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Dynamic XMLA using T-Services



By: [Daniel Calbimonte](#) | [Read Comments](#)

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Problem

Sometimes it is necessary create SSAS partition date and time. Sometimes we need to create SSAS automation tasks in SSAS can be solved with [AMO](#) skills that usually DBAs do not have (or do not have AMO), but they need to automate their administration tasks.

Solution

In this sample we are going to create a partition **2012** the T-SQL script will create a partition name would be **Internet_Sales_2013**. The idea is to

The scripts used in this example can be [downloaded](#)



Requirements

For this sample, we are going to download and Model 2012 (you can apply this tip to SQL 2008) <http://msftdbprodsamples.codeplex.com/download>

Note: on my 64 bit machine it was necessary to install SQLAS_OLEDB.msi

Getting Started

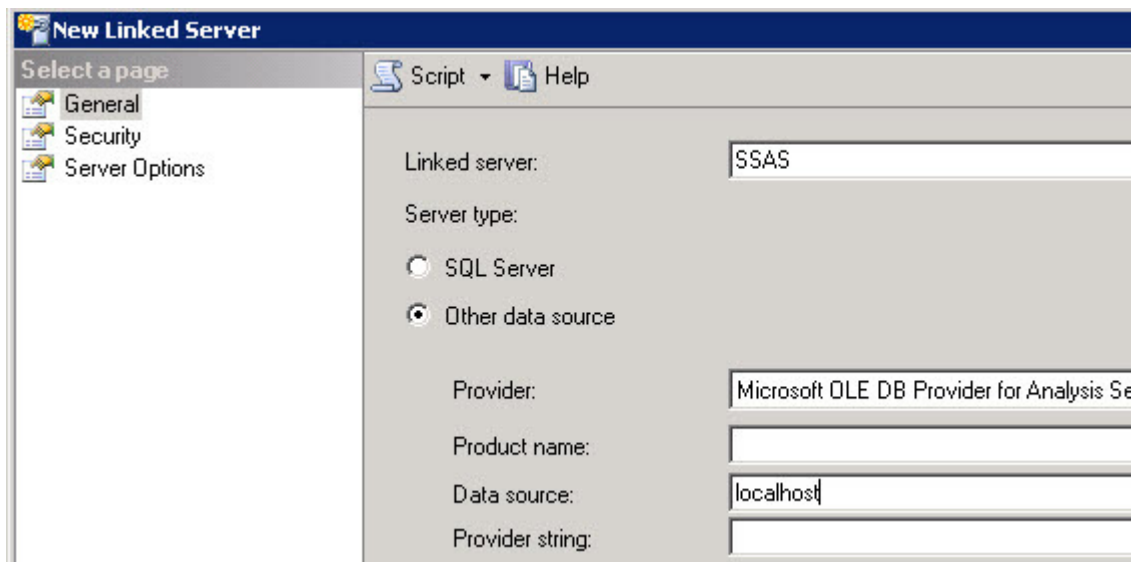
In this tip, we are going to create a linked server. In the linked server we are going to run a XMLA script. You have the above requirements installed.

Create a Linked Server

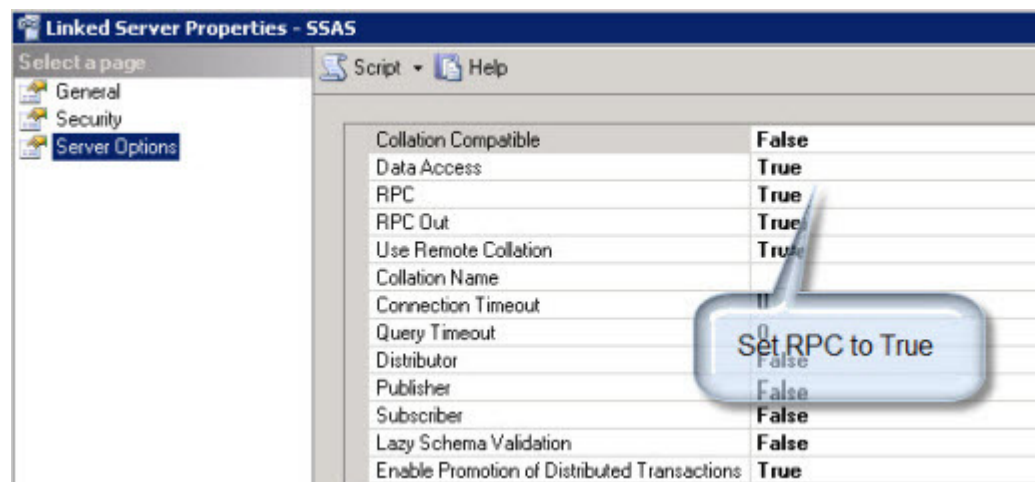
1. Open SQL Server Management Studio
2. Go to Server Objects > Linked Server right-click



3. In the New Linked Server Window, enter Provider for Analysis Services 11 as the provider. In the Server Name field, enter Analysis Services (in my case I used localhost).



4. Make sure RPC and RPC Out are set to True in order to communicate between SQL Server and SSAS.



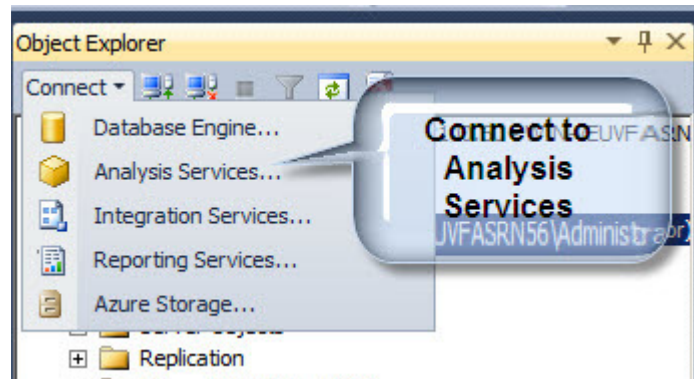
5. Another option instead of going through steps 2 to 4 is to run T-SQL like below to create SSAS.

```
USE [master]
GO
/***** Object:  LinkedServer [SSAS]      Script Date: 14/09/2012 04:28:40 p.m. *****/
EXEC master.dbo.sp_addlinkedserver @server = N'SSAS', @srvproduct=N'', @provider=N'
/* For security reasons the linked server remote logins password is changed with #
EXEC master.dbo.sp_addlinkedsrvlogin @rmtsrvname=N'SSAS',@useself=N'False',@localc
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'collation compatible',
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'data access', @optvalue
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'dist', @optvalue=N'fals
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'pub', @optvalue=N'false
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'rpc', @optvalue=N'true'
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'rpc out', @optvalue=N't
GO
EXEC master.dbo.sp_serveroption @server=N'SSAS', @optname=N'sub', @optvalue=N'false
```

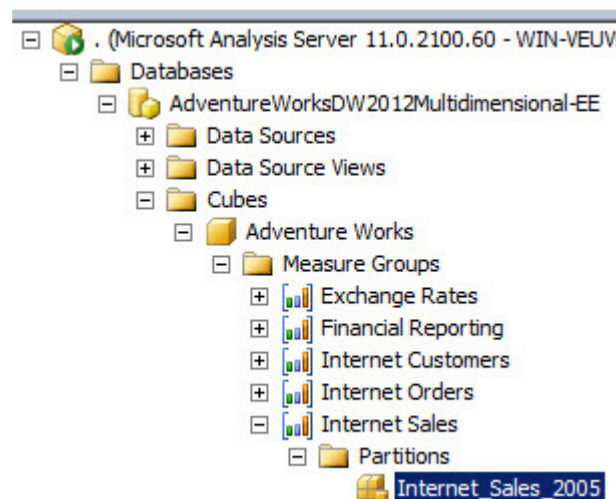
Create Dynamic XMLA

In a transactional database, to create objects you use T-SQL. In multidimensional databases y XML extension used in Analysis Services to create objects. In this example we are going to ger then modify it to accept dynamic parameters.

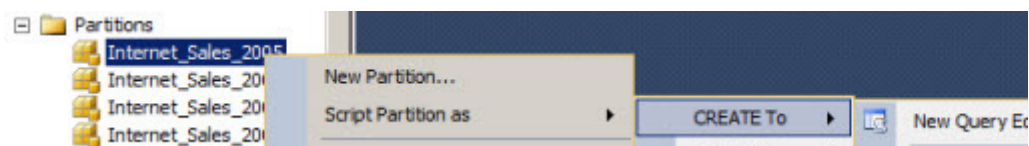
1. In SQL Server Management Studio, connect to the Analysis Services server that you use Server.



2. Go to Databases > AdventureWorksDW2012Multidimensional-EE > Cubes > Adventure V > Internet Sales > Partitions > Internet_Sales_2005



3. Right click on the partition and select Script Partition as > CREATE To > New Query Editor generates the code to create the partition Internet_Sales_2005:

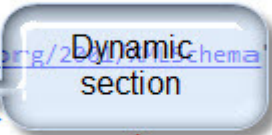


The code generated is as follows and you can see where I highlighted the sections we wa

```

<Create xmlns="http://schemas.microsoft.com/analysiservices/2003/..."
  <ParentObject>
    <DatabaseID>AdventureWorksDW2012Multidimensional-EE</DatabaseID>
    <CubeID>Adventure Works</CubeID>
    <MeasureGroupID>Fact Internet Sales 1</MeasureGroupID>
  </ParentObject>
  <ObjectDefinition>
    <Partition xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      <ID>Internet_Sales_2005</ID>
      <Name>Internet_Sales_2005</Name>
      <Source xsi:type="QueryBinding">
        <DataSourceID>Adventure Works DW</DataSourceID>
        <QueryDefinition>SELECT [dbo].[FactInternetSales].[ProductID]
        FROM [dbo].[FactInternetSales]
        WHERE OrderDateKey <= '20051231'
      </Source>
      <StorageMode>Molap</StorageMode>
      <ProcessingMode>Regular</ProcessingMode>
    </ObjectDefinition>
  </Create>

```



4. The idea is to create 3 things dynamically in the XMLA: the Name, ID and the Date in the T-SQL script that detects the current date and creates a partition with the current date. I have the code. You can [download the entire code sample](#) here.

```

DECLARE @myXMLA nvarchar(max), @value nvarchar(30), @date varchar(8), @year nvarchar(4)
SET @date=FORMAT (getdate(), 'yyyyMMdd')
SET @year=FORMAT (getdate(), 'yyyy')
SELECT @value='Internet_Sales_'+FORMAT (getdate(), 'yyyy')

SET @myXMLA =N'

```

The code above updates the variable @date with the current date in the format yyyyMMdd and @year stores the current year.

5. Now, in the @myXMLA variable we are going to concatenate the @year and @date variables created in step 3:

```

<Partition xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  <ID>' + @value + '</ID>
  <Name>' + @value + '</Name>
  <Source xsi:type="QueryBinding">
    <DataSourceID>Adventure Works DW</DataSourceID>
    <QueryDefinition>SELECT [dbo].[FactInternetSales].[ProductID]
    FROM [dbo].[FactInternetSales]
    WHERE OrderDateKey <= '' + @date + ''</QueryDefinition>
  </Source>
  <StorageMode>Molap</StorageMode>
  <ProcessingMode>Regular</ProcessingMode>
</Partition>

```



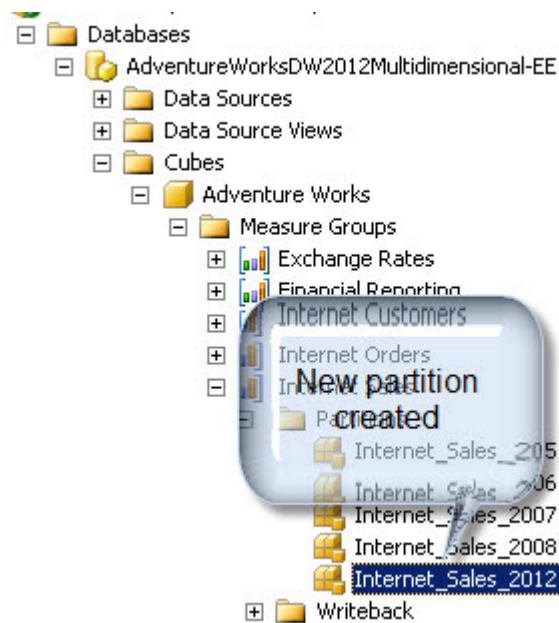
6. And finally, execute the code in the linked server:

```

Exec (@myXMLA) At SSAS;

```

7. That's it. You can go to the partitions in SSMS to verify that the new partition was created.



The code now generates a partition according to the current date. In this example we created the current year. We used T-SQL to create the variables and get the current year. Then we combined the variables to create partitions dynamically. P>

Downloads

In this section you can [download the following components](#):

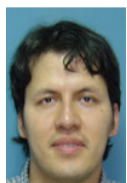
1. The script to create a linked server to ssas: ssas linked server.sql
2. The script to create the partition Internet_Sales_2005: Partition2005.xml
3. The script to create a partition with dynamic variables: Partition2012.sql

Next Steps

- Linked Servers to SSAS let you combine T-SQL with XMLA giving you a powerful combination. For more information, review these links:
 - XMLA reference: [http://msdn.microsoft.com/en-us/library/ms186604\(v=110\).aspx](http://msdn.microsoft.com/en-us/library/ms186604(v=110).aspx)
 - Using dynamic values in XMLA: <http://www.sqlsoldier.com/wp/sqlserver/usingdynamic-values-in-xmla/>
 - Creating a linked server for SSAS: http://sqlblog.com/blogs/stacia_misner/archive/2011/11/creating-a-linked-server-for-ssas.aspx

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About the author



Daniel is a Microsoft SQL Server MVP, Microsoft Certified Trainer and Microsoft Certified IT Professional.

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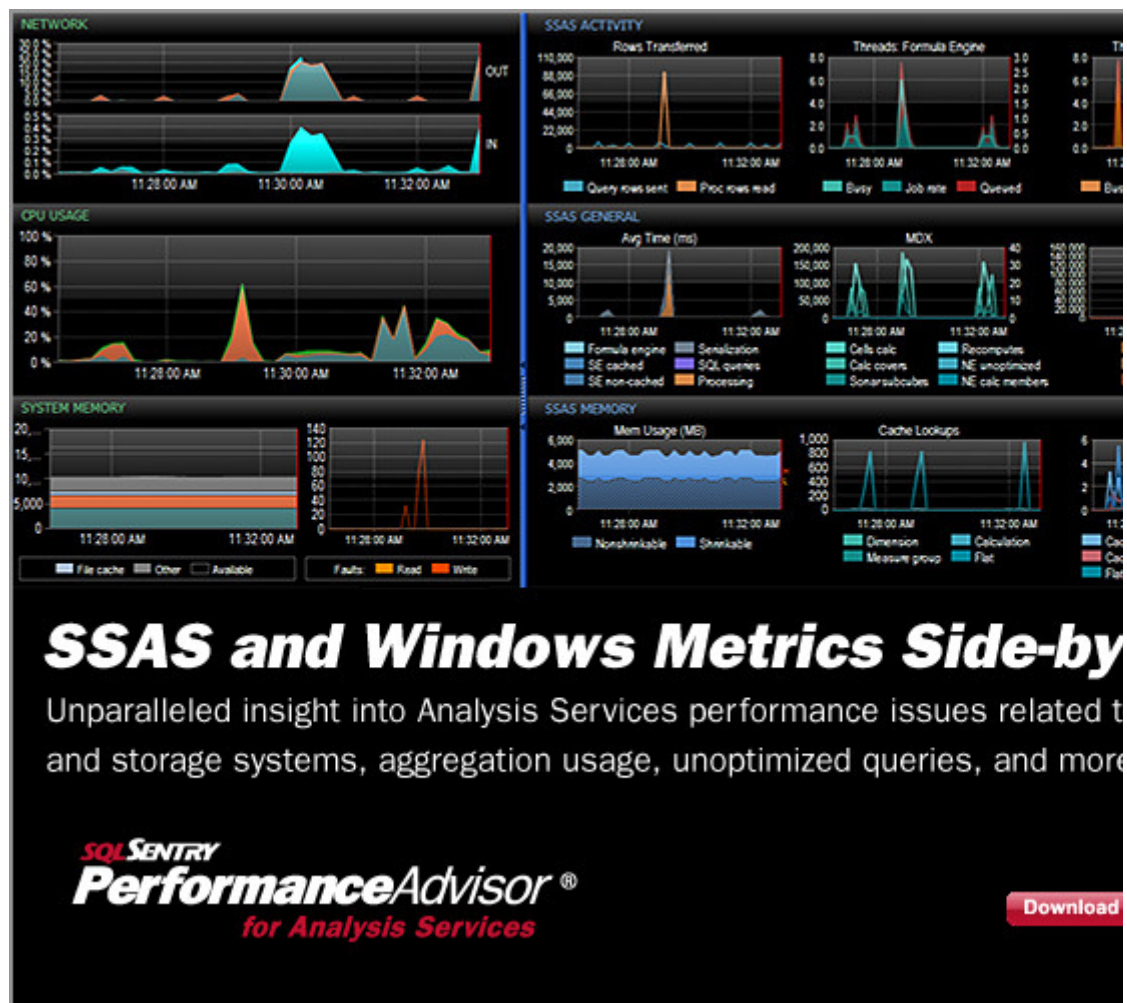


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