

Query Execution Plans A Primer

By

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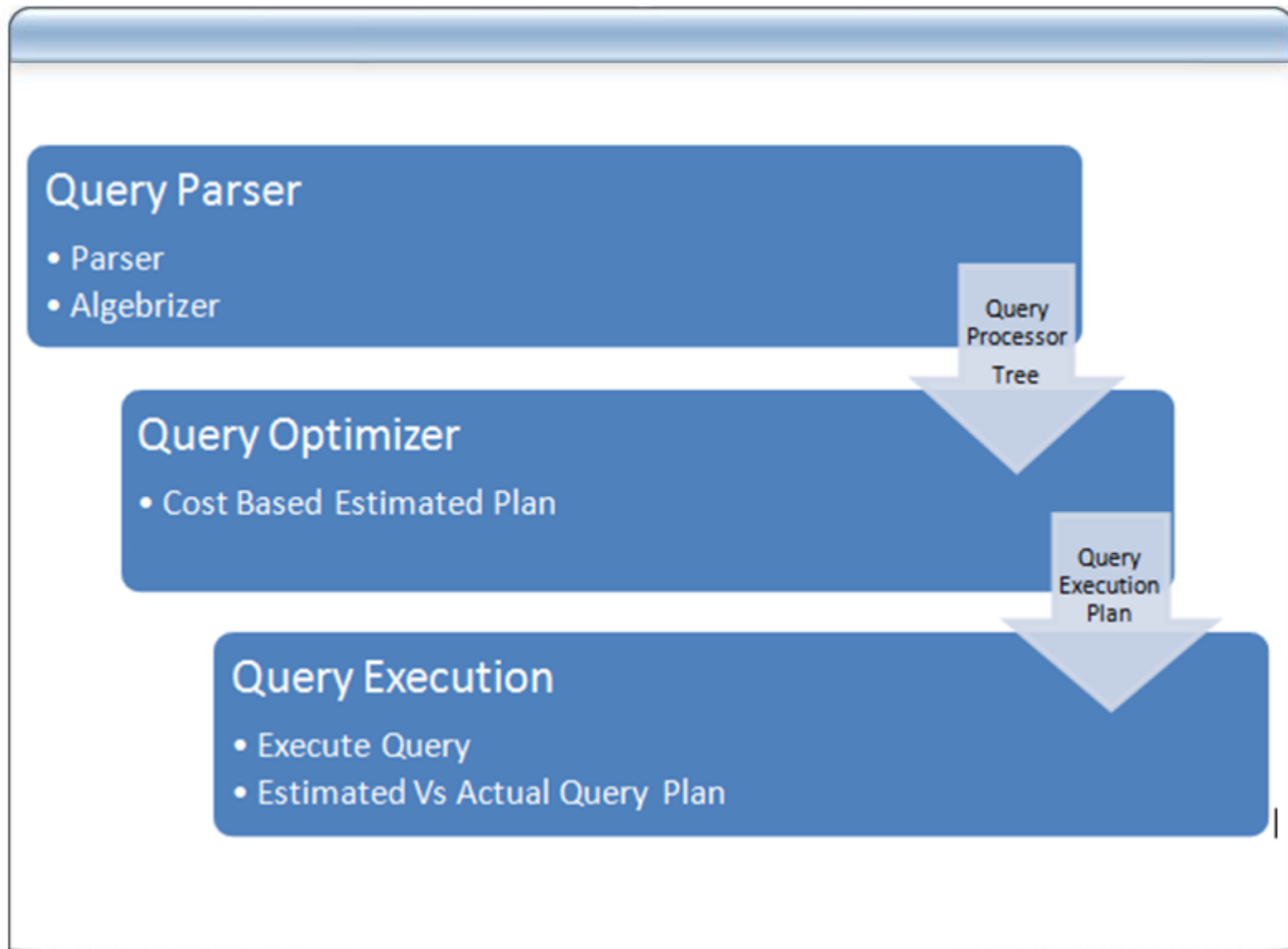
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Agenda

- **Query Processing.**
- **Execution Plan Formats.**
- **Understanding Graphical Execution Plan.**
- **Basic Logical And Physical Operators.**

Query Processing



Execution Plan Formats

Query 1: Query cost (relative to the batch): 100%
`SELECT EmpID,FirstName,LastName FROM tblEmployee`

Graphical
Execution plan



Clustered Index Scan (Clustered)
[tblEmployee].[pk_EmpID]
Cost: 100 %

```
SET SHOWPLAN_ALL ON
GO
SELECT EmpID,FirstName,LastName
FROM tblEmployee
```

TEXT PLANS
- SHOWPLAN_ALL
- SHOWPLAN_TEXT
- STATISTICS PROFILE

results Messages

| StmtText | StmtId | NodeId | Parent | PhysicalOp |
|--|--------|--------|--------|----------------------|
| SELECT EmpID,FirstName,LastName FROM tblEmployee | 1 | 1 | 0 | NULL |
| -Clustered Index Scan(OBJECT:([DoodleDB2012].[db...] | 1 | 2 | 1 | Clustered Index Scan |

```
SET SHOWPLAN_XML ON
GO
```

```
SELECT EmpID,FirstName,LastName
FROM tblEmployee
```

XML PLANS
- SHOWPLAN_XML
- STATISTICS_XML

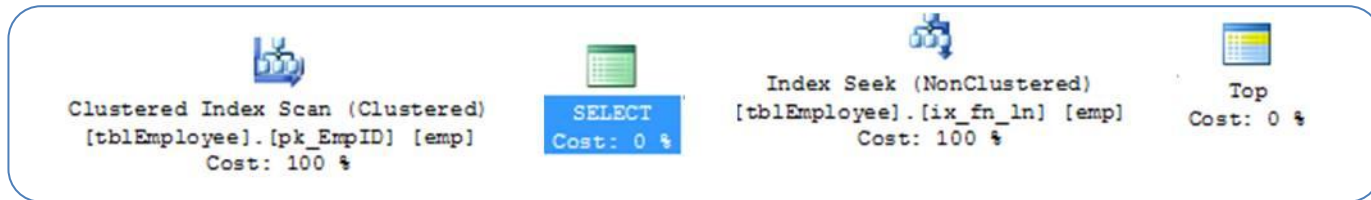
Results Messages

Microsoft SQL Server 2005 XML Showplan

<ShowPlanXML xmlns="http://schemas.microsoft.com/sqlserver/2004/07/showplan" Version="1.2" Build="11.0.1750.32"

Understanding Graphical Execution Plan

Operators



| | |
|---|---|
| cost (relative firstName, LastName | Clustered Index Scan (Clustered) Scanning a clustered index, entirely or only a range. |
| | Physical Operation Clustered Index Scan |
| Clustered Index Scan [tblEmployee].[pk_EmpID] [emp] Cost: 100 % | Logical Operation Clustered Index Scan |
| | Actual Execution Mode Row |
| | Estimated Execution Mode Row |
| | Actual Number of Rows 204827 |
| | Actual Number of Batches 0 |
| | Estimated I/O Cost 0.807569 |
| | Estimated Operator Cost 1.03304 (100%) |
| | Estimated CPU Cost 0.225467 |
| | Estimated Subtree Cost 1.03304 |
| | Estimated Number of Executions 1 |
| | Number of Executions 1 |
| | Estimated Number of Rows 204827 |
| | Estimated Row Size 41 B |
| | Actual Rebinds 0 |
| | Actual Rewinds 0 |
| | Ordered False |
| | Node ID 0 |
| | Object [DoodleDB2012].[dbo].[tblEmployee].[pk_EmpID] |
| | Output List [DoodleDB2012].[dbo].[tblEmployee].Empid, [DoodleDB2012].[dbo].[tblEmployee].firstname, [DoodleDB2012].[dbo].[tblEmployee].lastname |

| | |
|---|--|
| Properties | |
| Clustered Index Scan (Clustered) | |
| Misc | |
| Actual Execution Mode | Row |
| Actual Number of Batches | 0 |
| Actual Number of Rows | 204827 |
| Actual Rebinds | 0 |
| Actual Rewinds | 0 |
| Defined Values | [DoodleDB2012].[dbo].[tblEmployee].Empid |
| Description | Scanning a clustered index |
| Estimated CPU Cost | 0.225467 |
| Estimated Execution Mode | Row |
| Estimated I/O Cost | 0.807569 |
| Estimated Number of Batches | 1 |
| Estimated Number of Rows | 204827 |
| Estimated Operator Cost | 1.03304 (100%) |
| Estimated Rebinds | 0 |
| Estimated Rewinds | 0 |
| Estimated Row Size | 41 B |
| Estimated Subtree Cost | 1.03304 |
| Forced Index | False |

ToolTip

Properties

Logical And Physical Operators

- **Table Scan**
- **Index Scan**
- **Index Seek**
- **Key Lookup**
- **RID Lookup**

Summary

- **Query Processing.**
- **Execution Plan Formats.**
- **Understanding Graphical Execution Plan.**
- **Basic Logical And Physical Operators.**

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Q&A

Thank you ☺

for suggestions, please email at admin@SQLServerGeeks.com