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Assignment Document:

Indexes Sql Server

Version: < Sql Server 2008>/ASSIGNMENT/xxxx/x.x

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Total Completion Time:9 minutes

### Hands-On Exercises

Hands-On Exercise 1: <Compare the performance of tables with and without index>

Estimated Completion Time: 3 Minutes

Step 1: Create a table without Index.

Step 2: Create a table without index.

Step 3: Create procedure to populate data.

Step 4: Compare the performance between two tables using Set option and DMV.

--creation of a sample database

create database test\_sample

Go

Use test\_sample

Go

--creation of a table without index

create table My\_Sample\_Table1

(

id1 int,

date\_time1 datetime

)

--creation of a table with index

create table My\_Sample\_Table2

(

id2 int primary key,

date\_time2 datetime

)

--creation of a procedure to populate data

--population of data is done for table2..

--similarly do for table 1 with the corresponding column names.

Go

create procedure Populate\_Data @count int

as

begin

declare @i int

set @i = 1

while(@i<=@count)

begin

insert into My\_Sample\_Table2(id2,date\_time2) values(@i,GETDATE()+@i)

set @i = @i + 1

end

end

exec Populate\_Data 20000

--To get the number of scans, logical reads, physical reads etc.

set statistics io on

select \* from My\_Sample\_Table1 where id1=4;

select \* from My\_Sample\_Table2 where id2=2314;

--view the output in messages tab

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--Using DMV to get the number of user\_seeks,user\_scans, user\_lookups

SELECT object\_name(object\_id) as name,

index\_id,

user\_seeks,

user\_scans,

user\_lookups

FROM sys.dm\_db\_index\_usage\_stats

where object\_name(object\_id) like 'My\_%'

--------------------------------

--CASE 1

--------------------------------

select \* from My\_Sample\_Table1 where id1=12541

select \* from My\_Sample\_Table2 where id2=12541

SELECT object\_name(object\_id) as name,

index\_id,

user\_seeks,

user\_scans,

user\_lookups

FROM sys.dm\_db\_index\_usage\_stats

where object\_name(object\_id) like 'My\_%'

--------------------------------

--CASE 2

--------------------------------

--Altering Table 2 for shwing User lookup

alter table My\_Sample\_table2 add descr varchar(20),comments varchar(30)

update My\_Sample\_Table2 set descr='description'

--creating a non clustered index

create nonclustered index nci\_MST2\_date\_time2

on My\_Sample\_table2(date\_time2)

--Lookup

select id2,descr from My\_Sample\_Table2

where date\_time2='2013-03-15 13:36:55.690'

SELECT object\_name(object\_id) as name,

index\_id,

user\_seeks,

user\_scans,

user\_lookups

FROM sys.dm\_db\_index\_usage\_stats

where object\_name(object\_id) like 'My\_%'

**Hands-On Exercise 2: <Understanding the Scan and Seek Strategies of Indexes.>**

Estimated Completion Time: 5 Minutes

Step 1: Create a table with clustered index.

Step 2: create a non Clustered index.

Step 3: Create filtered index and covering index.

Step 4: Understand the working of scan and seek.

--creation of table Index\_Table with clustere index

create table Index\_Table (a int, b int, c int, d int, x char(200))

create unique clustered index CI\_Index\_Table\_a on Index\_Table(a)

create index NCI\_Index\_Table\_b on Index\_Table(b)

insert into Index\_Table values(1,2,23,24,'hey')

insert into Index\_Table values(2,5,22,25,'good')

insert into Index\_Table values(3,6,21,26,'nice')

insert into Index\_Table values(4,7,20,27,'best')

insert into Index\_Table values(5,8,19,28,'great')

insert into Index\_Table values(6,9,18,29,'awesome')

insert into Index\_Table values(7,10,17,30,'splendid')

insert into Index\_Table values(8,11,16,31,'excellent')

insert into Index\_Table values(9,12,15,32,'amazing')

insert into Index\_Table values(10,13,14,33,'fantastic')

--find out what kind of seek or scan happens with the following Statements:

select a from Index\_Table

select a,b from Index\_Table

select a from Index\_Table where a=10

select a from Index\_Table where b=10

select c,d from Index\_Table where c=33

select c,d from Index\_Table where b=6

select b from Index\_Table where c=33

select c,d from Index\_Table where c>1

select c,d from Index\_Table

select c,d from Index\_Table where b>1

--Create/Alter the index as below and try executing the above statements again:

drop index Index\_Table.NCI\_Index\_Table\_b

create index NCI\_Index\_Table\_b\_c\_d on Index\_Table(b) include (c,d)

create index NCI\_Index\_Table\_c\_d on Index\_Table(c, d)

create index NCI\_Index\_Table\_d\_c on Index\_Table(d, c)

Summary

You have just learnt:

* How a table with Indexes performs effectively than one without Indexes.
* How to create clustered and non clustered Indexes.
* Working of Scan and Seek strategies of Indexes.