



Administração de Banco de Dados

# Alex Souza

- Vida acadêmica
  - Mestrando em IA (UECE)
  - Especialista em Governança de TI
  - Especialista em Banco de Dados
  - MCTS SQL Server 2008 - Administração
- Vida profissional
  - Analista de Business Intelligence
  - DBA SQL Server
- Contato
  - [aasouzaconsult@gmail.com](mailto:aasouzaconsult@gmail.com)
  - <https://pessoalex.wordpress.com/>

# Conhecem SQL Server?

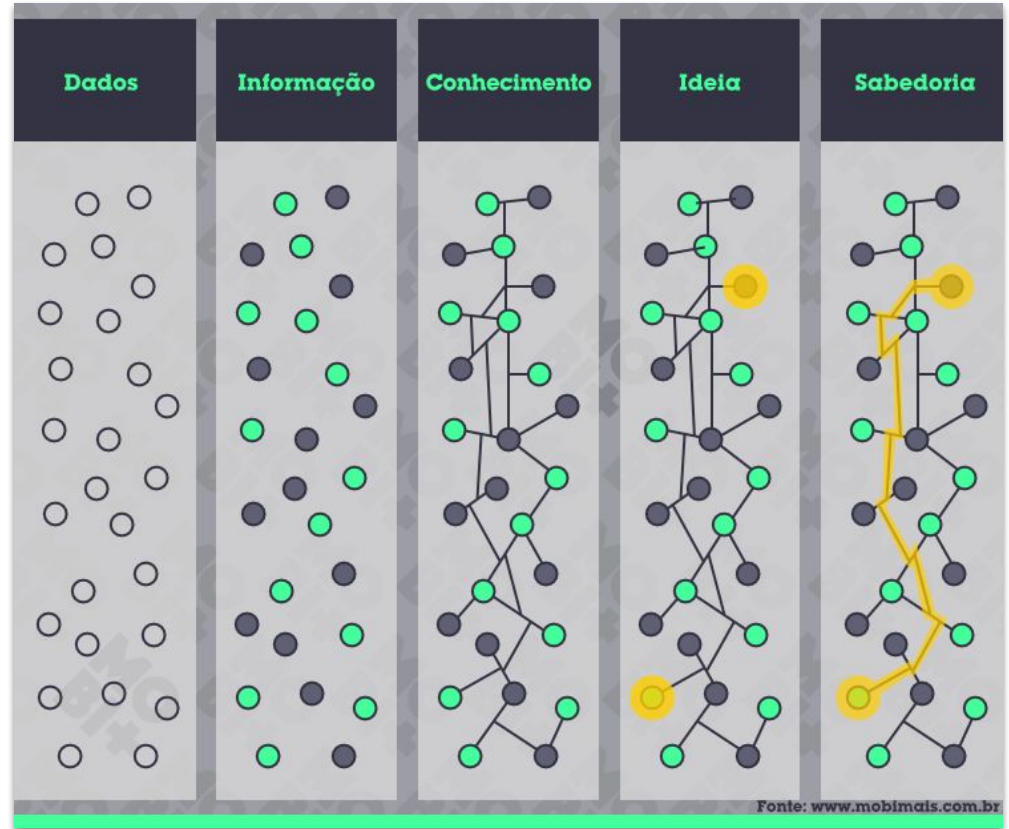
- Nome
- Profissão?
- Experiência com Banco de Dados?
  - SQL Server?
- Objetivo?

# Agenda

- Certificação
- Instalação e Configuração
- Bancos de dados
- Desempenho
- Monitoramento
- Política de Manutenção
- Segurança
- Automações

# Pergunta?

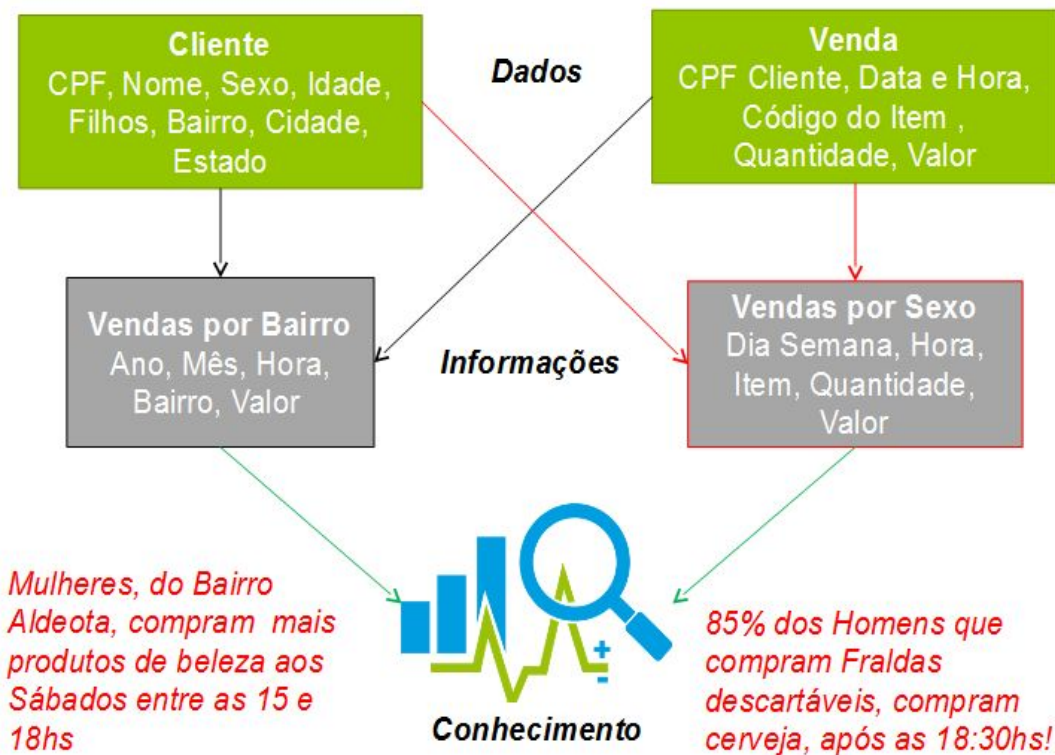
- Qual o maior bem de uma empresa?
  - Nos dias atuais?
    - **Seus Dados!**



# Dados



- Exemplo
  - Dados
    - Tabela
  - Informações
    - Relação entre tabelas
  - Conhecimento
    - BI



# Administrador de Banco de Dados (DBA)

- Tem como objetivo
  - Garantir a integridade dos dados
  - Garantir a disponibilidade dos dados
  - Garantir o máximo desempenho possível



# Certificação

- MTA - Microsoft Technology Associate
  - Database Fundamentals
    - [Curso 40364A](#)
    - [Teste 98-364](#)
  - As certificações MTA são um excelente ponto de partida se você deseja entrar no ramo da tecnologia. As certificações MTA abrangem um amplo espectro de conceitos técnicos fundamentais, avalia e valida o conhecimento técnico padrão e melhora sua credibilidade técnica. Observação: Os exames MTA não o qualificam para a certificação MCP e também não são pré-requisito para as certificações MCSA ou MCSD.





# Certificação

- MCSA: SQL 2016

- Database Administration

- [Curso 20764C](#)

- [Teste 70-764](#)

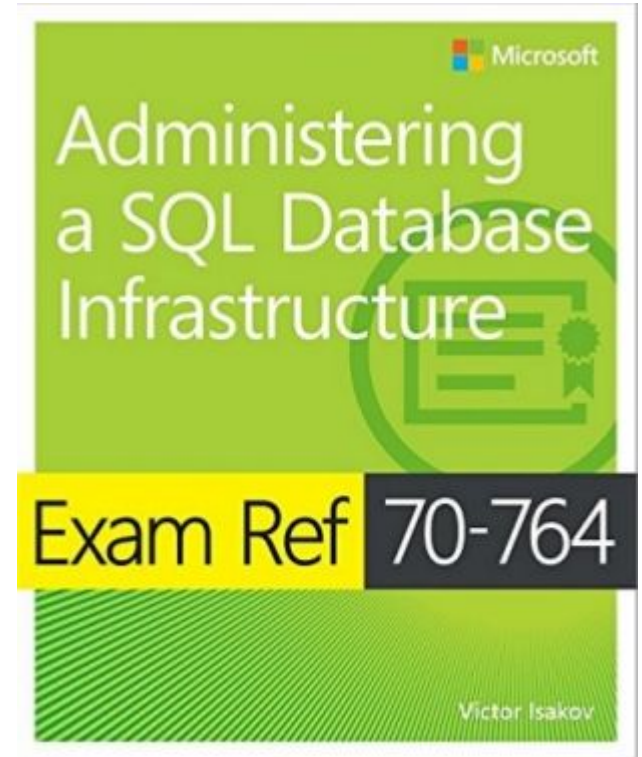
- Este exame é destinado a profissionais de banco de dados que executam tarefas de instalação, manutenção e configuração. Outras responsabilidades incluem configurar sistemas de banco de dados, garantir que esses os sistemas funcionem de forma eficiente e armazenar fazer backup e proteger regularmente dados contra acesso não autorizado.



Passo	Título	Treinamento opcional	Exame requerido	Certificação obtida
1	Administração de uma infraestrutura de banco de dados SQL	<a href="#">Fazer curso 764 &gt;</a>	<a href="#">Fazer exame 764 &gt;</a>	<b>Microsoft</b> <b>CERTIFIED</b> Solutions Associate SQL 2016 Database Administration
2	Provisionamento de bancos de dados SQL	<a href="#">Fazer curso 765 &gt;</a>	<a href="#">Fazer exame 765 &gt;</a>	

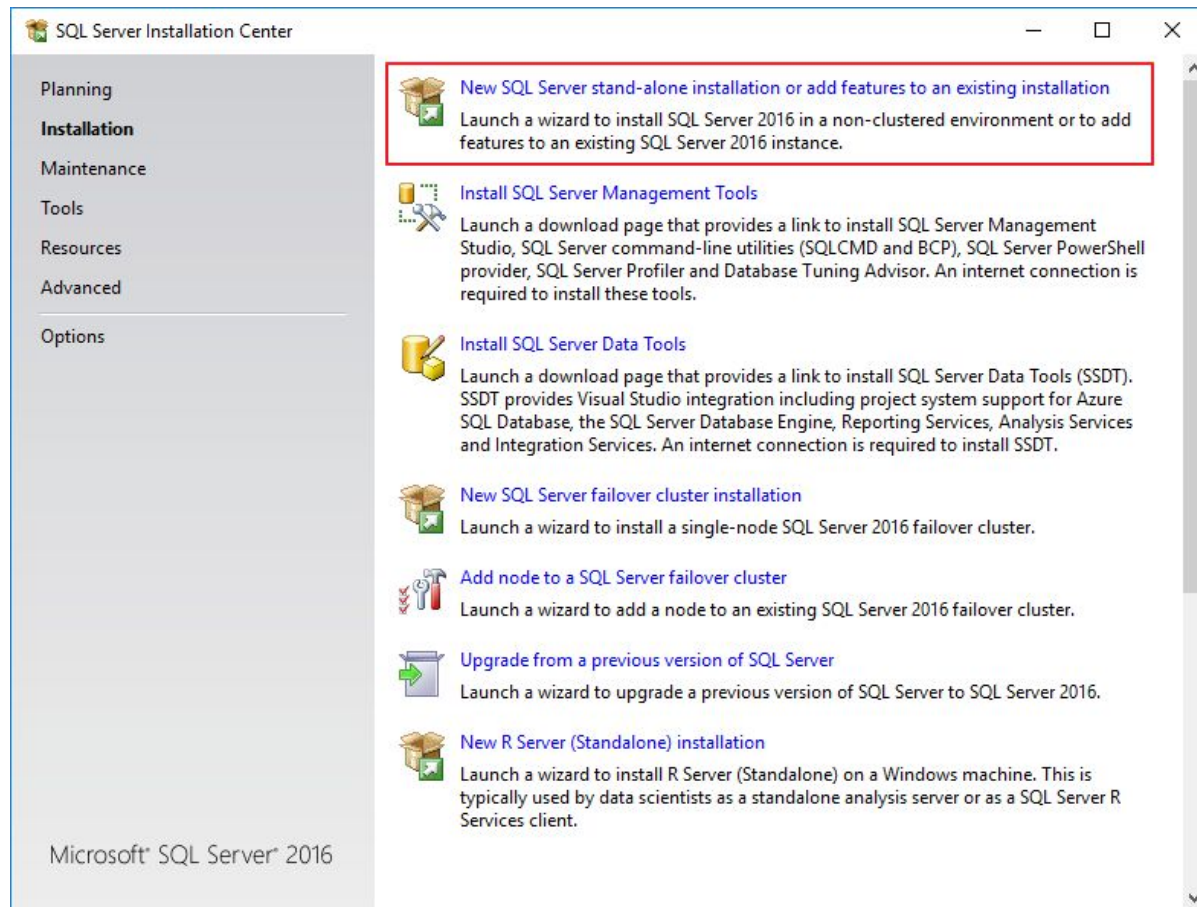
# Certificação

- [Training Kit](#)
- [MVA](#)
  - Academia Virtual da Microsoft
- [Books Online](#)
  - Help do SQL Server



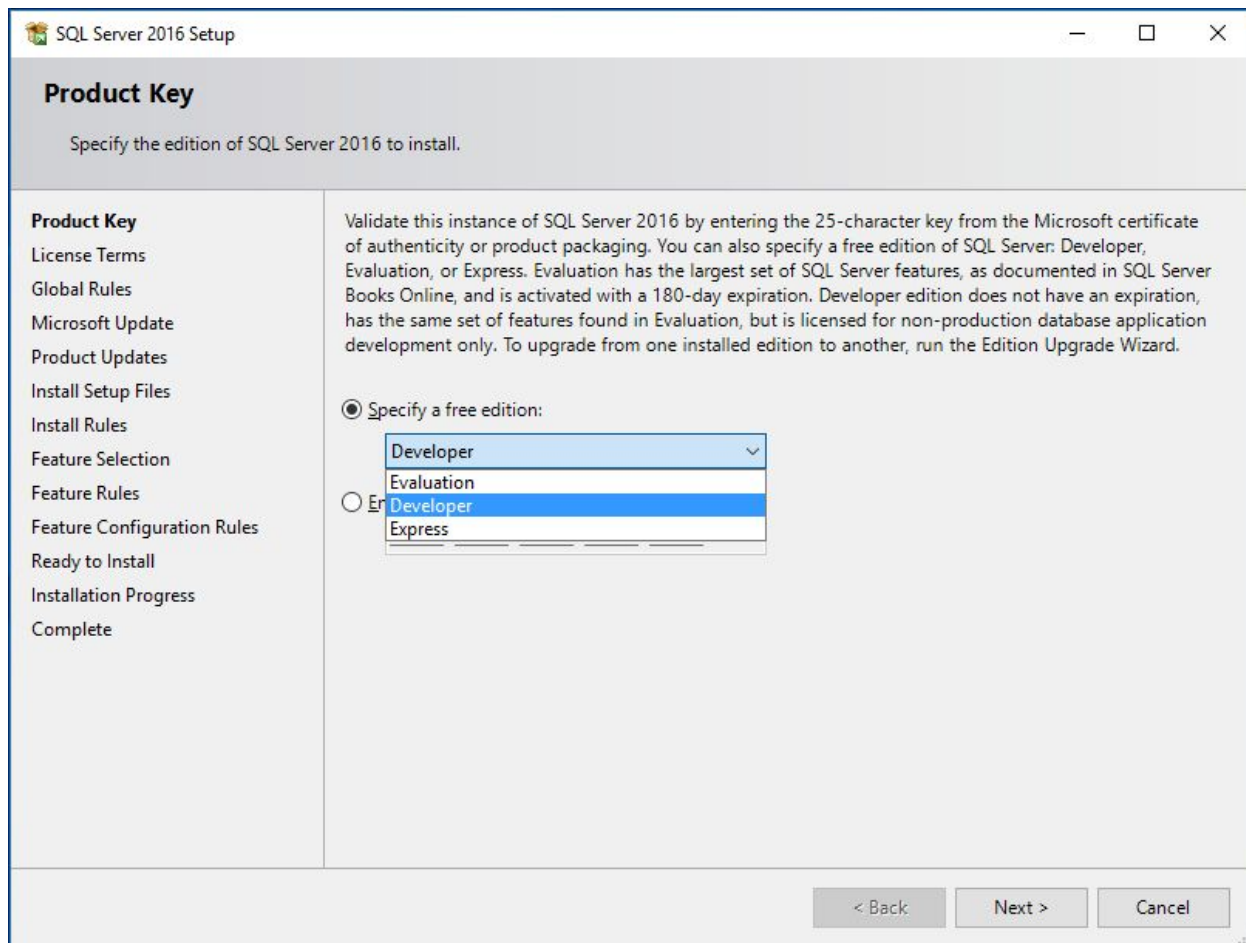
# Instalação

- Instalando



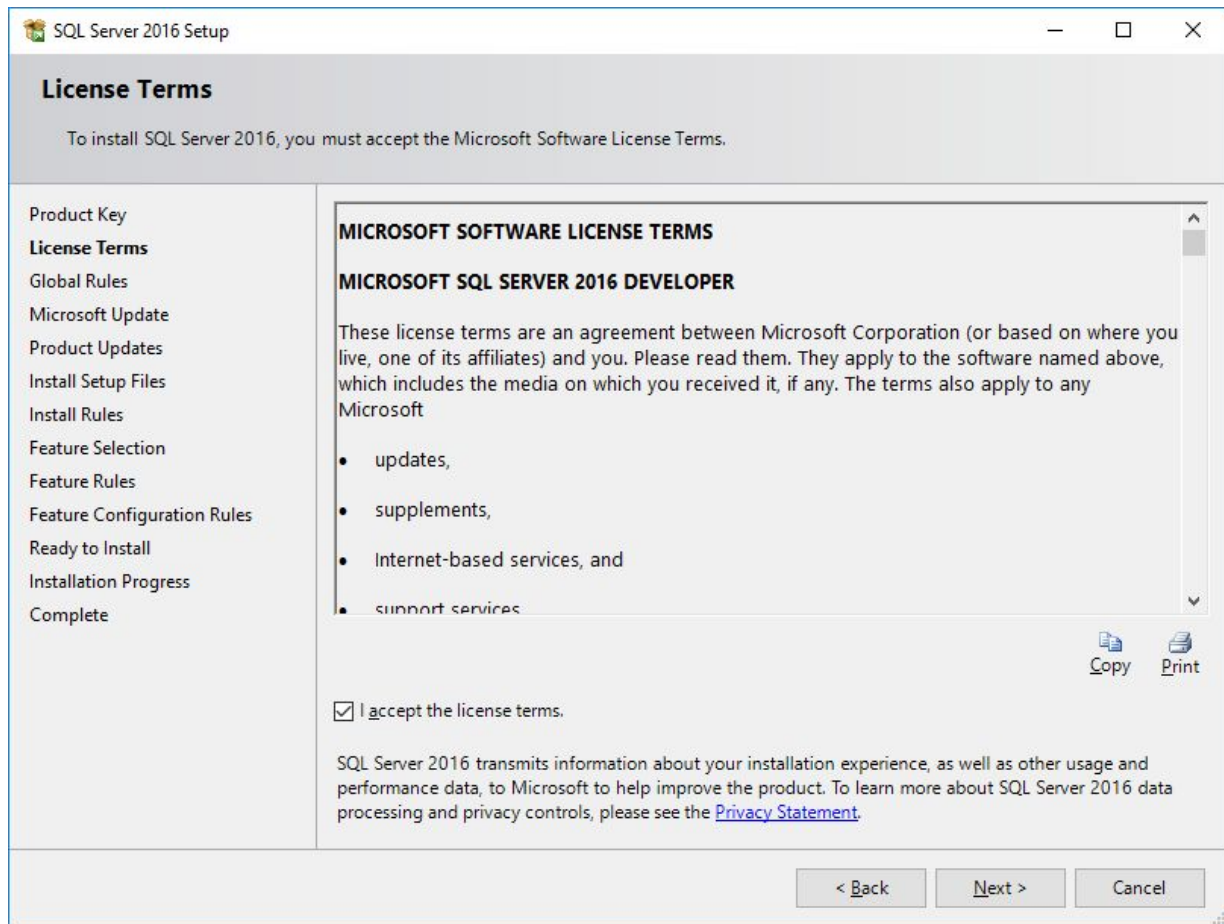
# Instalação

- Instalando



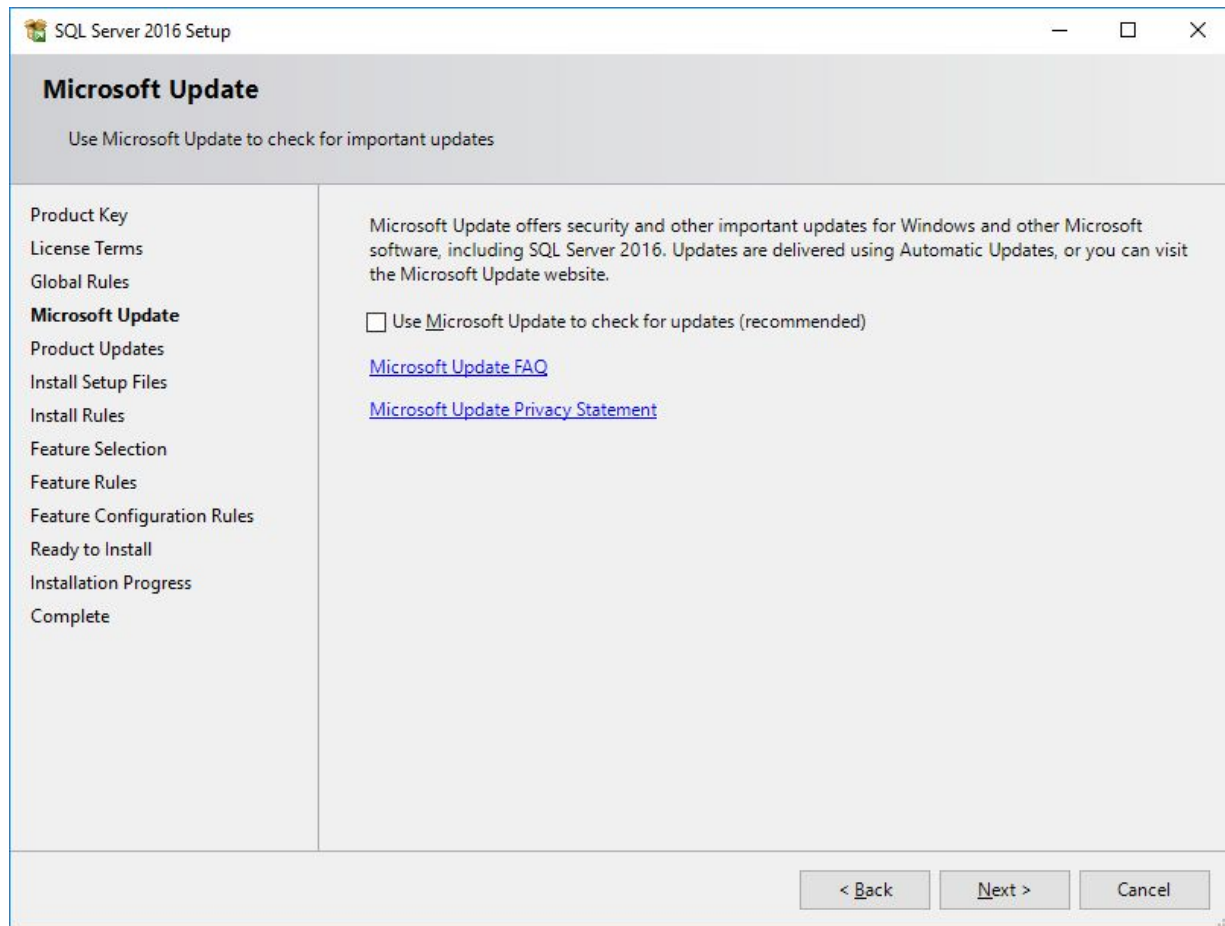
# Instalação

- Instalando



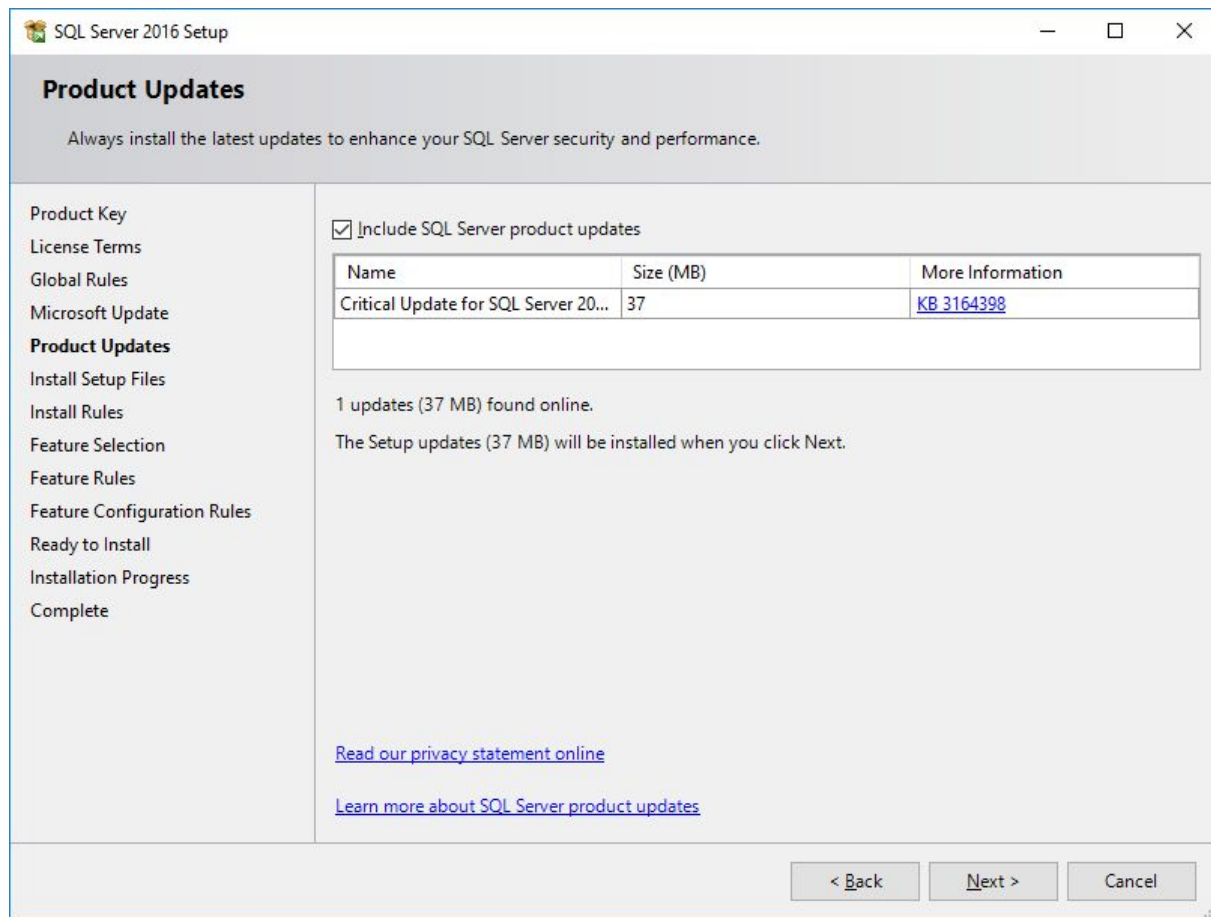
# Instalação

- Instalando



# Instalação

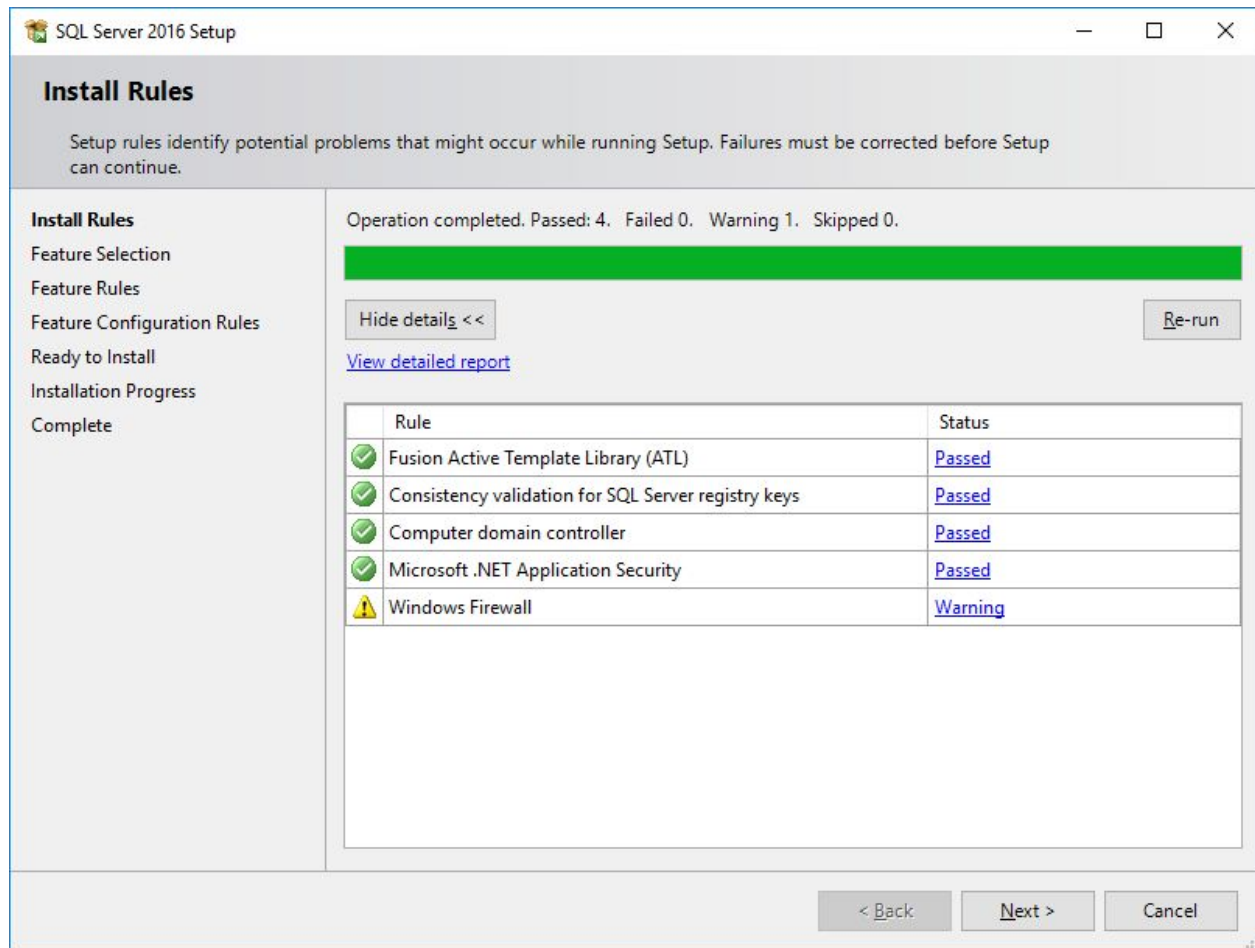
- Instalando





# Instalação

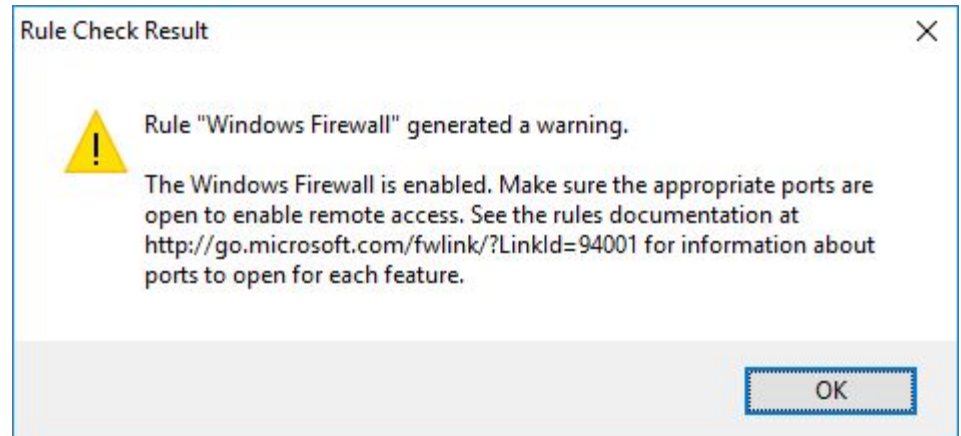
- Instalando





# Instalação

- Instalando



# Instalação

- Instalando

SQL Server 2016 Setup

## Feature Selection

Select the Developer features to install.

Install Rules

**Feature Selection**

Feature Rules

Instance Configuration

Server Configuration

Database Engine Configuration

Analysis Services Configuration

Reporting Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Features:

Instance Features

- ☒ Database Engine Services
  - ☐ SQL Server Replication
  - ☐ R Services (In-Database)
  - ☐ Full-Text and Semantic Extractions for Sea
  - ☐ Data Quality Services
  - ☐ PolyBase Query Service for External Data
- ☒ Analysis Services
- ☒ Reporting Services - Native

Shared Features

- ☐ R Server (Standalone)
- ☐ Reporting Services - SharePoint
- ☐ Reporting Services Add-in for SharePoint Proc

Select All    Unselect All

Instance root directory: C:\Program Files\Microsoft SQL Server\ ...

Shared feature directory: C:\Program Files\Microsoft SQL Server\ ...

Shared feature directory (x86): C:\Program Files (x86)\Microsoft SQL Server\ ...

Feature description:

The Native mode server provides all processing and management functionality through Reporting Services components. Reporting Services cannot be clustered.

Prerequisites for selected features:

Already installed:

- Windows PowerShell 3.0 or higher
- Microsoft Visual Studio 2010 Redistributable

Disk Space Requirements

Drive C: 2456 MB required, 50045 MB available

< Back    Next >    Cancel

# Instalação

- Instalando

SQL Server 2016 Setup

## Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Install Rules  
Feature Selection  
Feature Rules  
**Instance Configuration**  
Server Configuration  
Database Engine Configuration  
Analysis Services Configuration  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

☐ Default instance

☒ Named instance:

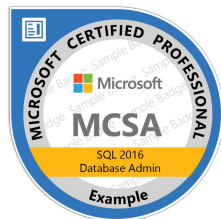
Instance ID:

SQL Server directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016  
Analysis Services directory: C:\Program Files\Microsoft SQL Server\MSAS13.SQL2016  
Reporting Services directory: C:\Program Files\Microsoft SQL Server\MSRS13.SQL2016

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
---------------	-------------	----------	---------	---------

< Back   Next >   Cancel



# Instalação

- Instalando

SQL Server 2016 Setup

## Server Configuration

Specify the service accounts and collation configuration.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
**Server Configuration**  
Database Engine Configuration  
Analysis Services Configuration  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Service Accounts Collation

Microsoft recommends that you use a separate account for each SQL Server service.

Service	Account Name	Password	Startup Type
SQL Server Agent	NT Service\SQLAgentSS...		Manual
SQL Server Database Engine	NT Service\MSSQL\$SQL...		Automatic
SQL Server Analysis Services	NT Service\MSOLAP\$SQ...		Automatic
SQL Server Reporting Services	NT Service\ReportServer...		Automatic
SQL Server Browser	NT AUTHORITY\LOCAL ...		Automatic

☐ Grant Perform Volume Maintenance Task privilege to SQL Server Database Engine Service

This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.

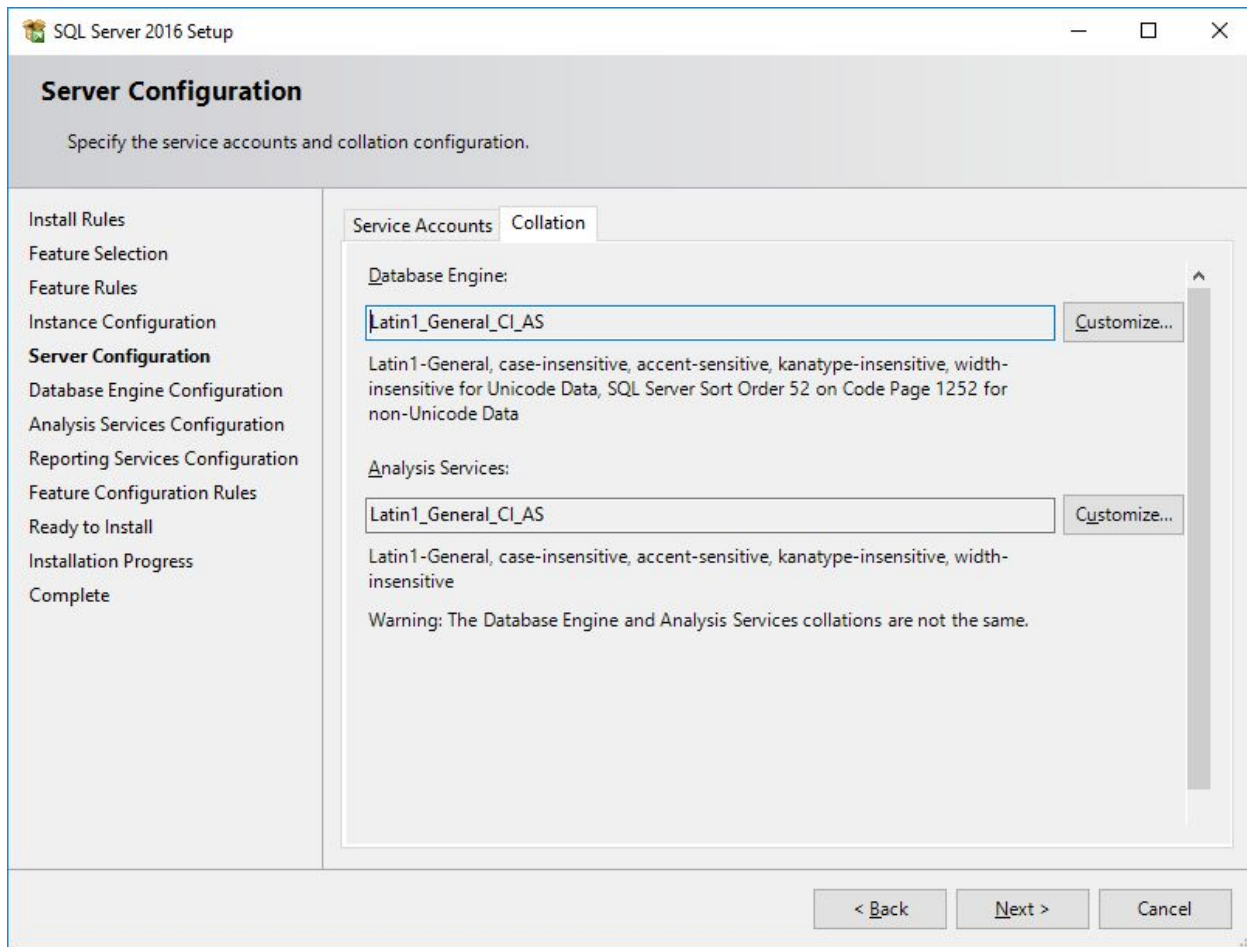
[Click here for details](#)

< Back Next > Cancel



# Instalação

- Collation



# Instalação

- Collation

Customize the SQL Server 2016 Database Engine Collation

Select the collation you would like to use:

☒ Windows collation designator and sort order

Collation designator: Latin1\_General

☐ Binary ☐ Binary-code point

☐ Case-sensitive ☐ Kana-sensitive

☐ Accent-sensitive ☐ Width-sensitive

☐ Supplementary characters

☐ SQL collation, used for backwards compatibility

SQL\_1xCompat\_CP850\_CI\_AS  
SQL\_AltDiction\_CP850\_CI\_AI  
SQL\_AltDiction\_CP850\_CI\_AS  
SQL\_AltDiction\_CP850\_CS\_AS  
SQL\_AltDiction\_Pref\_CP850\_CI\_AS

Collation description:

Latin1-General, case-insensitive, accent-sensitive, kanatype-insensitive, width-insensitive for Unicode Data, SQL Server Sort Order 49 on Code Page 850 for non-Unicode Data

OK Cancel



# Instalação

- Instalando



SQL Server 2016 Setup

## Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
Server Configuration  
**Database Engine Configuration**  
Analysis Services Configuration  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Server Configuration | Data Directories | TempDB | FILESTREAM

Specify the authentication mode and administrators for the Database Engine.

Authentication Mode

☒ Windows authentication mode

☐ Mixed Mode (SQL Server authentication and Windows authentication)

Specify the password for the SQL Server system administrator (sa) account.

Enter password:

Confirm password:

Specify SQL Server administrators

WIN-TM04H2GA5Q

SQL Server administrators have unrestricted access to the Database Engine.

Add Current User Add... Remove

< Back Next > Cancel



# Instalação

- Instalando

SQL Server 2016 Setup

## Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
Server Configuration  
**Database Engine Configuration**  
Analysis Services Configuration  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Server Configuration | **Data Directories** | TempDB | FILESTREAM

Data root directory: C:\Program Files\Microsoft SQL Server\ ...

System database directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSQL\Data

User database directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSC ...

User database log directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSC ...

Backup directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSC ...

< Back | Next > | Cancel





# Instalação

- Instalando



SQL Server 2016 Setup

## Database Engine Configuration

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
Server Configuration  
**Database Engine Configuration**  
Analysis Services Configuration  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Server Configuration | Data Directories | **TempDB** | FILESTREAM

TempDB data files: tempdb.mdf, tempdb\_mssql\_#.ndf

Number of files: 4 **Desempenho (recomendação Microsoft)**

Initial size (MB): 8 Total initial size (MB): 32

Autogrowth (MB): 64 Total autogrowth (MB): 256

Data directories: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSQL\DATA

TempDB log file: templog.ldf

Initial size (MB): 8

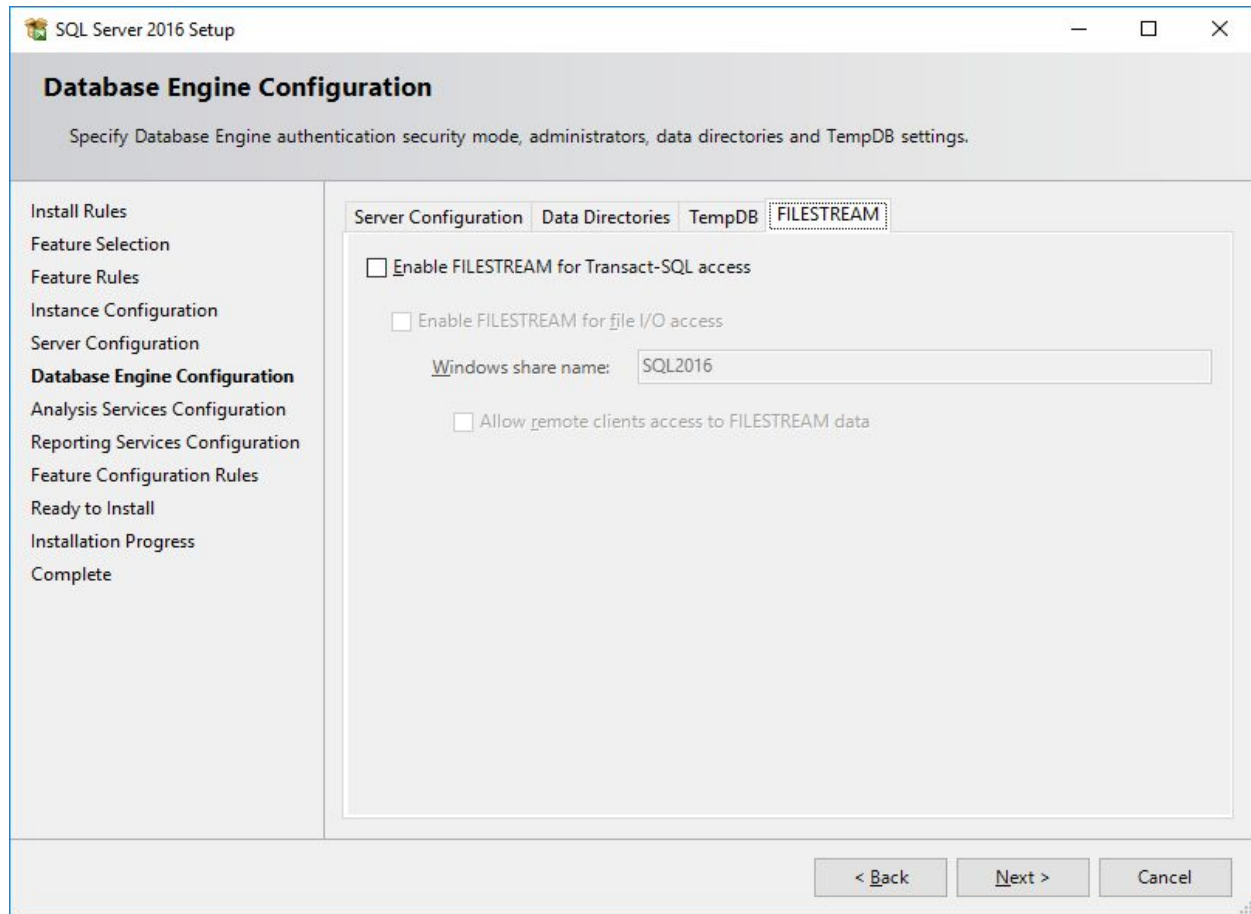
Autogrowth (MB): 64

Log directory: C:\Program Files\Microsoft SQL Server\MSSQL13.SQL2016\MSSQL\LOG

< Back Next > Cancel

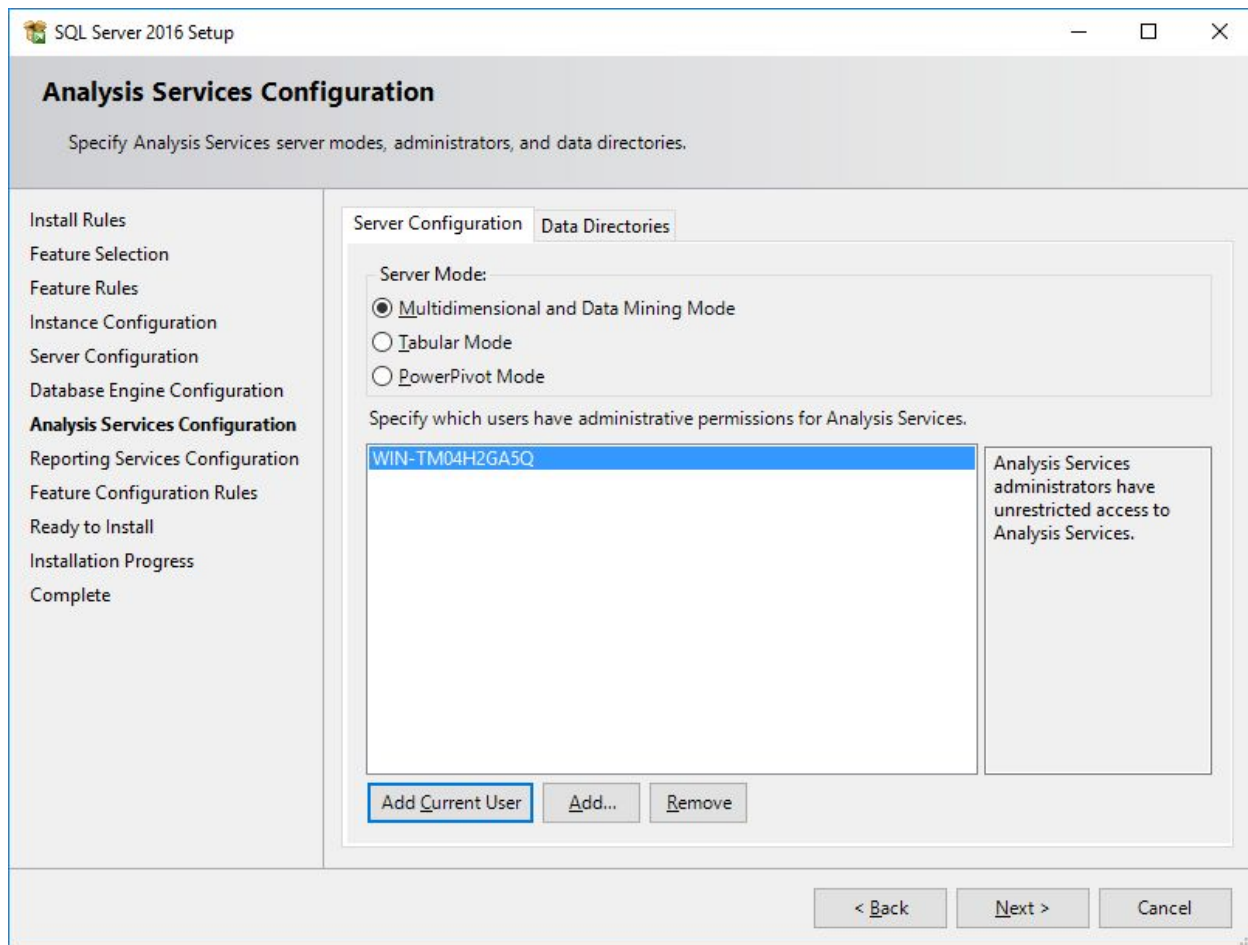
# Instalação

- Instalando



# Instalação

- Instalando



# Instalação

- Instalando

SQL Server 2016 Setup

## Analysis Services Configuration

Specify Analysis Services server modes, administrators, and data directories.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
Server Configuration  
Database Engine Configuration  
**Analysis Services Configuration**  
Reporting Services Configuration  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

Server Configuration **Data Directories**

Specify the data directories for SQL Server Analysis Services.

Data directory: C:\Program Files\Microsoft SQL Server\MSAS13.SQL2016\OLAP\Data ...

Log file directory: C:\Program Files\Microsoft SQL Server\MSAS13.SQL2016\OLAP\Log ...

Temp directory: C:\Program Files\Microsoft SQL Server\MSAS13.SQL2016\OLAP\Temp ...

Backup directory: C:\Program Files\Microsoft SQL Server\MSAS13.SQL2016\OLAP\Backup ...

< Back Next > Cancel

# Instalação

- Instalando

The screenshot shows the 'Reporting Services Configuration' window in the SQL Server 2016 Setup. The window title is 'SQL Server 2016 Setup'. The main heading is 'Reporting Services Configuration' with the instruction 'Specify the Reporting Services configuration mode.' Below this, there is a list of installation steps on the left, including 'Install Rules', 'Feature Selection', 'Feature Rules', 'Instance Configuration', 'Server Configuration', 'Database Engine Configuration', 'Analysis Services Configuration', 'Reporting Services Configura...', 'Feature Configuration Rules', 'Ready to Install', 'Installation Progress', and 'Complete'. The 'Reporting Services Configura...' step is currently selected. The main area displays two configuration modes: 'Reporting Services Native Mode' and 'Reporting Services SharePoint Integrated Mode'. Under 'Native Mode', there are two options: 'Install and configure.' (selected) and 'Install only.'. Under 'SharePoint Integrated Mode', there is one option: 'Install only.'. At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

SQL Server 2016 Setup

## Reporting Services Configuration

Specify the Reporting Services configuration mode.

Install Rules  
Feature Selection  
Feature Rules  
Instance Configuration  
Server Configuration  
Database Engine Configuration  
Analysis Services Configuration  
**Reporting Services Configura...**  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

**Reporting Services Native Mode**

- ☒ **Install and configure.**  
Installs and configures the report server in native mode. The report server is operational after setup completes.
- ☐ **Install only.**  
Installs the report server files. After installation, use Reporting Services Configuration Manager to configure the report server for native mode.

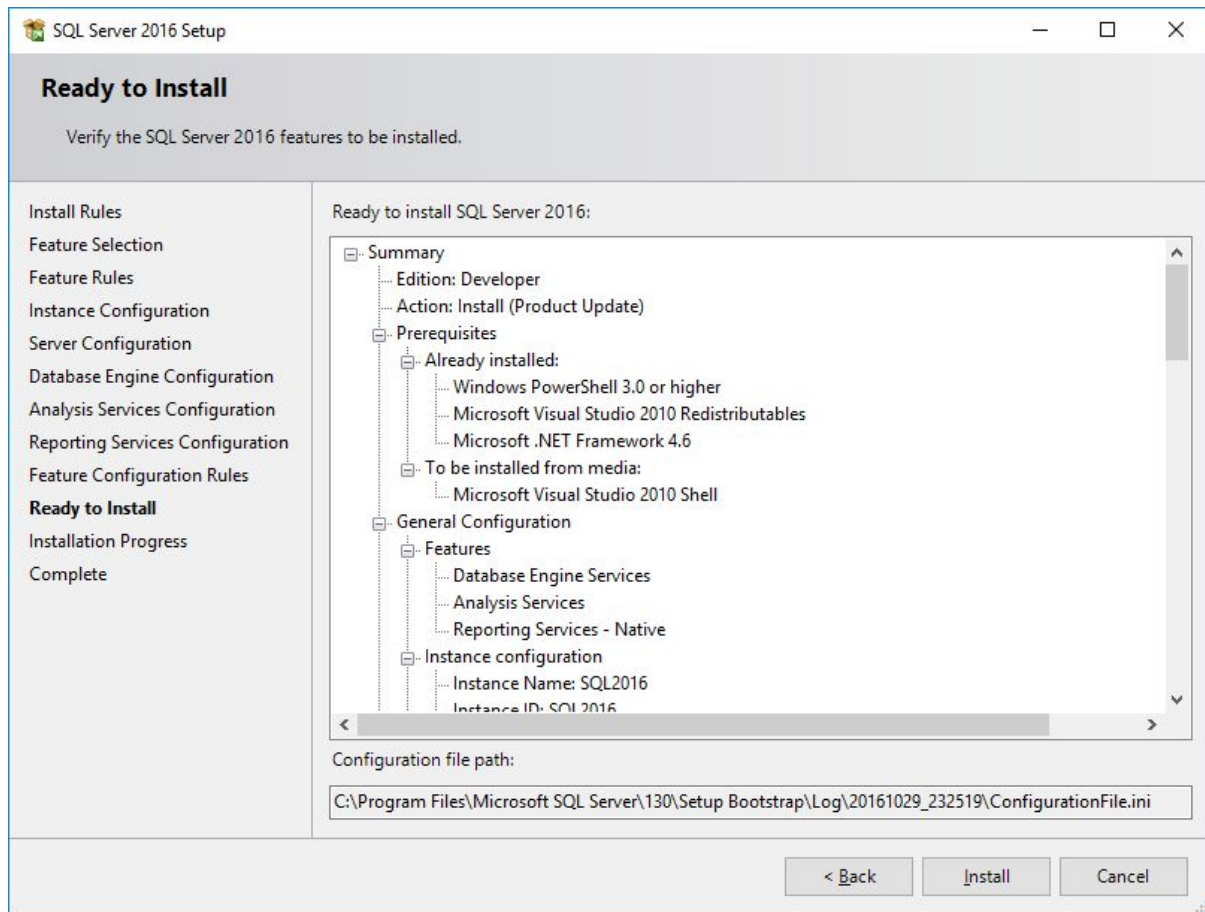
**Reporting Services SharePoint Integrated Mode**

- ☐ **Install only.**  
Installs the report server files. After installation use SharePoint Central Administration to complete the configuration. Verify the SQL Server Reporting Services service is started and create at least one SQL Server Reporting Services service application. For more information, click Help.

< Back   Next >   Cancel

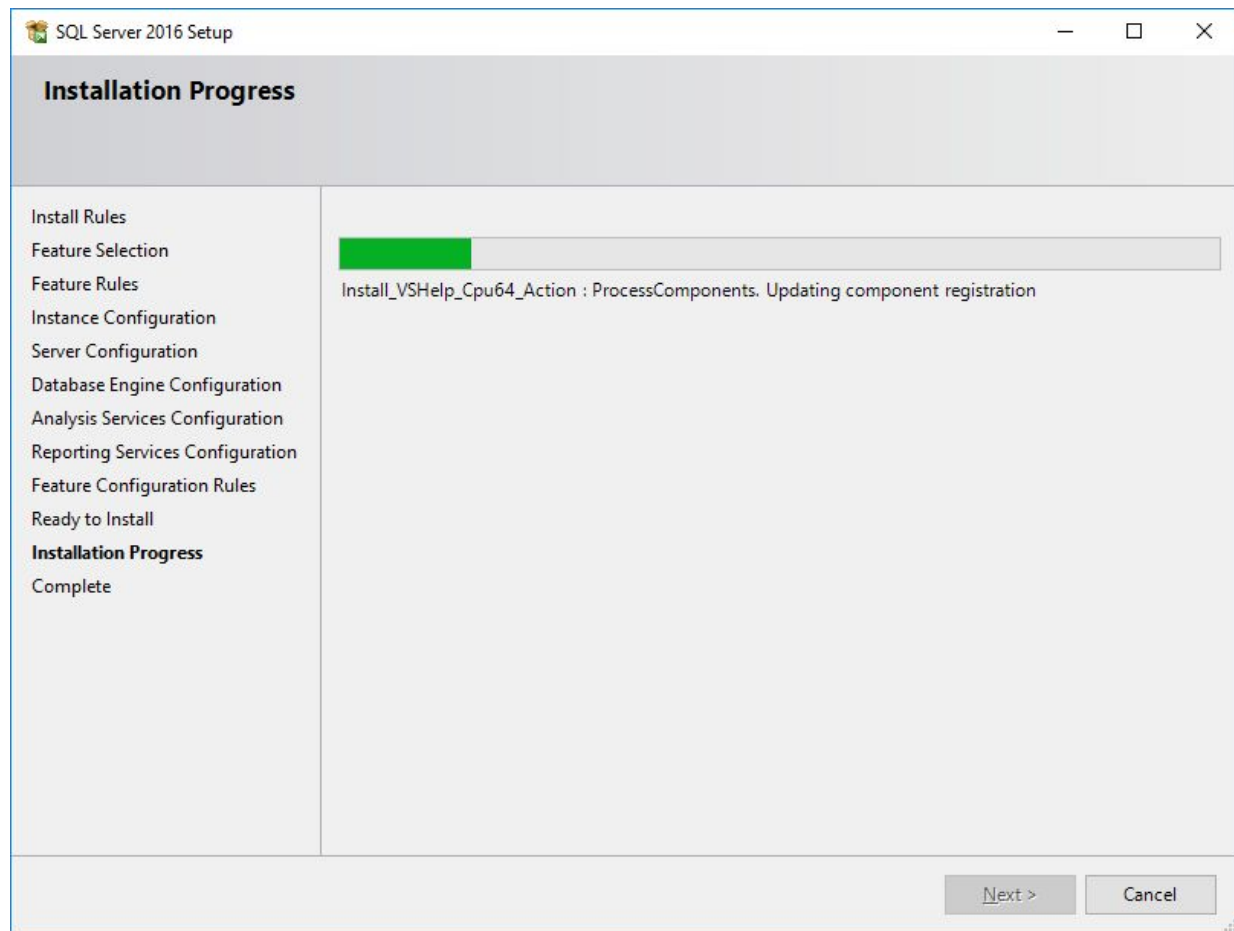
# Instalação

- Instalando



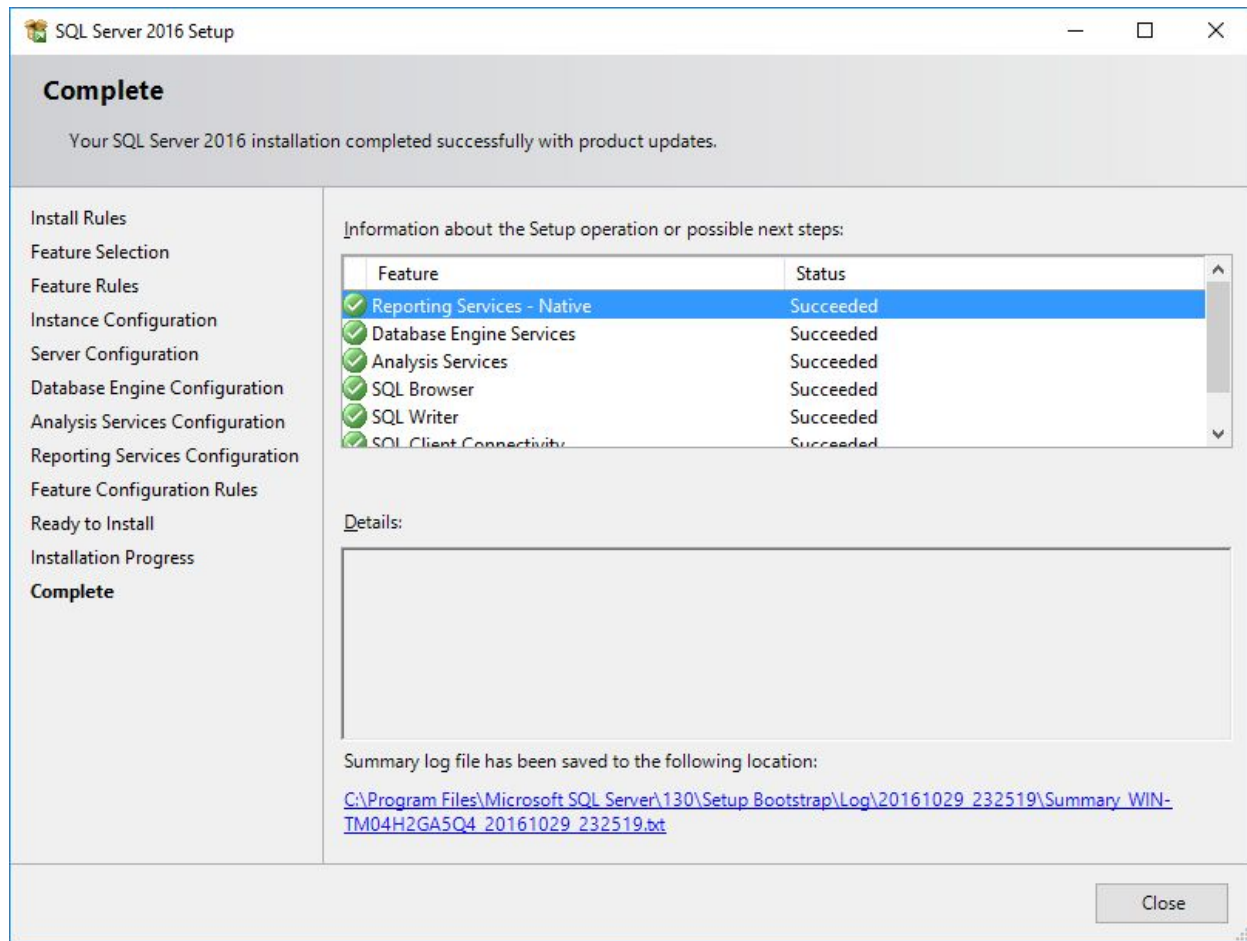
# Instalação

- Instalando



# Instalação

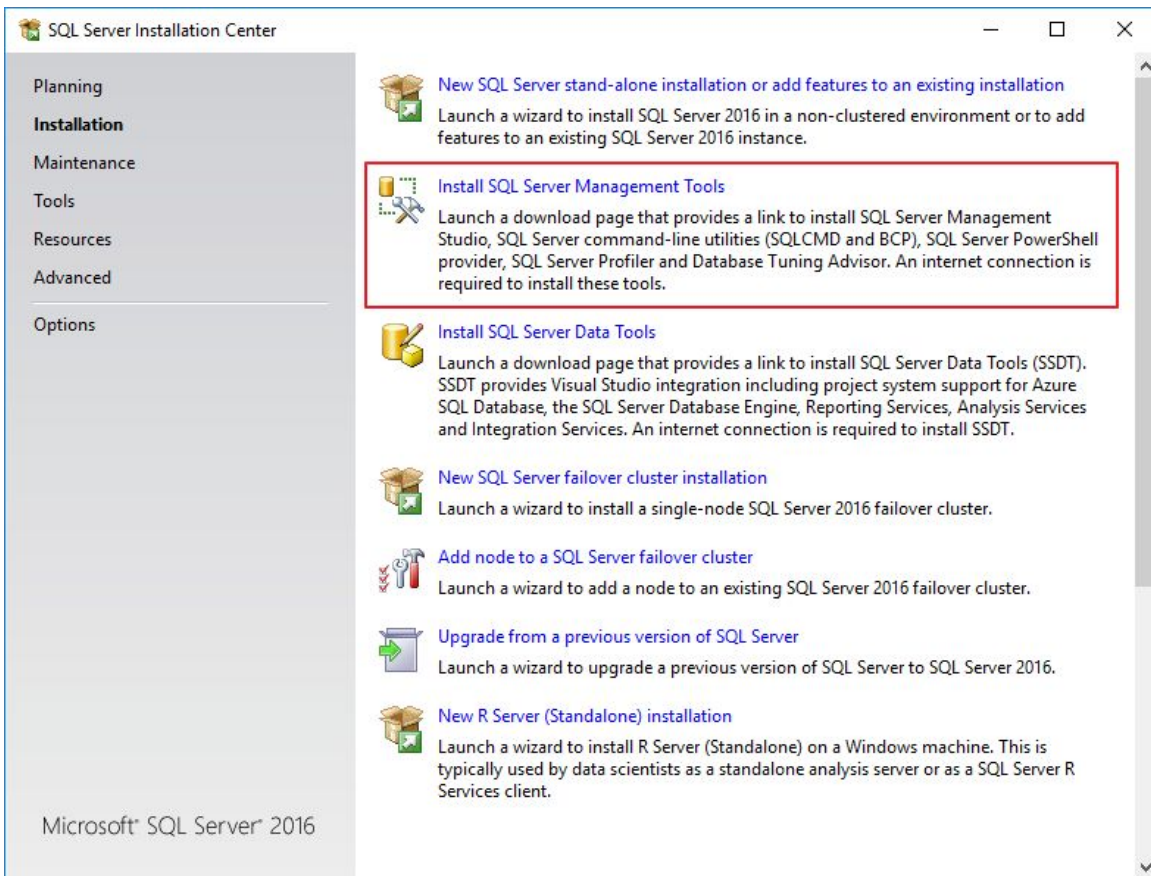
- Instalando





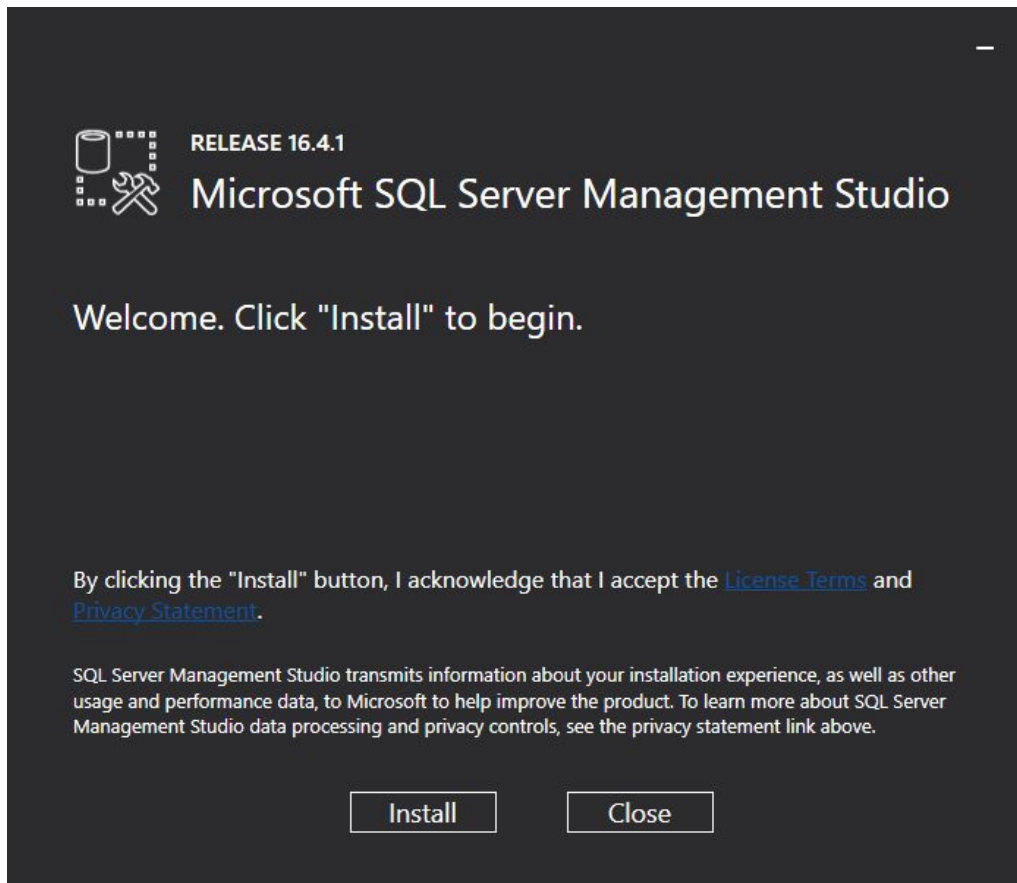
# Instalação

- Instalando SSMS
  - [Download](#)



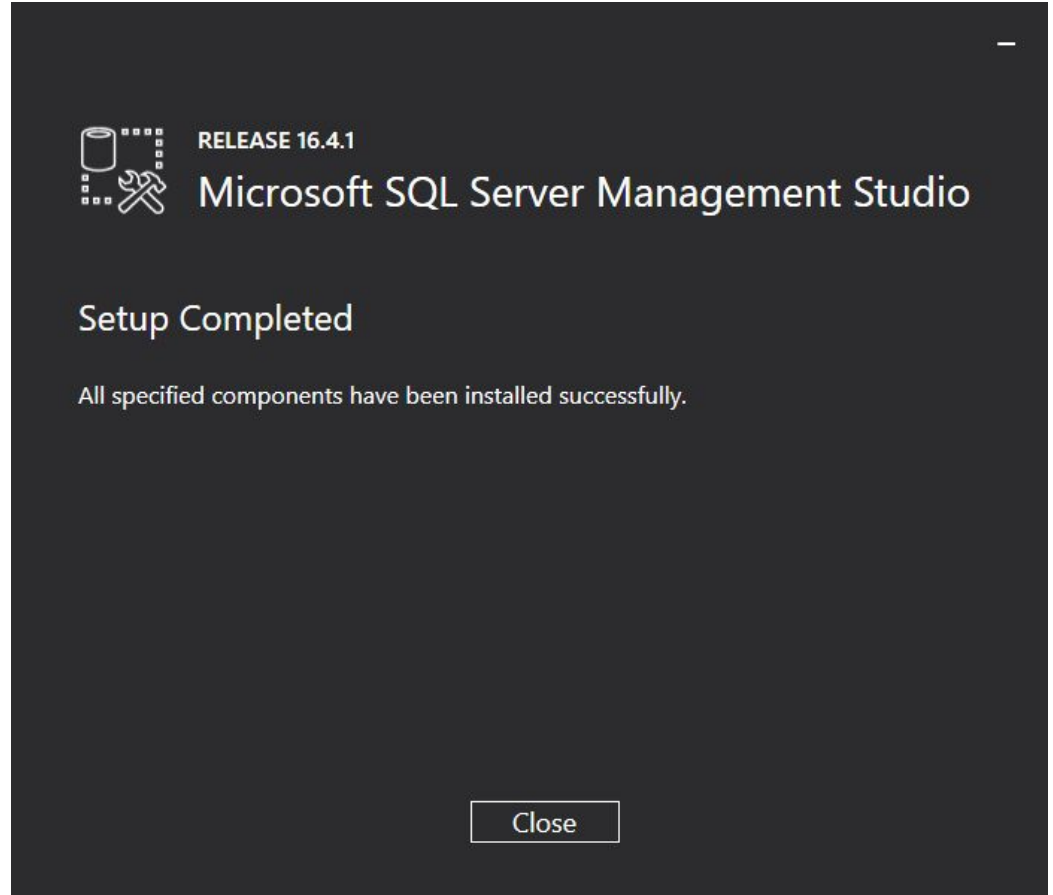
# Instalação

- Instalando SSMS



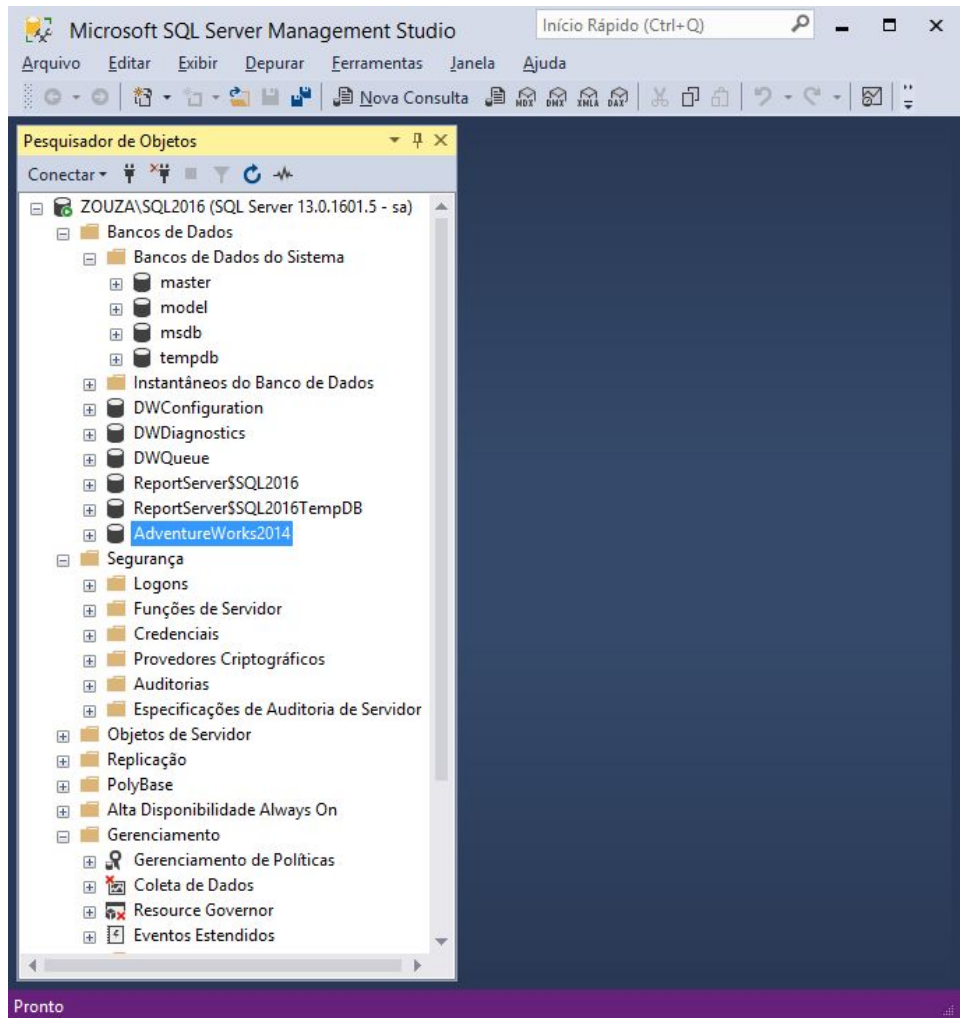
# Instalação

- Instalando SSMS



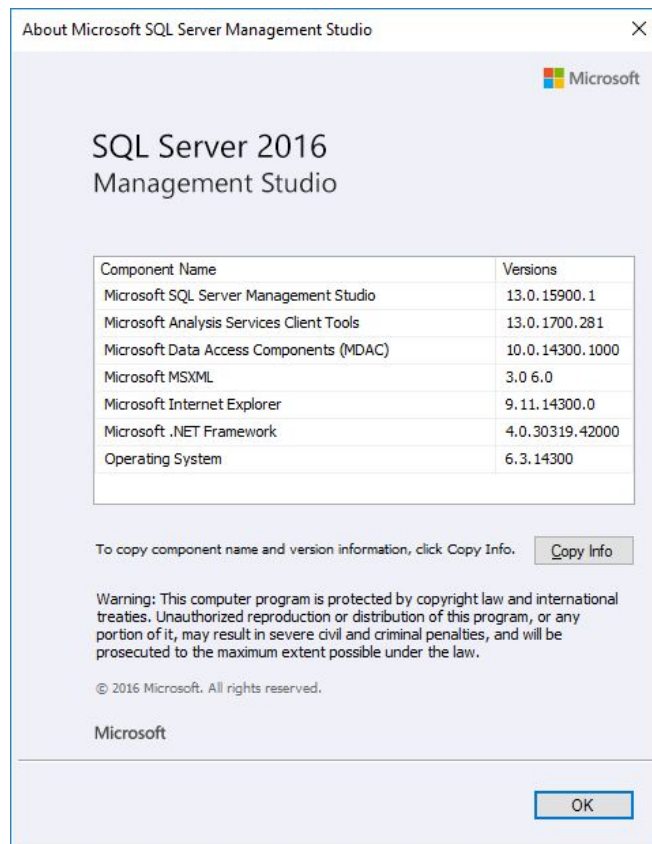
# Instalação

- SSMS



# Instalação

- Sobre o SSMS



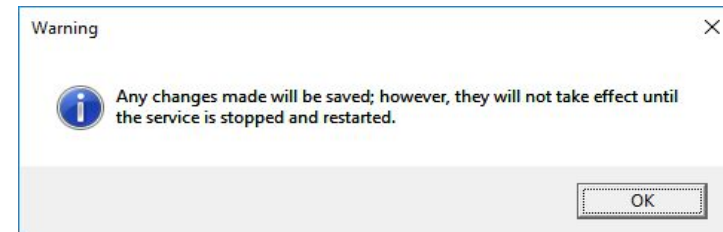
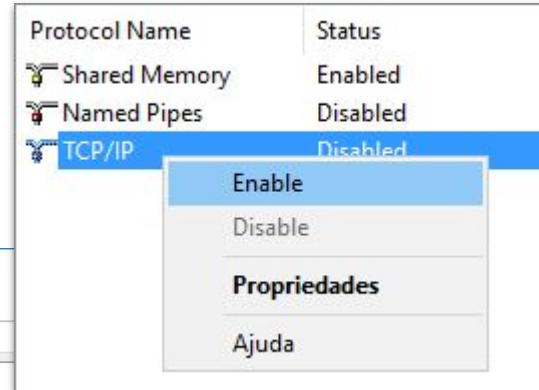
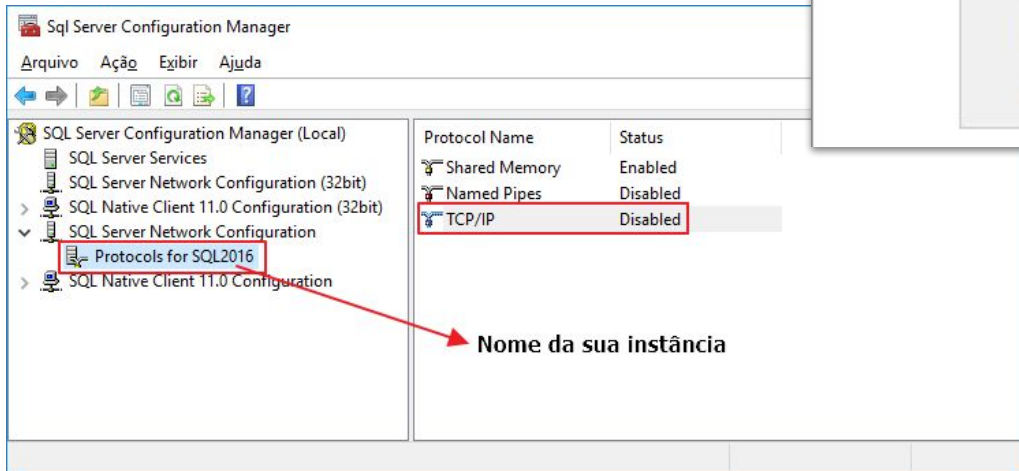
# Configuração

- Configurando
  - Liberando portas no Firewall
    - CMD

```
1 netsh advfirewall firewall add rule name="Open Port 80" dir=in action=allow protocol=TCP localport=80
2
3 @echo ===== SQL Server Ports =====
4 @echo Enabling SQLServer default instance port 1433
5 netsh advfirewall firewall add rule name="SQL Server" dir=in action=allow protocol=TCP localport=1433
6 @echo Enabling Dedicated Admin Connection port 1434
7 netsh advfirewall firewall add rule name="SQL Admin Connection" dir=in action=allow protocol=TCP localport=1434
8 @echo Enabling Conventional SQL Server Service Broker port 4022
9 netsh advfirewall firewall add rule name="SQL Service Broker" dir=in action=allow protocol=TCP localport=4022
10 @echo Enabling Transact SQL/RPC port 135
11 netsh advfirewall firewall add rule name="SQL Debugger/RPC" dir=in action=allow protocol=TCP localport=135
12
13 @echo ===== Analysis Services Ports =====
14 @echo Enabling SSAS Default Instance port 2383
15 netsh advfirewall firewall add rule name="Analysis Services" dir=in action=allow protocol=TCP localport=2383
16 @echo Enabling SQL Server Browser Service port 2382
17 netsh advfirewall firewall add rule name="SQL Browser" dir=in action=allow protocol=TCP localport=2382
18
19 @echo ===== Misc Applications =====
20 @echo Enabling HTTP port 80
21 netsh advfirewall firewall add rule name="HTTP" dir=in action=allow protocol=TCP localport=80
22 @echo Enabling SSL port 443
23 netsh advfirewall firewall add rule name="SSL" dir=in action=allow protocol=TCP localport=443
24 @echo Enabling port for SQL Server Browser Service's 'Browse' Button
25 netsh advfirewall firewall add rule name="SQL Browser" dir=in action=allow protocol=UDP localport=1434
26 @echo Allowing multicast broadcast response on UDP (Browser Service Enumerations OK)
27 netsh firewall set multicastbroadcastresponse ENABLE
```

# Configuração

- Configurando
  - Ativando o protocolo TCP

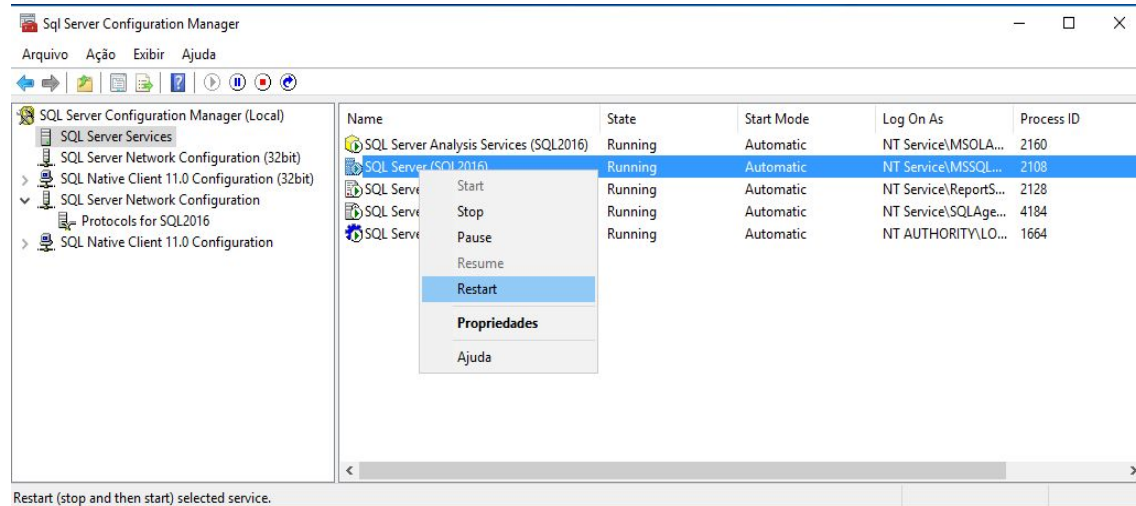
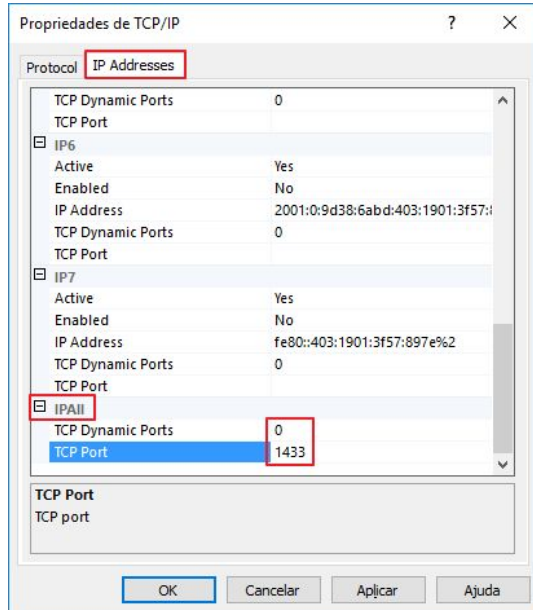




# Configuração



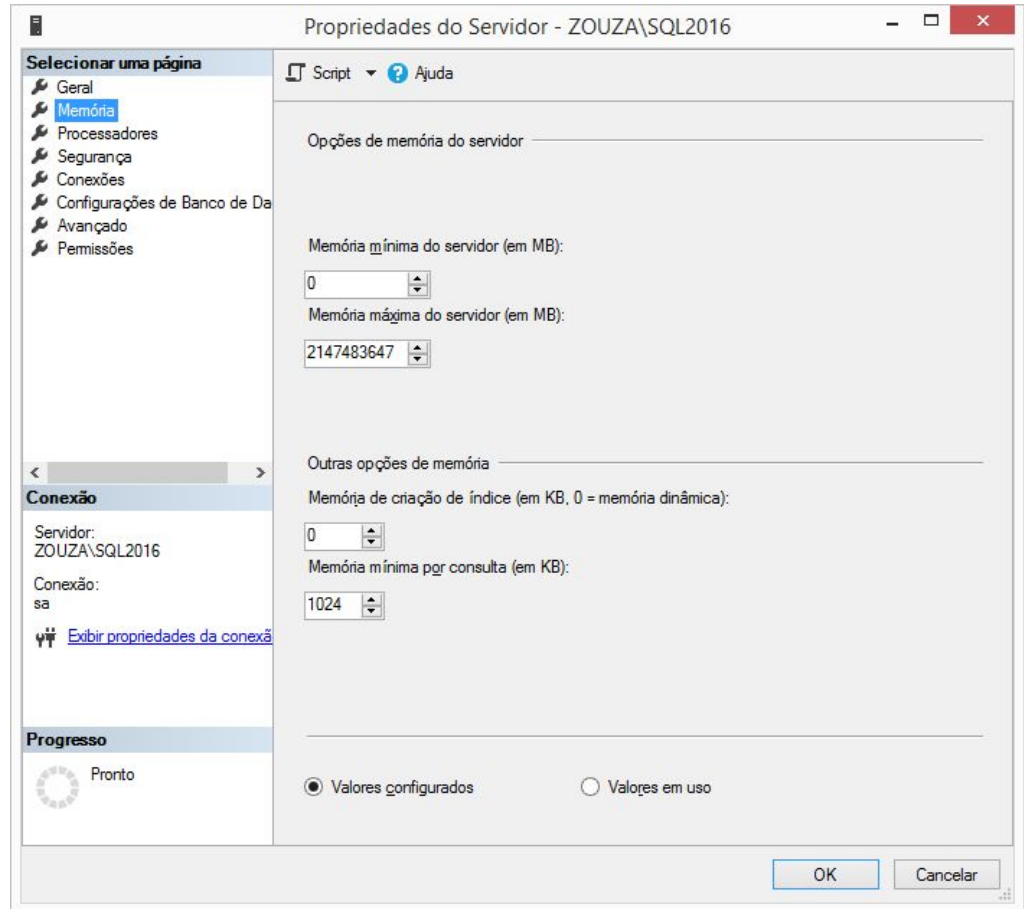
- Configurando
  - Definindo a porta padrão de conexão





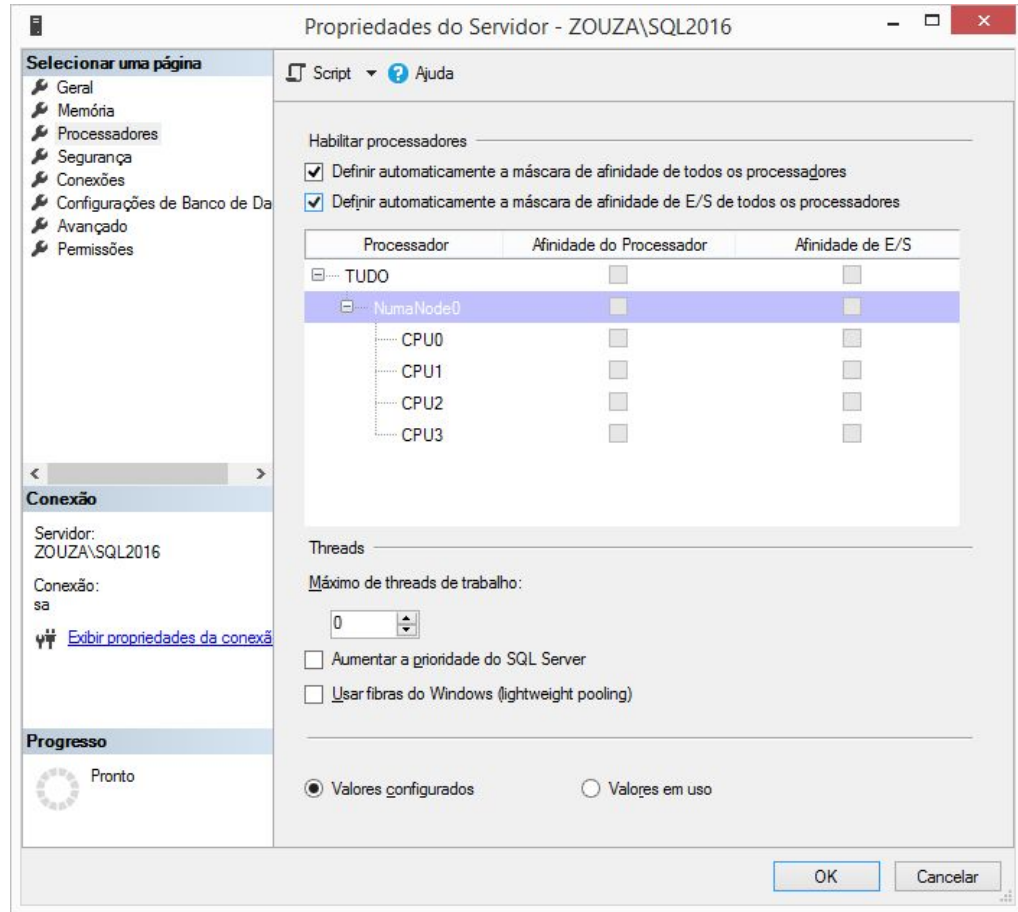
# Configuração

- Configurando
  - Memória



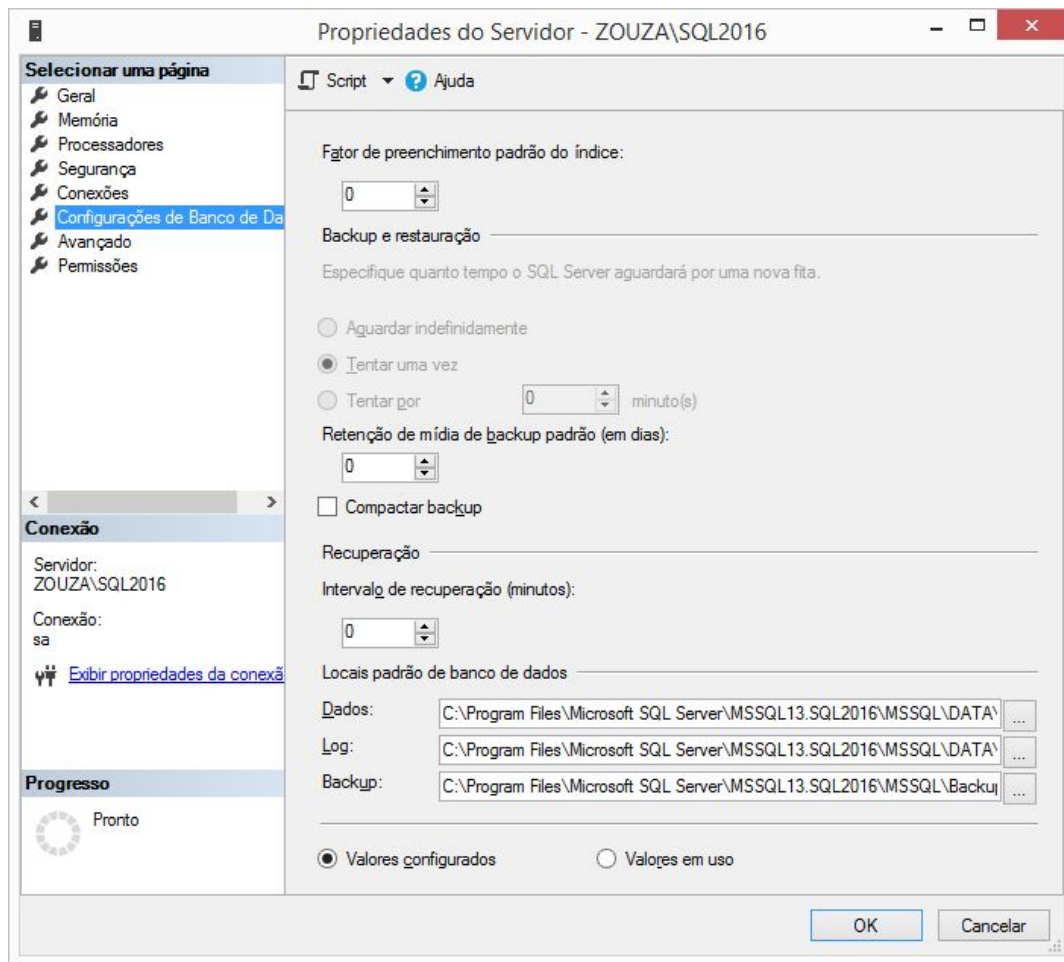
# Configuração

- Configurando
  - Processador



# Configuração

- Configurando
  - Configuração de BD

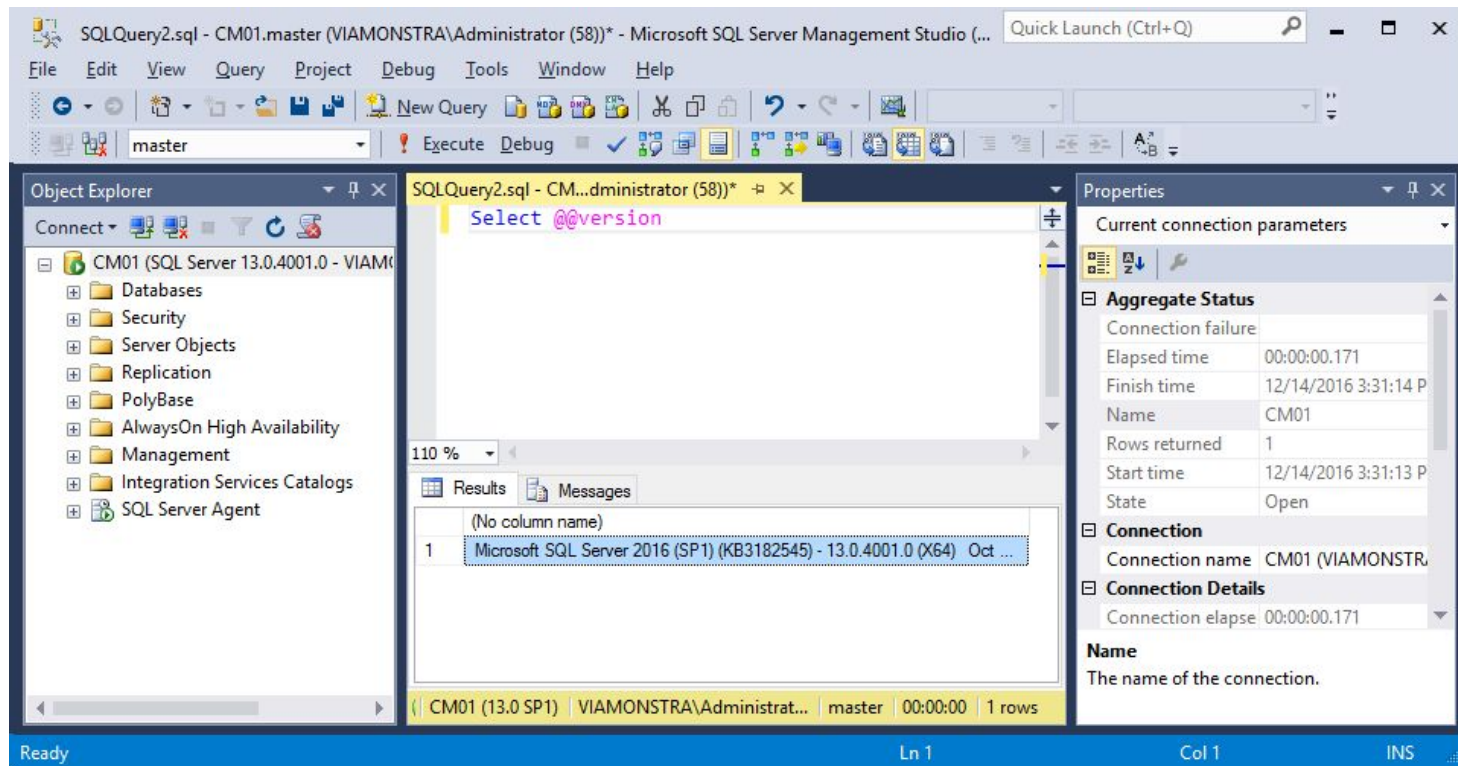


# Configuração



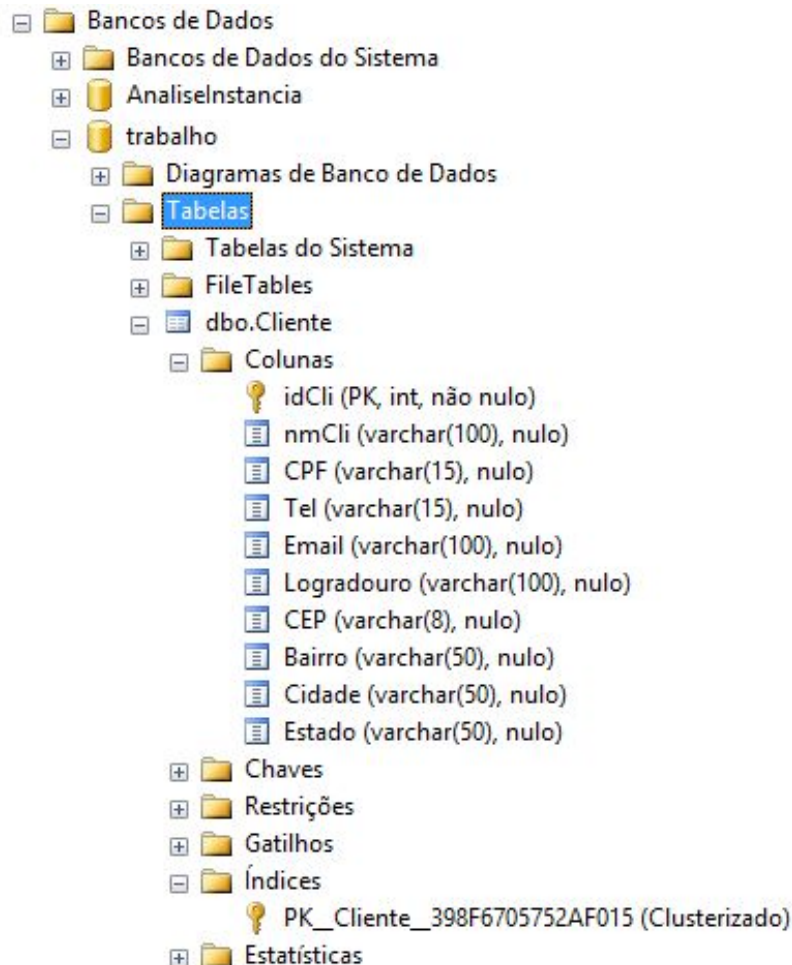
- Configurações do SQL
  - Habilitar opções avançadas
    - **sp\_configure** 'show advanced options', 1  
RECONFIGURE
    - Ver todas as configurações
      - select \* from **sys.configurations**
    - Exemplo
      - Aumentar memória
        - sp\_configure 'max server memory', 24000  
RECONFIGURE

# Visão Geral



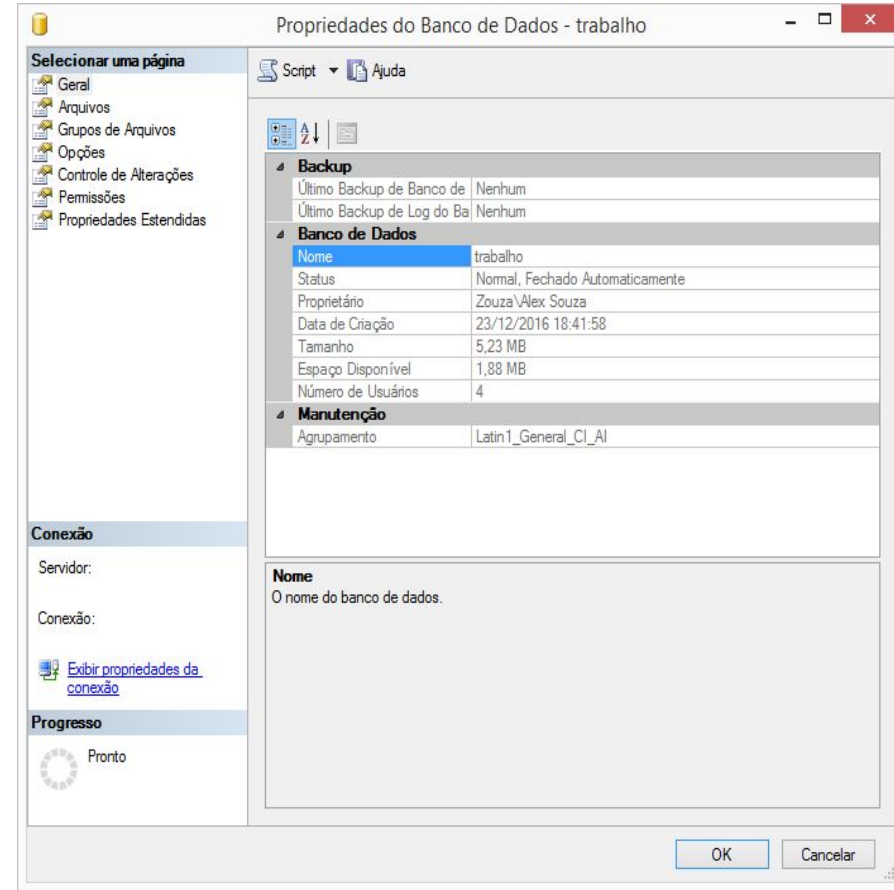
# Banco de dados

- Banco de dados
  - Bancos de Sistemas
    - master
    - model
    - msdb
    - tempdb
  - Tabelas
    - Colunas
      - Tipos de dados
    - Chaves
      - Primárias, Secundárias
    - Índices
      - Cluster, Não Cluster

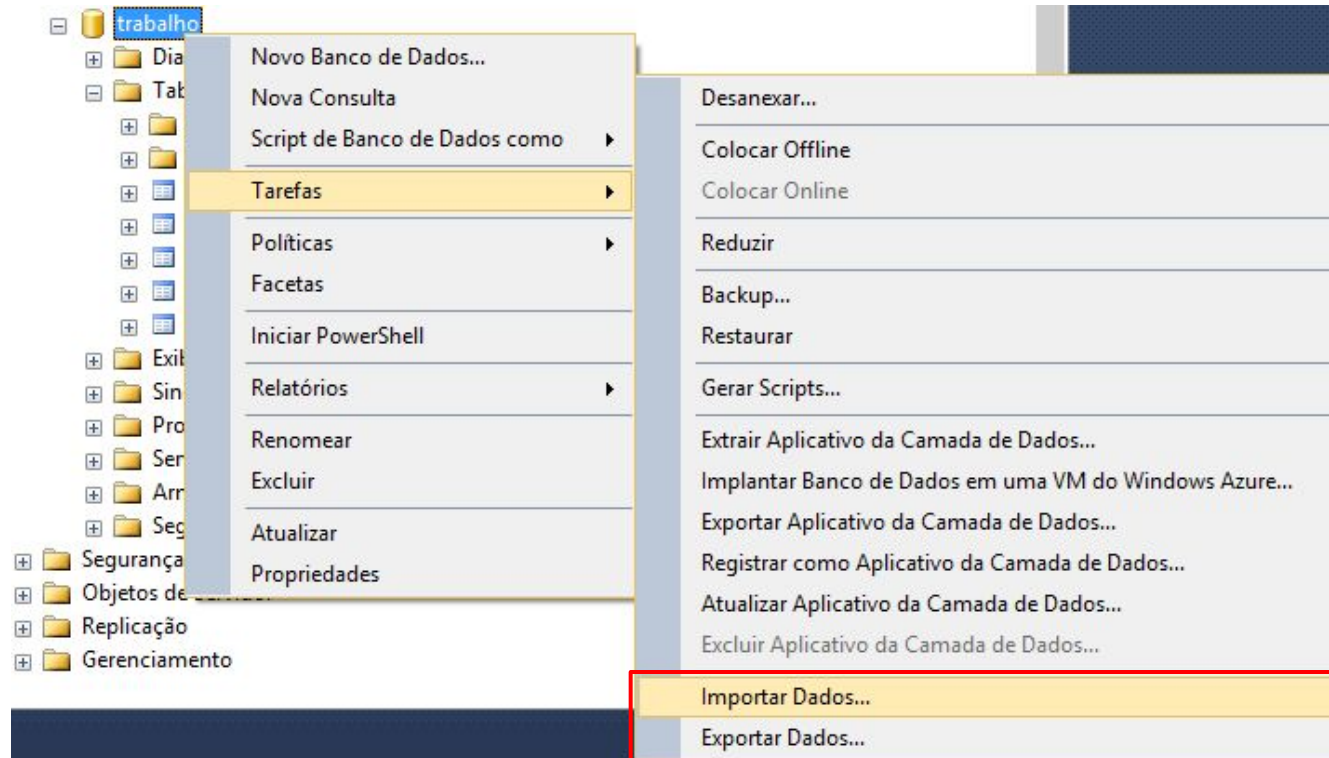


# Banco de dados

- Armazenamento
  - Verificar espaço de uma Tabela
    - **exec sp\_spaceused**  
'TbTeste', @updateusage = N'TRUE';



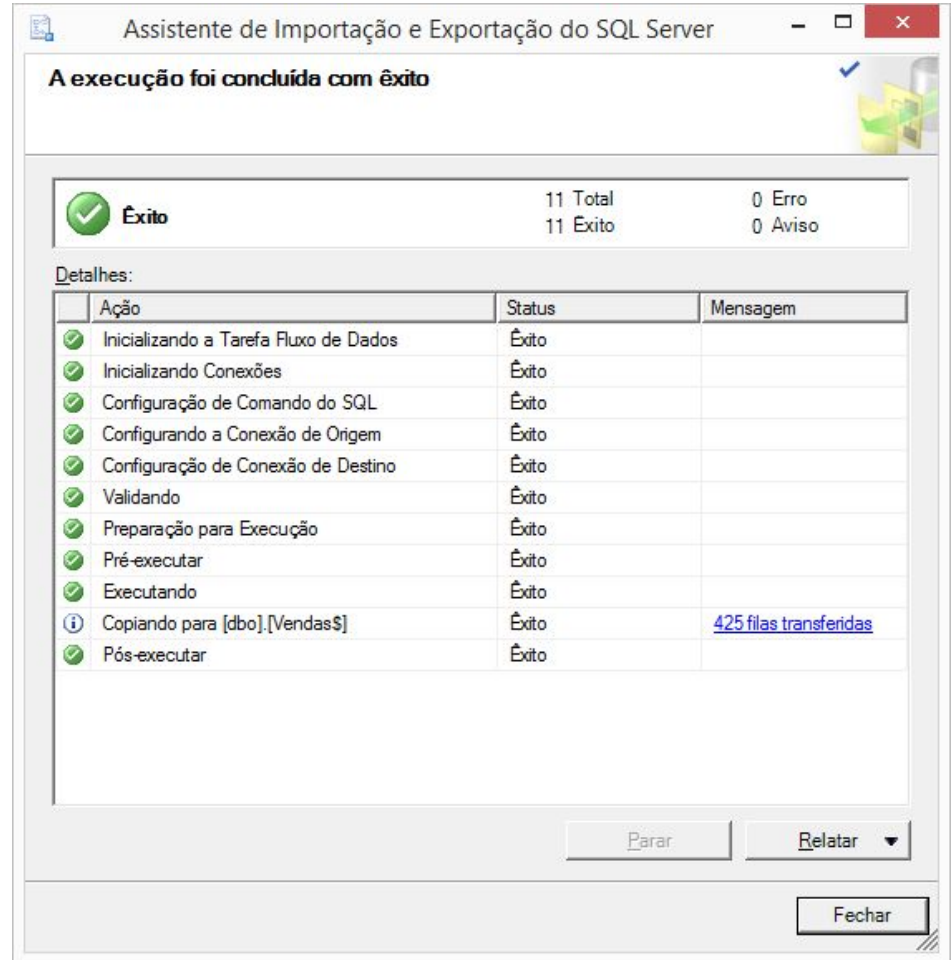
# Importação e Exportação de Dados





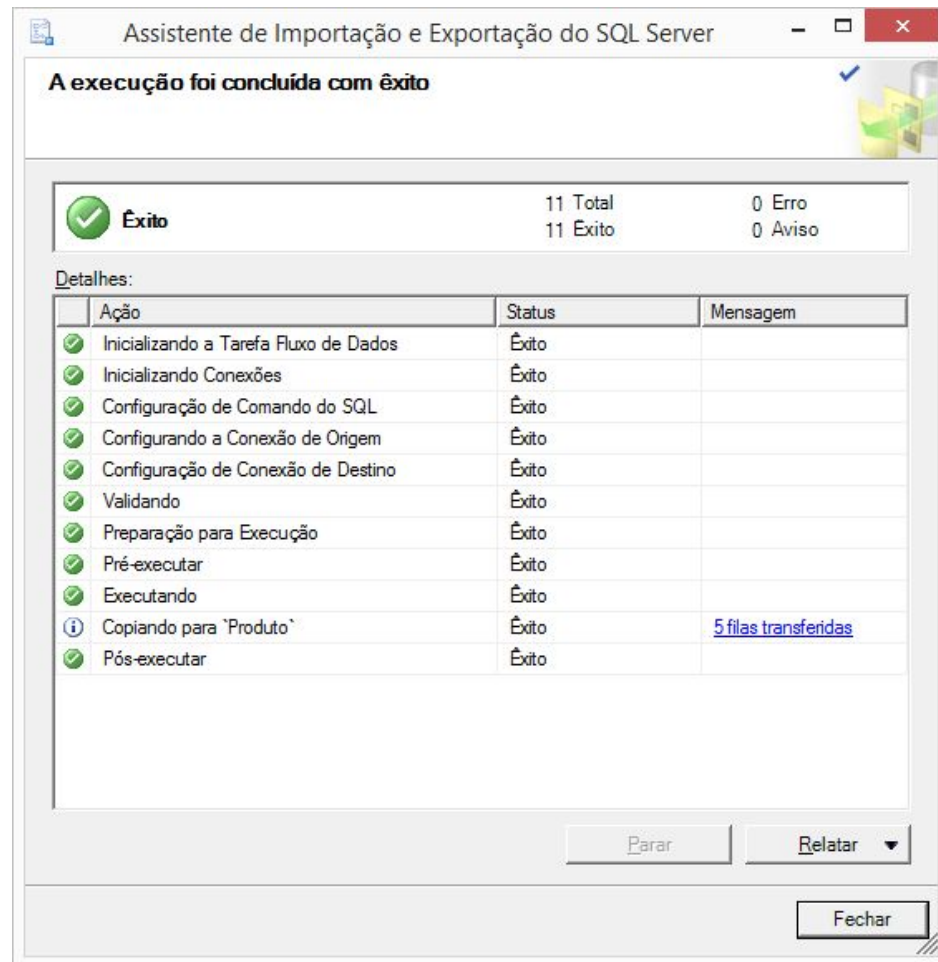
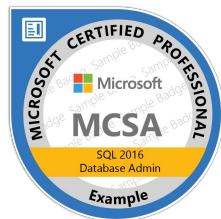
# Banco de dados

- Importação de dados
  - Escolhe uma Origem
    - Exemplo: Excel
  - Escolhe um destino
    - Exemplo: SQL Server



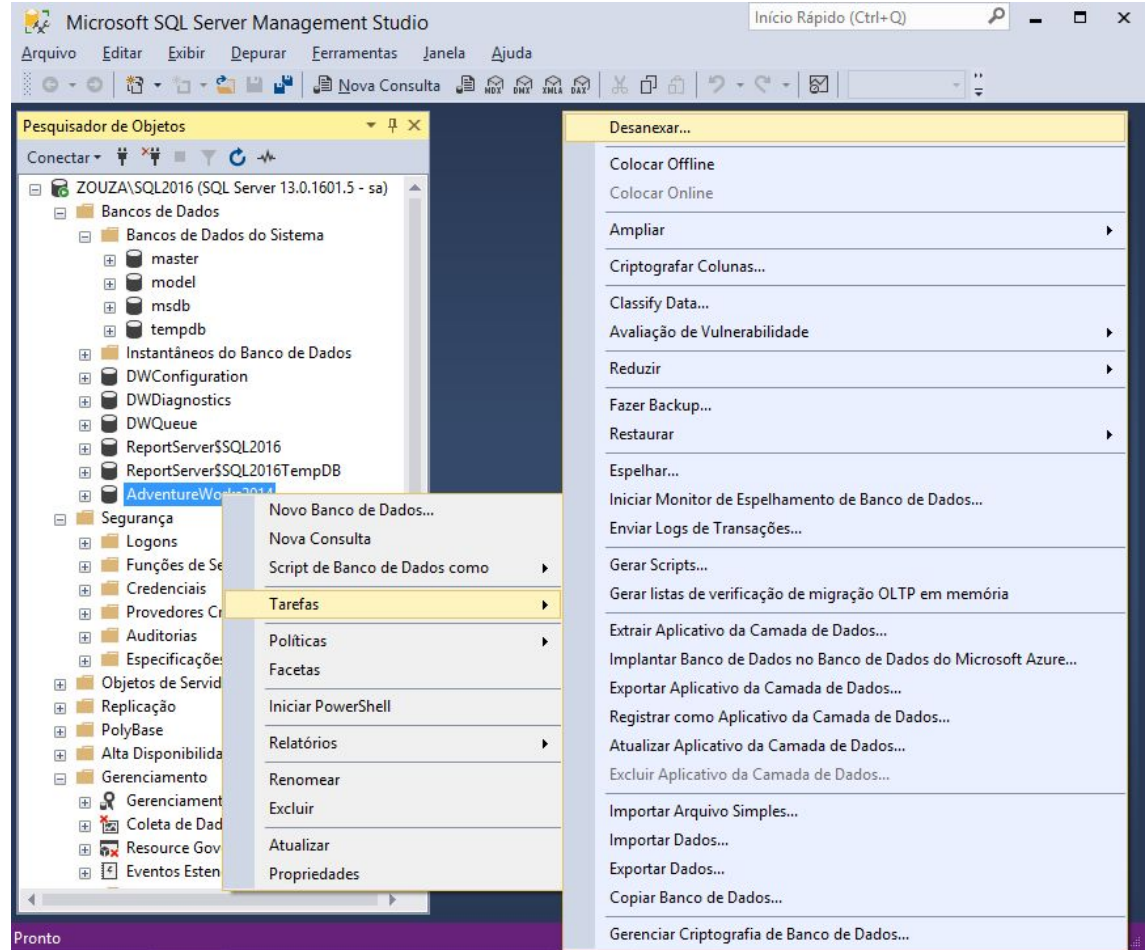
# Banco de dados

- Exportação de dados
  - Escolhe uma Origem
    - Exemplo: SQL Server
  - Escolhe um destino
    - Exemplo: Excel



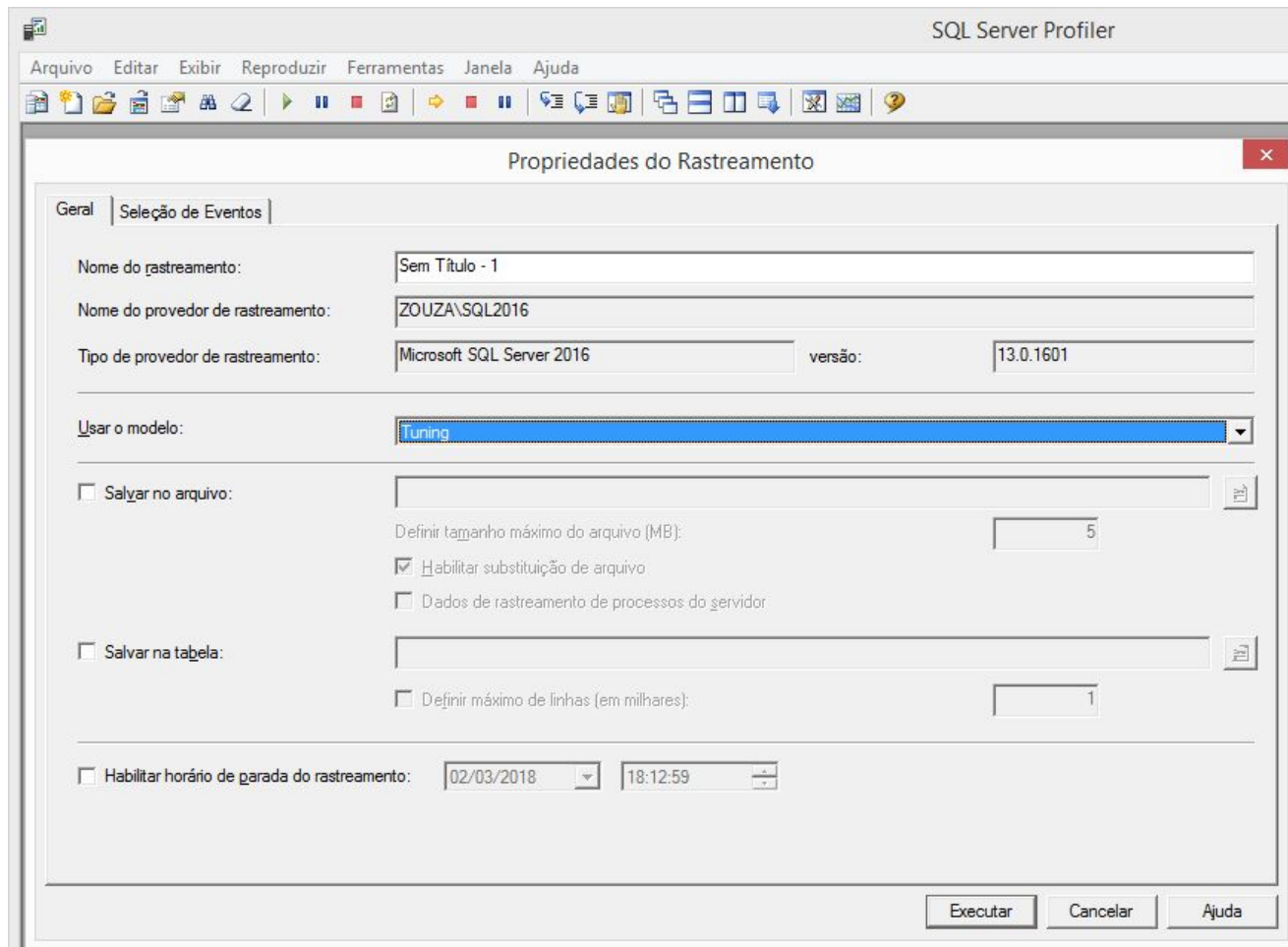
# Banco de dados

- Migração
  - [SSMA](#)
  - [Detach / Attach](#)
  - Backup / Restore



# Desempenho

- Profiler



# Desempenho

- Detectando problemas
  - [DTA](#)
  - Scripts
- Índices
  - [DTA](#)
  - Scripts
- [Shrink](#)
  - Database
  - Files



Orientador de Otimização do Mecanismo de Banco d

Arquivo Editar Exibir Ações Ferramentas Janela Ajuda

Iniciar Análise

Monitor de Sessão

Conectar

ZOUZA\SQL2016  
sa 02/03/2018 16:32:56

**ZOUZA\SQL2016 - sa 02/03/2018 16:32:56**

Geral Opções de Ajuste Progresso

Nome da sessão:  
sa 02/03/2018 16:32:56

Carga de Trabalho  
☐ Arquivo ☐ Tabela ☐ Cache de ☒ Repositório de

Banco de dados para análise de carga de trabalho: AdventureWorks2014

Selecione bancos de dados e tabelas para ajuste:

Nome	Tabelas Selecionadas
<input checked="" type="checkbox"/> AdventureWorks2014	71 de 71
<input type="checkbox"/> DWConfiguration	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> DWDiagnostics	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> DWQueue	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> master	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> model	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> msdb	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> ReportServer\$SQL2016	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> ReportServer\$SQL2016TempDB	<a href="#">Clique para exibir tabelas individuais</a>
<input type="checkbox"/> tempdb	<a href="#">Clique para exibir tabelas individuais</a>

☒ Salvar log de ajuste

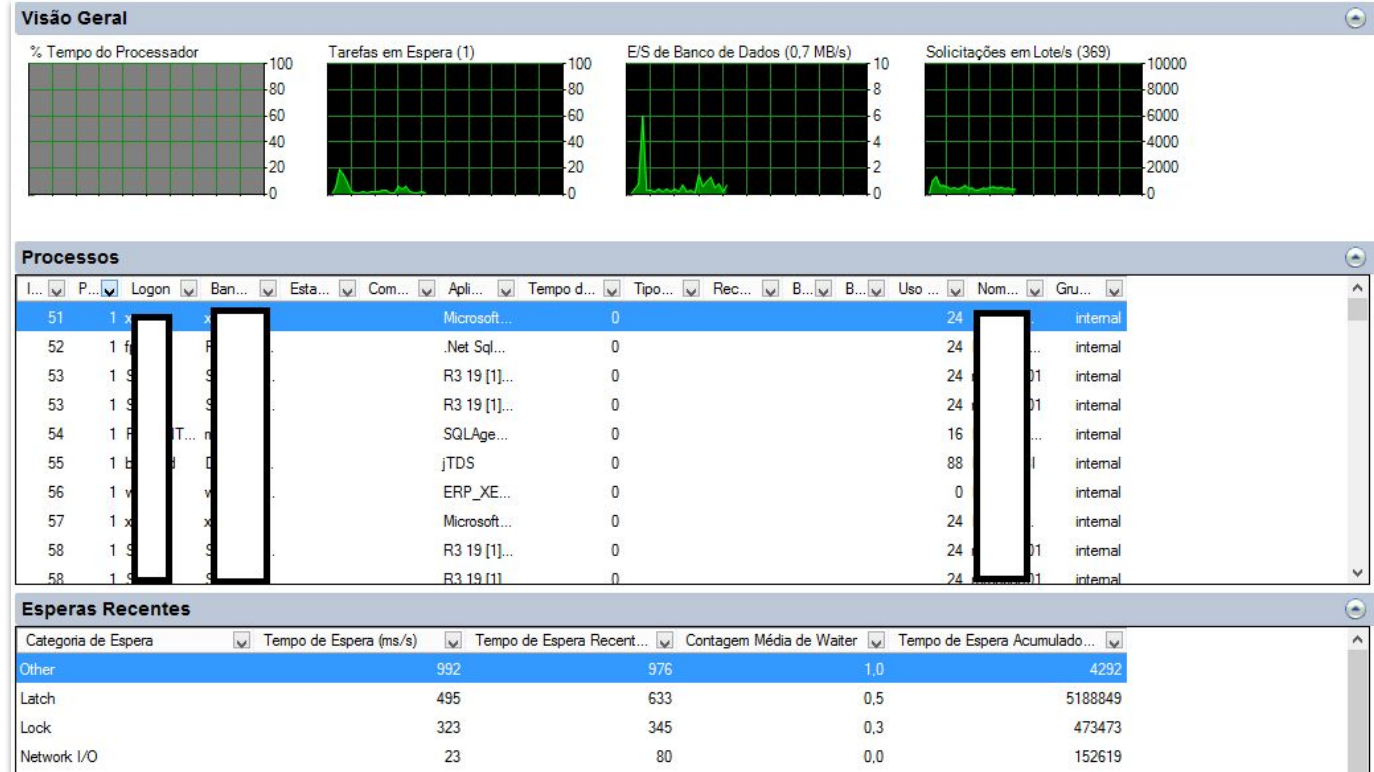
Descrição

A análise de ajuste desta sessão foi concluída.

Sessão de ajuste concluída com erros.

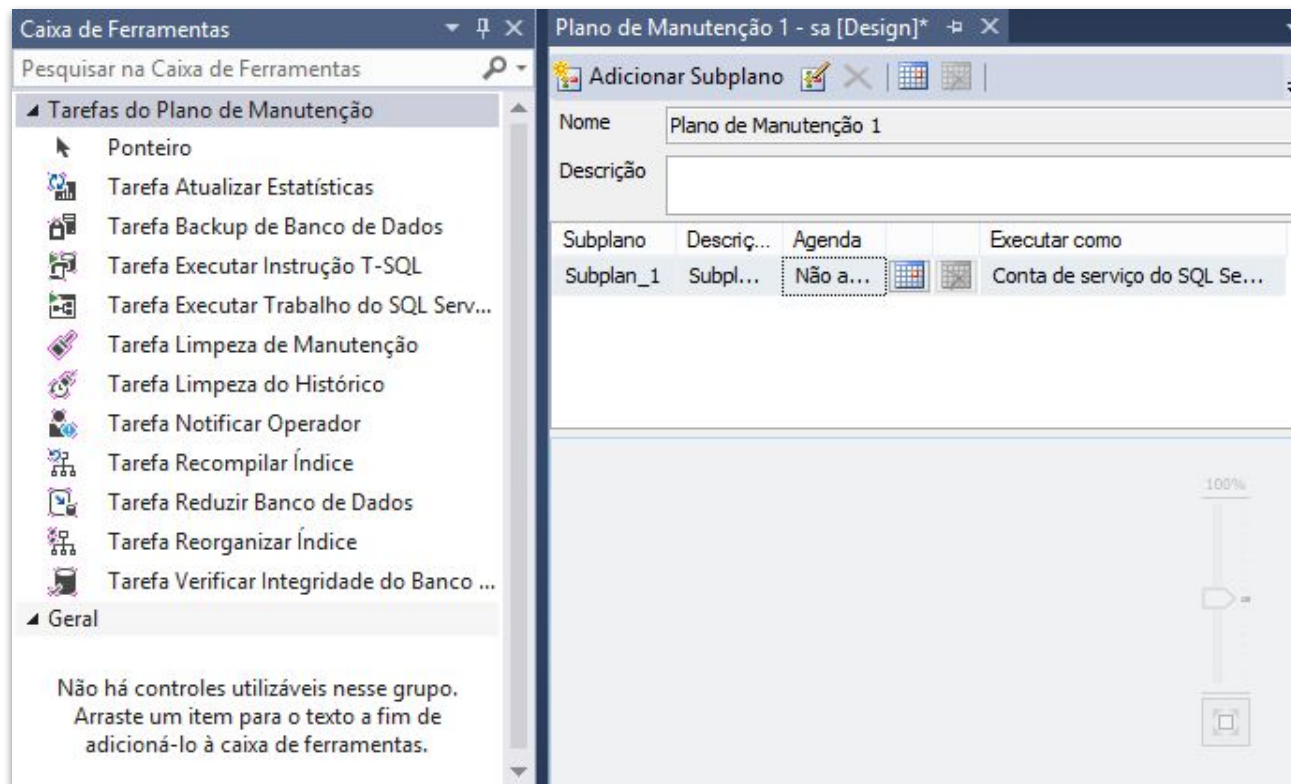
# Monitoramento

- Monitor de Atividades
  - Botão direito na Instância





# Política de Manutenção



# Segurança

**Pesquisador de Objetos**

Conectar ▾ x y f ↺ 🔊

**ZOUZA\SQL2016 (SQL Server 13.0.1601.5)**

- Bancos de Dados
- Segurança**
- Logons
  - ##MS\_PolicyEventProcessingL
  - ##MS\_PolicyTsqlExecutionLog
  - AUTORIDADE NT\SERVIÇO DE
  - AUTORIDADE NT\SISTEMA
  - L\_certSignSmDetach
  - NT Service\MSSQL\$SQL2016
  - NT SERVICE\ReportServer\$SQL
  - NT SERVICE\SQLAgent\$SQL20
  - NT SERVICE\SQLTELEMETRYSS
  - NT SERVICE\SQLWriter
  - NT SERVICE\Winmgmt
  - sa
  - Zouza\Alex Souza
- Funções de Servidor
- Credenciais
- Provedores Criptográficos
- Auditorias
- Especificações de Auditoria de Ser
- Objetos de Servidor
- Replicação
- PolyBase
- Alta Disponibilidade Always On
- Gerenciamento
- Catálogos do Integration Services
- SQL Server Agent
- XEvent Profiler

**Propriedades de Logon - Zouza\Alex Souza**

Selecionar uma página

- Geral
- Funções de Servidor
- Mapeamento de Usuário
- Protegíveis
- Status

Script ▾ ? Ajuda

Usuários mapeados para este logon:

Mapa	Banco de Dados	Usuário	Esquema Padrão
<input checked="" type="checkbox"/>	AdventureWorks2014	Zouza\Alex Souza	...
<input checked="" type="checkbox"/>	DWConfiguration	dbo	dbo
<input checked="" type="checkbox"/>	DWDiagnostics	dbo	dbo
<input checked="" type="checkbox"/>	DWQueue	dbo	dbo
<input type="checkbox"/>	master		
<input type="checkbox"/>	model		
<input type="checkbox"/>	msdb		
<input checked="" type="checkbox"/>	ReportServer\$SQL2016	dbo	dbo
<input checked="" type="checkbox"/>	ReportServer\$SQL201...	dbo	dbo
<input type="checkbox"/>	tempdb		

☐ Conta Convidado habilitada para: AdventureWorks2014

Associação à função de banco de dados para: AdventureWorks2014

<input type="checkbox"/>	db_accessadmin
<input type="checkbox"/>	db_backupoperator
<input type="checkbox"/>	db_datareader
<input type="checkbox"/>	db_datawriter
<input type="checkbox"/>	db_dladmin
<input type="checkbox"/>	db_denydatareader
<input type="checkbox"/>	db_denydatawriter
<input checked="" type="checkbox"/>	db_owner
<input type="checkbox"/>	db_securityadmin
<input checked="" type="checkbox"/>	public

**Conexão**

Servidor:  
ZOUZA\SQL2016

Conexão:  
sa

[Exibir propriedades da conexão](#)

**Progresso**

Pronto

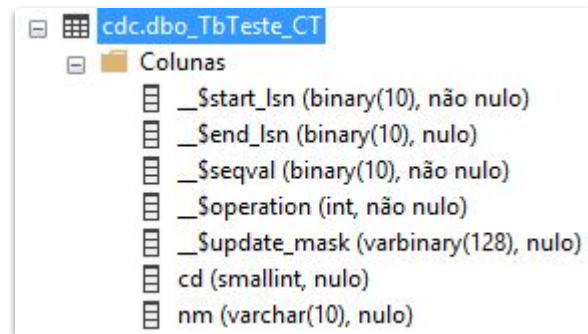
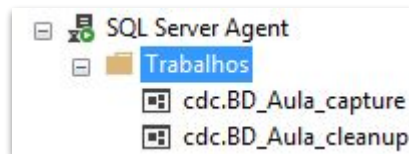
OK Cancelar





# Segurança

- Auditoria
  - Trigger
  - CDC



	__\$start_lsn	__\$end_lsn	__\$seqval	__\$operation	__\$update_mask	cd	nm
1	0x00000026000017360003	NULL	0x00000026000017360002	2	0x03	1	teste 1
2	0x00000026000017370003	NULL	0x00000026000017370002	2	0x03	2	teste 2
3	0x00000026000017380003	NULL	0x00000026000017380002	2	0x03	3	teste 3
4	0x00000026000017390004	NULL	0x00000026000017390003	3	0x02	1	teste 1
5	0x00000026000017390004	NULL	0x00000026000017390003	4	0x02	1	Teste 01
6	0x000000260000173B0003	NULL	0x000000260000173B0002	2	0x03	4	teste 4
7	0x000000260000173C0003	NULL	0x000000260000173C0002	1	0x03	4	teste 4



# Segurança

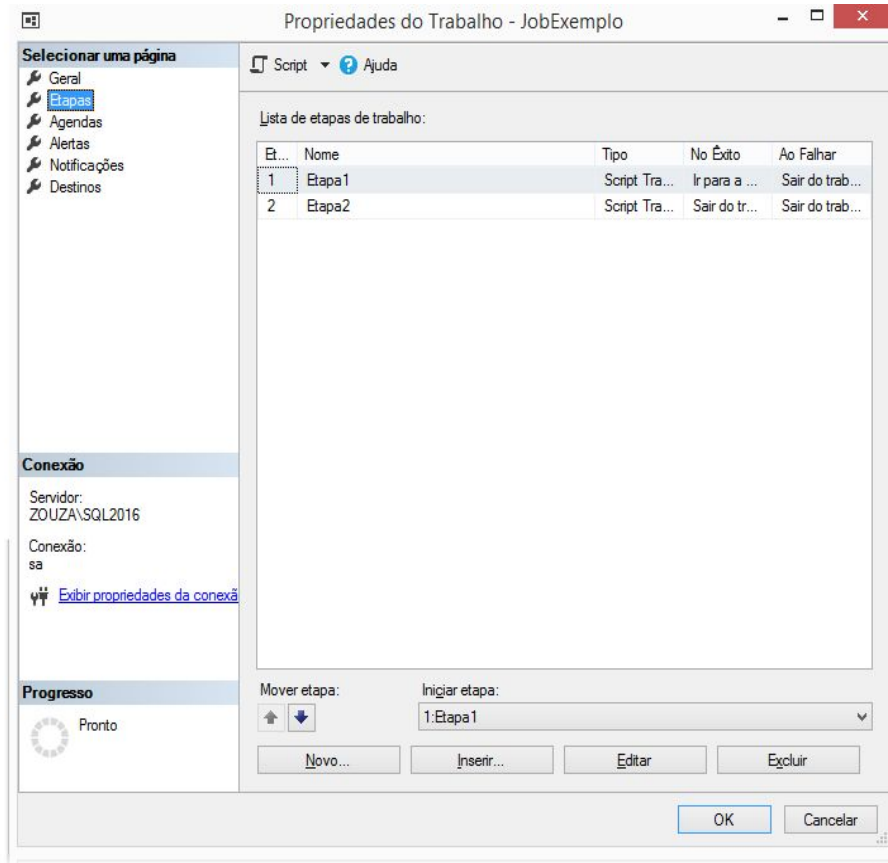
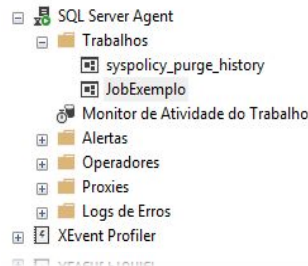
- Criptografia
  - TDE

```
-- Para descriptografar esses dados e ver o real valor que foi inserido no campo senha,  
-- devemos abrir novamente nossa chave simétrica, ler esse campo com a função DECRYPTBYKEY,  
-- converter seu valor para varchar e fechar a chave em seguida.  
  
OPEN SYMMETRIC KEY ChaveSenha  
  DECRYPTION BY CERTIFICATE Certificado WITH PASSWORD = 'SENHA@123'  
GO  
  
SELECT      *  
  , senhadescriptografada = CAST (DECRYPTBYKEY(SENHA) AS varchar(50))  
FROM        Usuario  
GO  
  
CLOSE SYMMETRIC KEY ChaveSenha -- Se eu fechar, não é para aparecer mais  
  
-- testando...  
SELECT      *  
  , senhadescriptografada = CAST (DECRYPTBYKEY(SENHA) AS varchar(50))  
FROM        Usuario
```



# Automatizações

- SQL Server Agent



# Cursos e dicas

- [Manual do SQL Server](#)
- [MVA](#)
- [Dicas para Prova](#)
  - [Certificações](#)
  - [Arquitetura](#)
  - [Instalação](#)
  - [Índices](#)
  - [Desempenho](#)
  - [Segurança](#)



# Próximos encontros

- Disaster / Recovery
- Alta Disponibilidade
- Reporting Services

# Obrigado