**Tables**

In Snowflake, we have four main types of tables are there

1. **Permanent Tables**
   * It is a Default table type and the
   * Data is stored long-term and protected by **Time Travel** (default 1 day, extendable up to 90 days with Enterprise edition).
   * Data is also covered by **Fail-safe** (7 days for disaster recovery).
   * Use case: Production and critical data storage.
2. **Temporary Tables**
   * Exist only within a user’s session (but can span multiple transactions).
   * Dropped automatically when the session ends.
   * Data is stored in Snowflake’s storage, but **no Fail-safe** (only Time Travel available for 1 day).
   * Use case: Intermediate transformations, staging in ETL.
3. **Transient Tables**
   * Like permanent tables but with **no Fail-safe** (to reduce storage costs).
   * Support Time Travel (default 1 day, max 1 day).
   * Persist beyond session (unlike temporary).
   * Use case: Staging or temporary data where Fail-safe is not needed.
4. **External Tables**
   * Metadata-only tables that reference data stored outside Snowflake (e.g., in **AWS S3, Azure Blob, GCP Storage**).
   * Do not store the data inside Snowflake, just the schema and pointers.
   * Use case: Query semi-structured data (Parquet, ORC, JSON, CSV) directly from cloud storage without full ingestion.

-- drop table if exists client ;

-- drop table if exists person ;

show tables ; -- kind => TABLE for permanent, kind = TRANSIENT, kind = TEMPORARY

create table client

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

insert into client values (111111, 'James', 'Schwartz', 'M', 'American','342-76-9087','5676 Washington Street','ACTIVE') ;

insert into client values (222222, 'Jessica', 'Escobar', 'F', 'Hispanic','456-93-5629','3234 WateringCan Drive','INACTIVE') ;

insert into client values (333333, 'Ben', 'Hardy', 'M', 'American','876-98-3245','6578 Historic Circle','INACTIVE') ;

insert into client values (444444, 'Anjali', 'Singh', 'F', 'Indian American','435-87-6532','8978 Autumn Day Drive','ACTIVE') ;

insert into client values (555555, 'Dean', 'Tracy', 'M', 'African','767-34-7656','2343 India Street','ACTIVE') ;

select \* from client ;

create transient table client

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

); -- can't create

-- but can create the temporary table of the same name

-- and which will hide the main permanent table client thats what we will see..

create temporary table client

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

insert into client values (444444, 'Anjali', 'Singh', 'F', 'Indian American','435-87-6532','8978 Autumn Day Drive','ACTIVE') ;

insert into client values (555555, 'Dean', 'Tracy', 'M', 'African','767-34-7656','2343 India Street','ACTIVE') ;

-- Hence any select or DML operation will go to a temporary table.

select \* from client ;

show tables ;

-- if you need to go back to the permanent table. you need to close the session

-- OR drop the table, it will drop the temporary table.

drop table client ;

select \* from client ; -- Now it goes back to the permanent table.

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-- transient table

create transient table person

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

show tables ;

insert into person values (111111, 'James', 'Schwartz', 'M', 'American','342-76-9087','5676 Washington Street','ACTIVE') ;

insert into person values (222222, 'Jessica', 'Escobar', 'F', 'Hispanic','456-93-5629','3234 WateringCan Drive','INACTIVE') ;

insert into person values (333333, 'Ben', 'Hardy', 'M', 'American','876-98-3245','6578 Historic Circle','INACTIVE') ;

insert into person values (444444, 'Anjali', 'Singh', 'F', 'Indian American','435-87-6532','8978 Autumn Day Drive','ACTIVE') ;

insert into person values (555555, 'Dean', 'Tracy', 'M', 'African','767-34-7656','2343 India Street','ACTIVE') ;

select \* from person ;

create table person

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

-- temporary table hides the main transient table person

create temporary table person

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

select \* from person;

insert into person values (333333, 'Ben', 'Hardy', 'M', 'American','876-98-3245','6578 Historic Circle','INACTIVE') ;

insert into person values (444444, 'Anjali', 'Singh', 'F', 'Indian American','435-87-6532','8978 Autumn Day Drive','ACTIVE') ;

insert into person values (555555, 'Dean', 'Tracy', 'M', 'African','767-34-7656','2343 India Street','ACTIVE') ;

-- Hence any select or DML operation will go to a temporary table. Here we will open a new session

select \* from person ;

-- Lets create a new worksheet, that will initiate a new session and will do a select on person

-- it shows 3 records in new session and 5 rows in previous session

-- new worksheet

select \* from person ;

create or replace transient database training\_trnsnt ;

use database training\_trnsnt ;

show databases;

create or replace schema training\_trnsnt.demo\_prmnt ;

create or replace transient schema demo\_trnsnt ;

drop table person;

show schemas ;

use schema demo\_trnsnt ;

create table client -- tried creating a permanent table

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

show tables ; -- kind shows transient

-- try creating temporary table

create temporary table client

( id NUMBER(38,0), first\_name VARCHAR(16), last\_name VARCHAR(50),

sex VARCHAR(1), ethinicity VARCHAR(30), ssn VARCHAR(15),

street\_address VARCHAR(90),status VARCHAR(10)

);

show tables ; -- kind shows temporary

-- Hence you can not create a permanent table in a transient schema. Only transient and temporary tables are allowed.