



ETL – Aula prática

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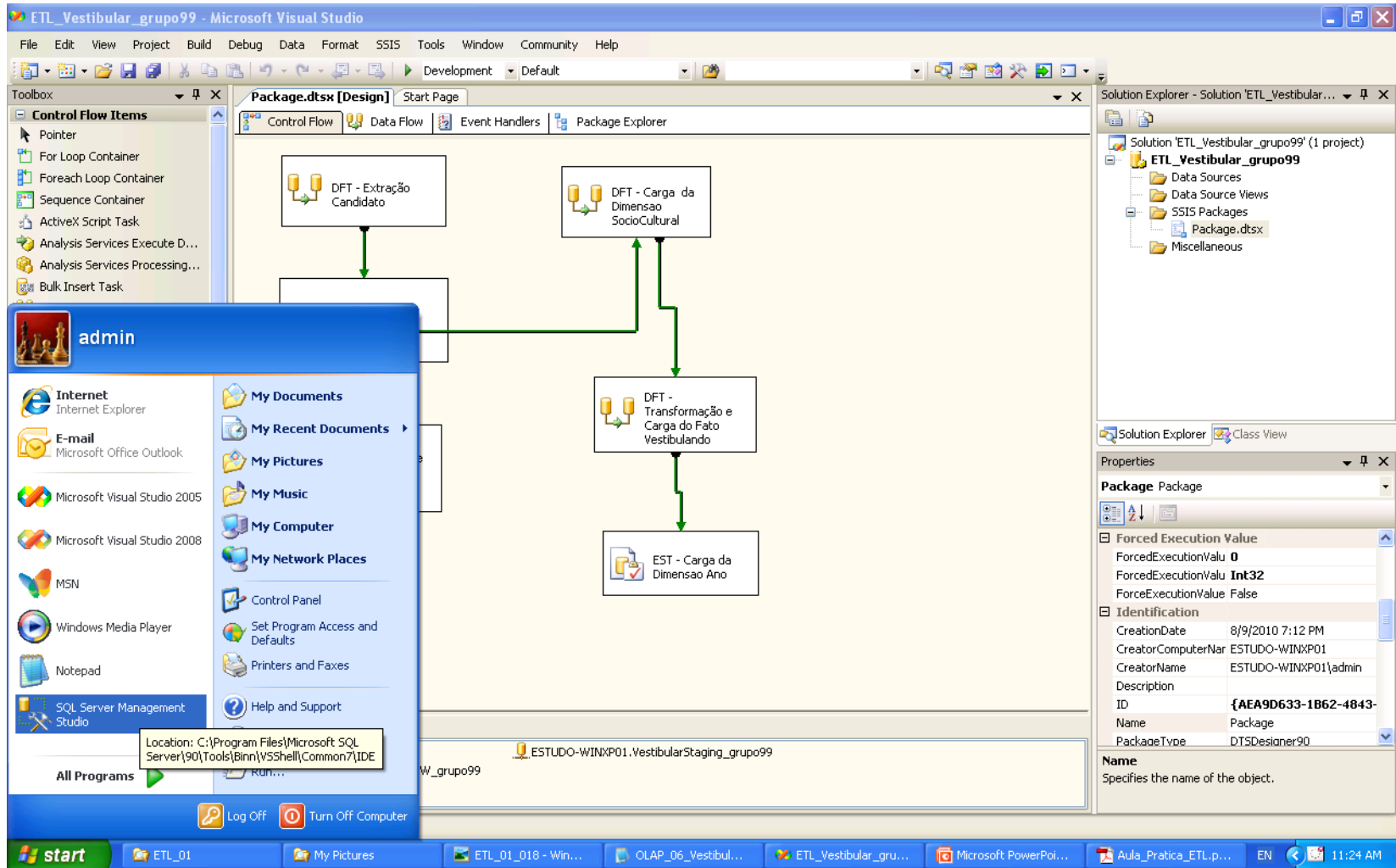
Heron Silva - heron.silva@gmail.com

Agenda

- Configuração do ambiente
- Limpeza
- Extração e Seleção
- Transformação e Carga
- Configuração das bases
- Exercícios

Configuração das bases

- Abrir o SQL Server Management para criação dos relacionamentos



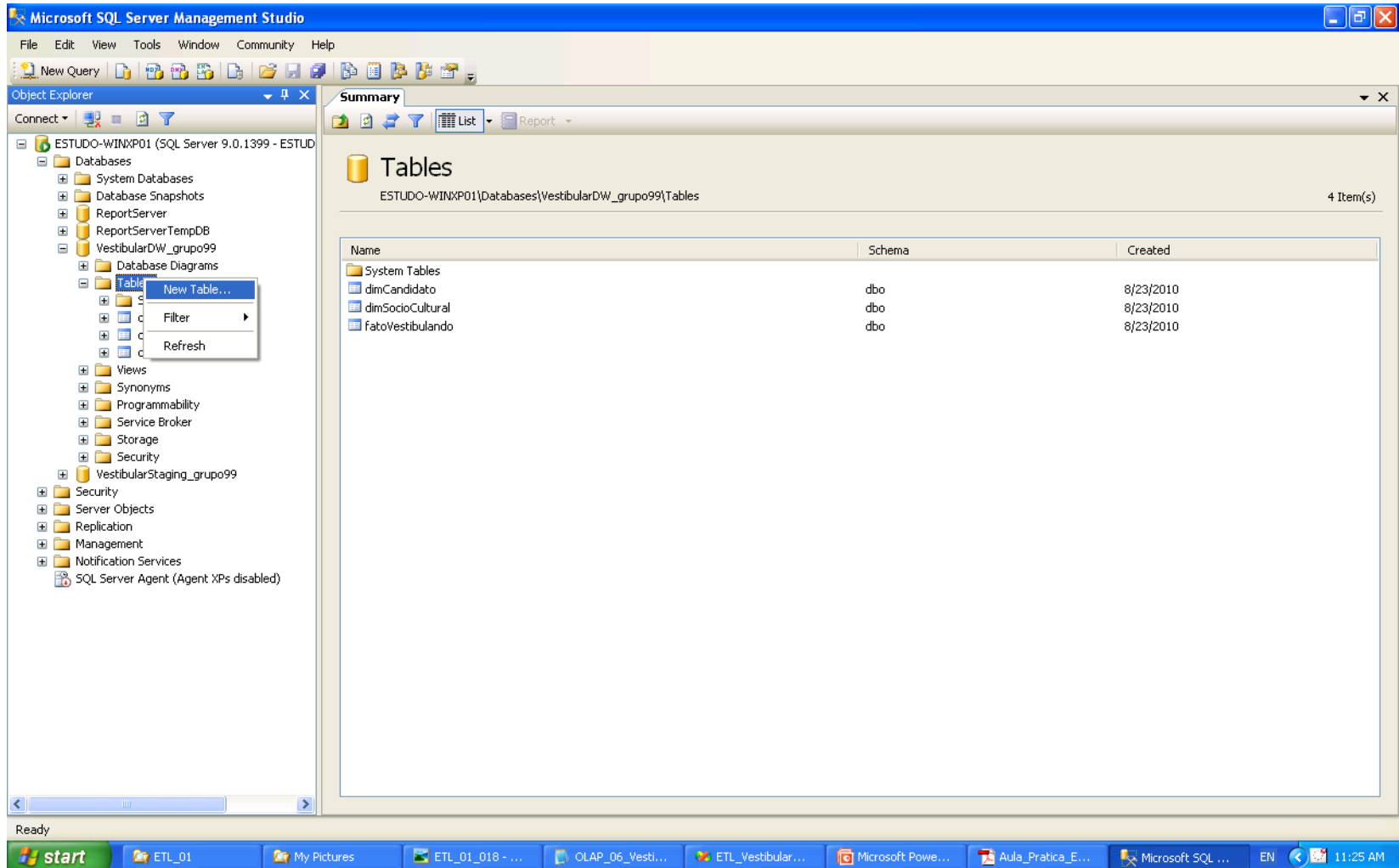
The screenshot displays the Microsoft Visual Studio 2008 interface with the SSIS Package Design view open. The package flow is as follows:

- DFT - Extração Candidato** (Data Flow Task) connects to **DFT - Carga da Dimensão SocioCultural**.
- DFT - Carga da Dimensão SocioCultural** connects to **DFT - Transformação e Carga do Fato Vestibulando**.
- DFT - Transformação e Carga do Fato Vestibulando** connects to **EST - Carga da Dimensão Ano**.

A Windows Start menu is open, showing the 'SQL Server Management Studio' application under the 'All Programs' list. The Solution Explorer on the right shows the project structure for 'ETL_Vestibular_grupo99' (1 project), including folders for Data Sources, Data Source Views, SSIS Packages, and Miscellaneous. The Properties window on the right shows the package properties, including the Name 'Package' and the Package Type 'DTSDesigner90'.

Configuração das bases

- Criar tabela de dimensão temporal: dimAno



Microsoft SQL Server Management Studio

File Edit View Tools Window Community Help

Object Explorer

Connect

ESTUDO-WINXP01 (SQL Server 9.0.1399 - ESTUD)

Databases

- System Databases
- Database Snapshots
- ReportServer
- ReportServerTempDB
- VestibularDW_grupo99
- Database Diagrams
- Table
 - New Table...
 - Filter
 - Refresh
- Views
- Synonyms
- Programmability
- Service Broker
- Storage
- Security
- VestibularStaging_grupo99
- Security
- Server Objects
- Replication
- Management
- Notification Services
- SQL Server Agent (Agent XPs disabled)

Summary

Tables

ESTUDO-WINXP01\Databases\VestibularDW_grupo99\Tables

4 Item(s)

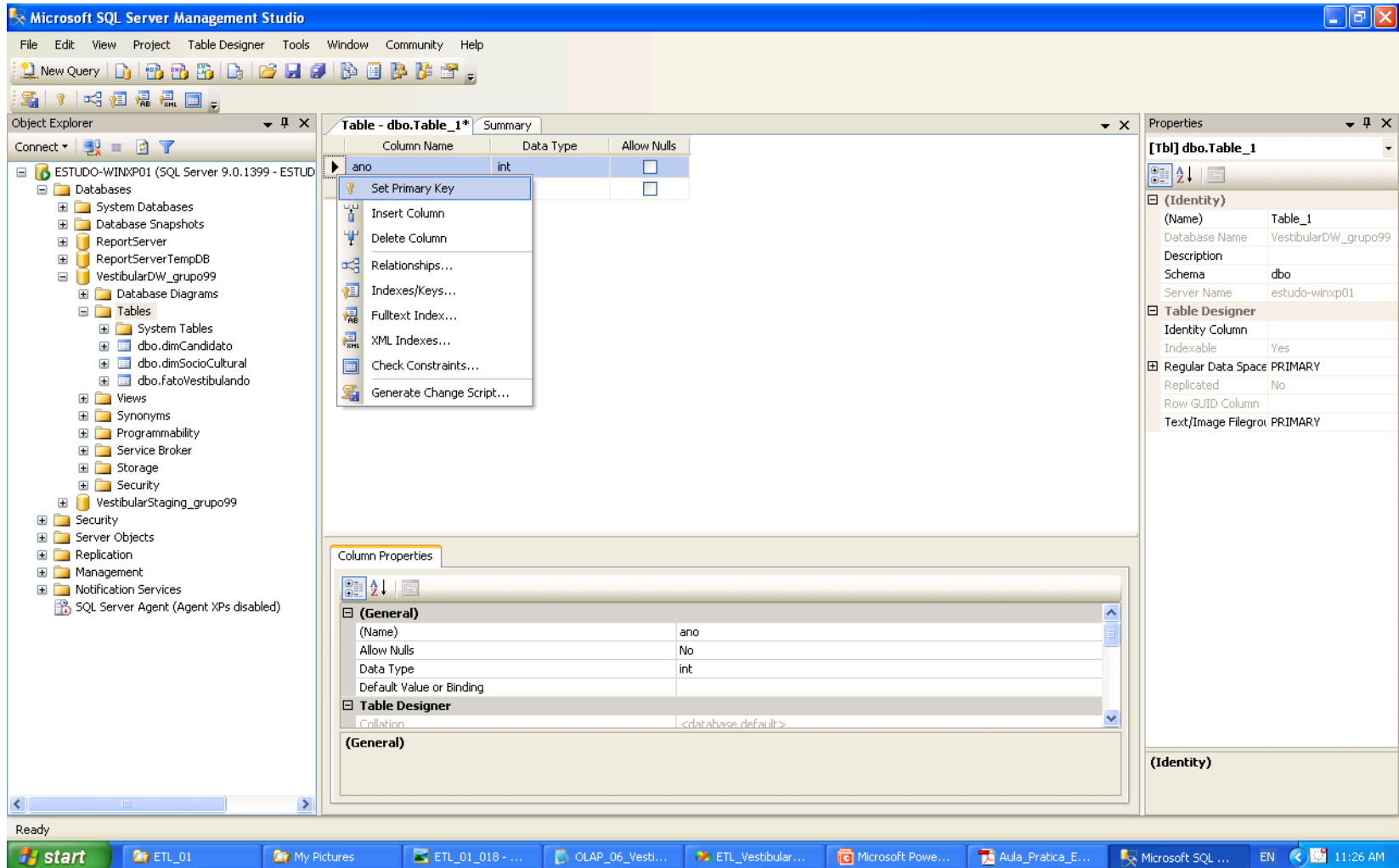
Name	Schema	Created
System Tables		
dimCandidato	dbo	8/23/2010
dimSocioCultural	dbo	8/23/2010
FatoVestibulando	dbo	8/23/2010

Ready

start ETL_01 My Pictures ETL_01_018 - ... OLAP_06_Vesti... ETL_Vestibular... Microsoft Powe... Aula_Pratica_E... Microsoft SQL ... EN 11:25 AM

Configuração das bases

- Um atributo inteiro como chave primária: ano



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.Table_1' in 'Summary' view, with a column named 'ano' of data type 'int'. A context menu is open over the 'ano' column, with 'Set Primary Key' selected. The 'Column Properties' pane at the bottom shows the 'General' tab for the 'ano' column, with 'Allow Nulls' set to 'No' and 'Data Type' set to 'int'. The 'Table Designer' pane on the right shows the table's properties, including 'Identity Column' set to 'Yes' and 'Regular Data Space' set to 'PRIMARY'.

Table - dbo.Table_1

Column Name	Data Type	Allow Nulls
ano	int	<input type="checkbox"/>

Column Properties

(General)

(Name)	ano
Allow Nulls	No
Data Type	int
Default Value or Binding	

Table Designer

Collation	<database default>
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(General)

Properties

[Tbl] dbo.Table_1

(Identity)

(Name)	Table_1
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

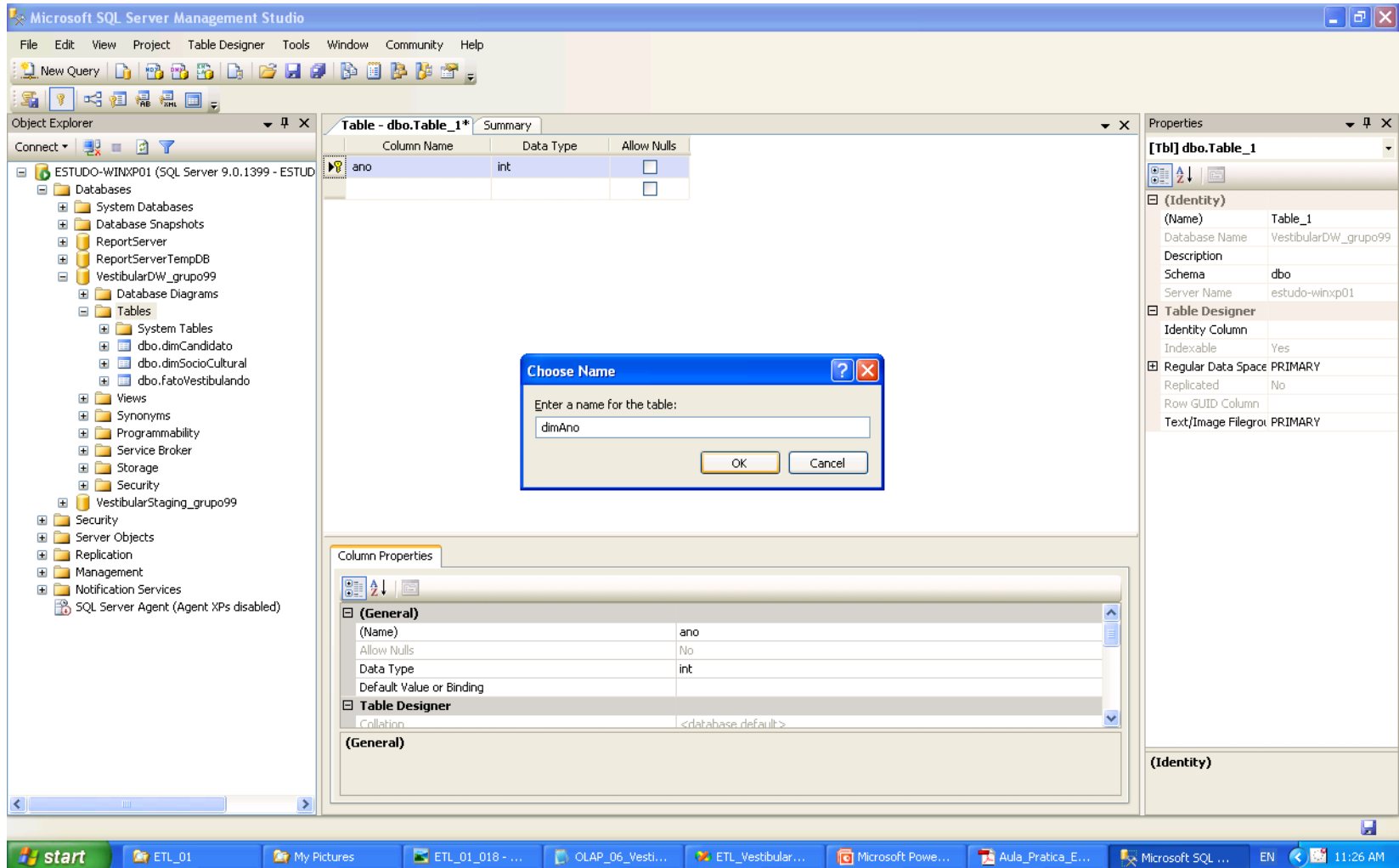
Table Designer

Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

(Identity)

Configuração das bases

■ dimAno



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.Table_1*' in 'Summary' mode, with a single column 'ano' of type 'int'. A 'Choose Name' dialog box is open, prompting the user to enter a name for the table, with 'dimAno' entered in the text field. The Properties pane on the right shows the table's properties, including its name 'Table_1', database 'VestibularDW_grupo99', schema 'dbo', and server 'estudo-winxp01'. The 'Table Designer' tab is also visible, showing the column 'ano' with its properties (Name, Allow Nulls, Data Type, Default Value or Binding) and the 'Table Designer' section (Collation, Identity Column, Indexable, Regular Data Space, Replicated, Row GUID Column, Text/Image Filegroup).

Choose Name

Enter a name for the table:

dimAno

OK Cancel

Table - dbo.Table_1*

Column Name	Data Type	Allow Nulls
ano	int	<input type="checkbox"/>

Properties

[Tbl] dbo.Table_1

(Identity)

(Name) Table_1

Database Name VestibularDW_grupo99

Description

Schema dbo

Server Name estudo-winxp01

Table Designer

Identity Column

Indexable Yes

Regular Data Space PRIMARY

Replicated No

Row GUID Column

Text/Image Filegroup PRIMARY

Column Properties

(General)

(Name) ano

Allow Nulls No

Data Type int

Default Value or Binding

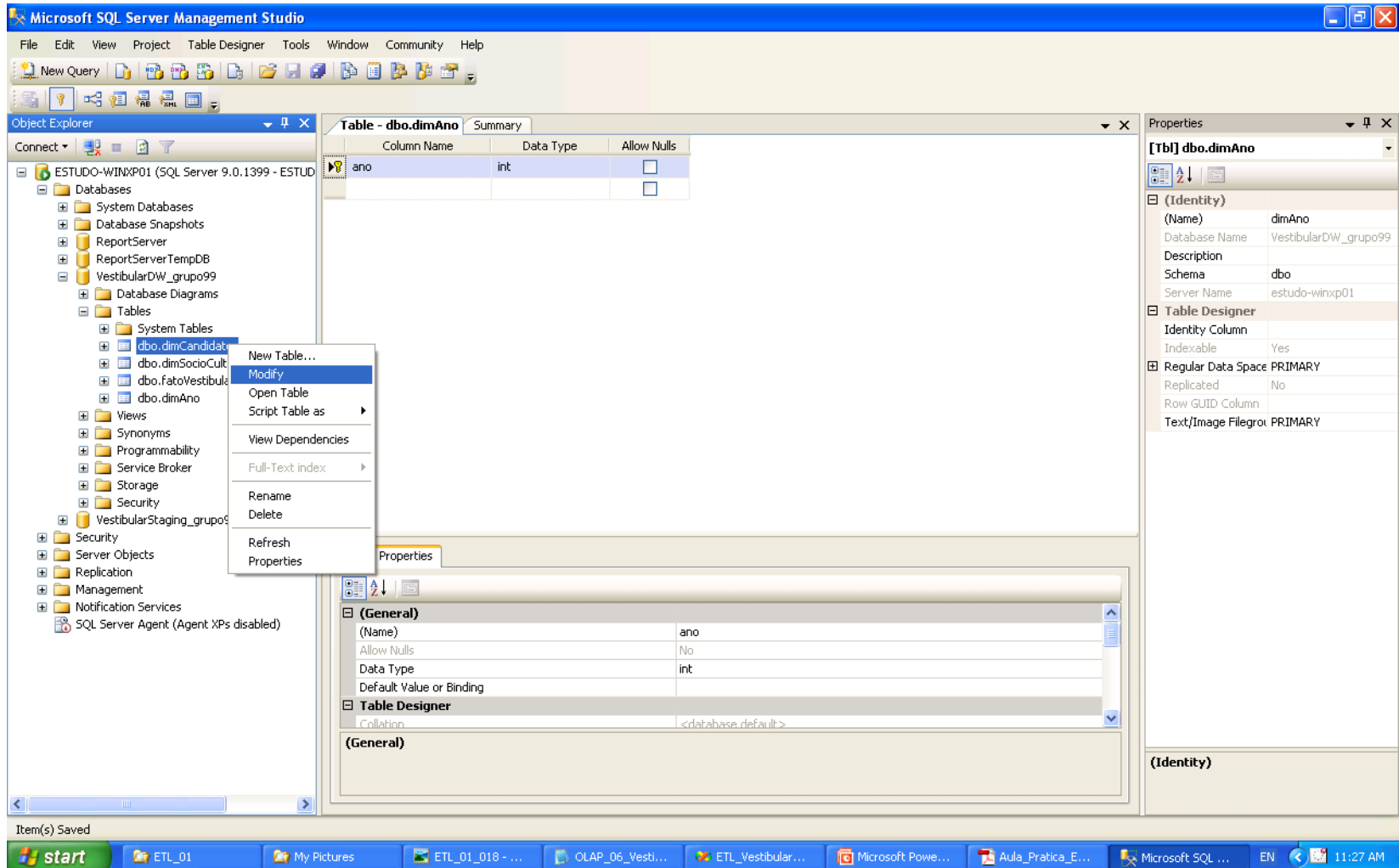
Table Designer

Collation <database default>

(General)

Configuração das bases

- Modificar estrutura da dimCandidato: adicionar PK e relacionamentos



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure, with the 'dbo.dimCandidato' table selected. A context menu is open over the table, showing options like 'New Table...', 'Modify', 'Open Table', 'Script Table as...', 'View Dependencies', 'Full-Text index', 'Rename', 'Delete', 'Refresh', and 'Properties'. The 'Table - dbo.dimCandidato' window is open, showing the table structure with columns 'ano' (int, Allow Nulls) and 'ano' (int, Allow Nulls). The Properties window on the right shows the table's identity and table designer properties.

Table - dbo.dimCandidato

Column Name	Data Type	Allow Nulls
ano	int	<input type="checkbox"/>
ano	int	<input type="checkbox"/>

Properties

[Tbl] dbo.dimCandidato

(Identity)

(Name)	dimCandidato
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

Table Designer

Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

(General)

(Name)	ano
Allow Nulls	No
Data Type	int
Default Value or Binding	

Table Designer

Collation	<database default>
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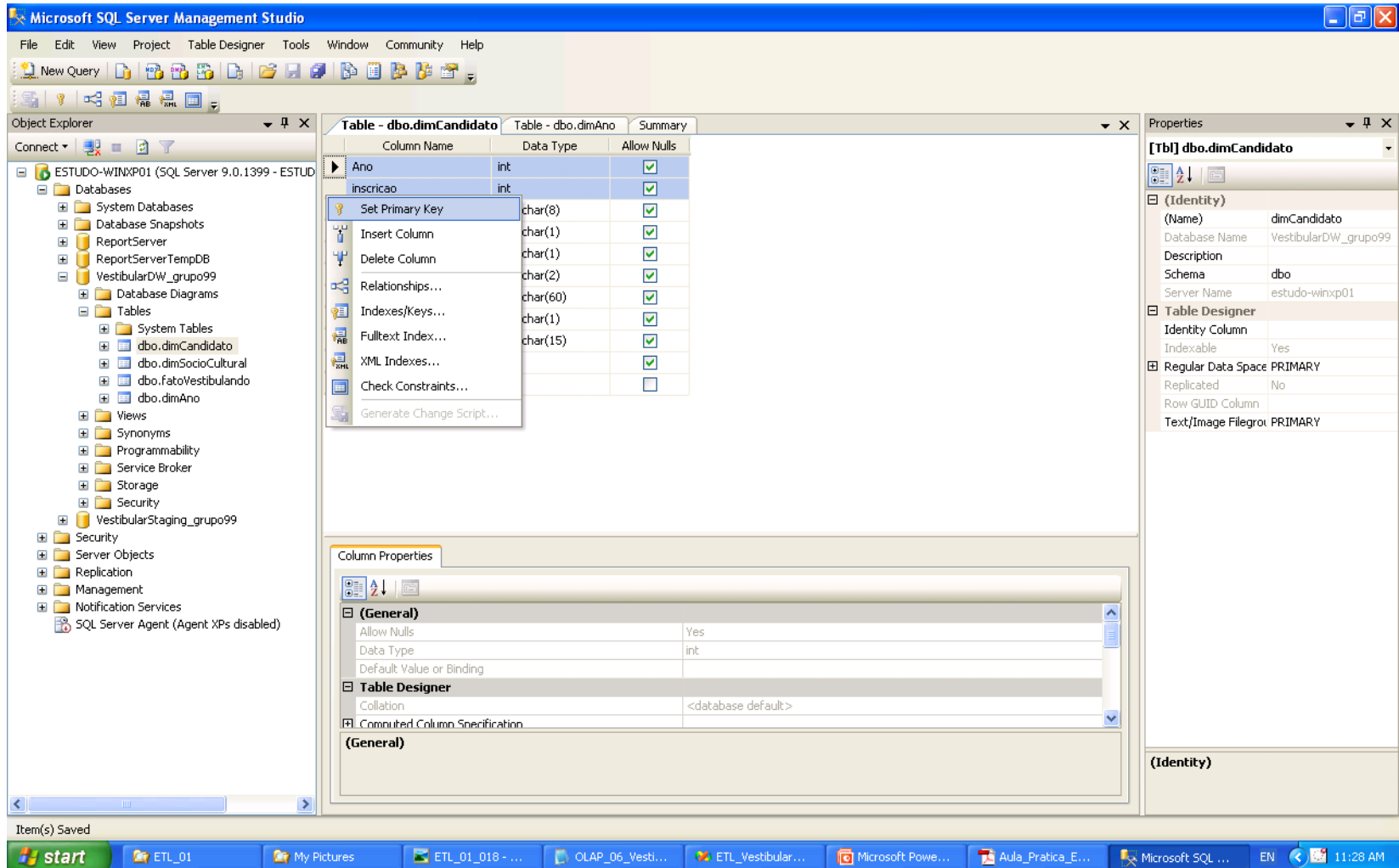
(General)

Item(s) Saved

start | ETL_01 | My Pictures | ETL_01_018 - ... | OLAP_06_Vesti... | ETL_Vestibular... | Microsoft Powe... | Aula_Pratica_E... | Microsoft SQL ... | EN | 11:27 AM

Configuração das bases

- Adicionar PK as colunas ano e inscrição



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.dimCandidato' with columns 'Ano' (int) and 'inscricao' (int). A context menu is open over the 'inscricao' column, with 'Set Primary Key' selected. The 'Column Properties' window at the bottom shows the 'General' tab for the 'inscricao' column, with 'Allow Nulls' set to 'Yes' and 'Data Type' set to 'int'. The 'Table Designer' tab is also visible, showing the 'Identity' column and 'Regular Data Space' settings.

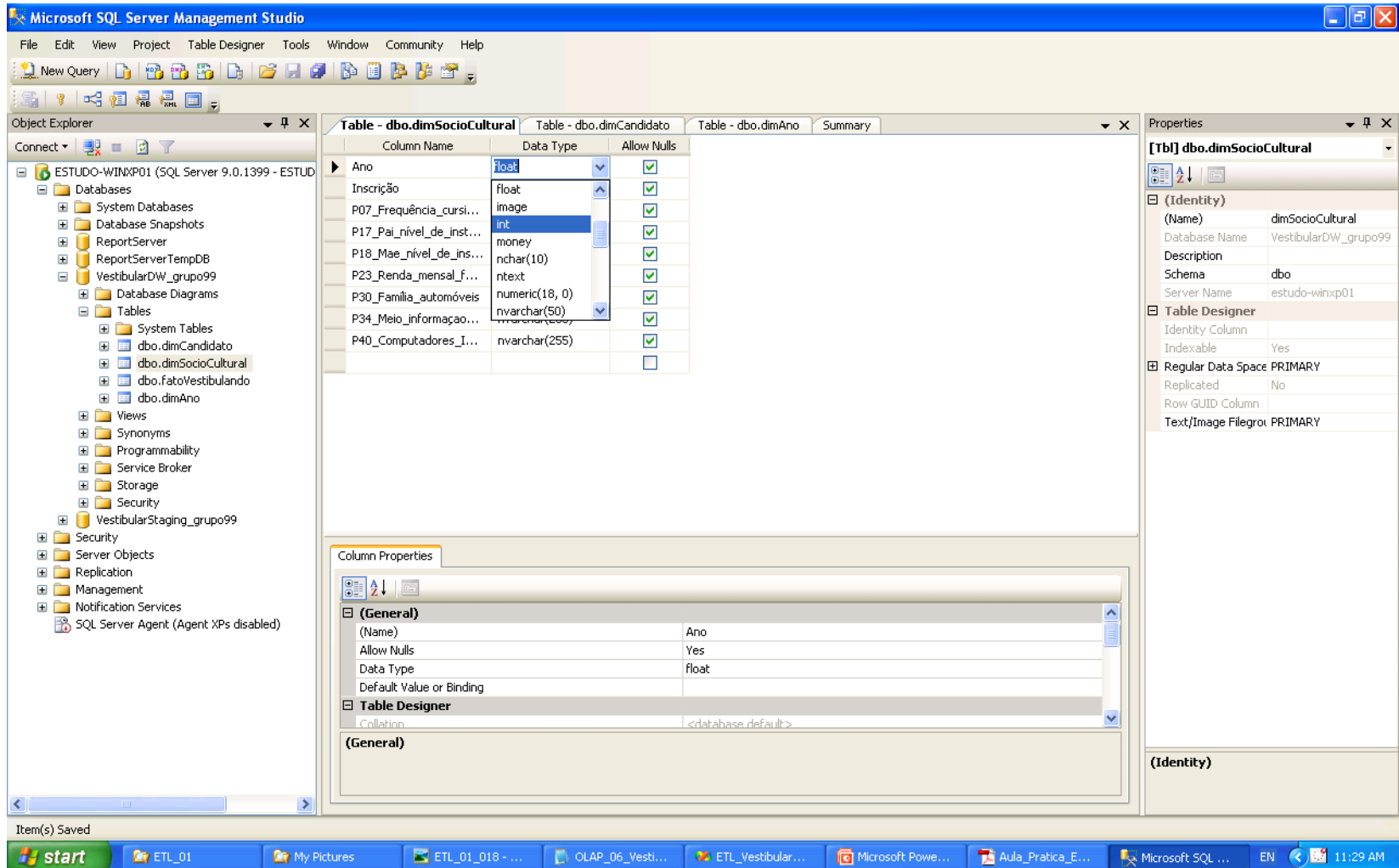
Column Name	Data Type	Allow Nulls
Ano	int	<input checked="" type="checkbox"/>
inscricao	int	<input checked="" type="checkbox"/>
	char(8)	<input checked="" type="checkbox"/>
	char(1)	<input checked="" type="checkbox"/>
	char(1)	<input checked="" type="checkbox"/>
	char(2)	<input checked="" type="checkbox"/>
	char(60)	<input checked="" type="checkbox"/>
	char(1)	<input checked="" type="checkbox"/>
	char(15)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

Column Properties	
(General)	
Allow Nulls	Yes
Data Type	int
Default Value or Binding	
Table Designer	
Collation	<database default>
Computed Column Specification	
(General)	

Properties	
[Tbl] dbo.dimCandidato	
(Identity)	
(Name)	dimCandidato
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01
Table Designer	
Identity Column	
Indexable	Yes
Regular Data Space PRIMARY	
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

Configuração das bases

- Modificar o tipo das colunas ano e inscrição da dimSocioCultural



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.dimSocioCultural' design view. The 'Column Name' list includes 'Ano', 'Inscrição', 'P07_Frequência_cursi...', 'P17_Pai_nivel_de_inst...', 'P18_Mae_nivel_de_ins...', 'P23_Renda_mensal_f...', 'P30_Familia_automóveis', 'P34_Meio_informação...', and 'P40_Computadores_I...'. The 'Data Type' column shows 'float' for 'Ano' and 'float' for 'Inscrição'. The 'Allow Nulls' column shows 'Yes' for 'Ano' and 'No' for 'Inscrição'. The 'Properties' pane on the right shows the table's identity and table designer settings. The 'Column Properties' pane at the bottom shows the 'General' tab for the 'Ano' column, with 'Name' set to 'Ano', 'Allow Nulls' set to 'Yes', and 'Data Type' set to 'float'.

Column Name	Data Type	Allow Nulls
Ano	float	Yes
Inscrição	float	No
P07_Frequência_cursi...	image	Yes
P17_Pai_nivel_de_inst...	int	Yes
P18_Mae_nivel_de_ins...	money	Yes
P23_Renda_mensal_f...	nchar(10)	Yes
P30_Familia_automóveis	ntext	Yes
P34_Meio_informação...	numeric(18, 0)	Yes
P40_Computadores_I...	nvarchar(50)	Yes

Table Designer Properties:

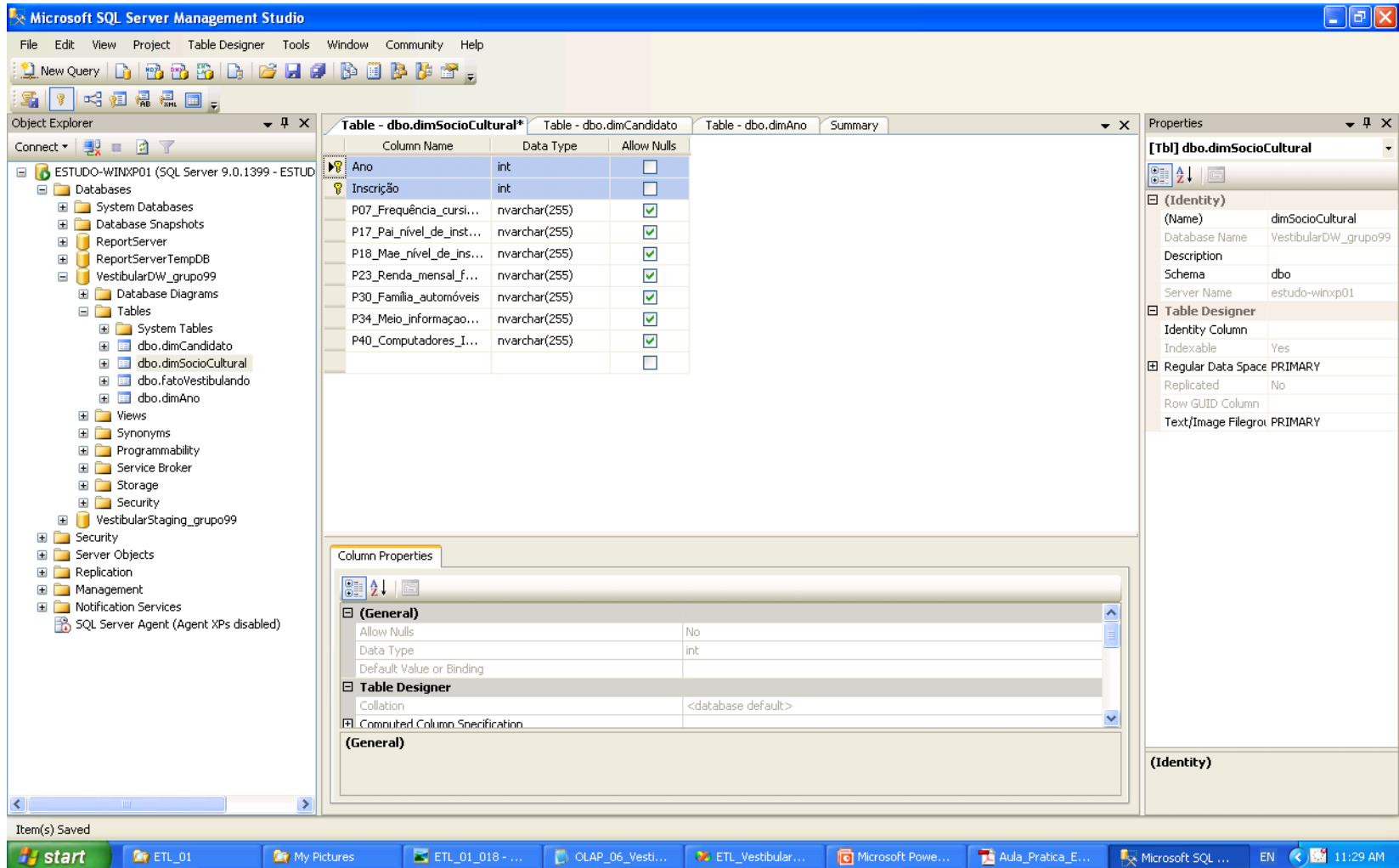
- Table:** [Tbl] dbo.dimSocioCultural
- Identity:**
 - (Name): dimSocioCultural
 - Database Name: VestibularDW_grupo99
 - Description:
 - Schema: dbo
 - Server Name: estudo-winxp01
- Table Designer:**
 - Identity Column: Yes
 - Indexable: Yes
 - Regular Data Space: PRIMARY
 - Replicated: No
 - Row GUID Column: No
 - Text/Image Filegroup: PRIMARY

Column Properties (Ano):

- General:**
 - (Name): Ano
 - Allow Nulls: Yes
 - Data Type: float
 - Default Value or Binding:
- Table Designer:**
 - Collation: <database default>

Configuração das bases

■ Configurar chave primária



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure, including the table `dbo.dimSocioCultural`. The central pane shows the table's columns and their data types. The right pane displays the Properties window for the selected table, showing the Identity and Table Designer tabs.

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
Inscrição	int	<input type="checkbox"/>
P07_Frequência_cursi...	nvarchar(255)	<input checked="" type="checkbox"/>
P17_Pai_nivel_de_inst...	nvarchar(255)	<input checked="" type="checkbox"/>
P18_Mae_nivel_de_ins...	nvarchar(255)	<input checked="" type="checkbox"/>
P23_Renda_mensal_f...	nvarchar(255)	<input checked="" type="checkbox"/>
P30_Familia_automóveis	nvarchar(255)	<input checked="" type="checkbox"/>
P34_Meio_informação...	nvarchar(255)	<input checked="" type="checkbox"/>
P40_Computadores_I...	nvarchar(255)	<input checked="" type="checkbox"/>

Column Properties

Property	Value
Allow Nulls	No
Data Type	int
Default Value or Binding	
Collation	<database default>

Table Designer

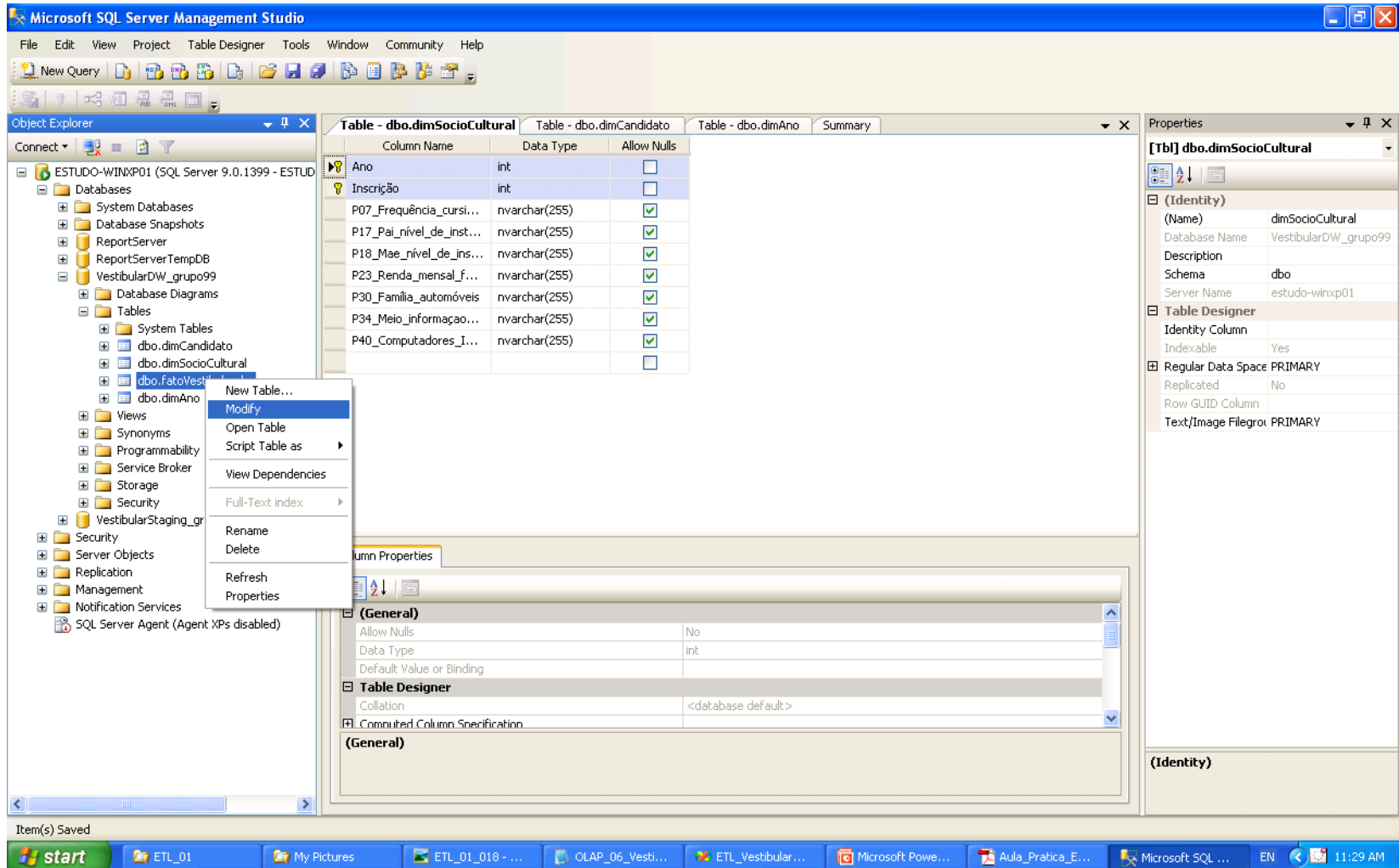
Property	Value
Identity Column	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

Properties

Property	Value
(Name)	dimSocioCultural
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

Configuração das bases

- Modificar fato fatoVestibulando para adicionar relacionamentos



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.dimSocioCultural' with columns: Ano (int), Inscrição (int), P07_Frequência_cursi... (nvarchar(255)), P17_Pai_nível_de_inst... (nvarchar(255)), P18_Mae_nível_de_ins... (nvarchar(255)), P23_Renda_mensal_f... (nvarchar(255)), P30_Família_automóveis (nvarchar(255)), P34_Meio_informação... (nvarchar(255)), and P40_Computadores_I... (nvarchar(255)). A context menu is open over the 'dbo.fatoVestibulando' table, with 'Modify' selected. The Properties pane on the right shows the 'Table Designer' for 'dbo.dimSocioCultural', indicating it is an Identity Column and a Regular Data Space PRIMARY.

Table - dbo.dimSocioCultural

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
Inscrição	int	<input type="checkbox"/>
P07_Frequência_cursi...	nvarchar(255)	<input checked="" type="checkbox"/>
P17_Pai_nível_de_inst...	nvarchar(255)	<input checked="" type="checkbox"/>
P18_Mae_nível_de_ins...	nvarchar(255)	<input checked="" type="checkbox"/>
P23_Renda_mensal_f...	nvarchar(255)	<input checked="" type="checkbox"/>
P30_Família_automóveis	nvarchar(255)	<input checked="" type="checkbox"/>
P34_Meio_informação...	nvarchar(255)	<input checked="" type="checkbox"/>
P40_Computadores_I...	nvarchar(255)	<input checked="" type="checkbox"/>

Properties

[Tbl] dbo.dimSocioCultural

(Identity)

(Name) dimSocioCultural
Database Name VestibularDW_grupo99
Description
Schema dbo
Server Name estudo-winxp01

Table Designer

Identity Column
Indexable Yes
Regular Data Space PRIMARY
Replicated No
Row GUID Column
Text/Image Filegroup PRIMARY

Column Properties

(General)

Allow Nulls No
Data Type int
Default Value or Binding

Table Designer

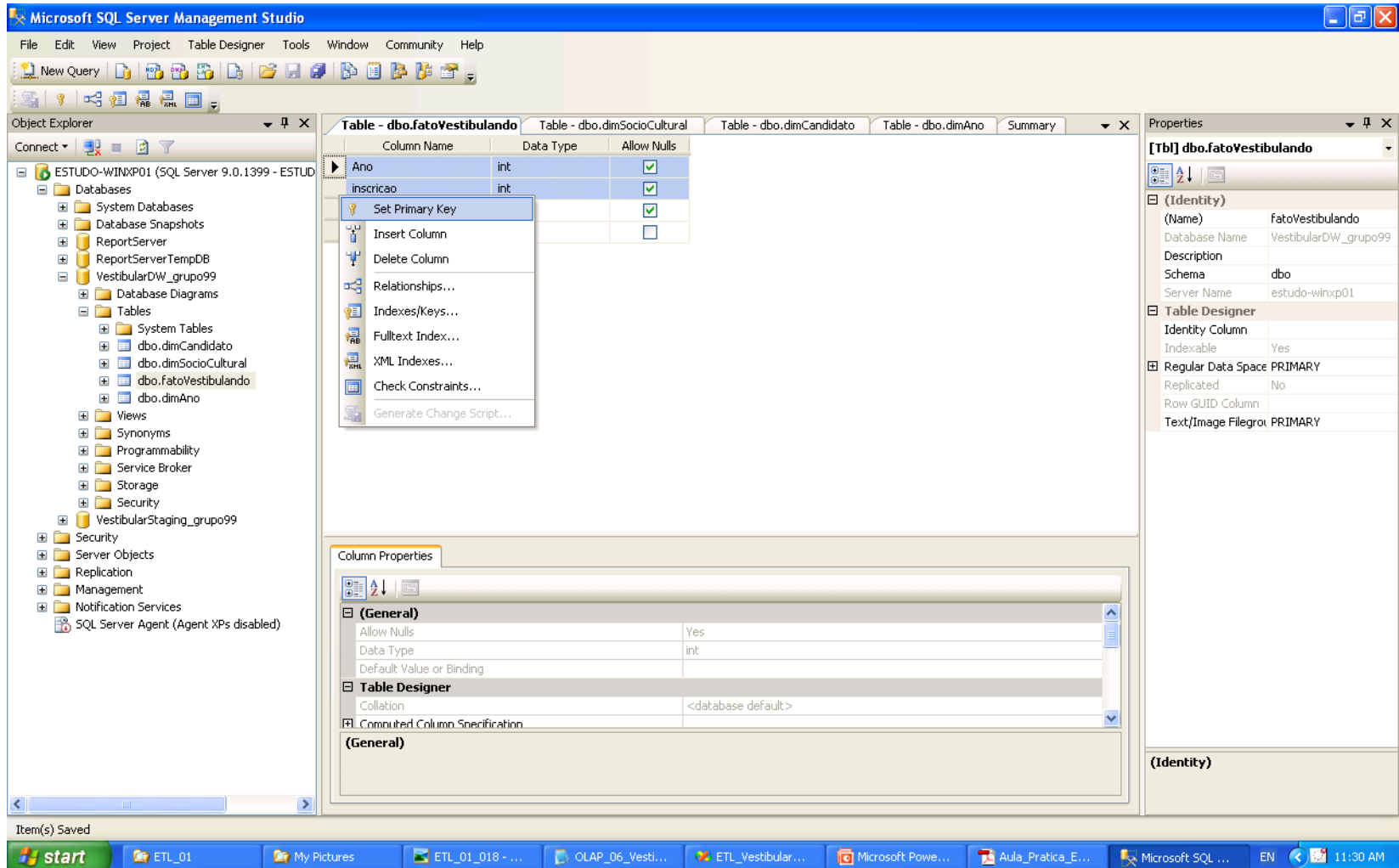
Collation <database default>

Computed Column Specification

(General)

Configuração das bases

- Adicionar chave primária em ano e inscrição



The screenshot shows the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left displays the database structure for 'ESTUDO-WINXP01'. The 'Table Designer' for 'dbo.fatoVestibulando' is open, showing columns 'Ano' and 'inscricao' both of type 'int'. A context menu is open over the 'inscricao' column, with 'Set Primary Key' selected. The 'Properties' pane on the right shows the table's identity and table designer settings. The 'Column Properties' pane at the bottom shows the 'General' tab for the 'inscricao' column, with 'Allow Nulls' set to 'Yes' and 'Data Type' set to 'int'.

Table - dbo.fatoVestibulando

Column Name	Data Type	Allow Nulls
Ano	int	<input checked="" type="checkbox"/>
inscricao	int	<input checked="" type="checkbox"/>

Column Properties

(General)

Allow Nulls	Yes
Data Type	int
Default Value or Binding	

Table Designer

Collation	<database default>
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(General)

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

(Name)	fatoVestibulando
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

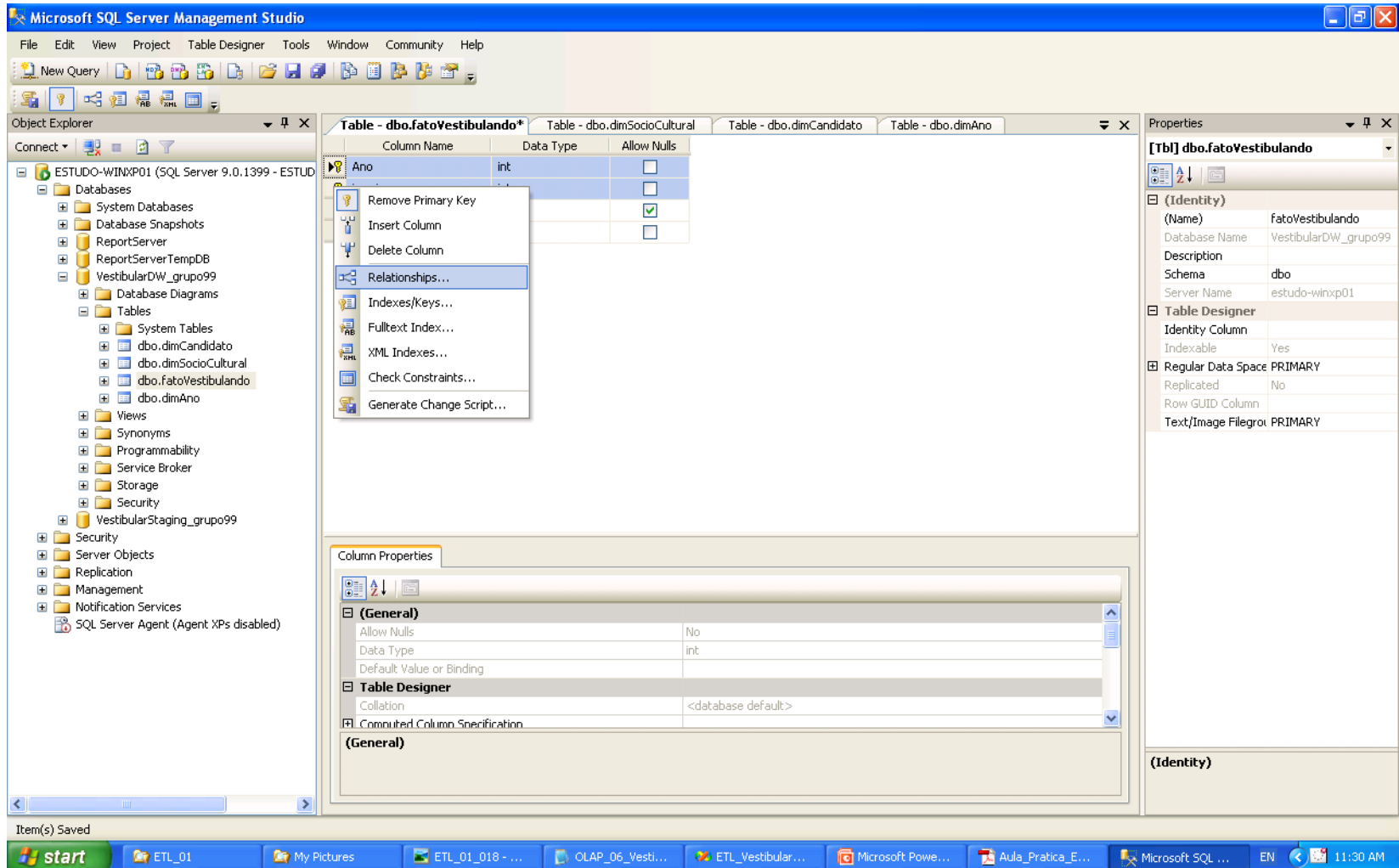
Table Designer

Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

(Identity)

Configuração das bases

■ Editar relacionamentos da fatoVestibulando



The screenshot shows the Microsoft SQL Server Management Studio interface. The left pane displays the 'Object Explorer' with the 'ESTUDO-WINXP01' database selected. The 'Tables' folder is expanded, showing the 'dbo.fatoVestibulando' table. The 'Table Designer' for 'dbo.fatoVestibulando' is open, showing a table with one column, 'Ano', of type 'int'. A context menu is open over the 'Ano' column, with 'Relationships...' selected. The 'Properties' pane on the right shows the 'Table Designer' tab, indicating that 'Ano' is the 'Identity Column' and is 'Indexable'. The 'Regular Data Space' is set to 'PRIMARY'.

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>

Column Properties

Property	Value
Allow Nulls	No
Data Type	int
Default Value or Binding	
Collation	<database default>

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

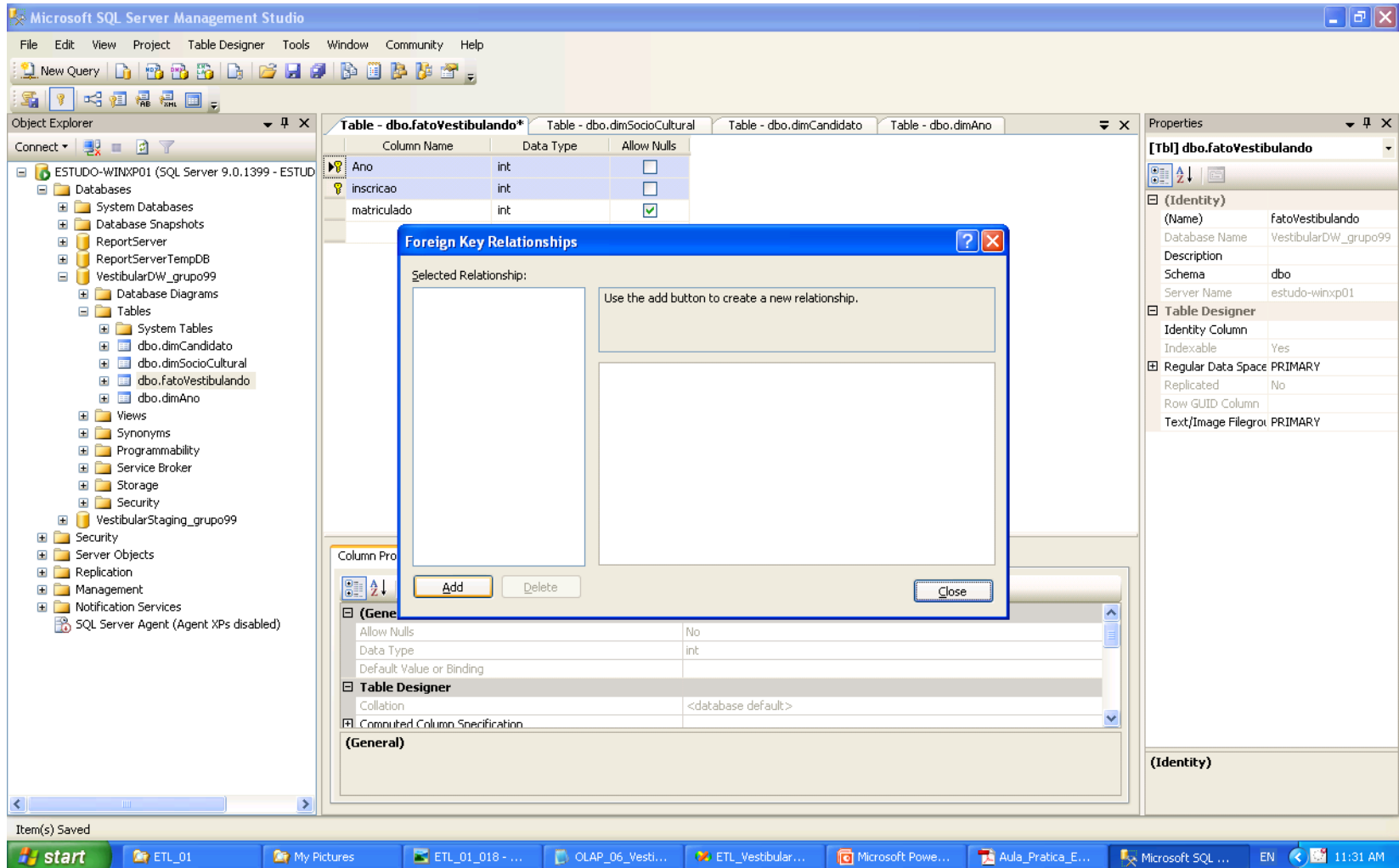
(Name)	fatoVestibulando
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

Table Designer

Identity Column	Ano
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

Configuração das bases

- Adicionar três relacionamentos: dimAno, dimCandidato, dimSocioCultural



The screenshot shows the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left displays the database structure for 'ESTUDO-WINXP01'. The 'Table Designer' for 'dbo.fatoVestibulando' is open, showing columns: 'Ano' (int, not null), 'inscricao' (int, not null), and 'matriculado' (int, nullable). A 'Foreign Key Relationships' dialog box is open, prompting the user to create a new relationship. The 'Properties' pane on the right shows the table's identity and table designer settings.

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Foreign Key Relationships

Selected Relationship:

Use the add button to create a new relationship.

Buttons: Add, Delete, Close

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

(Name) fatoVestibulando

(Database Name) VestibularDW_grupo99

(Description)

(Schema) dbo

(Server Name) estudo-winxp01

(Table Designer)

(Identity Column)

(Indexable) Yes

(Regular Data Space) PRIMARY

(Replicated) No

(Row GUID Column)

(Text/Image Filegroup) PRIMARY

(General)

(Allow Nulls) No

(Data Type) int

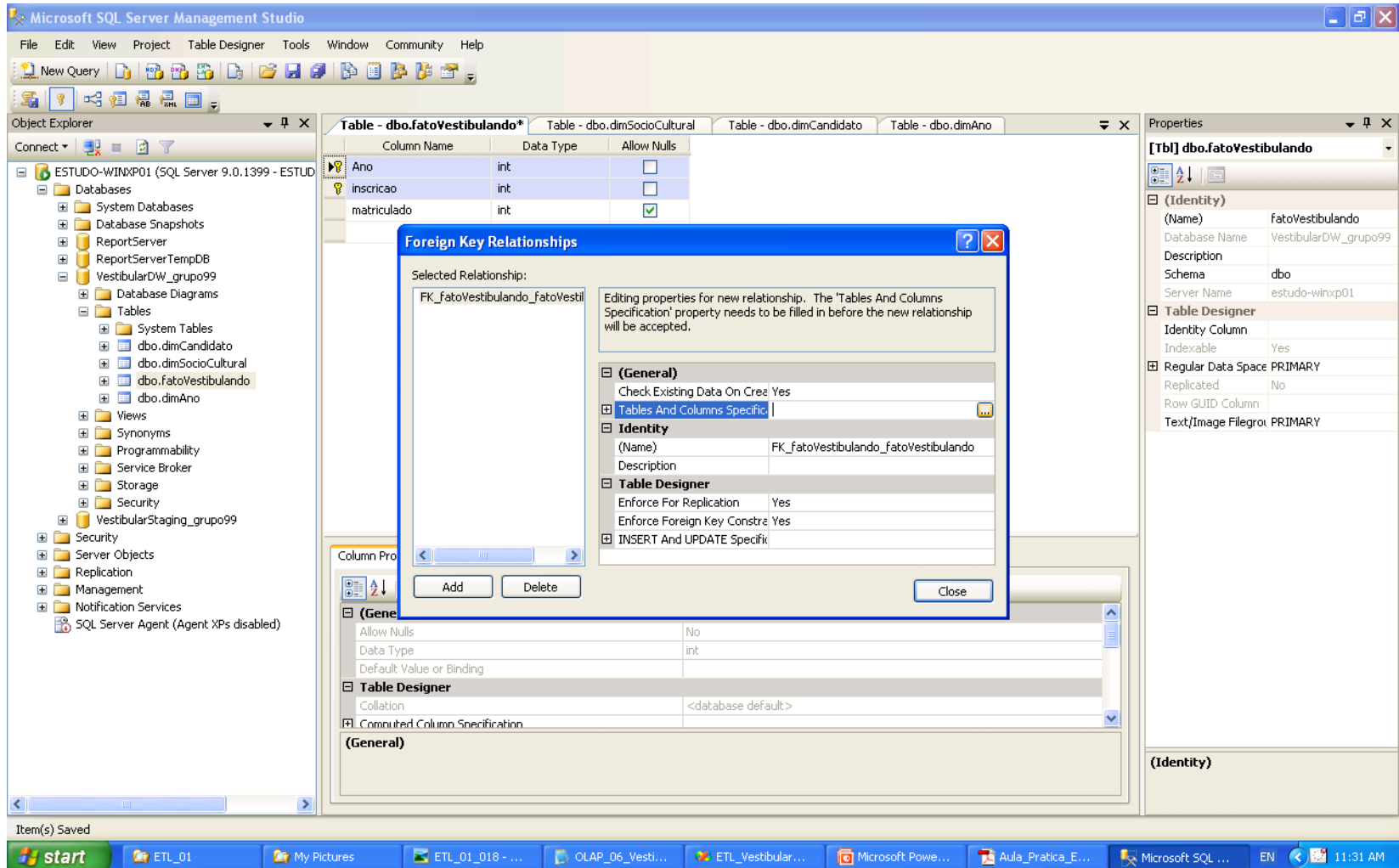
(Default Value or Binding)

(Collation) <database default>

(Computed Column Specification)

Configuração das bases

■ Relacionamento



Microsoft SQL Server Management Studio

File Edit View Project Table Designer Tools Window Community Help

Object Explorer

Connect

ESTUDO-WINXP01 (SQL Server 9.0.1399 - ESTUD)

Databases

- System Databases
- Database Snapshots
- ReportServer
- ReportServerTempDB
- VestibularDW_grupo99
 - Database Diagrams
 - Tables
 - System Tables
 - dbo.dimCandidato
 - dbo.dimSocioCultural
 - dbo.fatoVestibulando
 - dbo.dimAno
 - Views
 - Synonyms
 - Programmability
 - Service Broker
 - Storage
 - Security
 - VestibularStaging_grupo99
- Security
- Server Objects
- Replication
- Management
- Notification Services
- SQL Server Agent (Agent XPs disabled)

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Foreign Key Relationships

Selected Relationship: FK_fatoVestibulando_fatoVestib

Editing properties for new relationship. The 'Tables And Columns Specification' property needs to be filled in before the new relationship will be accepted.

(General)

Check Existing Data On Create Yes

Tables And Columns Specific

Identity

(Name) FK_fatoVestibulando_fatoVestibulando

Description

Table Designer

Enforce For Replication Yes

Enforce Foreign Key Constraints Yes

INSERT And UPDATE Specific

Column Properties

Property	Value
Allow Nulls	No
Data Type	int
Default Value or Binding	

Table Designer

Collation <database default>

Computed Column Specification

(General)

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

(Name) fatoVestibulando

Database Name VestibularDW_grupo99

Description

Schema dbo

Server Name estudo-winxp01

Table Designer

Identity Column

Indexable Yes

Regular Data Space PRIMARY

Replicated No

Row GUID Column

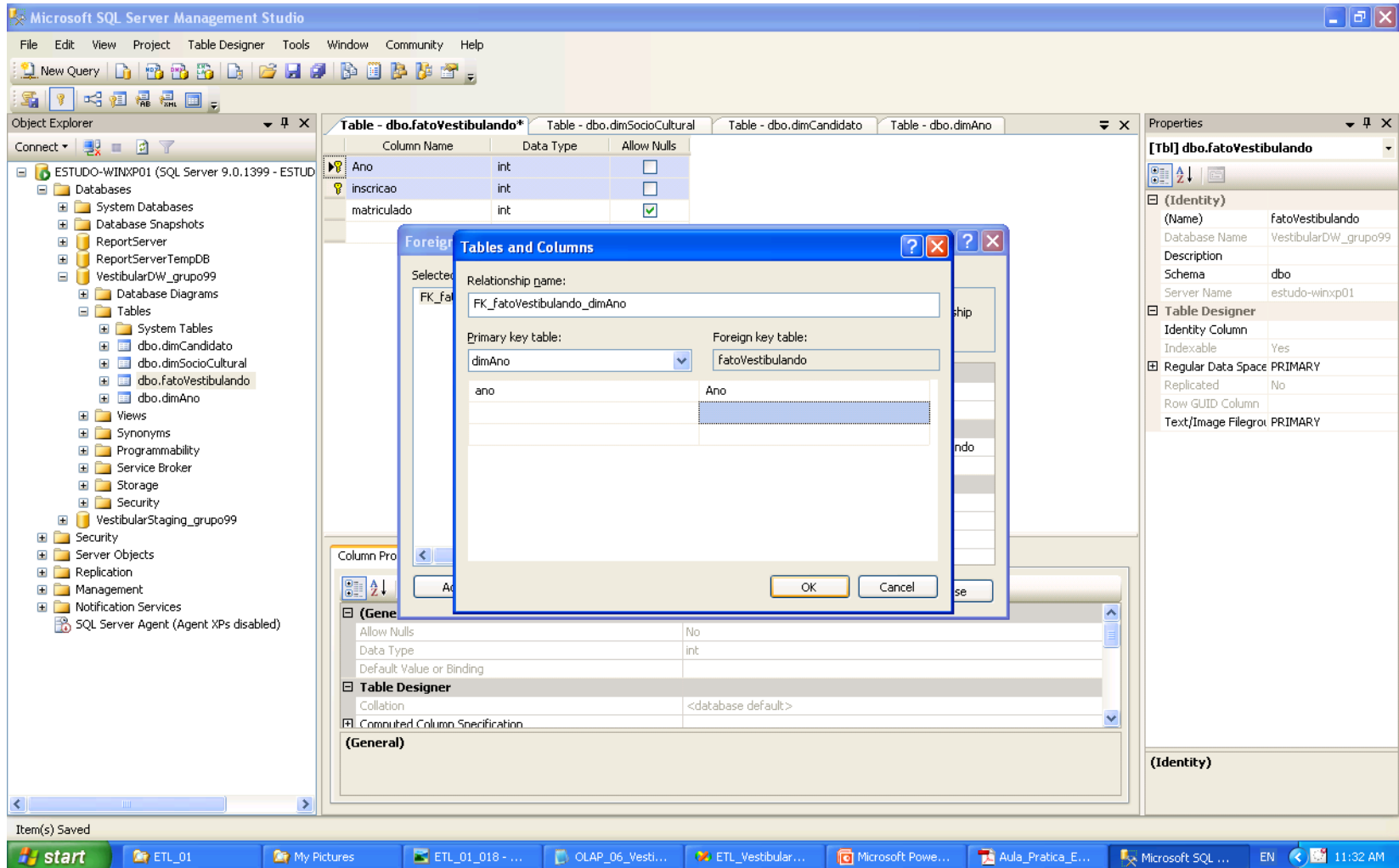
Text/Image Filegroup PRIMARY

Item(s) Saved

start ETL_01 My Pictures ETL_01_018 - ... OLAP_06_Vesti... ETL_Vestibular... Microsoft Powe... Aula_Pratica_E... Microsoft SQL ... EN 11:31 AM

Configuração das bases

■ Relacionamento



The screenshot displays the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.fatoVestibulando*' table with columns: Ano (int), inscricao (int), and matriculado (int). A dialog box titled 'Foreign Tables and Columns' is open, showing the relationship configuration. The 'Relationship name' is 'FK_fatoVestibulando_dimAno'. The 'Primary key table' is 'dimAno' and the 'Foreign key table' is 'fatoVestibulando'. The columns 'ano' and 'Ano' are mapped. The 'Properties' pane on the right shows the details for the '[Tbl] dbo.fatoVestibulando' table, including its identity column 'fatoVestibulando' and its regular data space 'PRIMARY'.

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Foreign Tables and Columns

Relationship name: FK_fatoVestibulando_dimAno

Primary key table: dimAno Foreign key table: fatoVestibulando

Primary Key Column	Foreign Key Column
ano	Ano

Properties [Tbl] dbo.fatoVestibulando

(Identity)

Property	Value
(Name)	fatoVestibulando
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

Table Designer

Property	Value
Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

(General)

Property	Value
Allow Nulls	No
Data Type	int
Default Value or Binding	

Table Designer

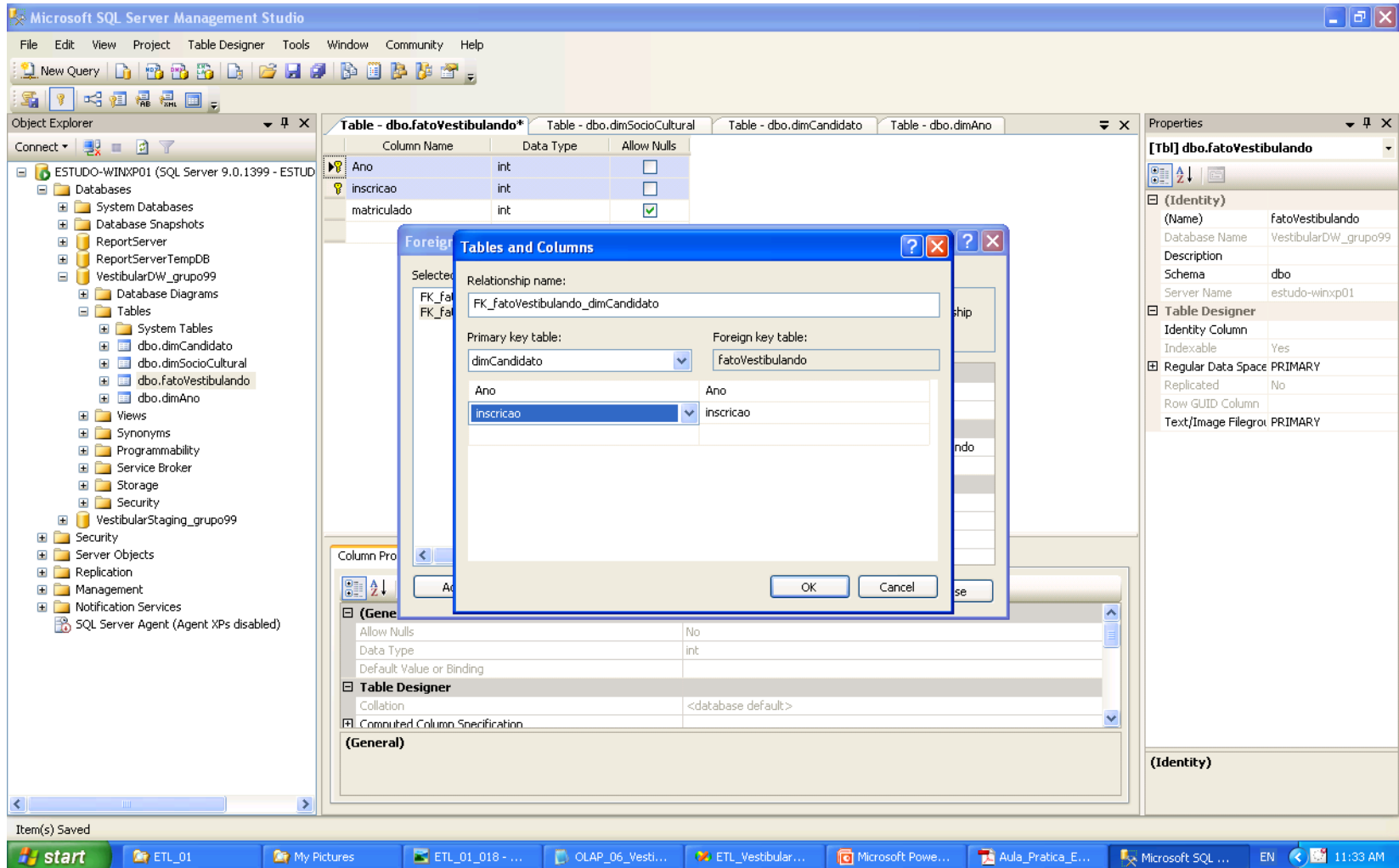
Property	Value
Collation	<database default>

Computed Column Specification

(General)

Configuração das bases

■ Relacionamento



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.fatoVestibulando*' table with columns: Ano (int), inscricao (int), and matriculado (int). A dialog box titled 'Foreign Tables and Columns' is open, showing the relationship configuration between 'dimCandidato' (Primary key table) and 'fatoVestibulando' (Foreign key table). The relationship name is 'FK_fatoVestibulando_dimCandidato'. The columns being related are 'Ano' and 'inscricao' from both tables. The 'Column Properties' pane at the bottom shows the 'General' tab for the 'inscricao' column, with 'Allow Nulls' set to 'No' and 'Data Type' set to 'int'. The 'Properties' pane on the right shows the properties for the 'fatoVestibulando' table, including its identity column and regular data space.

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Foreign Tables and Columns

Relationship name: FK_fatoVestibulando_dimCandidato

Primary key table: dimCandidato

Foreign key table: fatoVestibulando

Primary Key Column	Foreign Key Column
Ano	Ano
inscricao	inscricao

Column Properties

Column: inscricao

Property	Value
Allow Nulls	No
Data Type	int
Default Value or Binding	

Table Designer

Table: fatoVestibulando

Property	Value
Identity Column	Yes
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	No
Text/Image Filegroup	PRIMARY

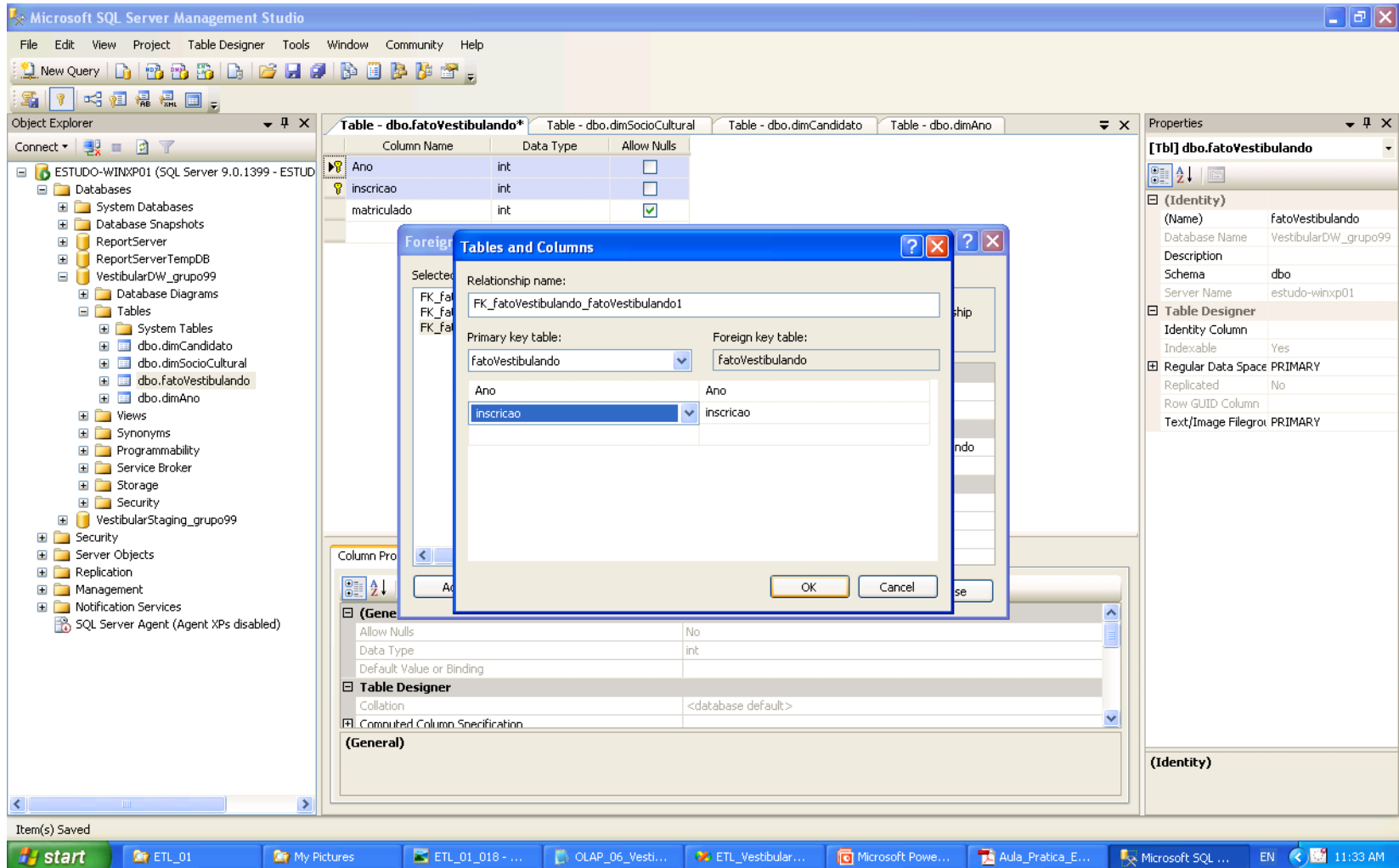
Properties

Table: [Tbl] dbo.fatoVestibulando

Property	Value
(Name)	fatoVestibulando
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

Configuração das bases

■ Relacionamento



The screenshot shows the Microsoft SQL Server Management Studio interface. The Object Explorer on the left displays the database structure for 'ESTUDO-WINXP01'. The central pane shows the 'Table - dbo.fatoVestibulando*' table with columns: Ano (int), inscricao (int), and matriculado (int). A dialog box titled 'Foreign Tables and Columns' is open, showing the configuration for a new foreign key relationship. The relationship name is 'FK_fatoVestibulando_fatoVestibulando1'. The primary key table is 'fatoVestibulando' and the foreign key table is 'fatoVestibulando'. The primary key column is 'inscricao' and the foreign key column is 'inscricao'. The 'OK' button is highlighted.

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Foreign Tables and Columns

Relationship name: FK_fatoVestibulando_fatoVestibulando1

Primary key table: fatoVestibulando Foreign key table: fatoVestibulando

Ano Ano

inscricao inscricao

OK Cancel

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

(Name) fatoVestibulando

(Database Name) VestibularDW_grupo99

Description

Schema dbo

Server Name estudo-winxp01

Table Designer

Identity Column

Indexable Yes

Regular Data Space PRIMARY

Replicated No

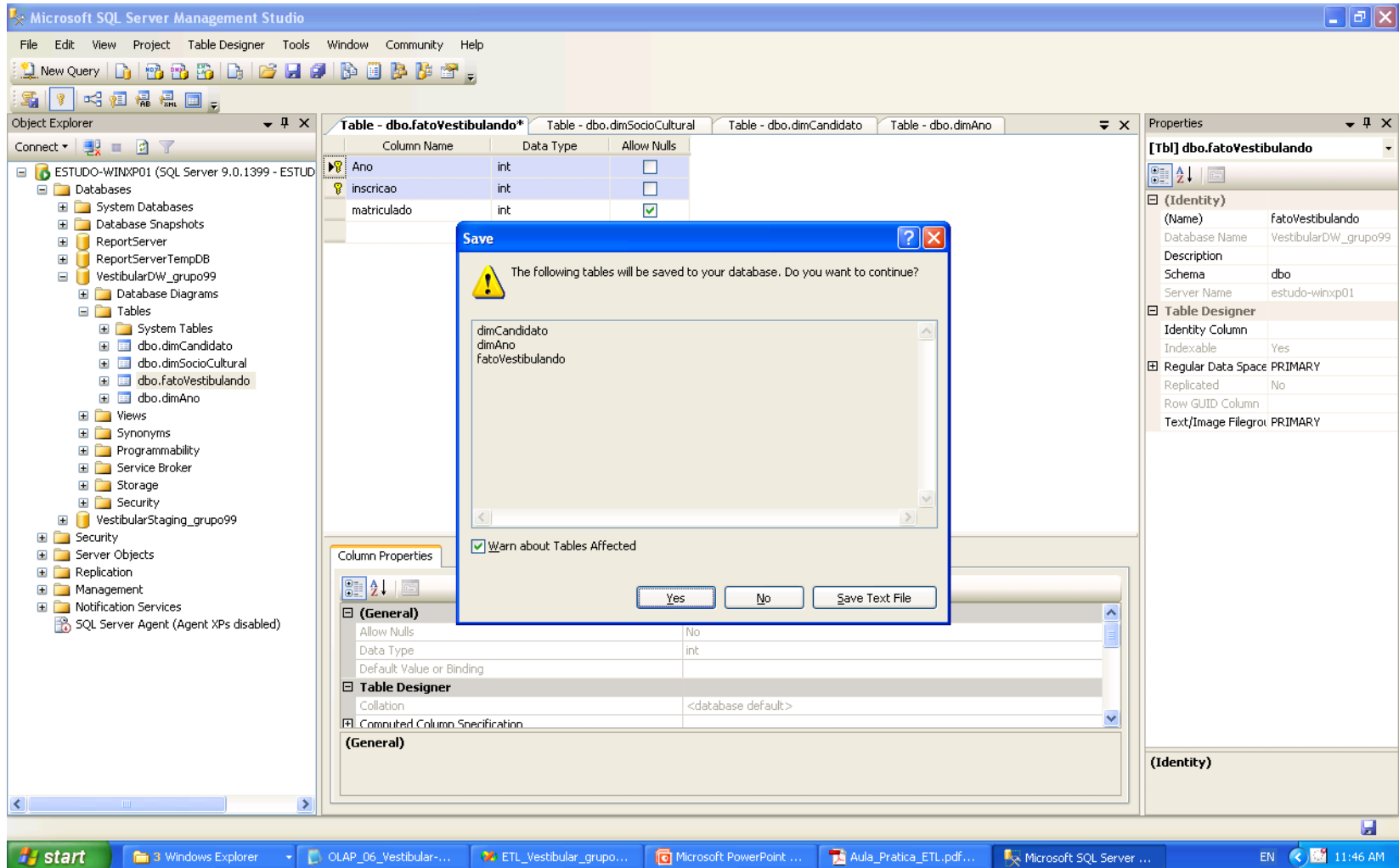
Row GUID Column

Text/Image Filegroup PRIMARY

(Identity)

Configuração das bases

■ Relacionamento



Microsoft SQL Server Management Studio

File Edit View Project Table Designer Tools Window Community Help

Object Explorer

Connect

ESTUDO-WINXP01 (SQL Server 9.0.1399 - ESTUD)

Databases

- System Databases
- Database Snapshots
- ReportServer
- ReportServerTempDB
- VestibularDW_grupo99
 - Database Diagrams
 - Tables
 - System Tables
 - dbo.dimCandidato
 - dbo.dimSocioCultural
 - dbo.fatoVestibulando
 - dbo.dimAno
 - Views
 - Synonyms
 - Programmability
 - Service Broker
 - Storage
 - Security
 - VestibularStaging_grupo99
- Security
- Server Objects
- Replication
- Management
- Notification Services
- SQL Server Agent (Agent XPs disabled)

Table - dbo.fatoVestibulando*

Column Name	Data Type	Allow Nulls
Ano	int	<input type="checkbox"/>
inscricao	int	<input type="checkbox"/>
matriculado	int	<input checked="" type="checkbox"/>

Save

The following tables will be saved to your database. Do you want to continue?

- dimCandidato
- dimAno
- fatoVestibulando

☒ Warn about Tables Affected

Yes No Save Text File

Column Properties

(General)

Allow Nulls	No
Data Type	int
Default Value or Binding	

(Table Designer)

Collation	<database default>
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(Computed Column Specification)

(General)

Properties

[Tbl] dbo.fatoVestibulando

(Identity)

(Name)	fatoVestibulando
Database Name	VestibularDW_grupo99
Description	
Schema	dbo
Server Name	estudo-winxp01

(Table Designer)

Identity Column	
Indexable	Yes
Regular Data Space	PRIMARY
Replicated	No
Row GUID Column	
Text/Image Filegroup	PRIMARY

(Identity)

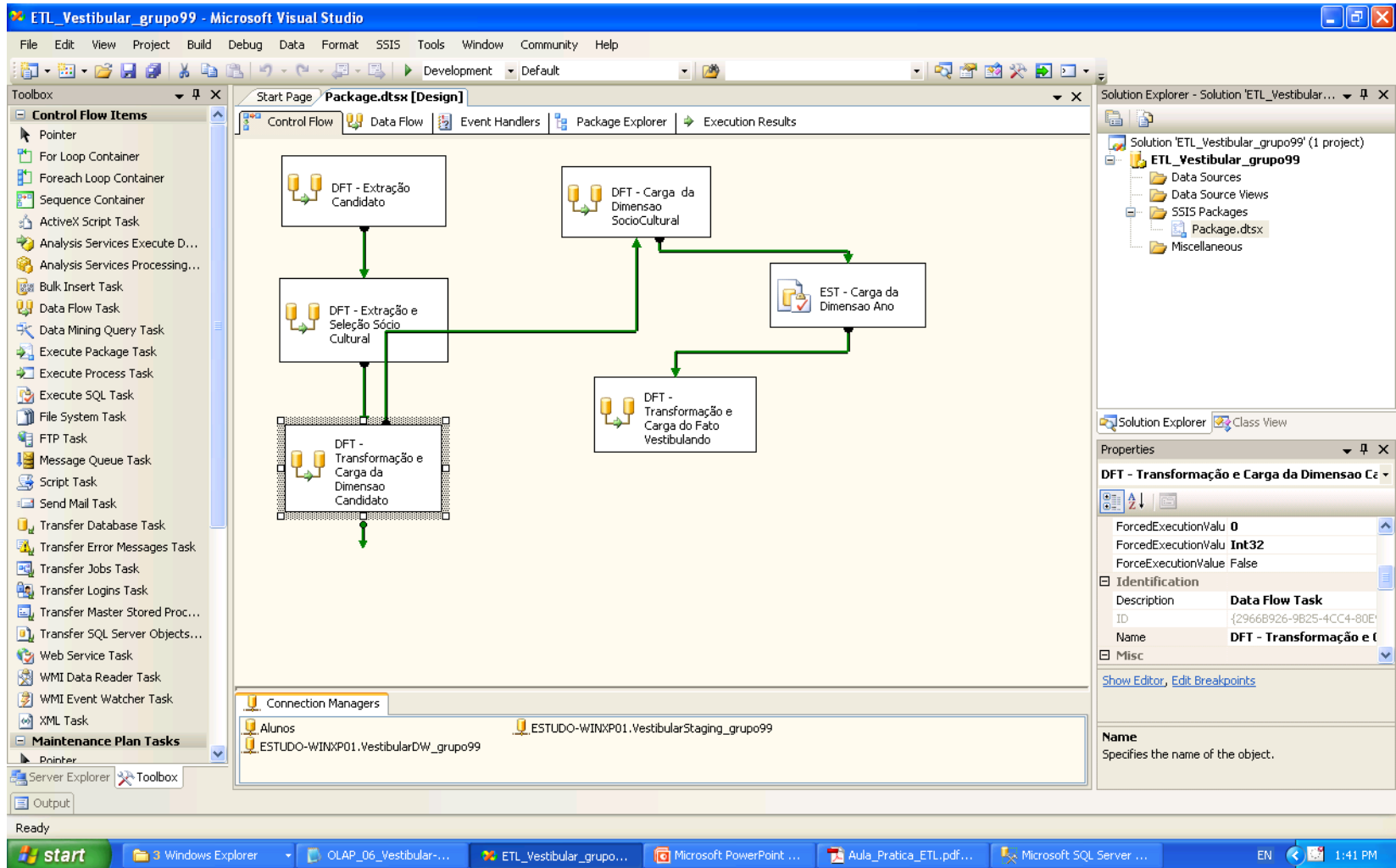
start

Windows Explorer OLAP_06_Vestibular... ETL_Vestibular_grupo... Microsoft PowerPoint ... Aula_Pratica_ETL.pdf... Microsoft SQL Server ...

EN 11:46 AM

Execução

- Clique no botão de “play” ou F5



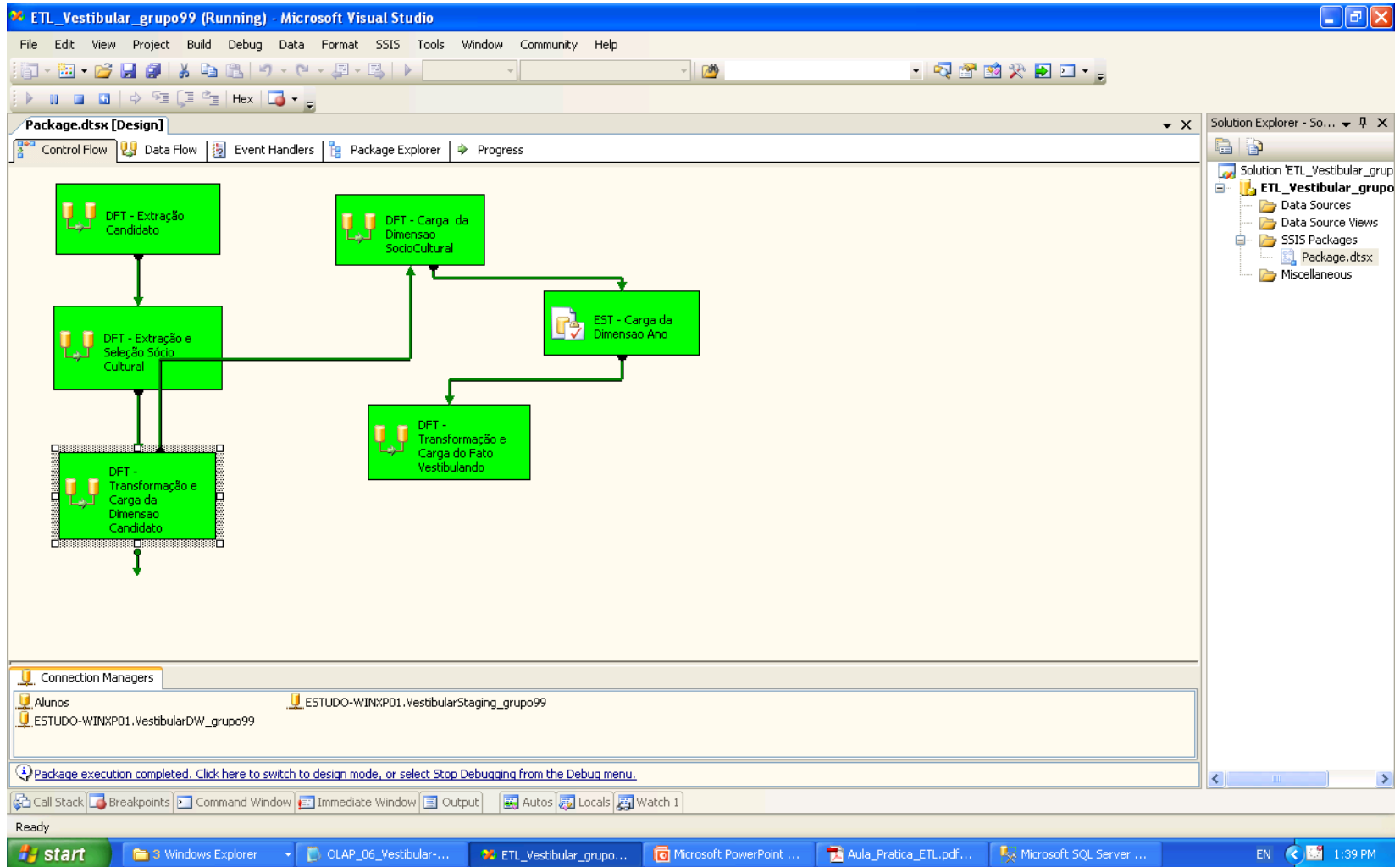
The screenshot displays the Microsoft Visual Studio interface for an SSIS package named 'ETL_Vestibular_grupo99'. The main design area shows a data flow task (DFT) named 'DFT - Transformação e Carga do Fato Vestibulando' selected. The flow includes several other tasks: 'DFT - Extração Candidato', 'DFT - Extração e Seleção Sócio Cultural', 'DFT - Carga da Dimensão SocioCultural', and 'EST - Carga da Dimensão Ano'. The Properties window on the right shows the following details for the selected task:

DFT - Transformação e Carga da Dimensão Ce	
ForcedExecutionValu	0
ForcedExecutionValu	Int32
ForceExecutionValue	False
Identification	
Description	Data Flow Task
ID	{2966B926-9B25-4CC4-80E1}
Name	DFT - Transformação e C
Misc	
Show Editor, Edit Breakpoints	
Name	
Specifies the name of the object.	

The Solution Explorer on the right shows the project structure for 'ETL_Vestibular_grupo99', including folders for Data Sources, Data Source Views, SSIS Packages, and Miscellaneous. The Connection Managers window at the bottom shows connections to 'Alunos' and 'ESTUDO-WINXP01.VestibularStaging_grupo99'.

Execução

- Cada passo fica verde se tiver sucesso



Exercícios

- 1. Estruturar e implementar a carga FULL no ETL**
- 2. Estruturar e implementar a carga Incremental no ETL**
- 3. Implementar mudanças no ETL**
 - 1. Consertar problema do ano fixo no script de transformação**
 - 2. Consertar problema de chave dupla nas tabelas**