

Programming SQL Server Database Stored Procedures

CREATING YOUR FIRST STORED PROCEDURE



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Programming SQL Server Database Stored Procedures

**Creating Your First
Stored Procedure**

**Creating Stored Procedures
and Using Parameters**

**Table-Valued Parameters
and Refactoring**

**Debugging and
Troubleshooting
Stored Procedures**



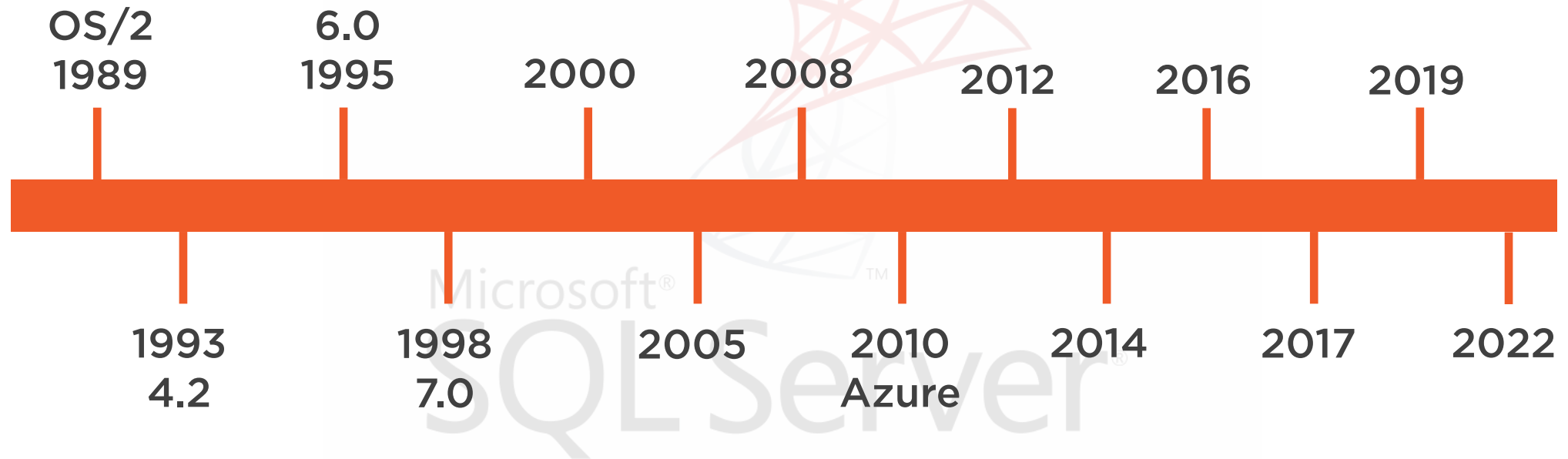
SQL Server Recap



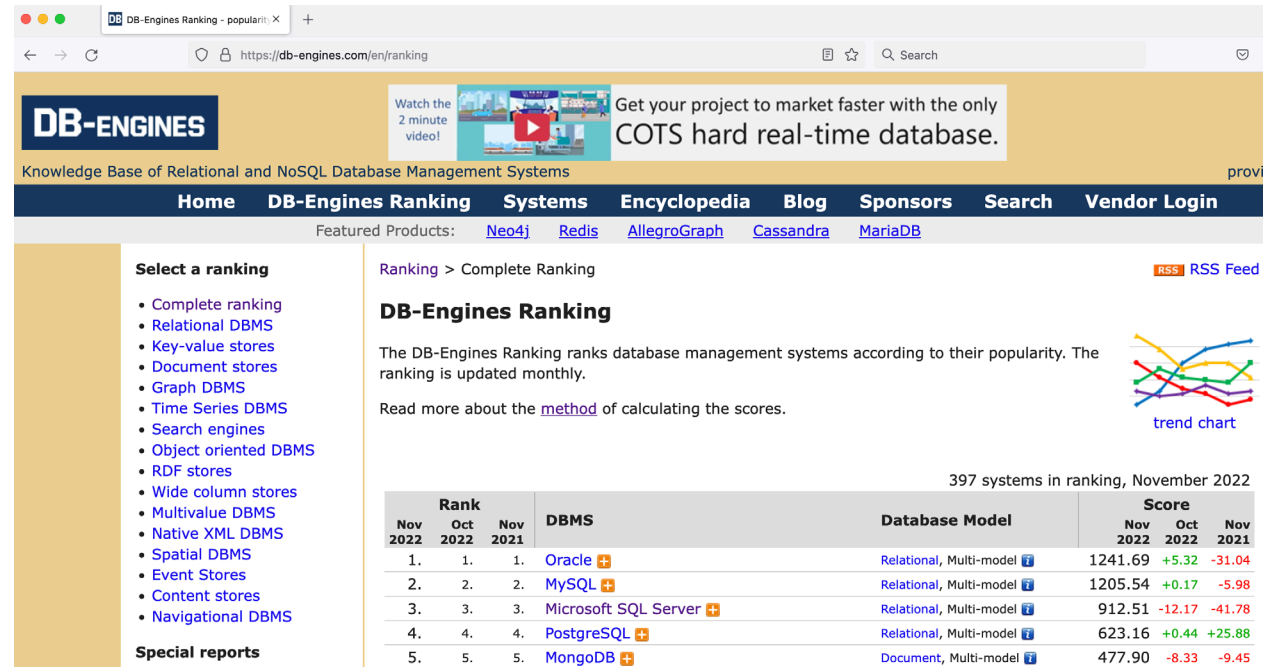
RDBMS = Relational Database Management System



SQL Server Timeline



SQL Server Popularity

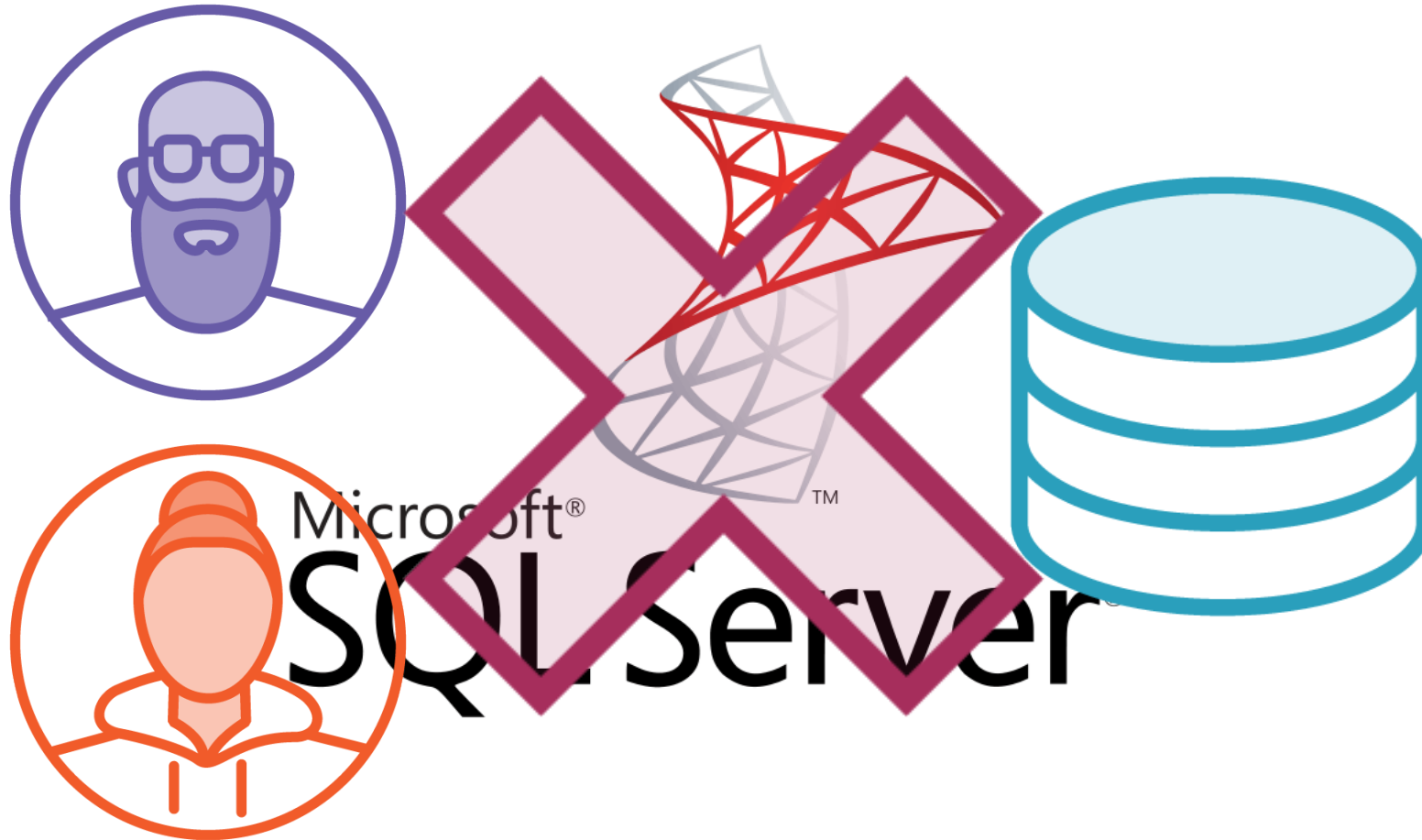


DB-Engines.com

<https://db-engines.com/en/ranking>



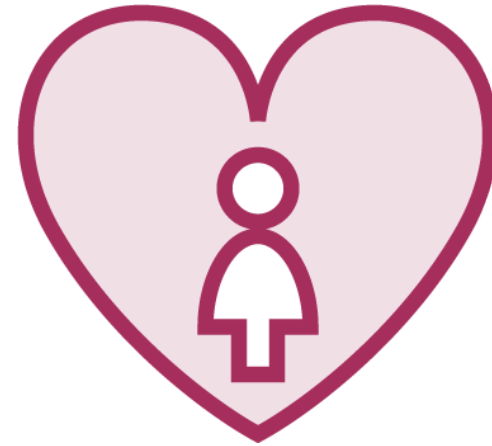
Developers vs. SQL Server



Dolly's Dolls



Grace



Dolly's Dolls



Contacts System



Customers



Suppliers



Others



No Database Developer



From Web to Data



Current Database Status



Structure finalized



Elegant



Test data



Contacts



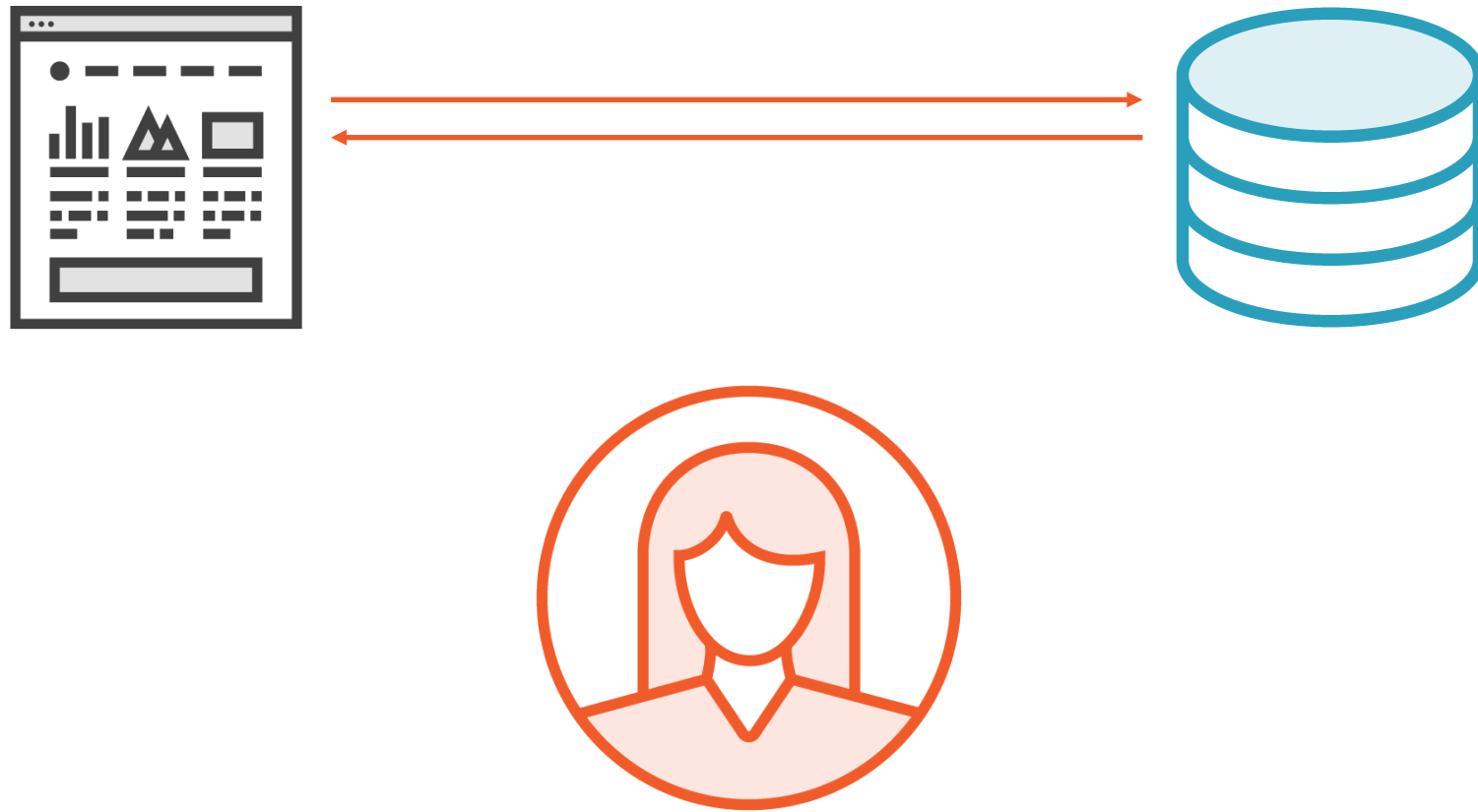
Current Database Status



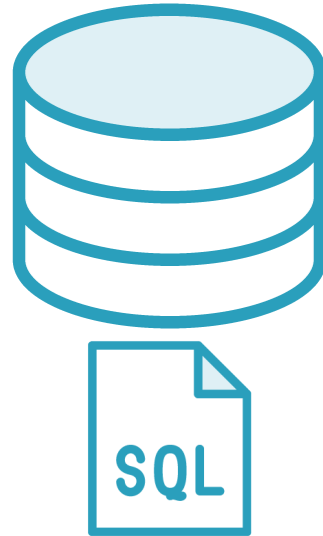
- ✗ Cannot add
- ✗ Cannot update
- ✗ Cannot delete
- ✗ Cannot read



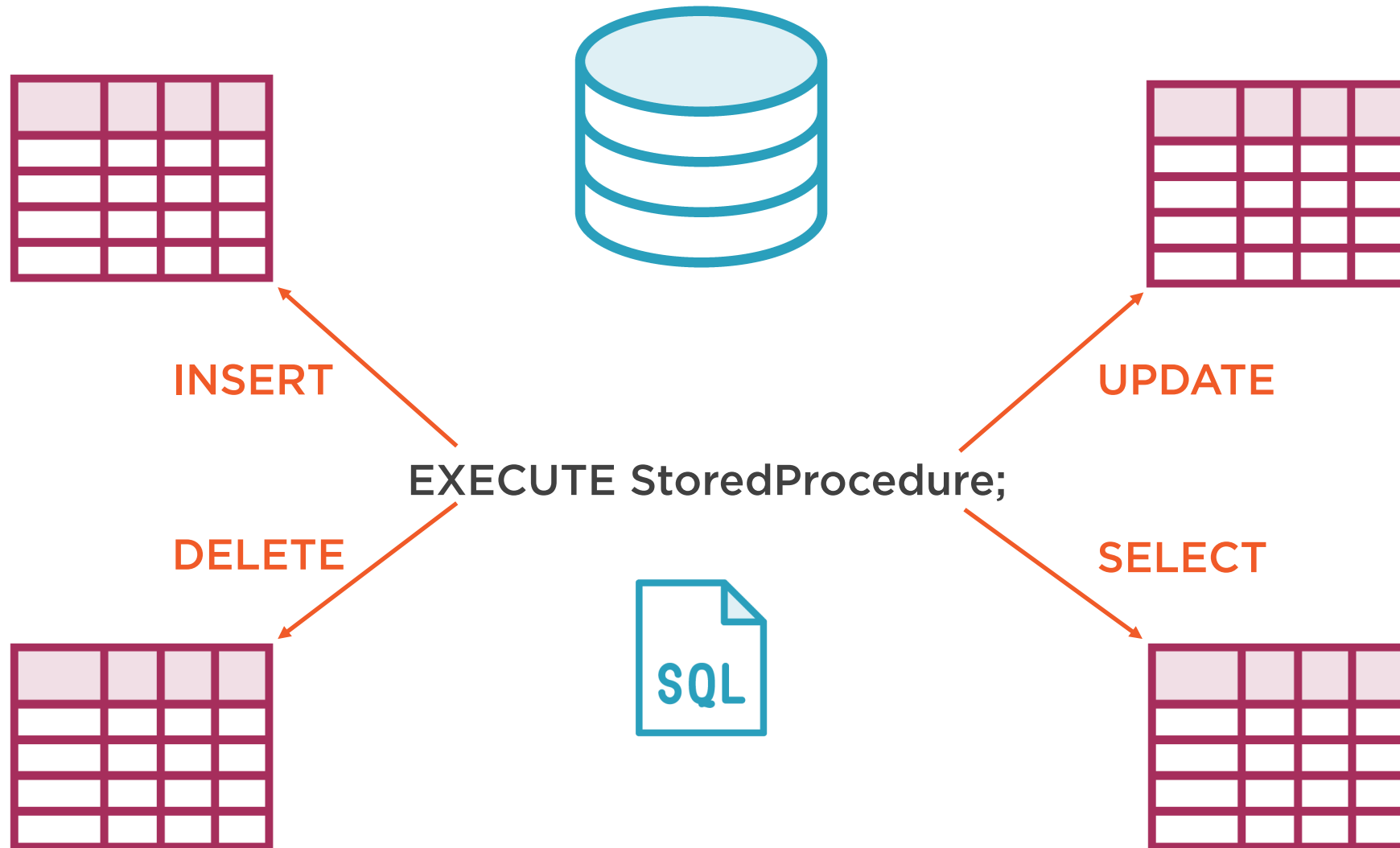
Link up Web and Database



What Is a Stored Procedure?



What a Stored Procedure Does



Write Once, Run Many Times

`EXECUTE StoredProcedure;`

`EXECUTE StoredProcedure;`

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`EXECUTE StoredProcedure;`

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`EXECUTE StoredProcedure;`



Less Network Traffic

INSERT >>>

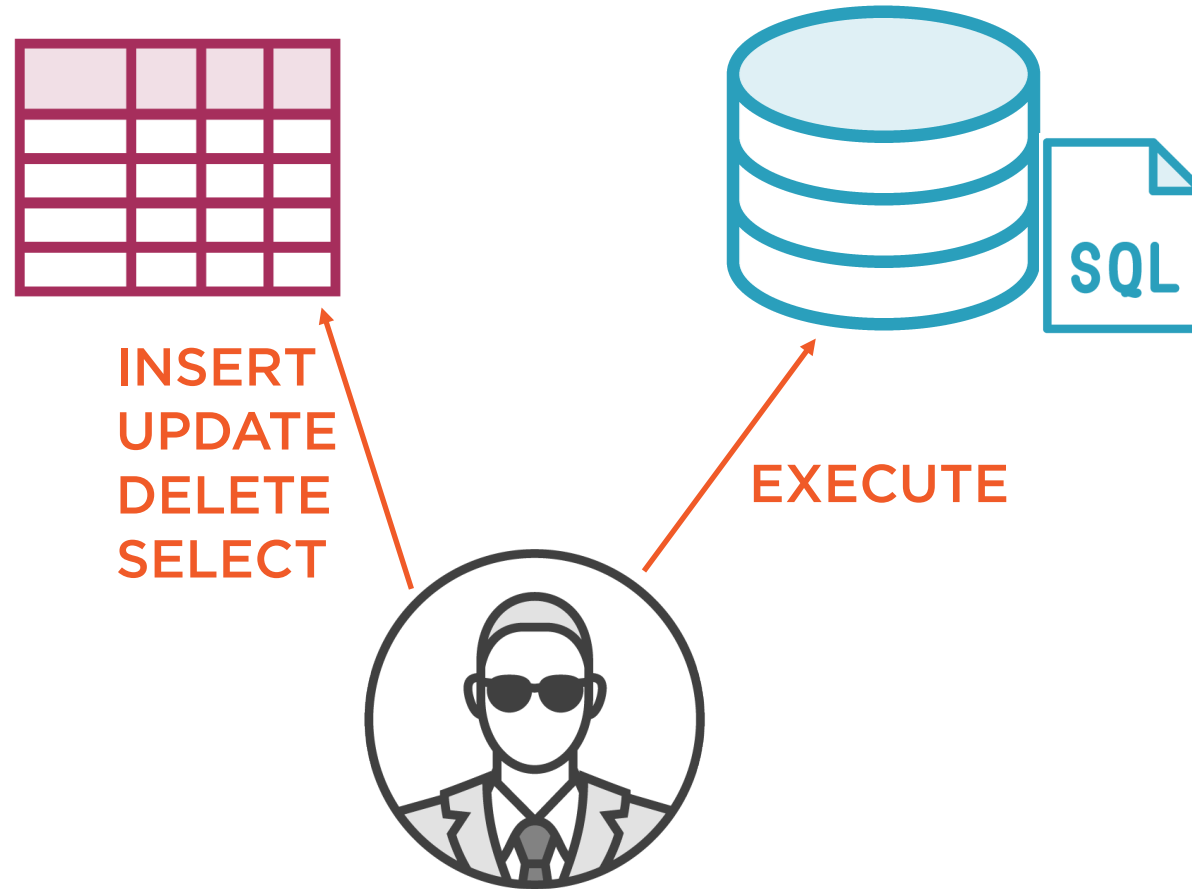
SELECT >>>



EXECUTE  StoredProcedure;



Easier Permissions



More Efficient Code



```
SQLQuery1.sql - US...ike McQuillan (54))* -> X
EXEC SelectContact @ContactId = 21;
```

100 %

Results Messages Execution plan

Query 1: Query cost (relative to the batch): 100%
SELECT ContactId, FirstName, LastName, DateOfBirth,

SELECT
Cost: 0 %

Clustered Index Seek (Clustered)
[Contacts].[PK_Contacts]
Cost: 100 %



What a Stored Procedure Cannot Do



What a Stored Procedure Shouldn't Do

- ✗ Do not return lots of result sets
- ✗ Do not use cursors



Set-based Logic



Learned a Lot



Grace



Which Server?



DOLOMILEV1



SQL Server Options



Azure SQL Database



On Premise



SQL Server Versions



<https://www.microsoft.com/en-us/sql-server/sql-server-downloads>



Operating System



Windows



Linux



Docker



CREATE PROCEDURE

ALTER PROCEDURE

DROP PROCEDURE

T-SQL Stored Procedure Statements

[https://docs.microsoft.com/en-us/sql/t-sql/statements/
create-procedure-transact-sql](https://docs.microsoft.com/en-us/sql/t-sql/statements/create-procedure-transact-sql)



```
CREATE PROCEDURE <name of procedure>  
(Parameters (optional))  
AS  
BEGIN;  
  
Statements here...  
  
END;
```

T-SQL Create Procedure Statement

Used to create new stored procedures



Naming and Schemas



Report.SelectContact



Contact.SelectContact



```
ALTER PROCEDURE <name of procedure>  
(Parameters (optional))  
AS  
BEGIN;  
  
Statements here...  
  
END;
```

T-SQL Alter Procedure Statement

Used to alter existing stored procedures




```
DROP PROCEDURE [IF EXISTS] <name of procedure>;
```

T-SQL Drop Procedure Statement

Used to remove existing stored procedures



Natively Compiled Stored Procedures



SQL Server 2014



C Programming Language



In-Memory Tables Only



Cannot Access Disk-Based Tables

<https://www.microsoft.com/en-us/sql-server/sql-server-downloads>



Great Achievement



Summary



What a stored procedure is

Avoid bad practices like cursors!

Installing SQL Server

T-SQL procedure statements

Managing procedures in
Management Studio

