

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**



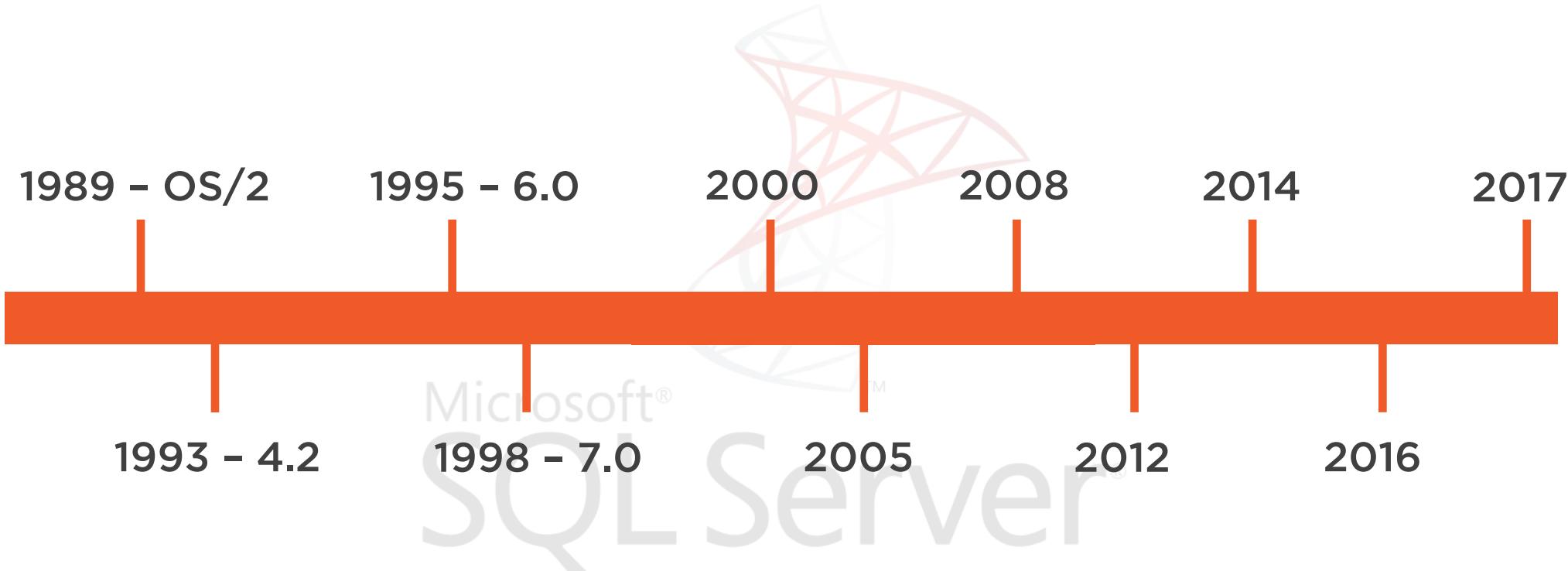
SQL Server Recap



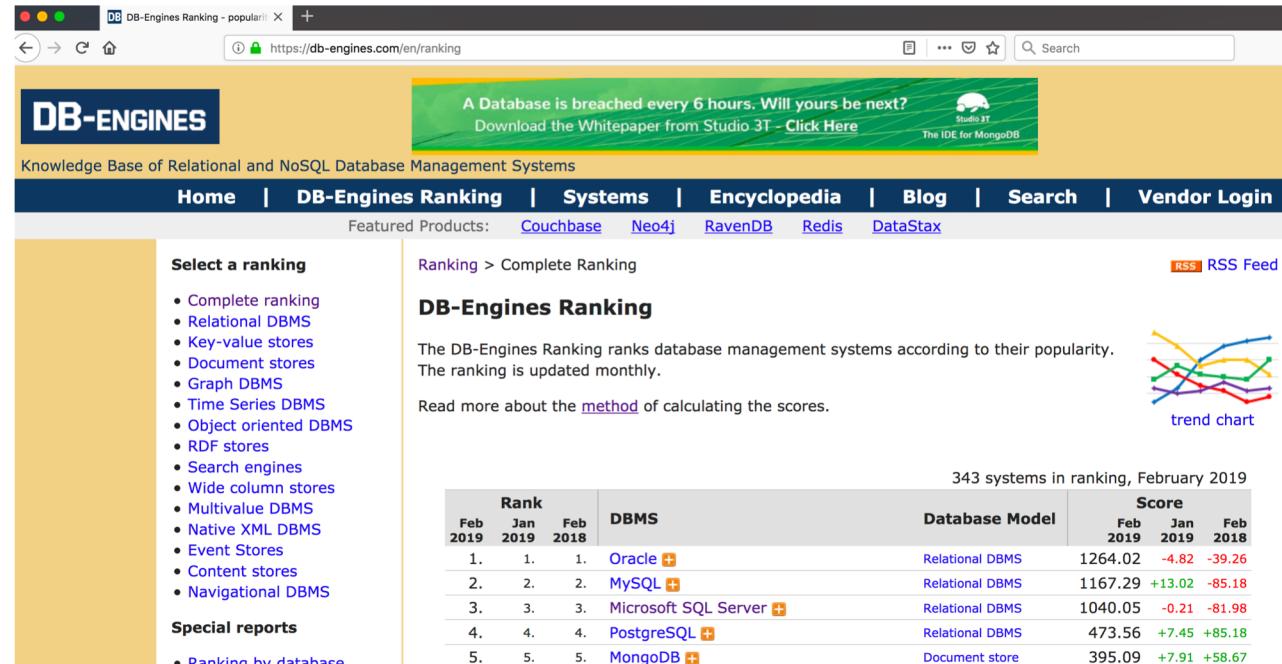
RDBMS = Relational Database Management System



SQL Server Timeline



SQL Server Popularity

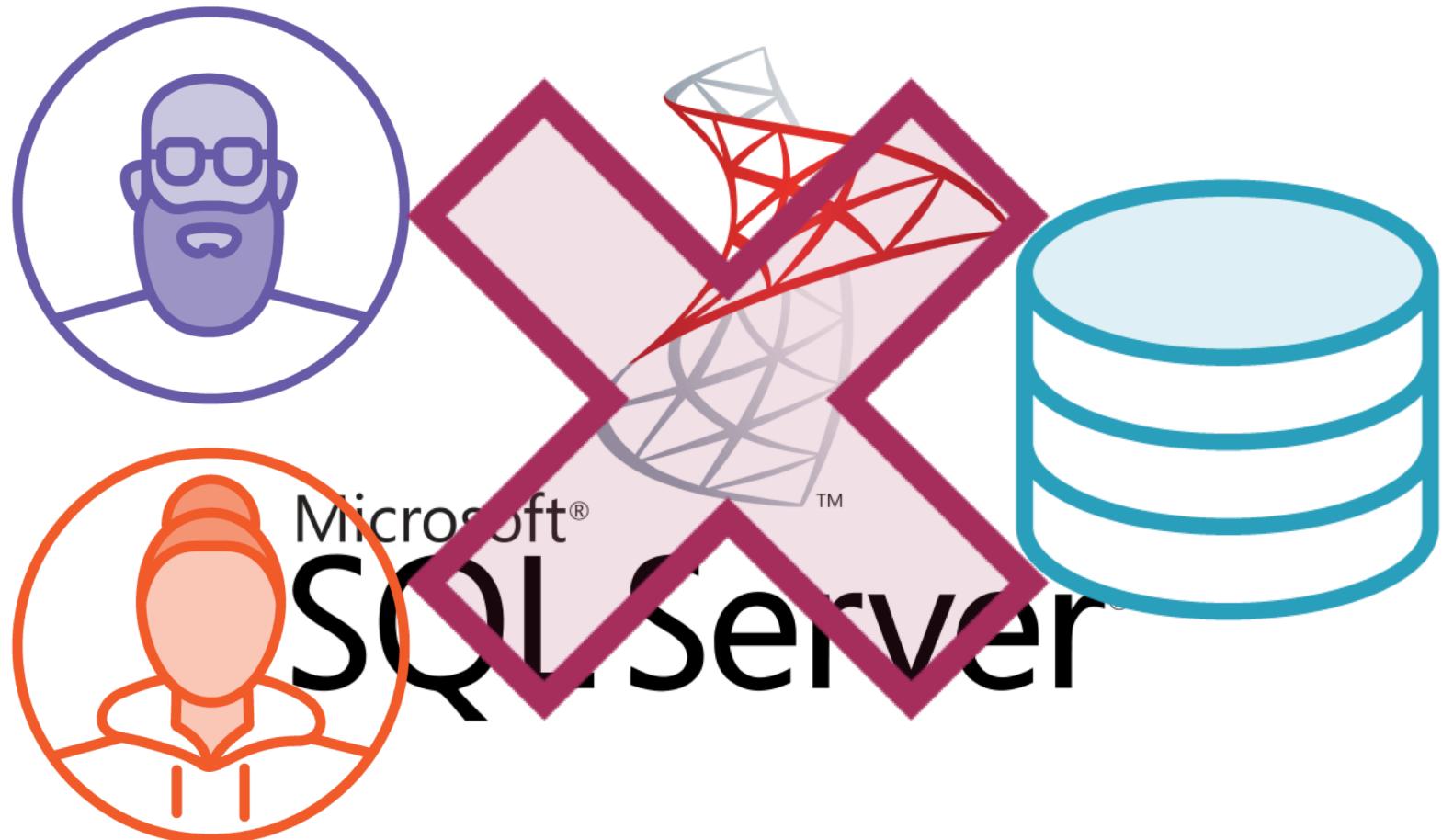


DB-Engines.com

<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



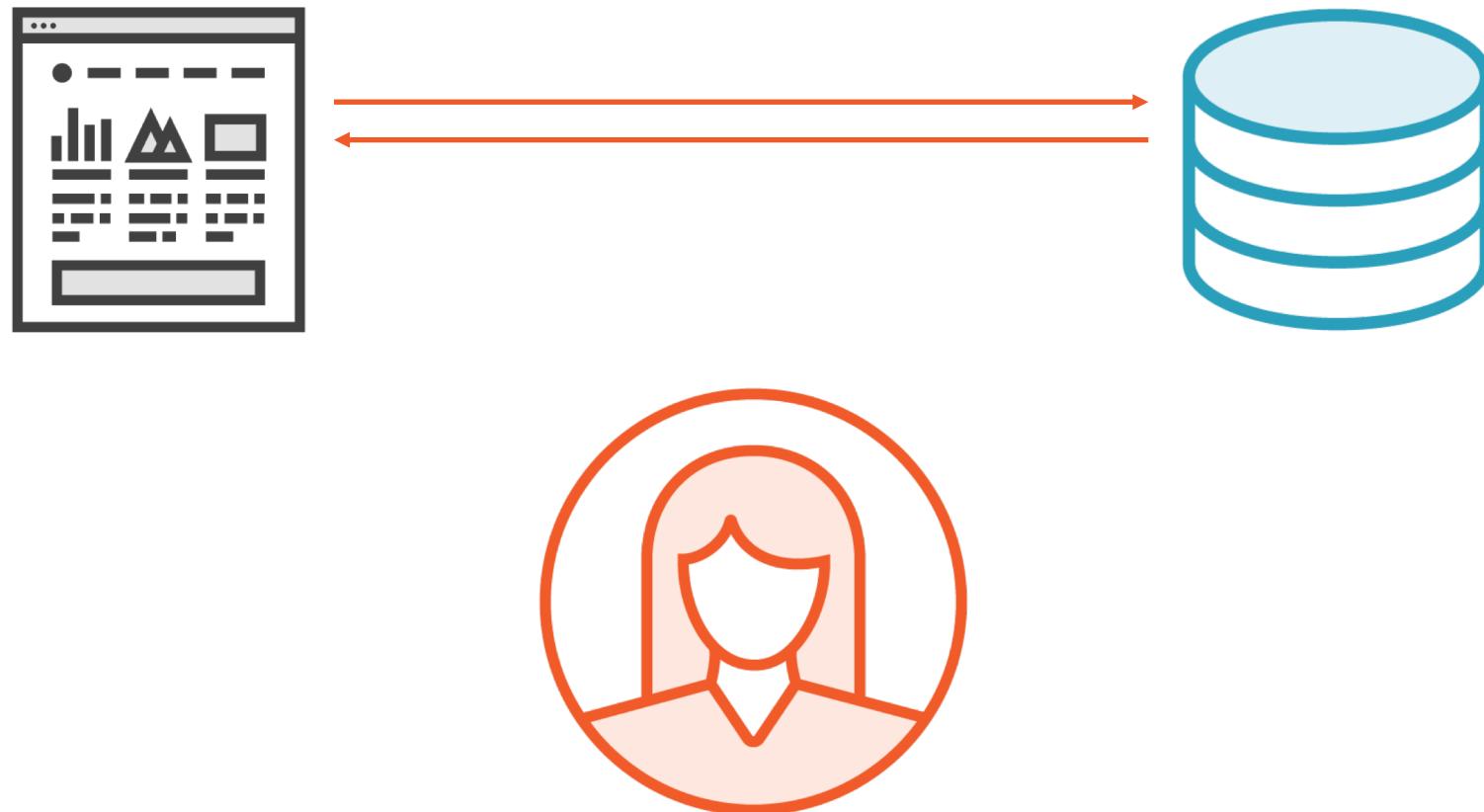
Current Database Status



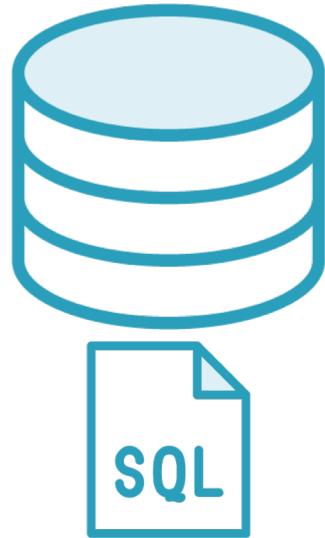
- ✗ Cannot add**
- ✗ Cannot update**
- ✗ Cannot delete**
- ✗ Cannot read**



Link up Web and Database



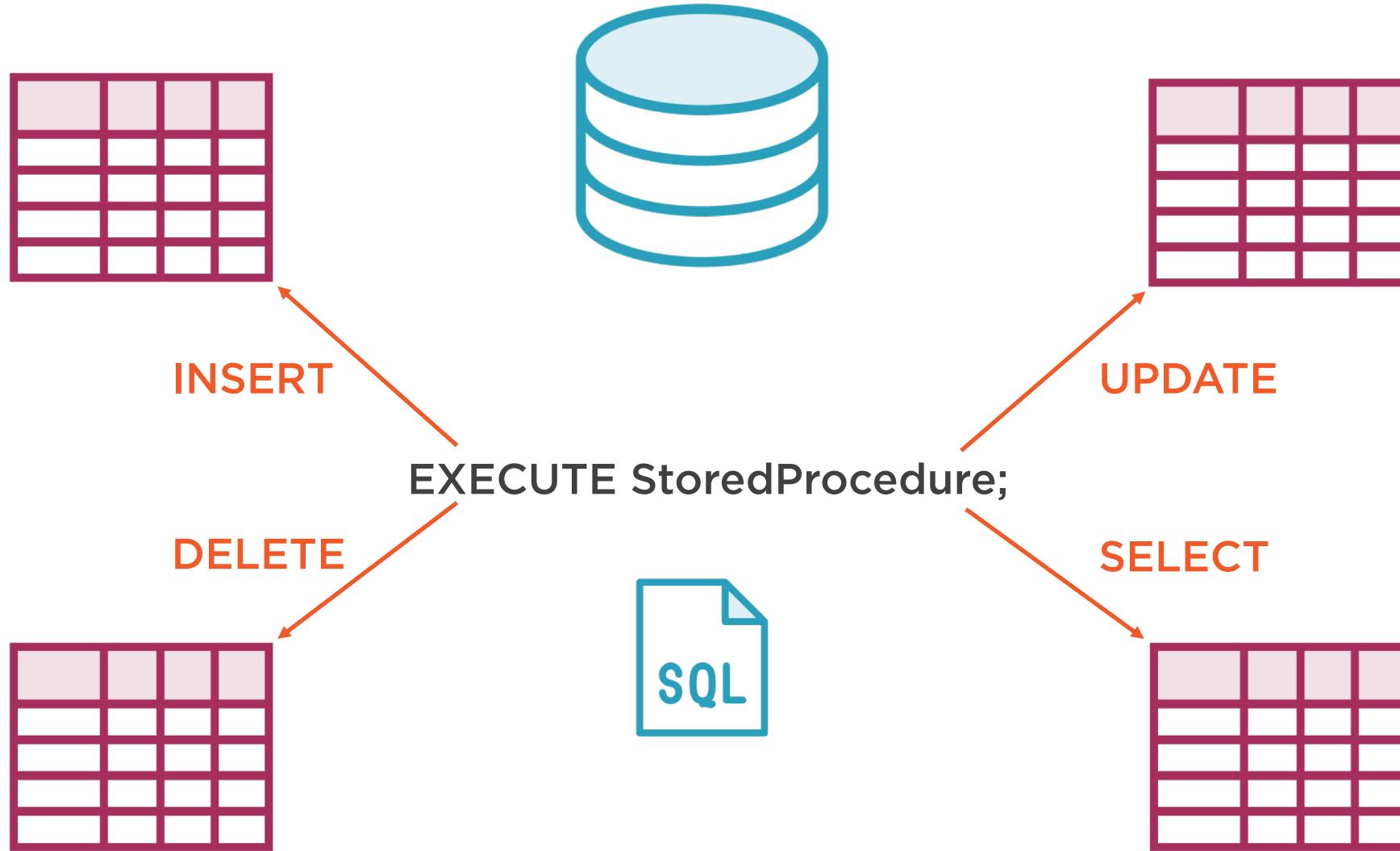
What Is a Stored Procedure?



ORACLE®

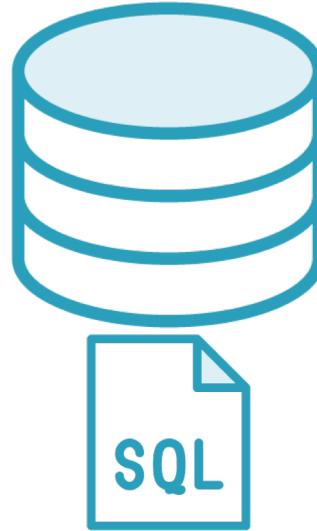


What a Stored Procedure Does



Write Once, Run Many Times

```
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;
```



```
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;  
EXECUTE StoredProcedure;
```



Less Network Traffic

INSERT ➤➤

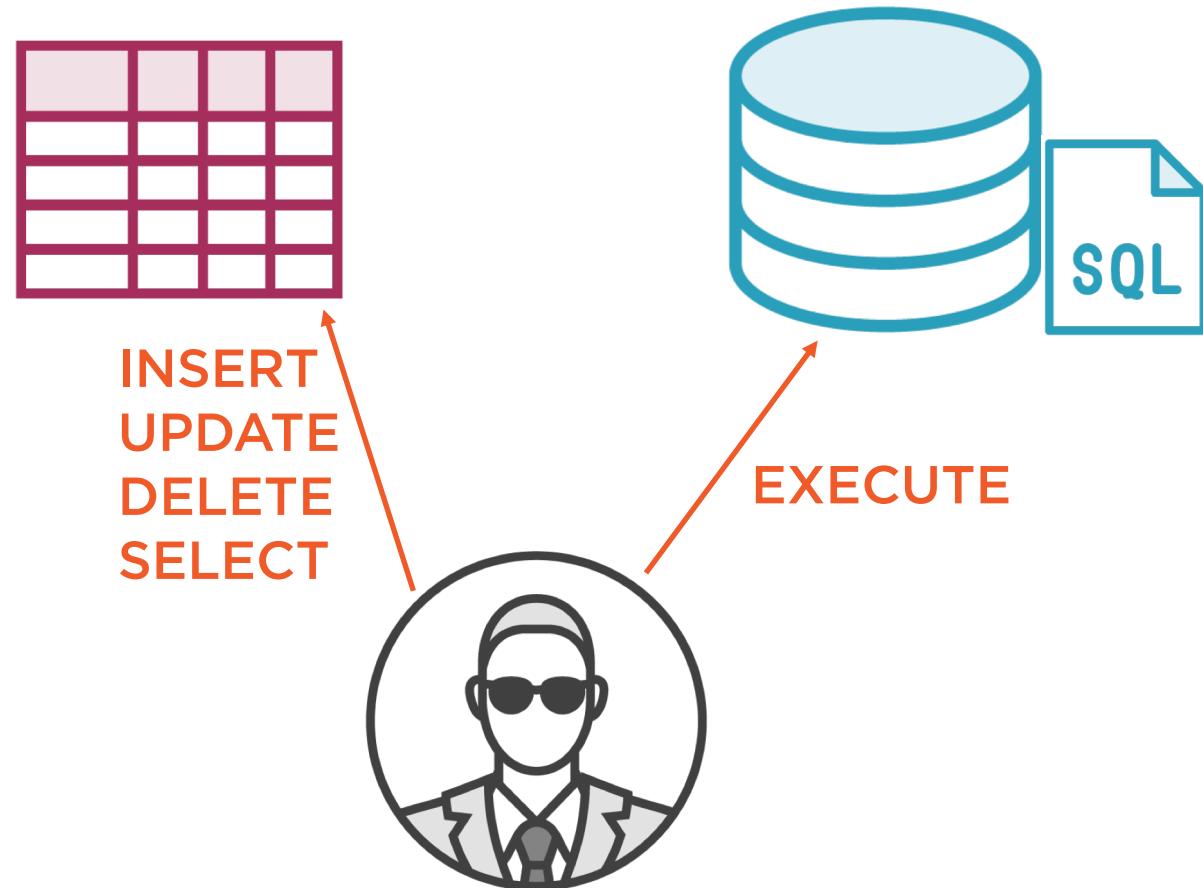
SELECT ➤➤



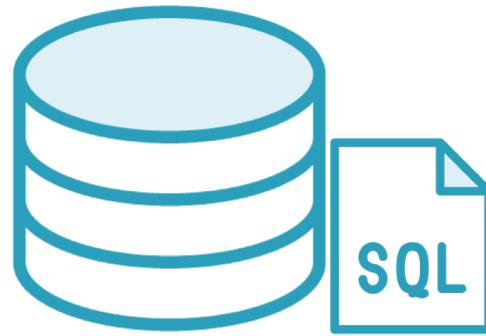
EXECUTE **StoredProcedure;**



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



What a Stored Procedure Cannot Do



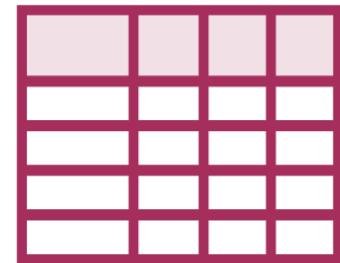
What a Stored Procedure Shouldn't Do



**Do not return lots
of result sets**



Do not use cursors



CURSOR



Set-based Logic



Learned a Lot



Which Server?



DOLOMITEV1



SQL Server Options



Azure SQL Database



On Premise



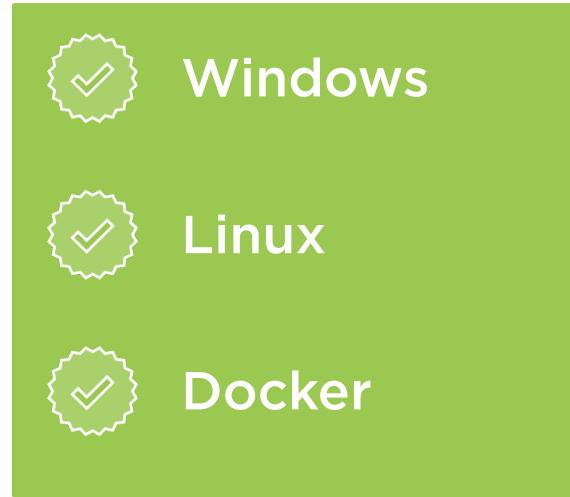
SQL Server Versions



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



Operating System



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?view=sql-server-2017>



```
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



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

