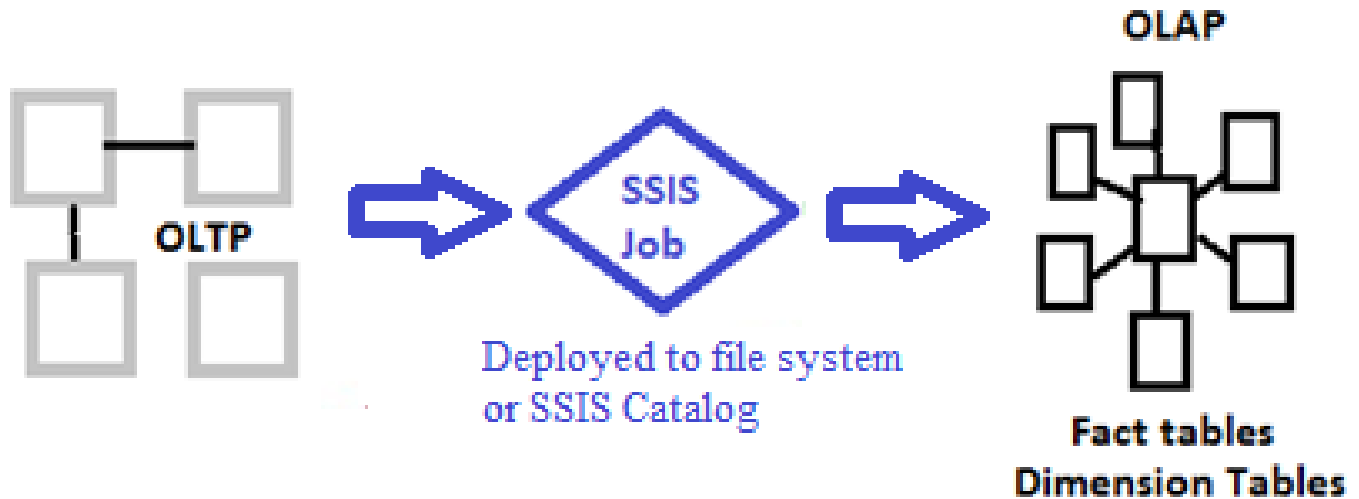


Stage 1 – Production OLTP to OLAP DW – no disaster recovery – no partitioned tables or filegroups (Always use Schemas for tables)

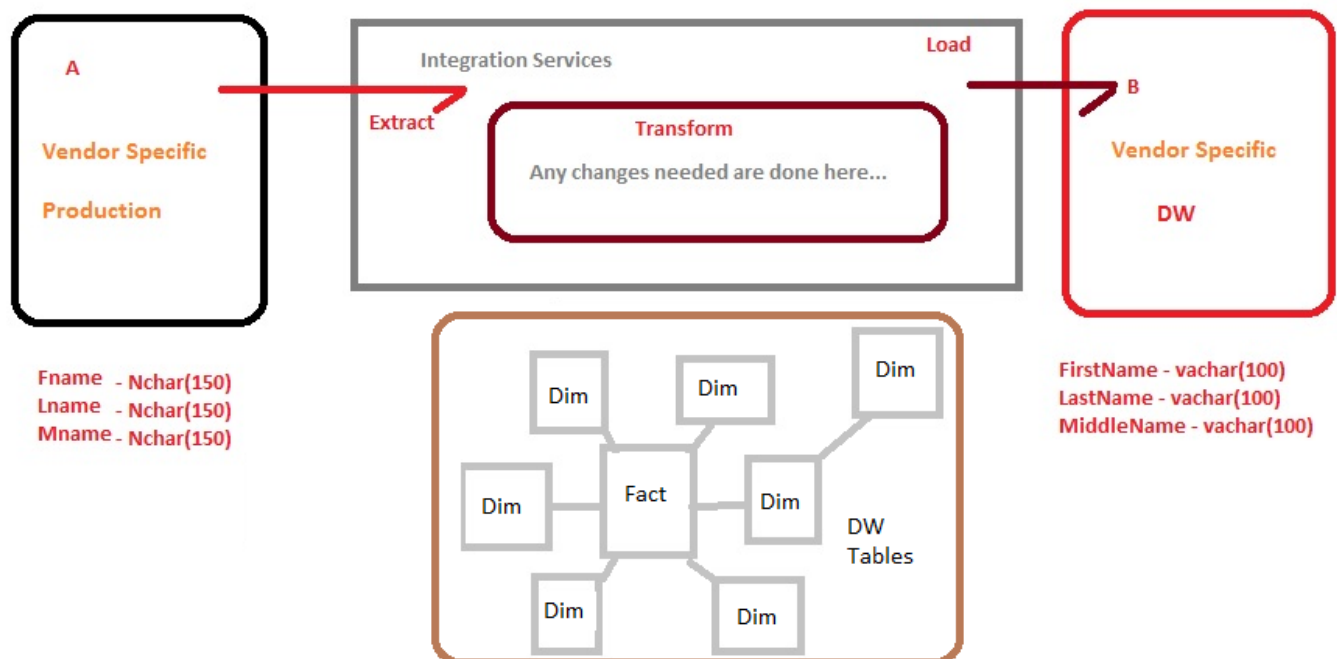
Stage 1: define the database table designs and data movement from OLTP to OLAP DW (ETL job)



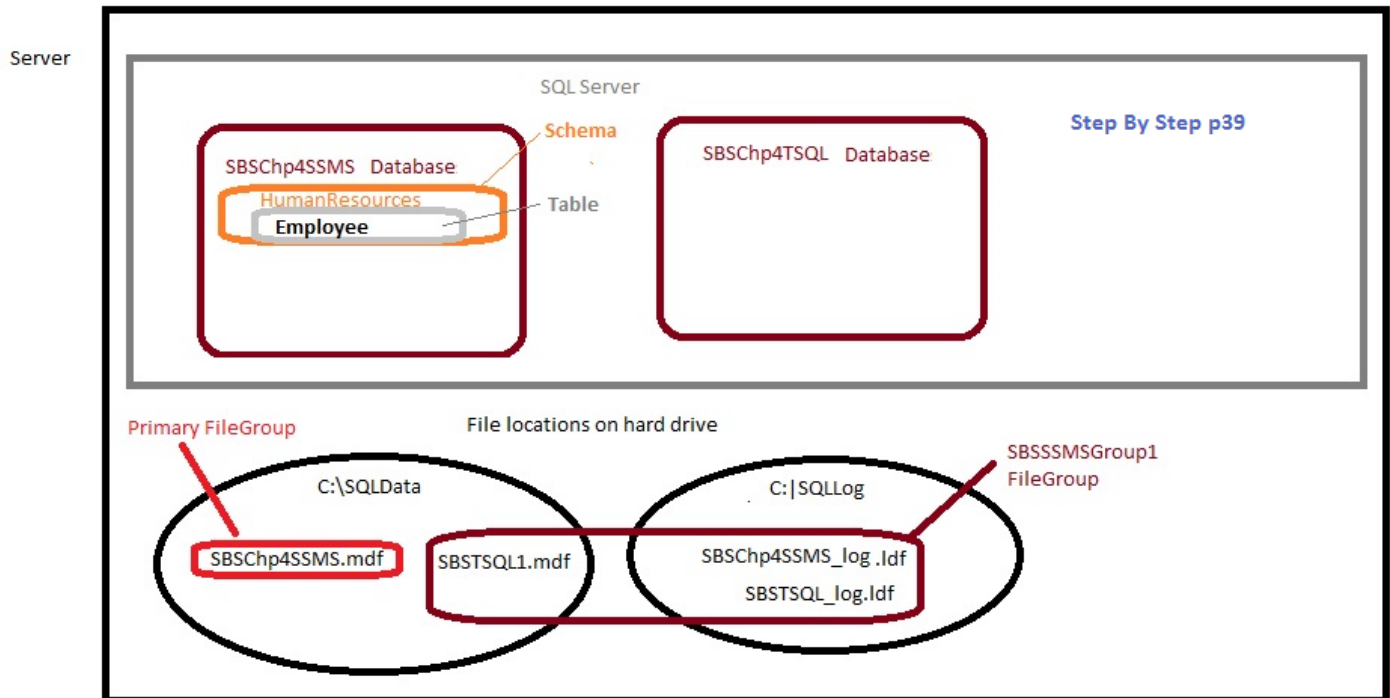
ETL Considerations (Source/Transforms/Destinations/Frequency/Sensitivity – what columns are getting mapped?)

SSIS

ETL - Extract Transform Load



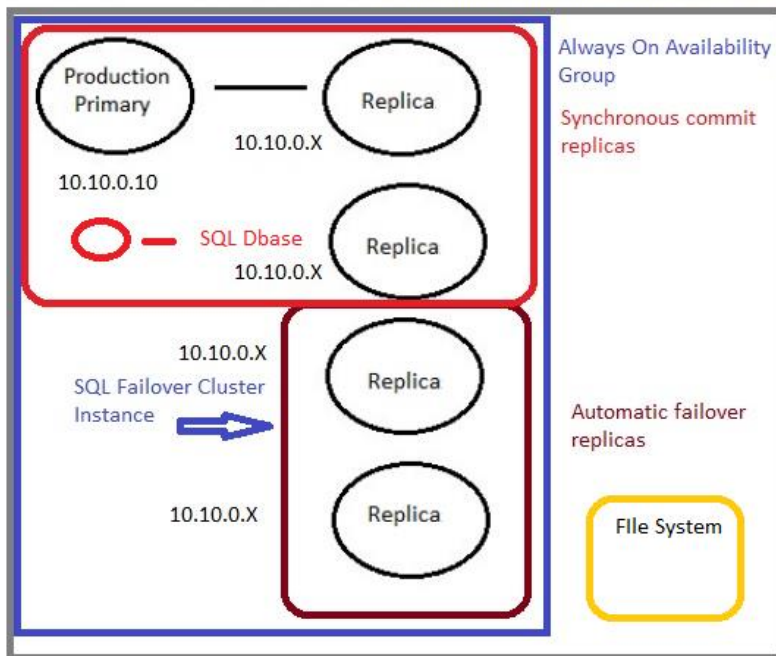
Determine Disaster Recovery; Filegroups & Partitioning (Mirroring, Failover clusters, AlwaysOn Availability Groups)



Note: 2016 – up to 8 replicas – figure is 2012 with only 4 replicas

Event Listener - single IP to all servers 192.168.21.45

Windows server failover cluster Setup - then create cluster with all nodes



Always On Availability Group - 1 primary, up to 4 replicas (mirrored) can us replica for (reporting - SELECTS)

Data synchronization

Moving data from Primary SQL database to all replicas that support the cluster....

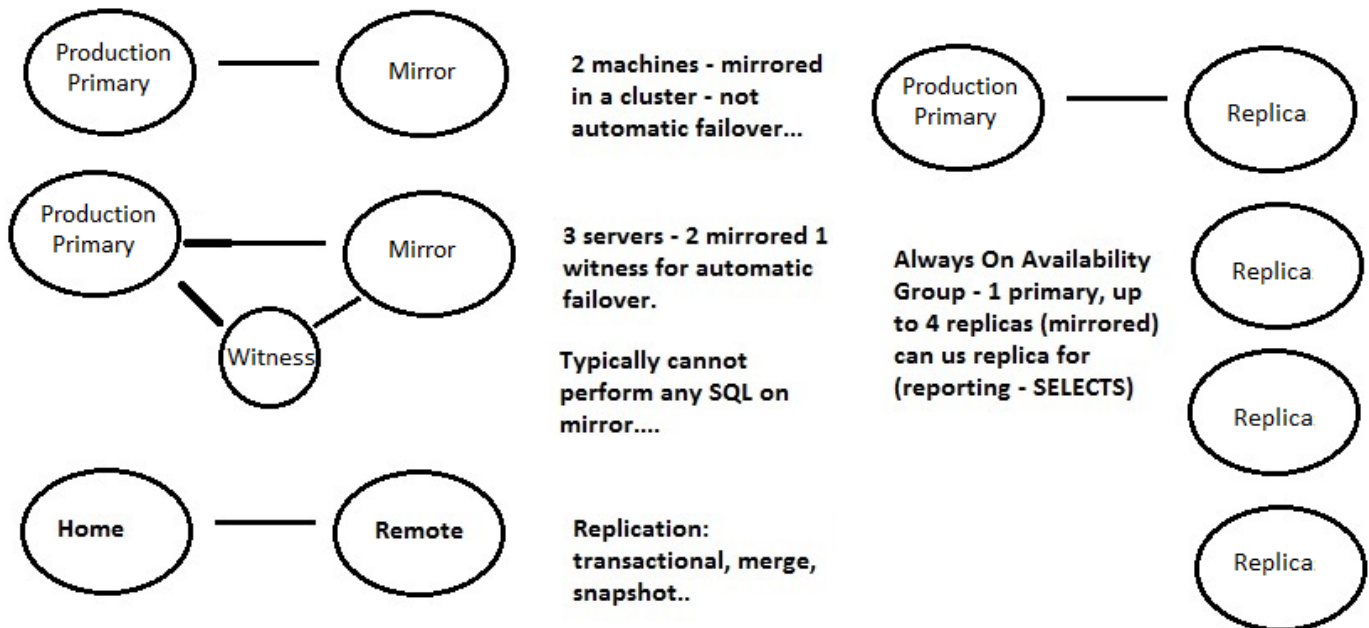
Filestream/Filetable

Access unstructured data in the file system

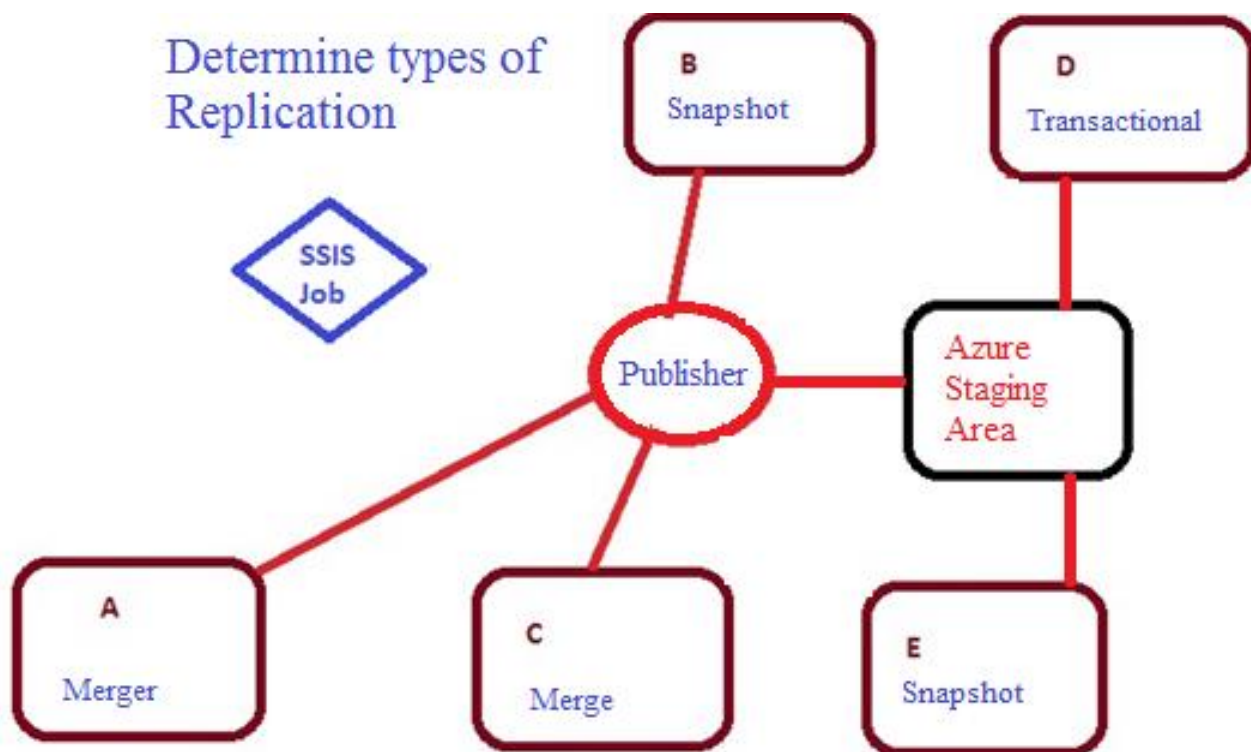
Events:
Server level
Database
Users
Application
Custom

Trigger that fires based on an event....

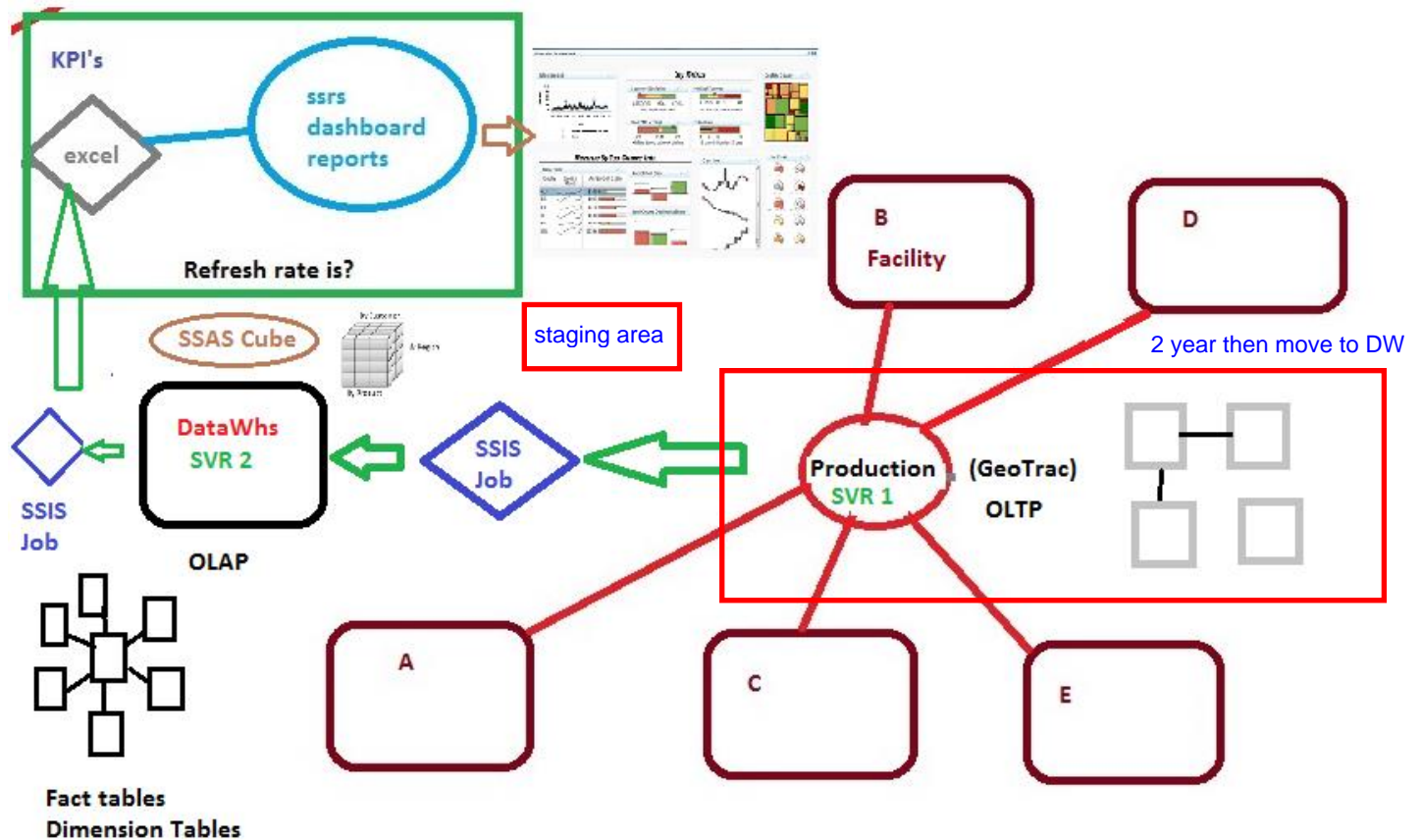
Remembering the transaction log and report handling available to the SQL/Windows server structure



Determine Replication Types: What are the needs of satellite shops? Will we use Azure for staging?



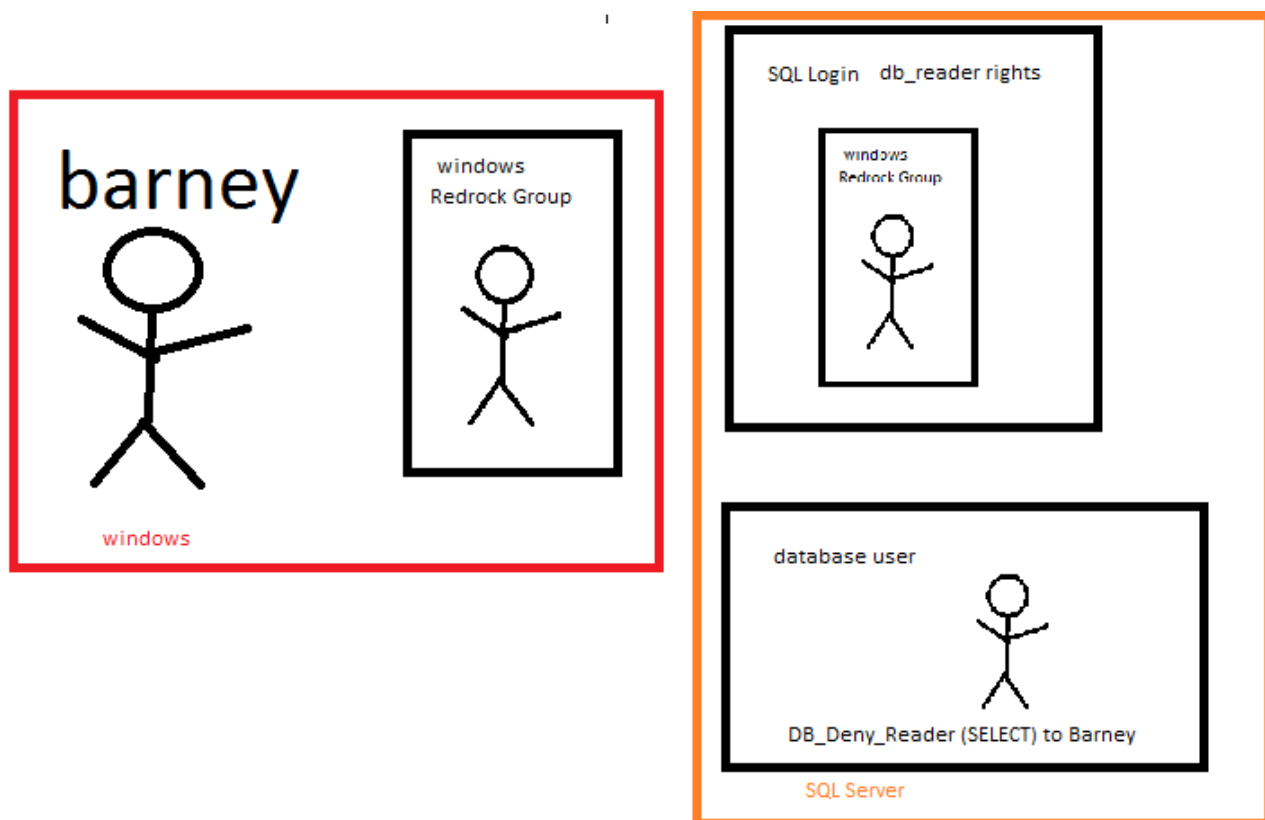
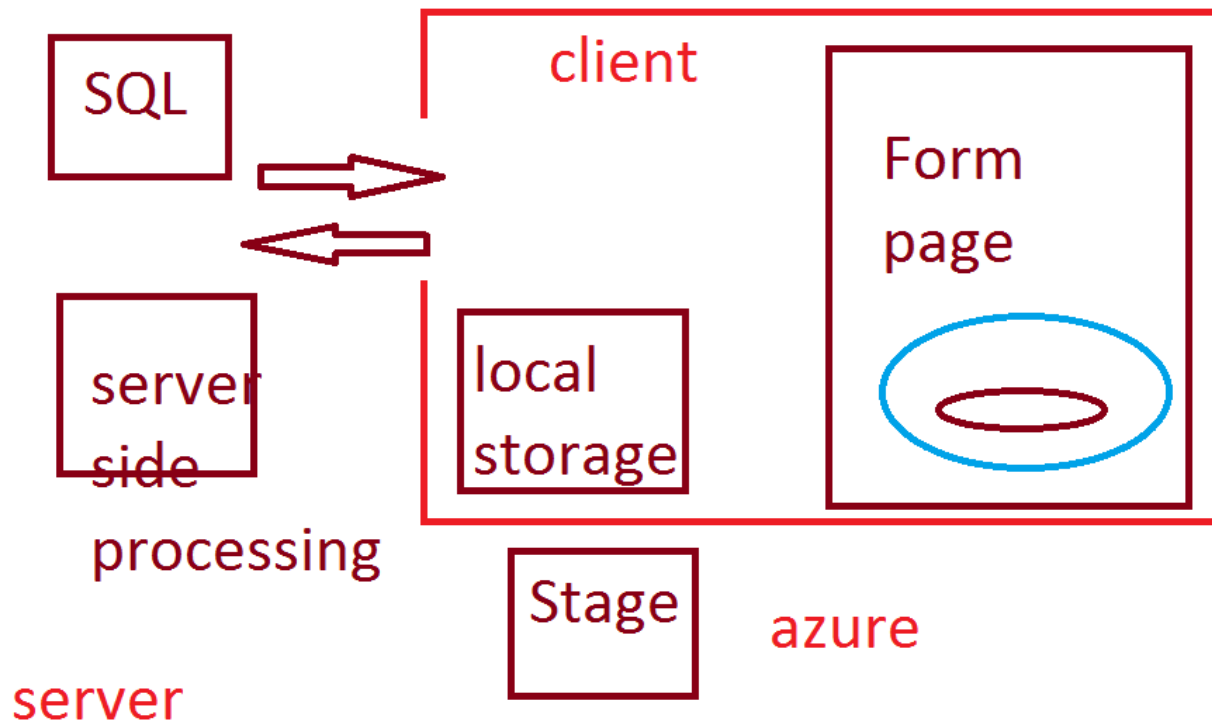
BI Component: show for discussion (Excel/PowerPivot/Sharepoint - SQL Reporting and Dashboards)



Know your SQL relationships: <http://stackoverflow.com/questions/8094156/know-relationships-between-all-the-tables-of-database-in-sql-server>

```

SELECT
    fk.name 'FK Name',
    tp.name 'Parent table',
    cp.name, cp.column_id,
    tr.name 'Referenced table',
    cr.name, cr.column_id
FROM
    sys.foreign_keys fk
INNER JOIN
    sys.tables tp ON fk.parent_object_id = tp.object_id
INNER JOIN
    sys.tables tr ON fk.referenced_object_id = tr.object_id
INNER JOIN
    sys.foreign_key_columns fkc ON fkc.constraint_object_id = fk.object_id
INNER JOIN
    sys.columns cp ON fkc.parent_column_id = cp.column_id AND fkc.parent_object_id =
cp.object_id
INNER JOIN
    sys.columns cr ON fkc.referenced_column_id = cr.column_id AND
fkc.referenced_object_id = cr.object_id
ORDER BY
    tp.name, cp.column_id
  
```



Reference: more discovery about your SQL environment

1. View a List of Databases on an Instance of SQL Server: <https://msdn.microsoft.com/en-us/library/ms188613.aspx>

2. list all table names in SQL Server using T-SQL?: <http://stackoverflow.com/questions/2456794/how-do-i-list-all-table-names-in-sql-server-using-t-sql>
3. sp_tables (Transact-SQL); <https://msdn.microsoft.com/en-us/library/ms186250.aspx>
4. Run this: sp_msforeachdb 'select "?" AS db, * from [?].sys.tables' – from: <http://blog.sqlauthority.com/2009/04/26/sql-server-list-all-the-tables-for-all-databases-using-system-tables/>