# Sql Server Architecture and DBs

## Easy

1. What are the default system DBs?

Master,Temp,Model,Resource,MSDB

1. Which is the free edition in sql server

Express Edition

1. Will agent service work with express edition?

No

1. Which Tool generates the trace

Profiler

## Medium

1. If you want an object to be present in all the new databases that you are creating… what should you do..?

Model

1. Name any 3 services that come along with the enterprise edition

Service Broker

Replication Services

Analysis Services

Reporting Services

Notification Services

Integration Services

Full Text Search Service

SQLCMD

Visual Studio

SQL Server Management Studio

Business Intelligence Development Studio

1. Resource Db is present from which version of Sql Server
2. 2000
3. 2005
4. 2008
5. 2008 R2
6. The primary data file is saved with the extension
   1. .ldf
   2. .mdf
   3. .ndf
   4. .cdf
7. Basic unit of Storage in sql server?

8kb Page

1. What is the use of Sql Agent

It is a scheduler that helps to create jobs in sql server and execute packages and T sql scripts at a scheduled time .

1. What are the authentication modes in sql server

Windows authentication and mixed mode authentication

1. In which Db are temporary tables stored

Temp DB

1. Which system Db contains agent related data

Msdb

1. Sql Server Agent is
   1. Scheduler
   2. Notification service
   3. Reporting service
   4. None of the above

## Hard

1. What are orphaned users?

Users that do not have a corresponding server level login mapped to it are called orphaned users.

1. What is the relationship between a User and a Login wrt SQL Server

Users are at DB level. Logins are at server level. Users must be mapped to a login.

# Isolation level and Transactions

## Easy

1. What is the default isolation level of SQL Server

Read Committed

1. Shared locks
   1. Blocks read
   2. Blocks writes but allows reads
   3. Blocks both read and write
   4. Blocks read but allows writes
2. Which of the following Isolation levels allow dirty reads
   1. Read committed
   2. Snapshot
   3. Read uncommitted
   4. None of the above
3. In serializable isolation level, is it possible to update a row which someone is reading

No

1. In read committed isolation level is it possible to insert a row into a table from which another user is reading data from (Modify)

No

1. ACID Property included
   1. Isolation
   2. Durability
   3. Atomicity
   4. All of the above
2. In which isolation level is phantom reads overcome

Serializable

1. In which version was snapshot isolation introduced

2005

## Medium

1. What are the differences between an SP and a function in Sql Server (repeated)

* Functions have to return a value. SP may or may not.
* SPs can have OUT param. Functions cannot have.
* Functions can be called form a select statement. SPs cannot be.
* Functions cannot have transactions . SPs can have.

1. What are the pros and cons of read committed

**Advantages**

* Only committed changes are visible
* It acquires short lived share locks on a row by row basis
* The duration of these share locks is just long enough to read and process each row

**Disadvantages**

* Nonrepeatable Read - Inconsistent analysis occurs when a second transaction accesses the same row several times and reads different data each time
* Phantom reads occur when an insert action is performed against a row that belongs to a range of rows being read by a transaction.

1. What is the advantage of repeatable read

Holds on to the shared locks it obtains on the records it reads until the end of the transaction.

Any transactions that try to modify these records are force to wait for the read transaction to complete

Non Repeatable reads are overcome

## Hard

1. What is the difference between snapshot isolation level and read committed snapshot isolation level

RCSI differs from the Snapshot isolation level in that instead of providing a reader with the last committed version of the row that was available when the transaction started, a reader gets the last committed version of the row that was available when the statement started

1. What is an intent lock

Intent lock is the type of lock which indicates that Sql Server intends to put a S lock or a X lock on those rows. Setting an intent lock at the table level prevents another transaction from subsequently acquiring an exclusive (X) lock on the table containing that page.

# T-SQL and Data Types

* 1. Which of the following is not a numeric data type in sql server

1. Numeric
2. Binary
3. Real
4. Smallmoney

2) What is the syntax for creating table

1. Create [table\_name] ([column\_name] [data\_type]…)
2. Create user table [table\_name] ([column\_name] [data\_type]…)
3. Create table [table\_name] ([column\_name] [data\_type]…)
4. Create table [table\_name] (column [column\_name] [data\_type]…)
5. DDL stands for
   1. Data Declaration Language
   2. Data Development Language
   3. Data Deployment Language
   4. Data Definition Language
6. Which of the following is true about DMLs
7. Always auto commit
8. Auto commit inside transactions
9. Auto commit outside transactions
10. Never Auto commit
11. The syntax of alter command is
12. Alter table [table\_name] add [column\_name] [data\_type]
13. Alter table [table\_name] add column [column\_name] [data\_type]
14. Alter [table\_name] add [column\_name] [data\_type]
15. Alter table [table\_name] add column [column\_name]
16. Truncate table [table\_name] – what kind of a statement is this
    * + - 1. DDL
          2. DML
          3. DCL
          4. None of the aabove
17. Rollback is a
    1. DML
    2. DCL
    3. TCL
    4. DDL

## Medium

1. Select max(c2) from table1 group by 1. Will this query work?

No

1. Select c1,c2 from table1 order by 2. Will this query work?

Yes

1. Select c1,c2 from table1 order by 3. Will this query work?

No

1. Will between clause include the end values?

Yes

1. Can a user defined data type have a default value -Yes or no

NO

1. Which of the following cannot be specified in a user defined data type
2. Null
3. data type
4. precision
5. default
   1. What is a variable with Prefix “@@” called?

System variable

* 1. Difference between set and select

Set can be used to set only one value. Select can be used for multiple values

1. What is the size varchar(max)
2. 8000
3. 2^31 – 1
4. 2^32
5. 2^31
6. Which data type can store a recordset
   1. Binary
   2. Table type
   3. Varchar(max)
   4. Varbinary(max)
7. Can we have joins in a delete statement?

Yes

## Hard

12) Create table table1 (c1 int)

Insert into table1 values(1)

Insert into table1 values(2)

Rollback()

What will be the output?

The table will be created and rows inserted. It will not be rolled back. Rollback statement will issue an error.

1. What is the difference between truncate and delete
2. Delete can have a condition but truncate cannot.
3. Also delete just deletes the data. It does not free the memory space. Truncate deallocates memory.
4. Delete is DML Truncate is DDL.
5. Truncate resets the identity column, Delete does not.