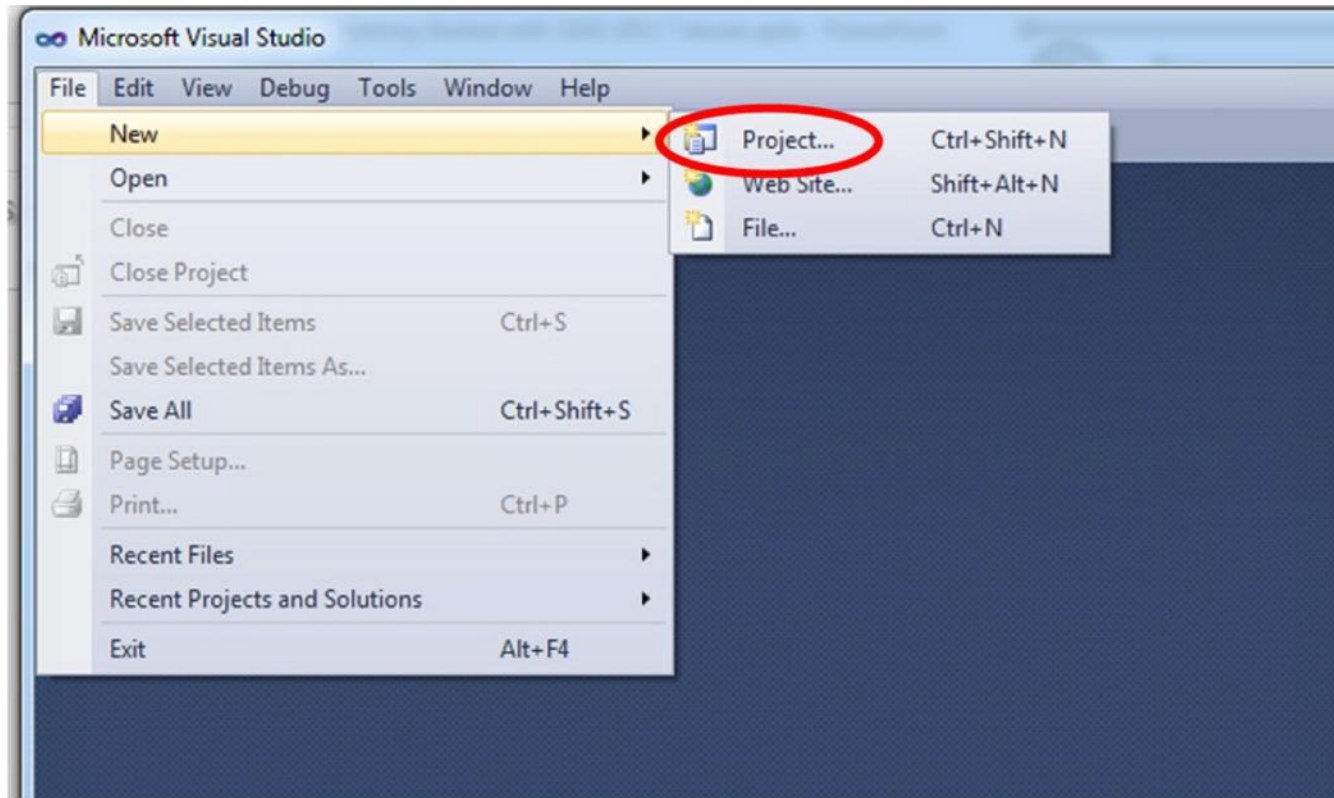
The Steps:

- **Create a New Project**
- **Choose Analysis Services Tabular Project template**
- **Designate a Workspace Server**
- **Open Model.bim file**
- **Select Model → Import From Data Source**
- **Follow Table Import Wizard**

New Tabular Model, based upon data source(s), is created

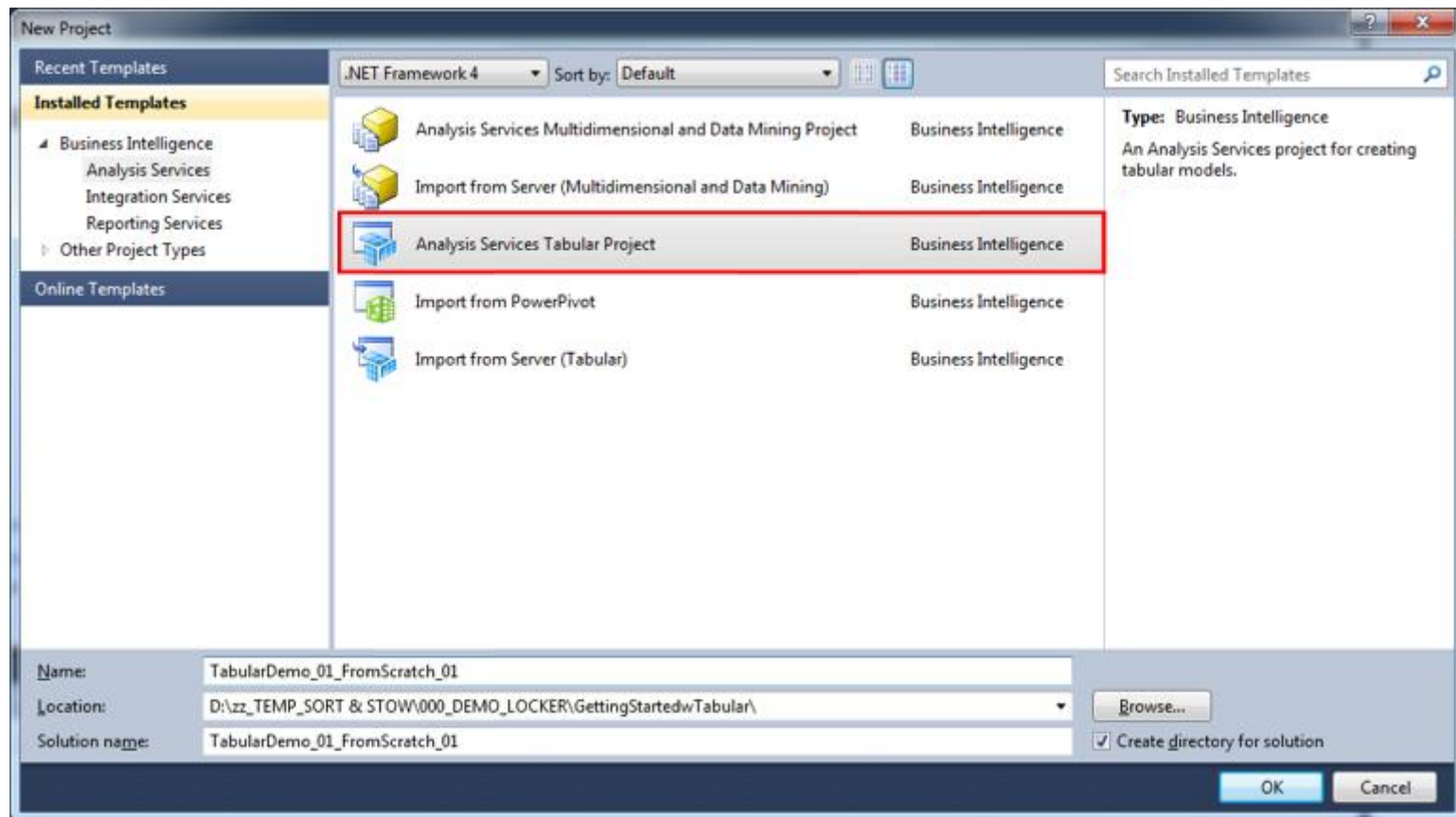
Create a New Project ...

In SSDT: File → New → Project

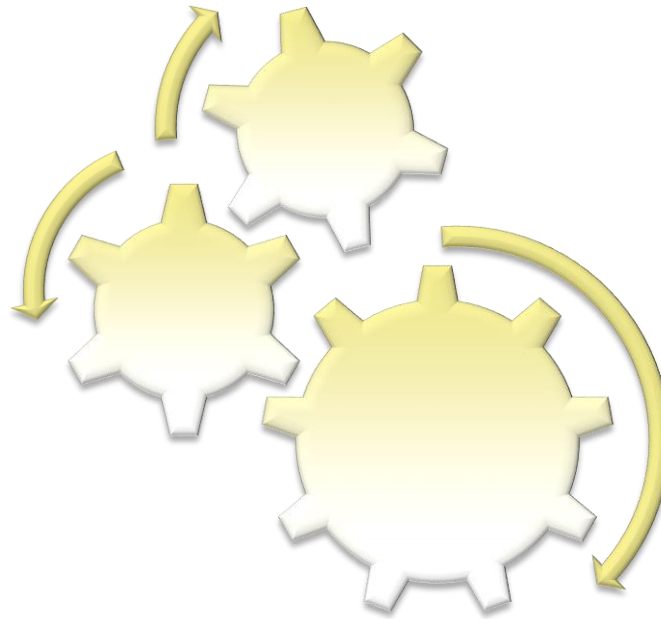


Choose Analysis Services Tabular ...

Choose Analysis Services Tabular Project template



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Let's Take a Look:

Begin Project Creation – Select the Tabular Template ...

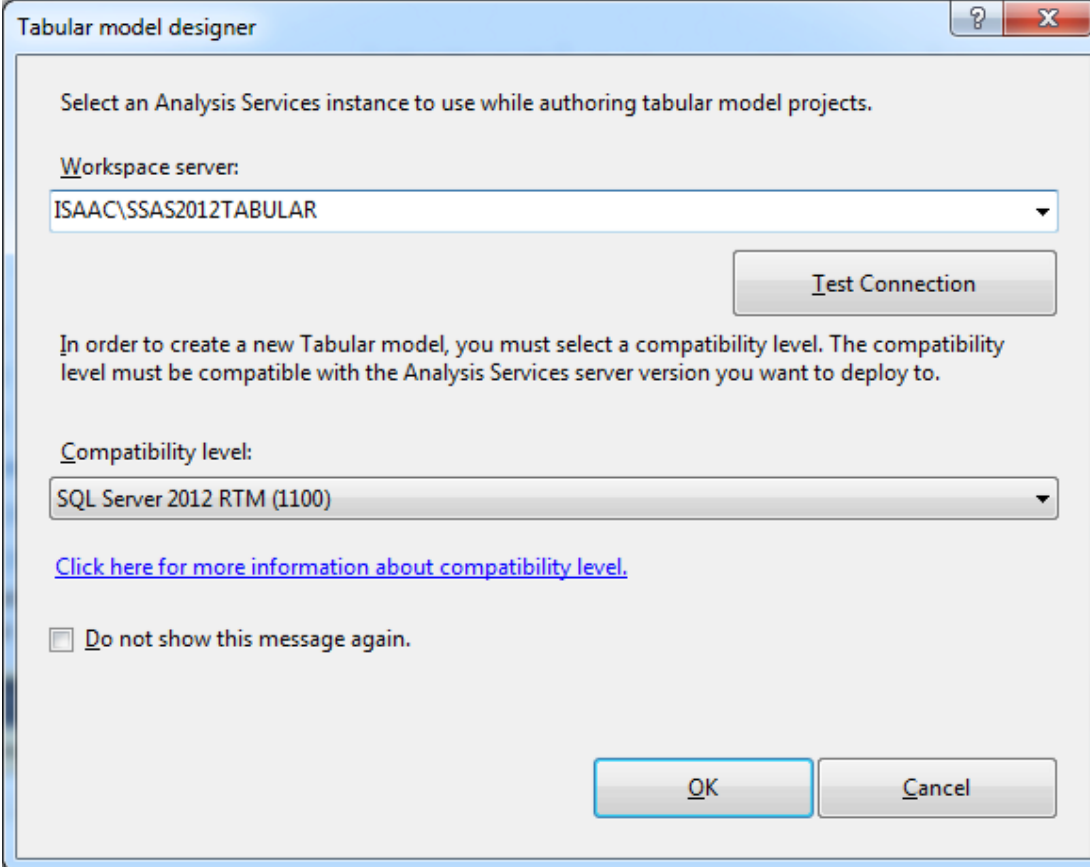
Create a New Tabular Project – From Scratch

Configuring a New Project

- Default Properties Wizard
- Project Properties
- Model Properties
- Global Default Settings

Configuring a New Project ...

Default Properties Wizard



The screenshot shows a Windows-style dialog box titled "Tabular model designer". It contains instructions for selecting an Analysis Services instance and a compatibility level. The "Workspace server" dropdown is set to "ISAAC\SSAS2012TABULAR", and the "Compatibility level" dropdown is set to "SQL Server 2012 RTM (1100)". There is a "Test Connection" button, a link for more information, and a checkbox to "Do not show this message again." at the bottom.

Tabular model designer

Select an Analysis Services instance to use while authoring tabular model projects.

Workspace server:
ISAAC\SSAS2012TABULAR

Test Connection

In order to create a new Tabular model, you must select a compatibility level. The compatibility level must be compatible with the Analysis Services server version you want to deploy to.

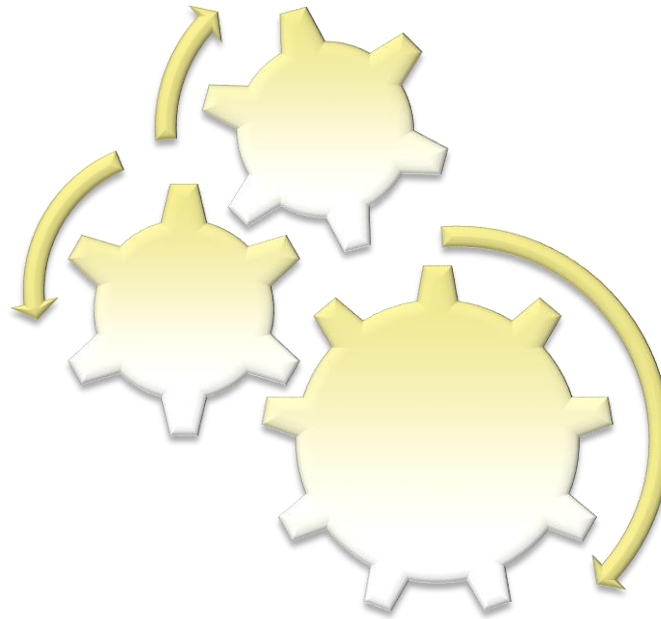
Compatibility level:
SQL Server 2012 RTM (1100)

[Click here for more information about compatibility level.](#)

☐ Do not show this message again.

OK Cancel

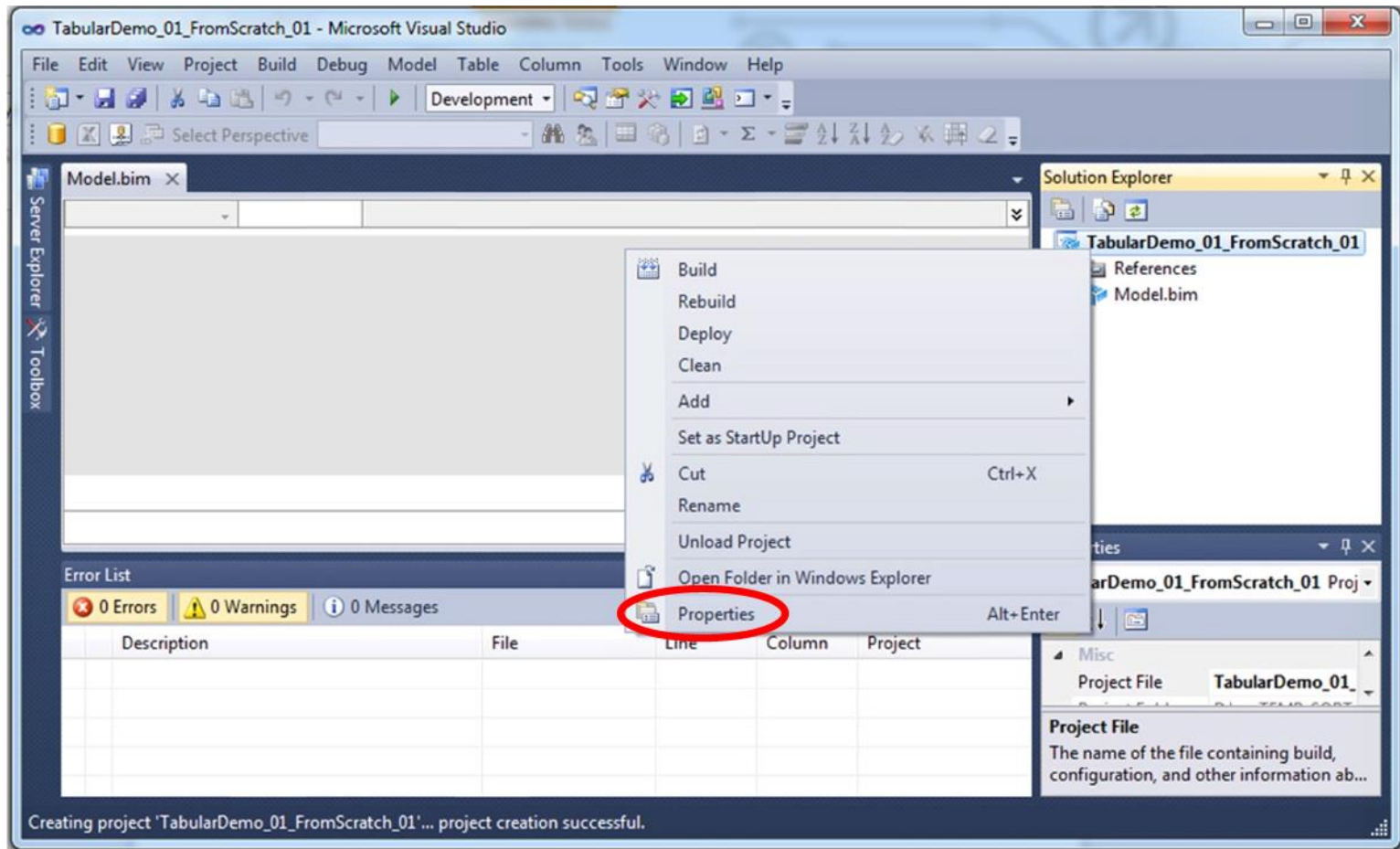
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Let's Take a Look:
Default Properties Wizard ... and Create Project

Configuring a New Project ...

Project Properties



Configuring a New Project ...

Project Properties ...

TabularDemo_01_FromScratch_01 Property Pages

Configuration: Active(Development) Platform: Active(x86) Configuration Manager...

Configuration Properties

- Deployment

Deployment Options

Processing Option	Default
Transactional Deployment	False
Query Mode	In-Memory

Deployment Server

Server	ISAAC\SSAS2012TABULAR
Edition	Developer
Database	TabularDemo_01_FromScratch_01
Cube Name	Model
Version	11.0

DirectQuery Options

Impersonation Settings	Default
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Version

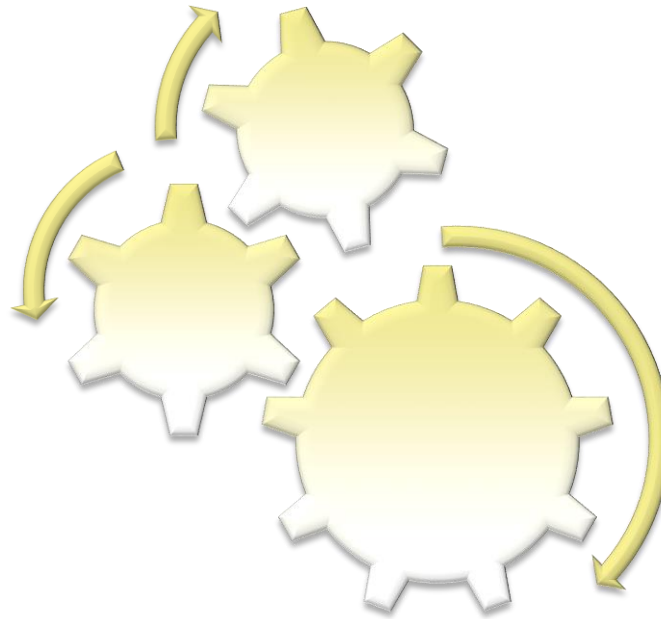
The version of the Analysis Services instance where the project will be deployed.

OK Cancel Apply

Project Properties

Property	Controls / Contains:
Deployment Options / Processing Options	<ul style="list-style-type: none">• Type of processing taking place after deployment• If / how SSAS auto-loads data model changes
Deployment Server / Server	Name of targeted Development Server
Deployment Server / Edition	Edition of ultimate Production Server
Deployment Server / Database	Database to which project will be deployed
Deployment Server / Cube Name	Name of cube that is displayed to clients

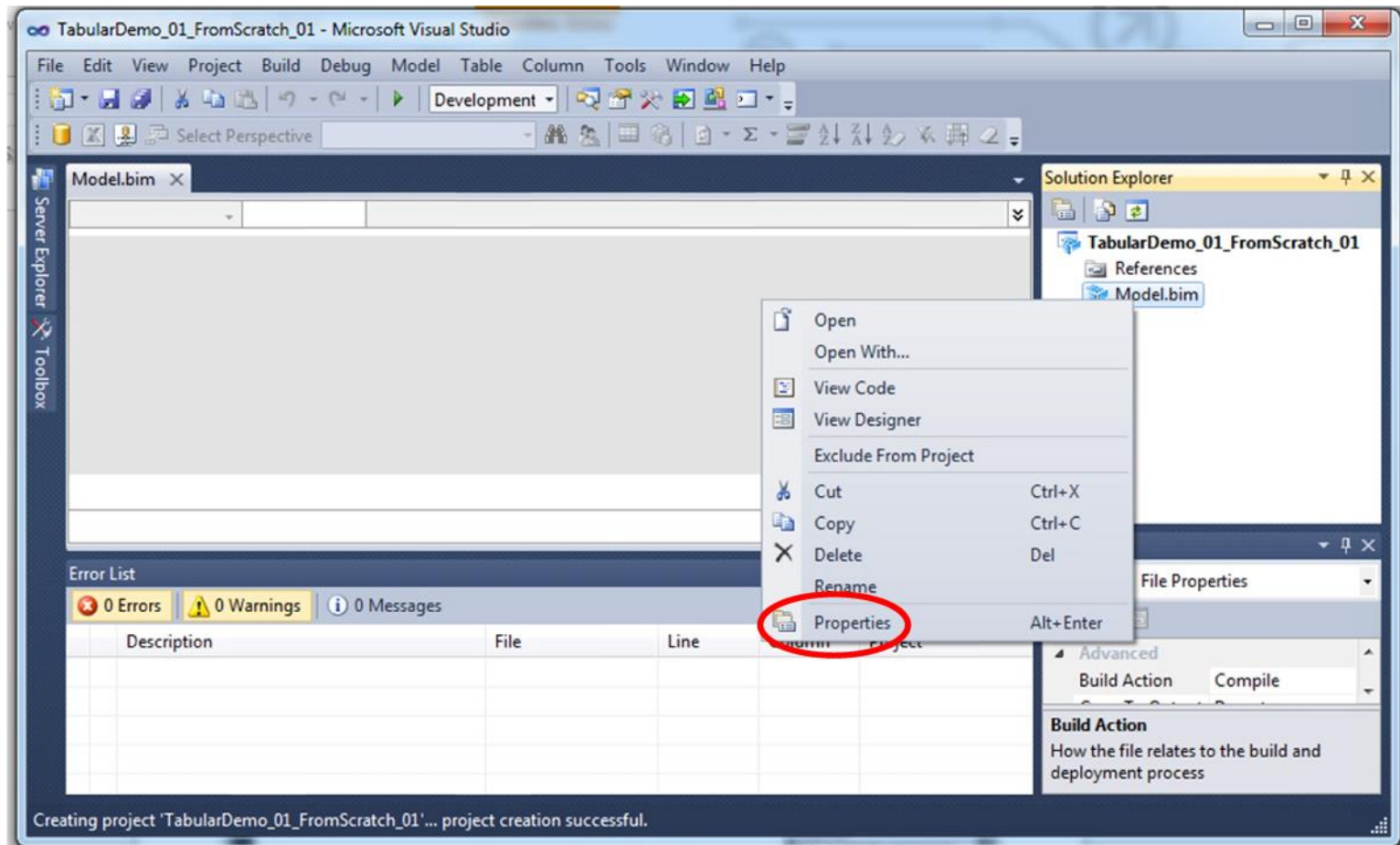
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Let's Take a Look:
Project Properties

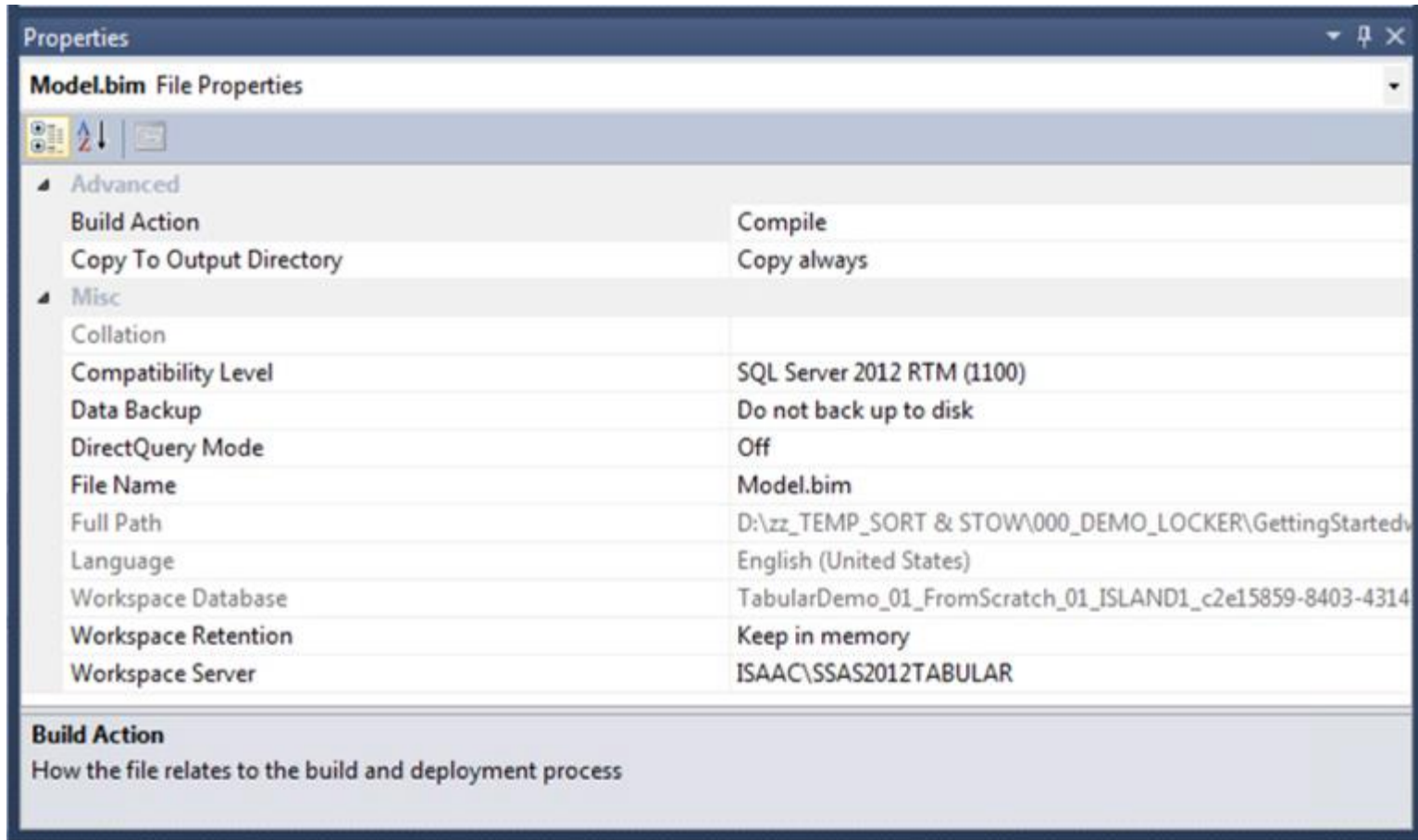
Configuring a New Project ...

Model Properties



Configuring a New Project ...

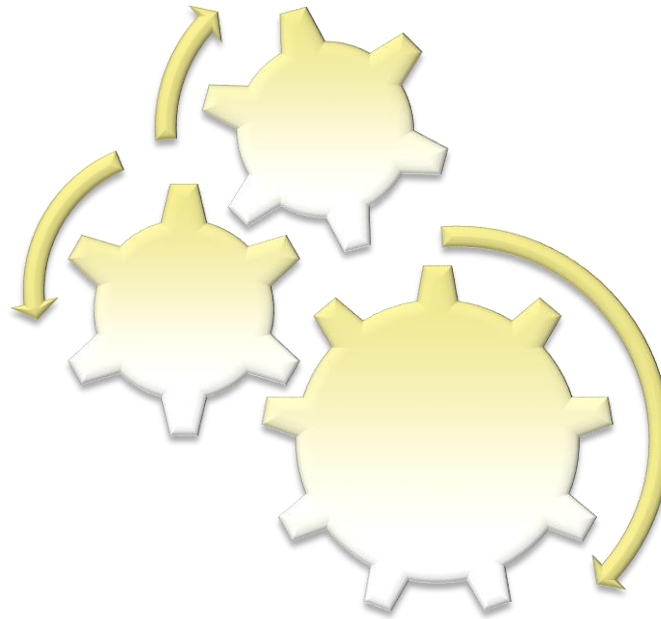
Model Properties ...



Model Properties

Property	Controls / Contains:
Data Backup	How closing Project affects Workspace Data
File Name	Sets name of the .bim file in the project
Workspace Retention	How closing Project affects retention of Workspace Database
Workspace Server	Name of SSAS 2012 Tabular instance

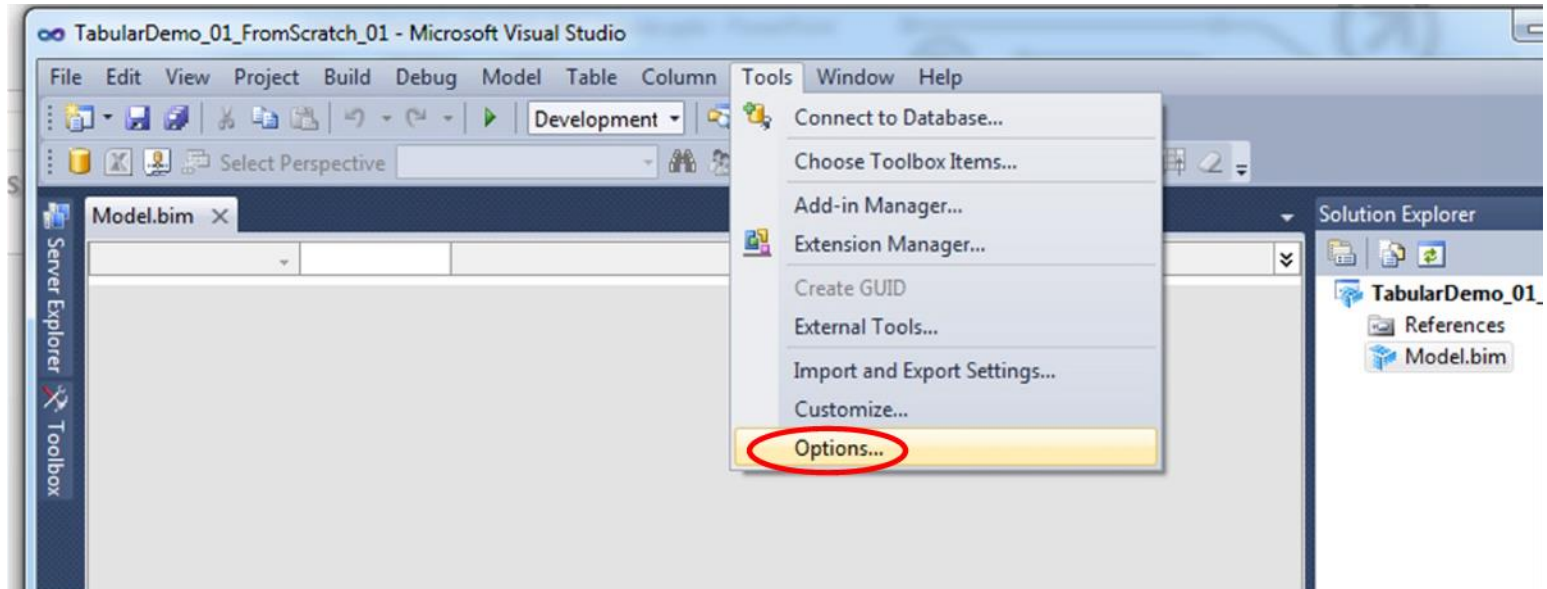
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Let's Take a Look:
Model Properties

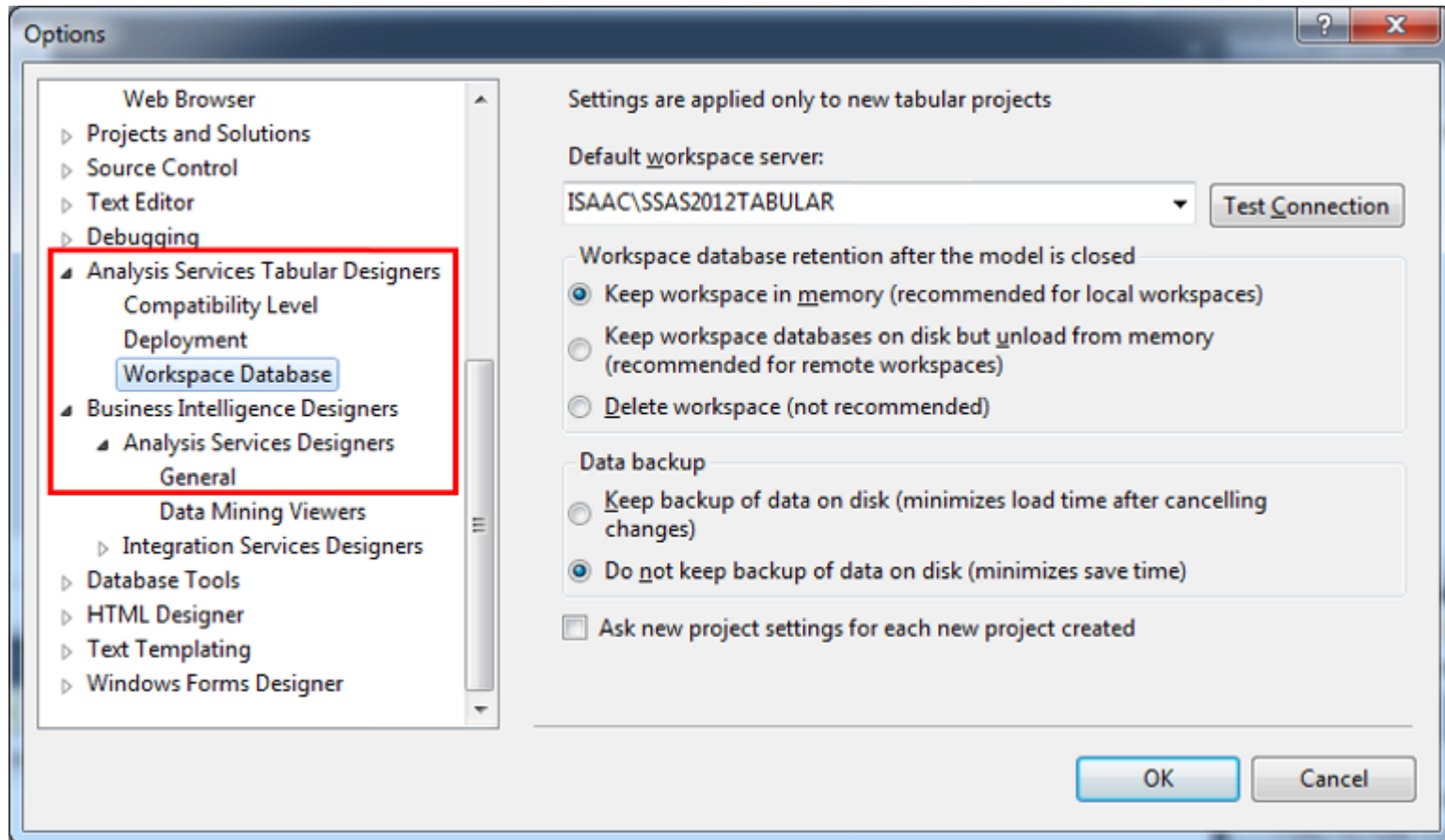
Global Default Settings

Options Dialog Box

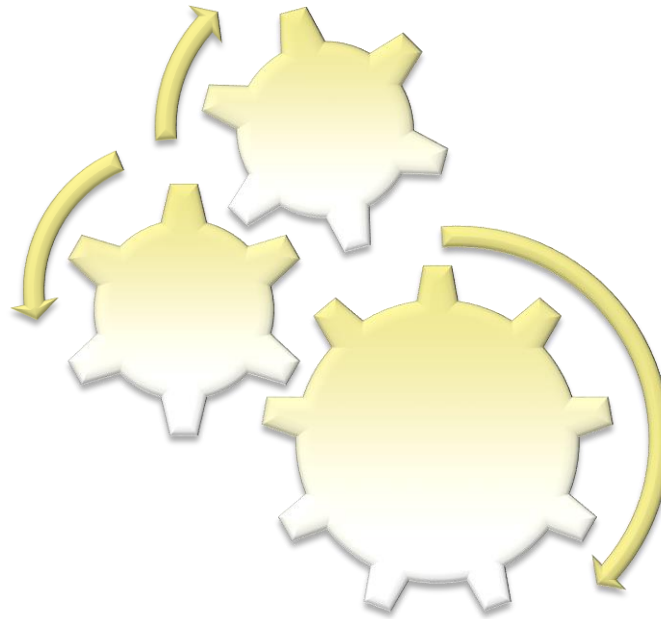


Global Default Settings

Options Dialog Box



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Let's Take a Look:
Global Default Settings – Options Dialog

... Import a Deployed SSAS 2012 Tabular Model

Useful in certain situations:

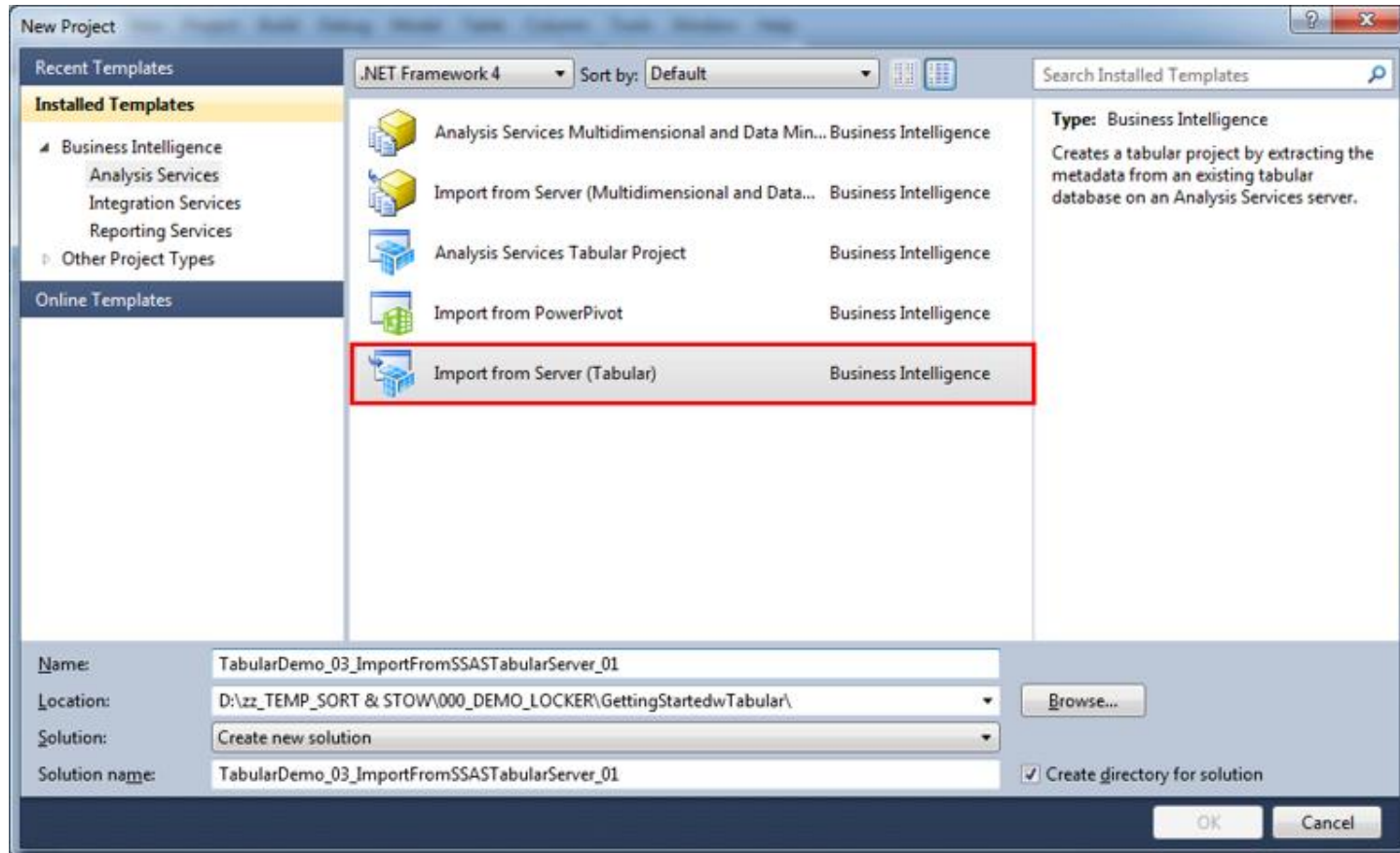
- Create a project quickly
- Great way to recover from damaged / lost model

The Steps:

- Create a New Project
- Choose Import from Server (Tabular)
- Designate a Workspace Server
- Select Analysis Server and Tabular Database
- New Tabular Model is created

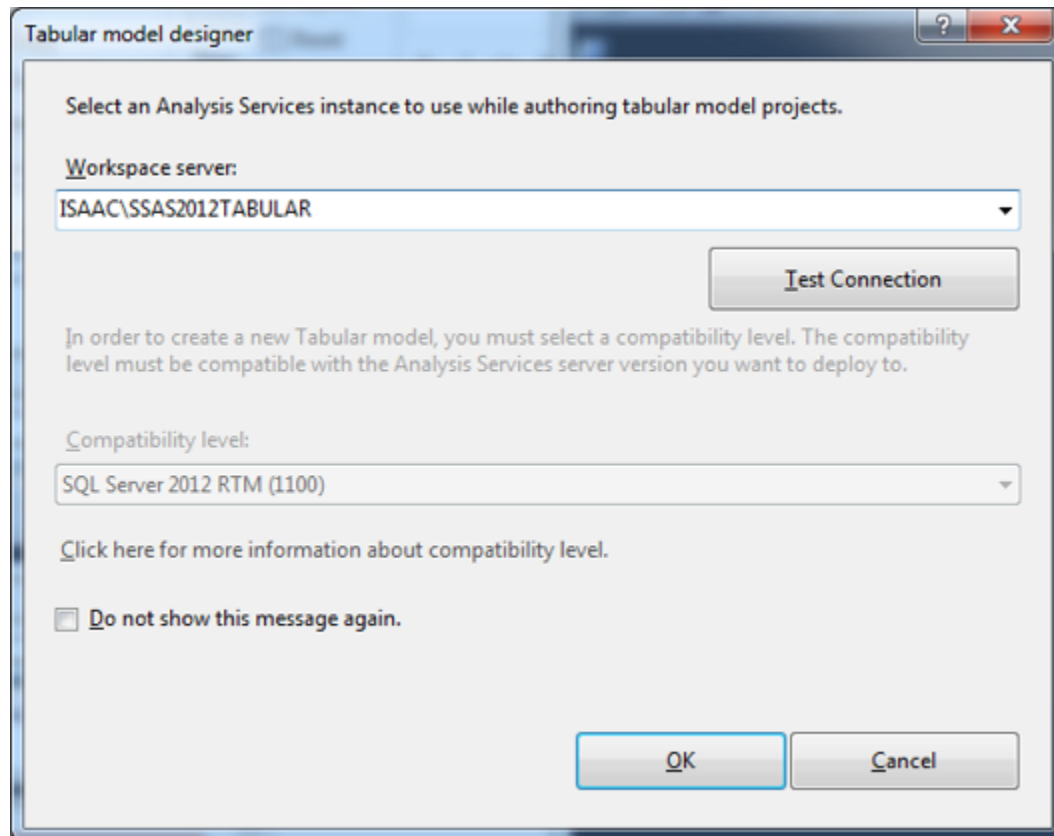
Import a Deployed SSAS 2012 Tabular Model

Choose Import from Server (Tabular) template



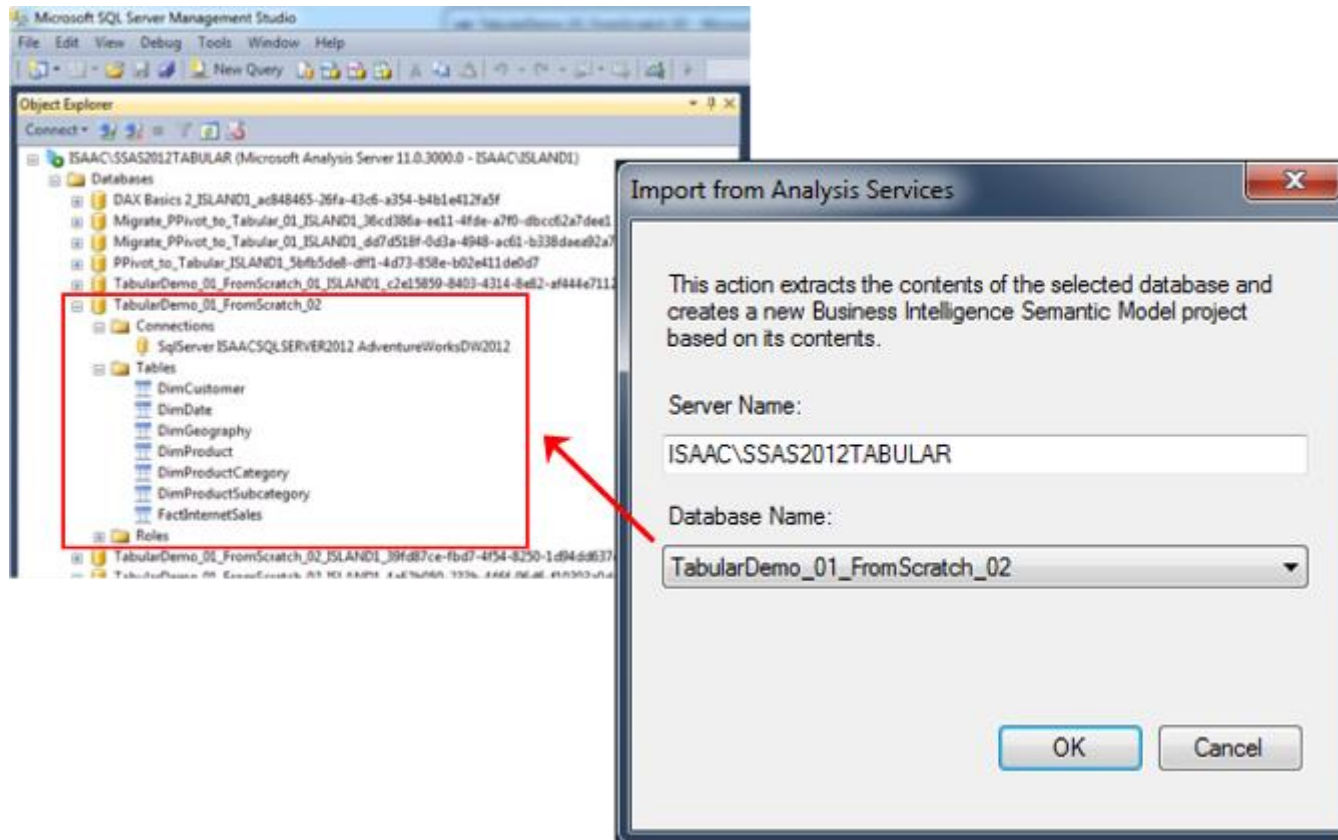
Designate Workspace Server ...

Workspace Server may already be set as a default, as discussed ...

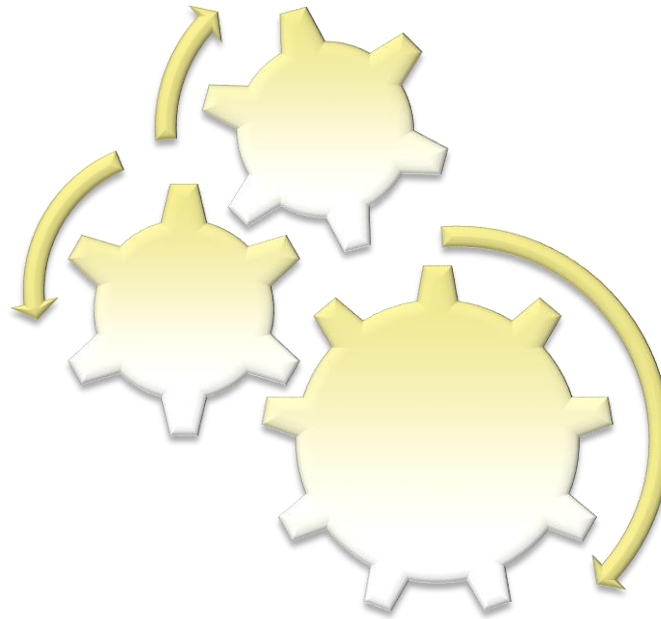


Select Analysis Server and Tabular Database ...

Select the SSAS Server and Tabular Database ...



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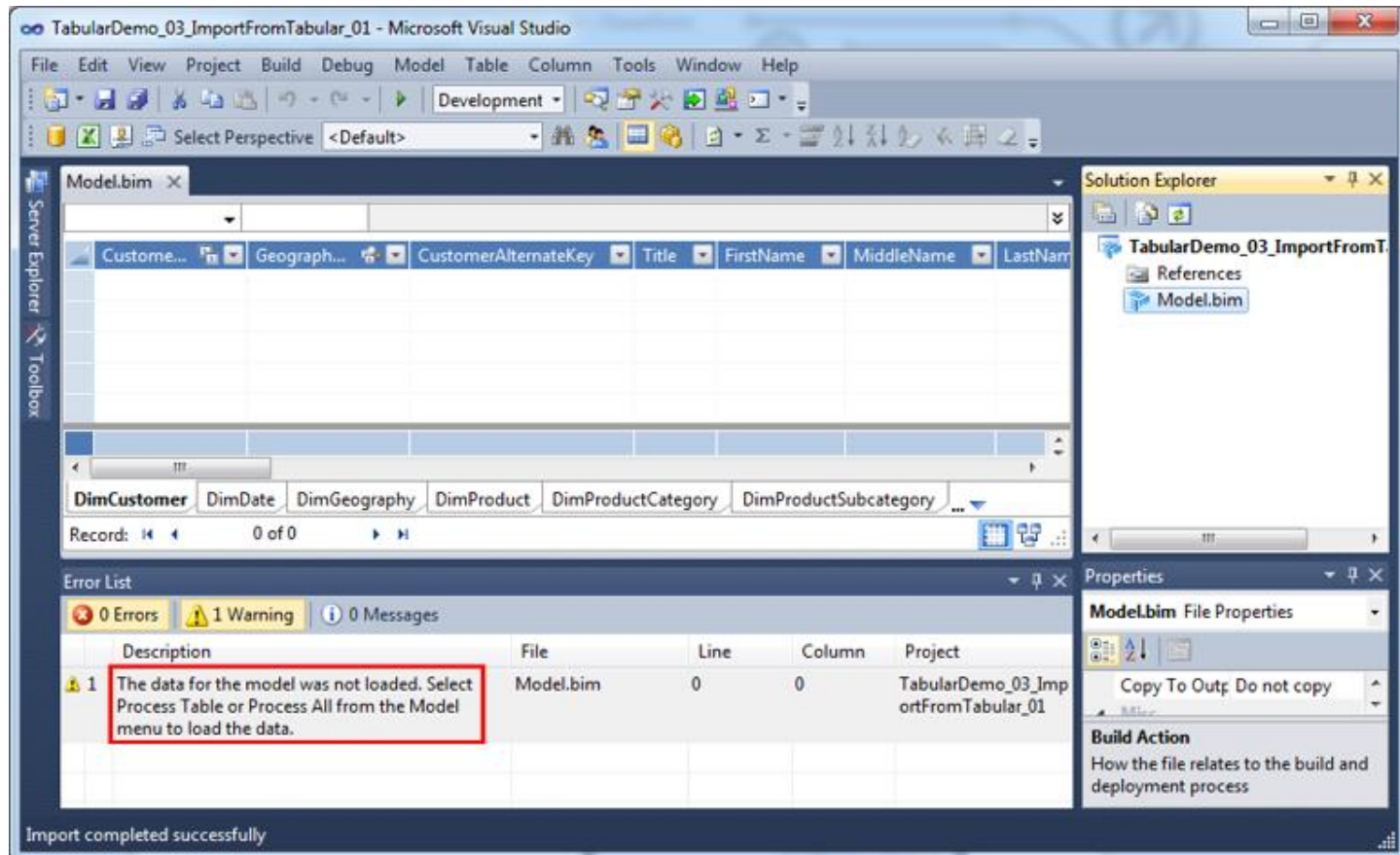


Let's Take a Look:

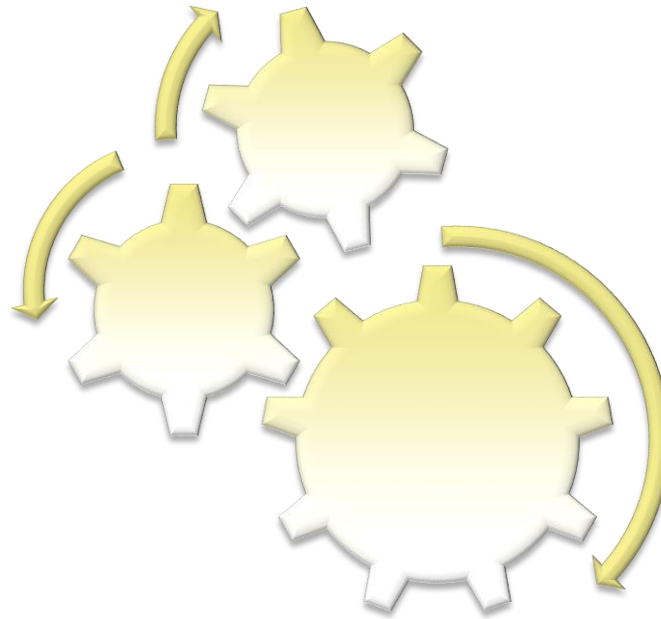
Verify Tabular Database Components in SSMS ...

New Tabular Model is Created ...

Note that data is not loaded until we process the new model ...



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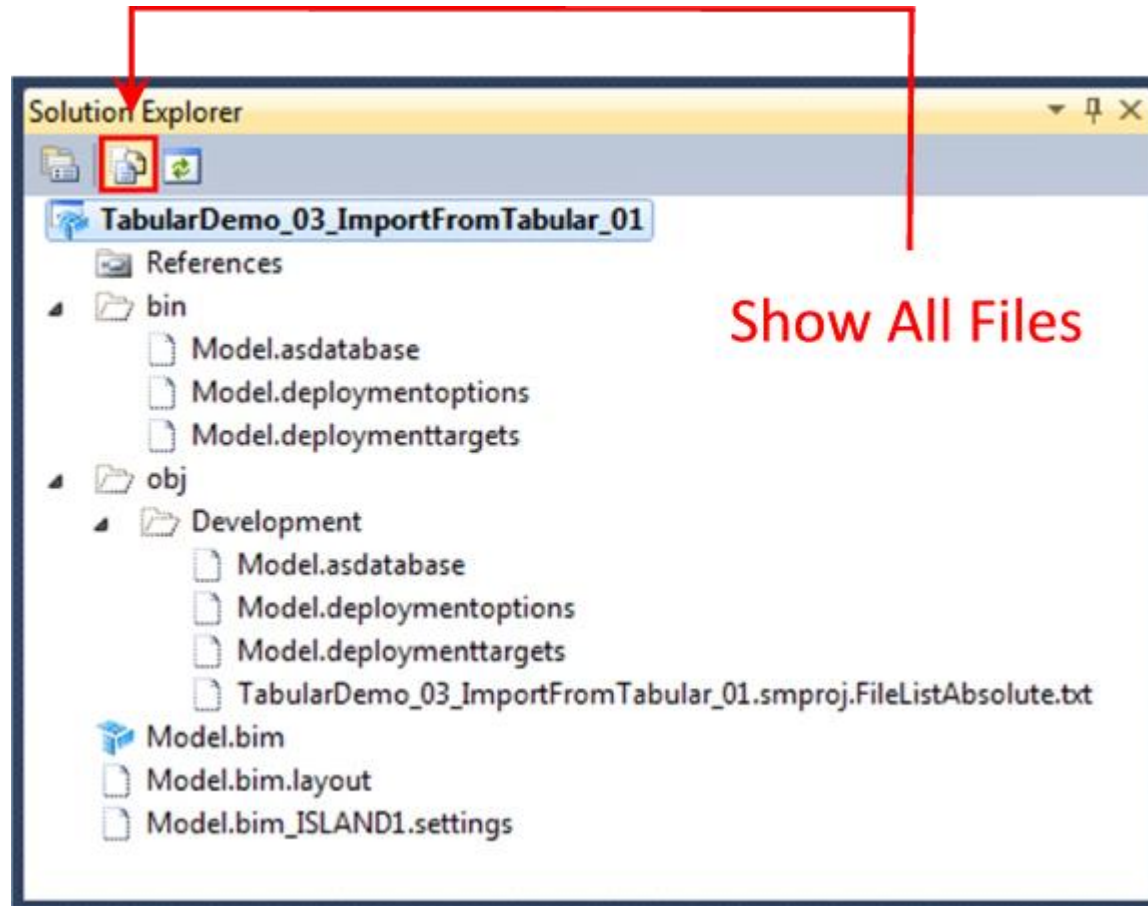
Let's Take a Look:

Create a New Tabular Model:

Via Import of a Deployed SSAS 2012 Tabular Model ...

Object Inventory of a Tabular Model

Numerous project files appear when we click the Show All Files button



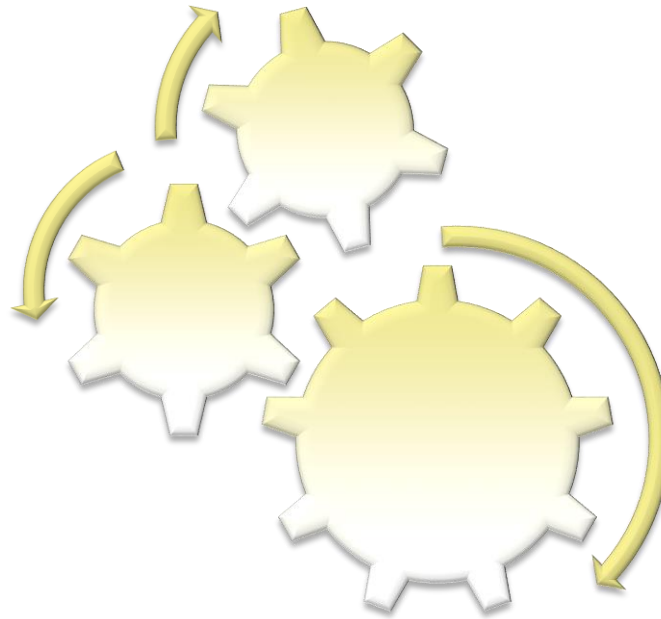
Object Inventory of a Tabular Model

- **Objects and their purposes**
- **Generate and examine the Object Inventory**

Object Inventory of a Tabular Model

Object	Purpose
Development Folder: <ul style="list-style-type: none">• .asdatabase• .deploymentoptions• deploymenttargets	Files housing properties set within Project Properties dialog
.abf file	Contains the workspace database backup
Model.bim	Contains project metadata
.layout file	Houses information about SSDT panes and windows
.settings file	Contains properties written to disk when opening project

Building the SSAS Tabular 2012 Foundation



Let's Take a Look:

Create a New Tabular Model:

*Process and Deploy the **Project** to See All Files ...*

Looking Ahead... Import a PowerPivot Model

PowerPivot for Excel is an excellent place to prototype our Tabular models!

- Design and test easily
- Portability
- Option: SharePoint for testing
- Scales to Tabular

We will examine this approach in the next module ...

Summary

- **Established a Development Environment**
- **Created a New Tabular Project**
- **Explored Object Inventory of a Tabular Model**
- **Looking Ahead: PowerPivot to SSAS Tabular**