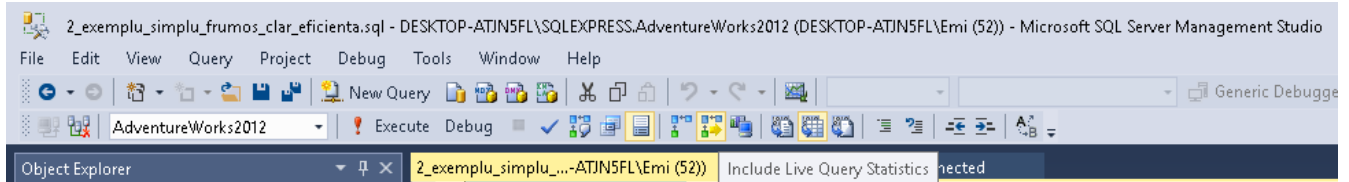


Example with Include Live Query Statistics



use AdventureWorks2012
go

```
-- without index  
select * from HumanResources.Department  
order by GroupName
```

Results Messages Live Query Statistics

	DepartmentID	Name	GroupName	ModifiedDate
1	9	Human Resources	Executive General and Administration	2002-06-01 00:00:00.000
2	10	Finance	Executive General and Administration	2002-06-01 00:00:00.000
3	11	Information Services	Executive General and Administration	2002-06-01 00:00:00.000
4	14	Facilities and Maintenance	Executive General and Administration	2002-06-01 00:00:00.000
5	16	Executive	Executive General and Administration	2002-06-01 00:00:00.000
6	15	Shipping and Receiving	Inventory Management	2002-06-01 00:00:00.000
7	5	Purchasing	Inventory Management	2002-06-01 00:00:00.000
8	7	Production	Manufacturing	2002-06-01 00:00:00.000
9	8	Production Control	Manufacturing	2002-06-01 00:00:00.000
10	12	Document Control	Quality Assurance	2002-06-01 00:00:00.000
11	13	Quality Assurance	Quality Assurance	2002-06-01 00:00:00.000
12	6	Research and Developm...	Research and Development	2002-06-01 00:00:00.000
13	1	Engineering	Research and Development	2002-06-01 00:00:00.000
14	2	Tool Design	Research and Development	2002-06-01 00:00:00.000
15	3	Sales	Sales and Marketing	2002-06-01 00:00:00.000
16	4	Marketing	Sales and Marketing	2002-06-01 00:00:00.000

Clustered Index Scan (Clustered)

Scanning a clustered index, entirely or only a range.

Estimated operator progress: 100%

Physical Operation	Clustered Index Scan
Logical Operation	Clustered Index Scan
Estimated Execution Mode	Row
Storage	RowStore
Actual Number of Rows	16
Estimated I/O Cost	0.003125
Estimated Operator Cost	0.0032996 (22%)
Estimated Subtree Cost	0.0032996
Estimated CPU Cost	0.0001746
Estimated Number of Executions	1
Number of Executions	1
Estimated Number of Rows	16
Estimated Row Size	123 B
Ordered	False
Node ID	1

Results	Messages	Live Query Statistics
Estimated query progress: 100%	Query 1: Query cost (relative to the batch): 100%	select * from HumanResources.Department order by GroupName
SELECT 0.137s	Sort 0.137s 16 of 16 (100%)	Clustered Index Scan (Clustered) [Department].[PK_Department_Departm...] 16 of 16 (100%)

Object

[AdventureWorks2012].[HumanResources].[Department].
[PK_Department_DepartmentID]

Output List

[AdventureWorks2012].[HumanResources].
[Department].DepartmentID, [AdventureWorks2012].
[HumanResources].[Department].Name,
[AdventureWorks2012].[HumanResources].
[Department].GroupName, [AdventureWorks2012].
[HumanResources].[Department].ModifiedDate

```
-- create index
IF EXISTS (SELECT name FROM sys.indexes
           WHERE name = N'nidx_gn')
    DROP INDEX nidx_gn ON HumanResources.Department
GO

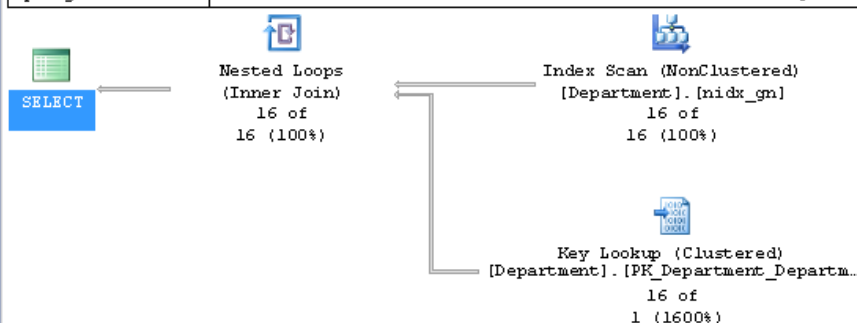
CREATE NONCLUSTERED INDEX nidx_gn
    ON HumanResources.Department (GroupName);
GO
```

```
-- with index
select * from HumanResources.Department
order by GroupName
```

Results Messages Live Query Statistics

Estimated query progress: 100% Query 1: Query cost (relative to the batch): 100%

-- with index select * from HumanResources.Department order by GroupName



Nested Loops

For each row in the top (outer) input, scan the bottom (inner) input, and output matching rows.

Estimated operator progress: 100%

Physical Operation	Nested Loops
Logical Operation	Inner Join
Estimated Execution Mode	Row
Actual Number of Rows	16
Estimated I/O Cost	0
Estimated Operator Cost	0.0000669 (1%)
Estimated Subtree Cost	0.0090211
Estimated CPU Cost	0.0000669
Estimated Number of Executions	1
Number of Executions	1
Estimated Number of Rows	16
Estimated Row Size	123 B
Node ID	0

Output List

[AdventureWorks2012].[HumanResources].
[Department].DepartmentID, [AdventureWorks2012].
[HumanResources].[Department].Name,
[AdventureWorks2012].[HumanResources].
[Department].GroupName, [AdventureWorks2012].
[HumanResources].[Department].ModifiedDate

Outer References

[AdventureWorks2012].[HumanResources].
[Department].DepartmentID

Index Scan (NonClustered)

Scan a nonclustered index, entirely or only a range.

Estimated operator progress: 100%

Physical Operation	Index Scan
Logical Operation	Index Scan
Estimated Execution Mode	Row
Storage	RowStore
Actual Number of Rows	16
Estimated Operator Cost	0.0032996 (37%)
Estimated I/O Cost	0.003125
Estimated CPU Cost	0.0001746
Estimated Subtree Cost	0.0032996
Number of Executions	1
Estimated Number of Executions	1
Estimated Number of Rows	16
Estimated Row Size	63 B
Ordered	True
Node ID	1

Object

[AdventureWorks2012].[HumanResources].
[Department].[nidx_gn]

Output List

[AdventureWorks2012].[HumanResources].
[Department].DepartmentID, [AdventureWorks2012].
[HumanResources].[Department].GroupName

Key Lookup (Clustered)

Uses a supplied clustering key to lookup on a table that has a clustered index.

Estimated operator progress: 100%

Physical Operation	Key Lookup
Logical Operation	Key Lookup
Estimated Execution Mode	Row
Storage	RowStore
Actual Number of Rows	16
Estimated Operator Cost	0.0056546 (63%)
Estimated I/O Cost	0.003125
Estimated CPU Cost	0.0001581
Estimated Subtree Cost	0.0056546
Number of Executions	16
Estimated Number of Executions	16
Estimated Number of Rows	1
Estimated Row Size	69 B
Ordered	True
Node ID	3

Object

[AdventureWorks2012].[HumanResources].
[Department].[PK_Department_DepartmentID]

Output List

[AdventureWorks2012].[HumanResources].
[Department].Name, [AdventureWorks2012].
[HumanResources].[Department].ModifiedDate

Seek Predicates

Seek Keys[1]: Prefix: [AdventureWorks2012].
[HumanResources].[Department].DepartmentID =
Scalar Operator([AdventureWorks2012].
[HumanResources].[Department].DepartmentID])