

DASH Project Data Base and Data Framework

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Database Design and Relationships

- ▶ We focused on designing database for effective use in analytics tools. Key achievements include:
- ▶ **Modeling**
 - analyzing the data requirements of the DASH system. This involved identifying key entities, attributes, and their relationships.
- ▶ **Normalization**
 - breaking down data into smaller, related tables and establishing appropriate connection between tables.
- ▶ **Data Validation and Constraints**
 - defining data types, unique constraints, and foreign key relationships.
- ▶ **scalability**
 - We designed the database not just for today but also with an eye on the future, making choices to handle more data and changing analytics needs.

Database Design and Relationships

- Create SQL Server on Azure. Establish SQL database with essential configurations.

Microsoft Azure Search resources, services, and docs (G+)

Home > SQL servers > dash-admin

dash-admin | SQL databases SQL server

Search Search to filter databases...

| Database | Status | Pricing tier |
|--------------|--------|--------------|
| dash-project | Online | Basic |

Showing 1 - 1 of 1 results.

Settings

- Microsoft Entra ID
- SQL databases
- SQL elastic pools
- DTU quota
- Properties
- Locks

Microsoft Azure Search resources, services, and docs (G+)

Azure services

- Create a resource
- SQL servers
- Microsoft Entra Authentication...
- SQL databases
- Microsoft Entra ID
- Microsoft Entra Privileged...
- Users

Resources

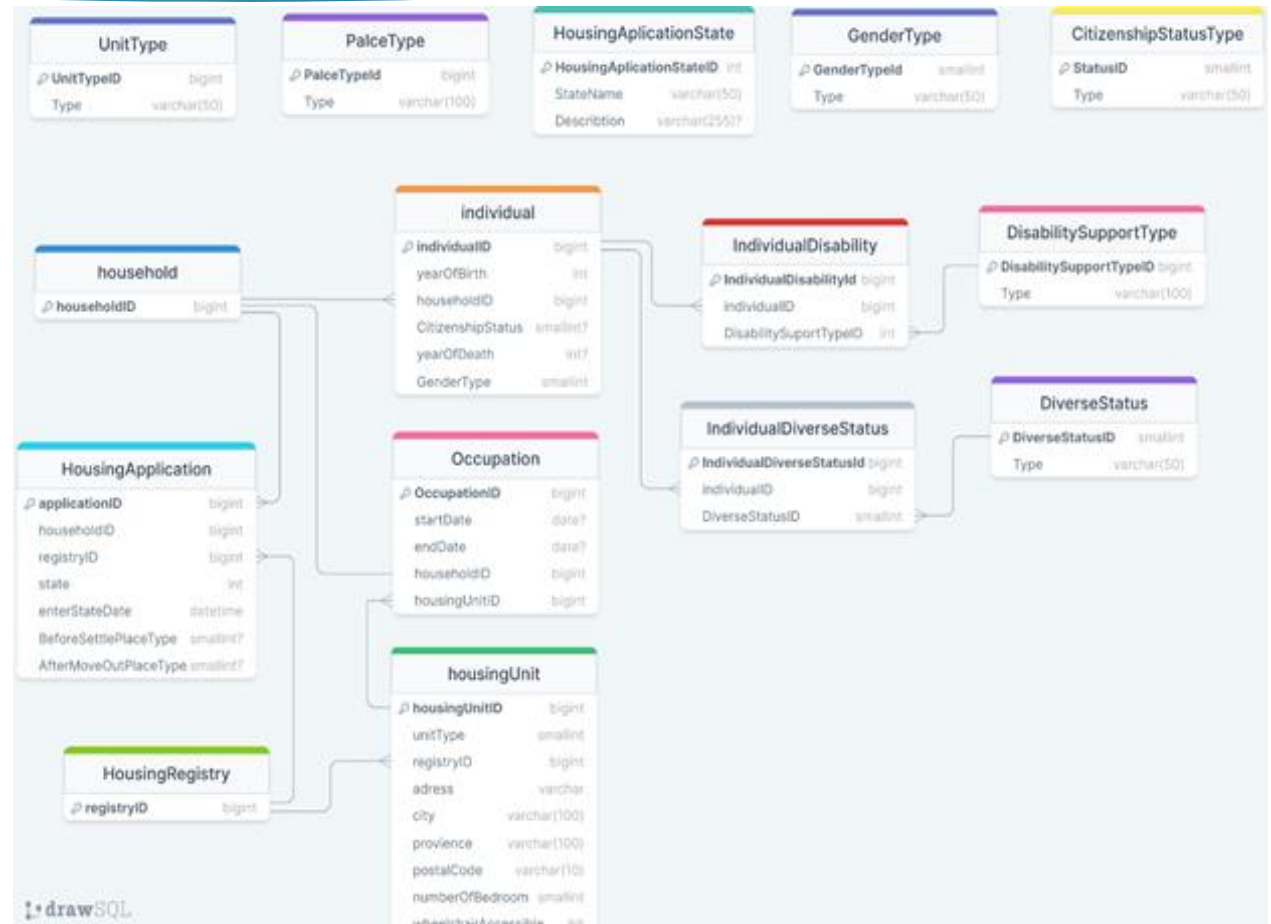
Recent Favorite

| Name | Type |
|----------------------|----------------|
| Azure subscription 1 | Subscription |
| dash-admin | SQL server |
| dash-project | SQL database |
| ResearchProject | Resource group |

See all

Database Design and Relationships

- First version of Database diagram provided for DASH project



Data Framework

Household Table

► Household Table

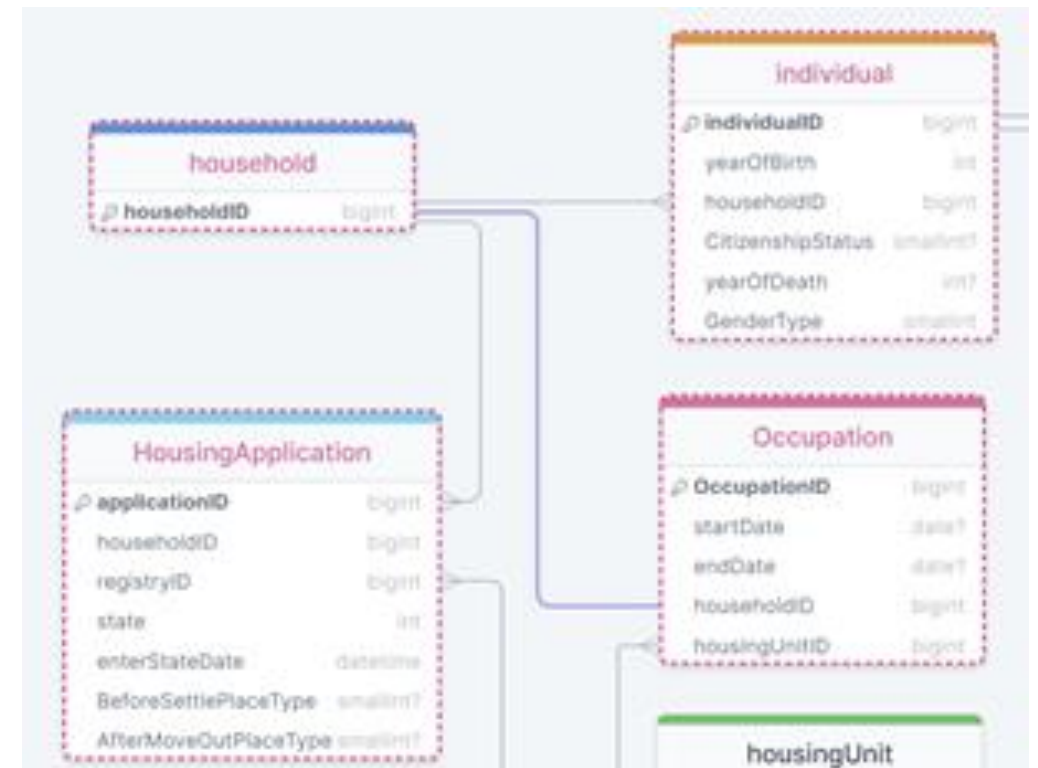
- Manages information about households.

► Reason for Existence

- To store information about households associated with individuals, occupations, and housing applications.

► Relations

- refers to each family.
- Each individual in the individual table should have one household ID
- the housing application table and the occupation table store the household ID to track the status of each family.



Data Framework

HousingApplication Table

► HousingApplication Table

- Manages housing applications.

► Reason for Existence

- To store information about housing applications, their states, and related details.
- When a household applies, this table is used to track it through the 'state' field.
- Each time the state changes, the date of entry into that new state is recorded in the "enterStateDate" field.
- The household can also populate the fields "BeforeSettlePlaceType" and "AfterMoveOutPlaceType"

| applicationID | householdID | state | enterStateDate | BeforeSettlePlaceType | AfterMoveOutPlaceType |
|---------------|-------------|----------|----------------|-----------------------|-----------------------|
| 1 | 608 | Move_Out | 2010-05-29 | Own_House | Family_House |
| 2 | 1000 | Awaiting | 2003-09-23 | Prison | Family_House |
| 3 | 876 | Awaiting | 1990-11-11 | Friend_House | Friend_House |
| 4 | 220 | Awaiting | 2014-10-30 | Friend_House | Own_House |

SQLQuery1.sql - dash-admin.database.windows.net.dash-project (dash-admin (77)) - Microsoft SQL Server Management Studio

dash-project

Object Explorer

dash-admin.database.windows.net (SQL Server)

Databases

dash-project

Tables

dbo.HousingApplication

Results

Script for SelectTopNRows command from SSMS

| | applicationID | householdID | registryID | state | enterStateDate | BeforeSettlePlaceType | AfterMoveOutPlaceType |
|----|---------------|-------------|------------|------------------|----------------|-----------------------|-----------------------|
| 1 | 1 | 608 | 883 | Move_Out | 2010-05-29 | Own_House | Family_House |
| 2 | 2 | 1000 | 887 | Awaiting | 2003-09-23 | Prison | Family_House |
| 3 | 3 | 876 | 541 | Awaiting | 1990-11-11 | Friend_House | Friend_House |
| 4 | 4 | 220 | 489 | Awaiting | 2014-10-30 | Friend_House | Own_House |
| 5 | 5 | 40 | 688 | Move_Out | 2005-04-13 | None | Family_House |
| 6 | 6 | 141 | 333 | Allocated_Living | 1990-06-22 | None | Own_House |
| 7 | 7 | 565 | 754 | Allocated_Living | 1999-03-26 | Family_House | Friend_House |
| 8 | 8 | 974 | 315 | Allocated_Living | 1992-01-15 | Friend_House | Own_House |
| 9 | 9 | 321 | 642 | Aftercare | 2008-08-11 | Friend_House | Own_House |
| 10 | 10 | 221 | 91 | Awaiting | 1990-01-09 | Family_House | Friend_House |
| 11 | 11 | 322 | 731 | Awaiting | 1997-05-04 | None | Prison |
| 12 | 12 | 465 | 873 | Allocated_Living | 1990-05-06 | Friend_House | Family_House |
| 13 | 13 | 41 | 656 | Awaiting | 2000-09-04 | None | None |
| 14 | 14 | 709 | 679 | Allocated_Living | 1998-01-28 | Friend_House | None |
| 15 | 15 | 142 | 972 | Allocated_Living | 2009-12-16 | Family_House | Family_House |
| 16 | 16 | 877 | 817 | Awaiting | 2021-10-03 | Friend_House | Friend_House |
| 17 | 17 | 566 | 749 | Awaiting | 1998-05-10 | Friend_House | Prison |
| 18 | 18 | 609 | 416 | Aftercare | 2023-04-27 | Friend_House | None |
| 19 | 19 | 42 | 825 | Move_Out | 1998-11-30 | Own_House | Own_House |
| 20 | 20 | 710 | 397 | Awaiting | 2023-02-28 | Own_House | Friend_House |
| 21 | 21 | 975 | 801 | Move_Out | 2010-05-28 | None | Family_House |
| 22 | 22 | 610 | 7 | Move_Out | 1992-01-07 | Own_House | None |
| 23 | 23 | 466 | 932 | Awaiting | 2011-08-23 | Family_House | Own_House |
| 24 | 24 | 143 | 471 | Move_Out | 2012-09-24 | Friend_House | Own_House |
| 25 | 25 | 711 | 795 | Allocated_Living | 1990-06-24 | None | Friend_House |
| 26 | 26 | 43 | 930 | Allocated_Living | 2014-02-28 | None | Own_House |
| 27 | 27 | 878 | 549 | Move_Out | 2006-11-11 | None | Friend_House |
| 28 | 28 | 144 | 531 | Allocated_Living | 2004-11-06 | None | Own_House |
| 29 | 29 | 567 | 232 | Move_Out | 2022-10-20 | Family_House | Own_House |
| 30 | 30 | 222 | 37 | Allocated Living | 2011-06-11 | None | None |

Query executed successfully.

dash-admin.database.windows...

Data Framework

HousingApplication Table

► HousingApplication Table

► Status Type

- Awaiting
 - when a household's application is approved
- Allocated_Living
 - when the household settles in social housing, its state changes to "living".
- Move_Out
 - When the household moves out
- AfterCare
 - If the household has some track after moving.

Housing Application Status Type

| | |
|---|------------------|
| 1 | Awaiting |
| 2 | Allocated_Living |
| 3 | Move_Out |
| 4 | Aftercare |

Data Framework

HousingApplication Table

► HousingApplication Table

► Place Type

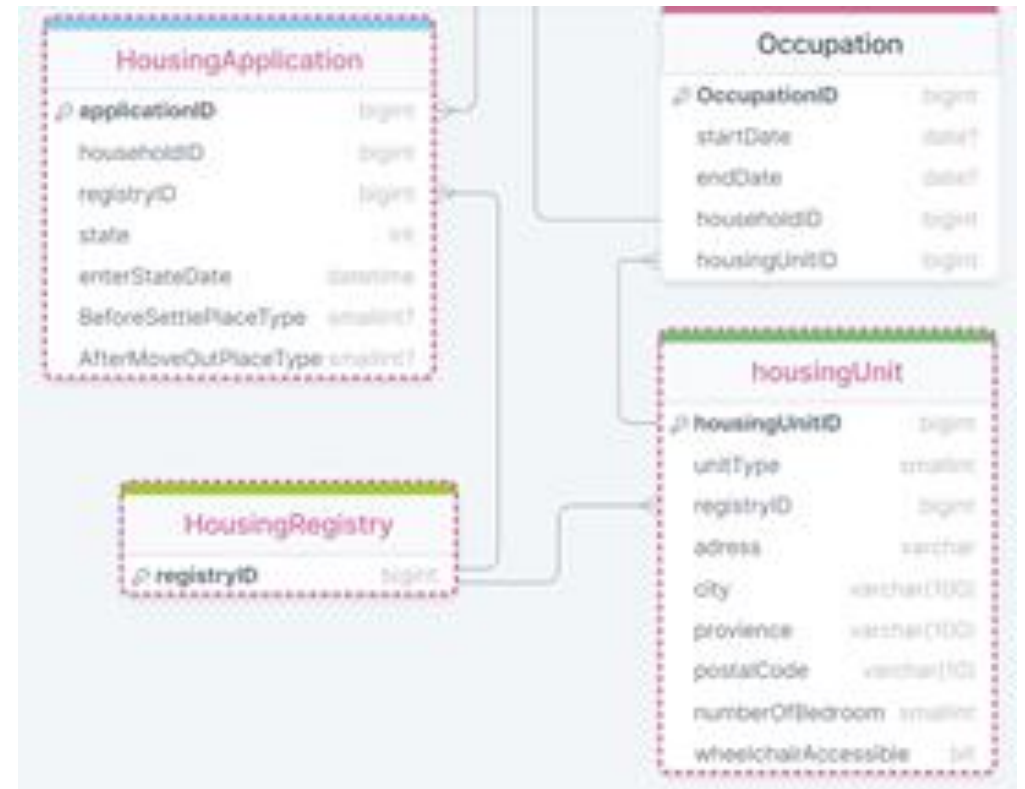
- "BeforeSettlePlaceType"
- "AfterMoveOutPlaceType"
- The household can populate the fields "BeforeSettlePlaceType" and "AfterMoveOutPlaceType"
 - Refer to the place of residence before settling in social housing and the destination after moving out of social housing.

| Place Type | |
|------------|--------------|
| 1 | Family_House |
| 2 | Friend_House |
| 3 | Own_House |
| 4 | Prison |
| 5 | None |

Data Framework

HousingRegistry Table

- ▶ **HousingRegistry Table**
 - Manages housing registries.
- ▶ **Reason for Existence**
 - To track housing registries associated with housing units and applications. Non-profit housing providers registered with Social housing registry.
 - Housing providers can register more than one housing unit.



Data Framework HousingUnit Table

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► HousingUnit Table

- Manages housing units and their attributes.

► Reason for Existence

- To store detailed information about housing units available for social housing.

► Unit attributes

- UnitType, address, city, province, postal code, number Of Bedrooms , wheelchair Accessible**

The screenshot displays the Microsoft SQL Server Management Studio interface. The Object Explorer on the left shows the database structure for 'dash-admin.database.windows.net (SC...)', with the 'dbo.HousingUnit' table selected. The main window shows the results of a query executed successfully, displaying a table with 31 rows of housing unit data. The table columns are: housingUnitID, unitType, registryID, address, city, province, postalCode, numberOfBedroom, and wheelchairAccessible. The data includes various unit types such as Shelter, Social_Housing, Affordable_Housing, Market_Rental, and Hotel, located across different provinces in Canada.

| housingUnitID | unitType | registryID | address | city | province | postalCode | numberOfBedroom | wheelchairAccessible |
|---------------|--------------------|------------|---------------------------------|----------------|-----------------------|------------|-----------------|----------------------|
| 1 | Shelter | 926 | 3940 South Cedar Tree Ct | Victoria | British Columbia | B2S 0G0 | 2 | 0 |
| 2 | Social_Housing | 163 | 3017 Pine Tree Parkway | Fredericton | New Brunswick | H7P 3G5 | 4 | 1 |
| 3 | Affordable_Housing | 1000 | 2478 New Oak Street | Saint John | New Brunswick | V9S 0Y9 | 3 | 0 |
| 4 | Market_Rental | 675 | 2467 S Market Street | Regina | Saskatchewan | B3G 8H9 | 2 | 0 |
| 5 | Shelter | 365 | 2381 Front Blvd | Cornwall | Prince Edward Island | P2M 9X4 | 5 | 1 |
| 6 | Affordable_Housing | 411 | 491 White Prospect Hill Parkway | Halifax | Nova Scotia | R6V 2L0 | 3 | 1 |
| 7 | Market_Rental | 512 | 499 Hazelwood Ct | Laval | Quebec | Y0B 6K4 | 1 | 0 |
| 8 | Social_Housing | 776 | 1808 Market Hwy | Yorkton | Saskatchewan | L5E 8R8 | 3 | 0 |
| 9 | Social_Housing | 265 | 27 West Fox Hill Ct | Yellowknife | Northwest Territories | S9E 0N7 | 4 | 0 |
| 10 | Social_Housing | 829 | 1614 Mountain Court | Laval | Quebec | H9L 5J6 | 1 | 0 |
| 11 | Affordable_Housing | 927 | 46 Cedar Tree Hwy | Charlottetown | Prince Edward Island | L4Y 6X1 | 2 | 0 |
| 12 | Social_Housing | 63 | 217 South Pine Tree Ave | Edmonton | Alberta | K7J 1Z1 | 3 | 1 |
| 13 | Affordable_Housing | 412 | 774 Ironwood Avenue | Sherbrooke | Quebec | L9X 9J8 | 4 | 1 |
| 14 | Market_Rental | 513 | 2020 Town Ct | Mississauga | Ontario | M3Y 9W6 | 4 | 1 |
| 15 | Social_Housing | 366 | 3433 Fox Hill Ln | Lethbridge | Alberta | H7Y 2B8 | 4 | 0 |
| 16 | Shelter | 266 | 865 New Hazelwood Road | Brampton | Ontario | C9S 6X2 | 2 | 0 |
| 17 | Social_Housing | 830 | 144 North Ashwood Cir | Whitehorse | Yukon Territory | M6Z 4Y0 | 1 | 0 |
| 18 | Hotel | 367 | 2150 SW Riverview Avenue | Warman | Saskatchewan | C1R 9A6 | 4 | 0 |
| 19 | Social_Housing | 267 | 3179 Parkwood Pkwy | Dawson City | Yukon Territory | Y9A 4N7 | 4 | 0 |
| 20 | Market_Rental | 676 | 3656 Stonewood Parkway | Mississauga | Ontario | C6B 5W0 | 3 | 0 |
| 21 | Social_Housing | 164 | 20 Waterview Loop | Sherbrooke | Quebec | H9L 6T9 | 4 | 0 |
| 22 | Affordable_Housing | 777 | 1917 Parkwood Court | Yarmouth | Nova Scotia | V0S 3S3 | 1 | 0 |
| 23 | Market_Rental | 677 | 85 Waterview Lane | Whitehorse | Yukon Territory | C0W 7T3 | 5 | 0 |
| 24 | Affordable_Housing | 64 | 26 North Buttonwood Pkwy | Grande Prai... | Alberta | S9T 9T1 | 2 | 0 |
| 25 | Shelter | 413 | 81 Rushwood Blvd | Moncton | New Brunswick | A0A 1J8 | 3 | 0 |
| 26 | Market_Rental | 778 | 2631 White Lake Lane | Regina | Saskatchewan | N0K 5G0 | 1 | 0 |
| 27 | Social_Housing | 514 | 85 White Mount Pkwy | Kelowna | British Columbia | N6L 0A8 | 5 | 0 |
| 28 | Market_Rental | 928 | 303 SW Hunting Hill Loop | Winnipeg | Manitoba | K8T 7L6 | 2 | 0 |
| 29 | Affordable_Housing | 165 | 611 Prospect Hill Drive | Richmond | British Columbia | M5Z 6B3 | 2 | 0 |
| 30 | Social_Housing | 414 | 1537 N Fox Hill Pkwy | Ottawa | Ontario | B6X 5A4 | 1 | 0 |
| 31 | Social_Housing | 368 | 121 Waterview Street | Estevan | Saskatchewan | L6G 7C7 | 2 | 0 |

Data Framework

HousingUnit Table

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- ▶ HousingUnit Table
 - ▶ Unit Type

| Unit Type | |
|-----------|--------------------|
| 1 | Market_Rental |
| 2 | Social_Housing |
| 3 | Affordable_Housing |
| 4 | Hotel |
| 5 | Shelter |

Data Framework

Occupation Table

► Occupation Table

- Records occupation details.

► Reason for Existence

- This table stores information about the allocation of Households to HousingUnits during the period from the start to the end date of occupation.
- startDate:** The date when the occupation of the housing unit started.
- endDate:** The date when the occupation of the housing unit ended.



| | registryID | OccupationID | startDate | endDate | householdID | housingUnitID |
|----|------------|--------------|------------|------------|-------------|---------------|
| 36 | 59 | 36 | 1995-07-06 | 2014-07-01 | 8 | 149 |
| 37 | 476 | 37 | 1984-07-09 | 1996-12-06 | 401 | 532 |
| 38 | 955 | 38 | 1974-03-25 | 1998-11-17 | 197 | 825 |

SQLQuery4.sql - dash-admin.database.windows.net.dash-project (dash-admin (70)) - Microsoft SQL Server Management Studio

File Edit View Project Tools Window Help

dash-project Execute

Object Explorer

Connect dash-admin.database.windows.net (SC)

Databases

System Databases

dash-project

Database Diagrams

Tables

System Tables

External Tables

Graph Tables

dbo.account

dbo.DisabilitySupportType

dbo.Household

dbo.HousingApplication

dbo.HousingRegistry

dbo.HousingUnit

dbo.Individual

dbo.IndividualDisability

Occupation

Dropped Ledger Tables

Views

External Resources

Synonyms

Programmability

Query Store

Extended Events

Storage

Security

Results

Messages

| | registryID | OccupationID | startDate | endDate | householdID | housingUnitID |
|----|------------|--------------|------------|------------|-------------|---------------|
| 1 | 953 | 1 | 1990-09-23 | 1996-11-28 | 822 | 234 |
| 2 | 363 | 2 | 1983-08-09 | 2009-03-05 | 494 | 413 |
| 3 | 83 | 3 | 1970-01-07 | 1999-01-15 | 875 | 41 |
| 4 | 589 | 4 | 1973-07-07 | 2005-09-30 | 472 | 907 |
| 5 | 738 | 5 | 1991-12-20 | 2017-01-16 | 696 | 843 |
| 6 | 428 | 6 | 1973-10-13 | 2020-03-28 | 807 | 728 |
| 7 | 878 | 7 | 1972-03-12 | 2012-10-27 | 529 | 804 |
| 8 | 696 | 8 | 1986-11-27 | 1996-12-03 | 947 | 78 |
| 9 | 478 | 9 | 1987-05-09 | 1996-12-06 | 508 | 545 |
| 10 | 421 | 10 | 1979-09-17 | 2000-10-07 | 92 | 82 |
| 11 | 137 | 11 | 1972-01-22 | 1997-01-29 | 120 | 374 |
| 12 | 620 | 12 | 1970-01-10 | 2001-09-10 | 157 | 728 |
| 13 | 12 | 13 | 1970-10-26 | 1999-03-19 | 994 | 119 |
| 14 | 728 | 14 | 1977-10-03 | 2012-11-11 | 346 | 318 |
| 15 | 370 | 15 | 1983-05-08 | 2005-07-05 | 363 | 309 |
| 16 | 57 | 16 | 1996-06-03 | 1996-12-08 | 720 | 152 |
| 17 | 973 | 17 | 1973-09-08 | 2017-06-06 | 996 | 228 |
| 18 | 504 | 18 | 1984-06-22 | 2013-05-15 | 12 | 990 |
| 19 | 923 | 19 | 1970-01-07 | 2011-11-26 | 646 | 614 |
| 20 | 352 | 20 | 1972-05-17 | 1997-01-09 | 431 | 134 |
| 21 | 378 | 21 | 1980-11-02 | 2006-07-15 | 343 | 798 |
| 22 | 848 | 22 | 1977-02-28 | 2016-04-23 | 137 | 489 |
| 23 | 982 | 23 | 1994-12-11 | 1997-11-09 | 837 | 620 |
| 24 | 907 | 24 | 1988-03-02 | 2006-03-22 | 773 | 516 |
| 25 | 28 | 25 | 1983-09-29 | 1998-07-29 | 731 | 973 |
| 26 | 793 | 26 | 1971-10-13 | 2005-03-30 | 60 | 725 |
| 27 | 280 | 27 | 1992-12-14 | 2012-06-17 | 109 | 234 |
| 28 | 78 | 28 | 1986-07-22 | 2014-01-06 | 482 | 195 |
| 29 | 740 | 29 | 1975-10-05 | 2022-11-03 | 415 | 266 |
| 30 | 630 | 30 | 1970-11-28 | 2021-06-30 | 137 | 261 |
| 31 | 828 | 31 | 1987-08-16 | 1998-11-08 | 457 | 175 |

Query executed successfully.

Data Framework

Individual Table

Individual Table

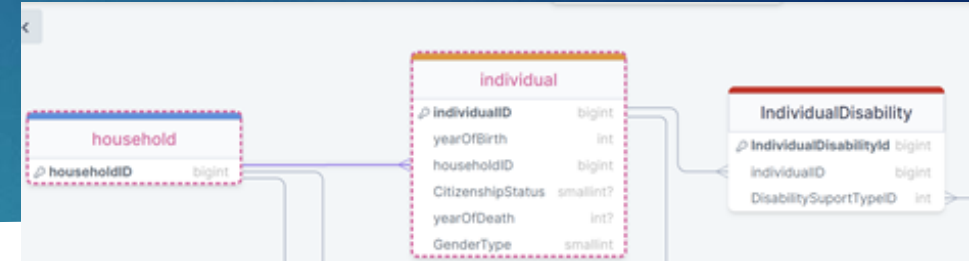
- Manages information about individuals.

Reason for Existence

- To store detailed information about individuals, including their demographic data.
- As each individual can have multiple disabilities and require various types of disability support, the 'individual' table should establish a connection to the 'disabilitySupport' table using a junction table called 'individualDisability'.

Data Dictionary

- yearOfBirth:** The year of birth of the individual.
- CitizenshipStatus:** Indicates the citizenship status of the individual.
- yearOfDeath:** The year of death of the individual. Must be greater than the year of birth.
- GenderType:** Describes the gender of the individual.
- diverseStatus:** Provides information about the diverse status of the individual.
- householdID:** Links to the Household table, identifying the household to which the individual belongs.
- individualID:** Serves as the unique identifier for each individual.



SQLQuery6.sql - dash-admin.database.windows.net.dash-project (dash-admin (84)) - Microsoft SQL Server Management Studio

File Edit View Project Tools Window Help

dash-project Execute

Object Explorer

Connect dash-admin.database.windows.net (SQL)

Databases

System Databases

dash-project

Database Diagrams

Tables

System Tables

External Tables

Graph Tables

dbo.account

dbo.DisabilitySupportType

dbo.Household

dbo.HousingApplication

dbo.HousingRegistry

dbo.HousingUnit

dbo.Individual

dbo.IndividualDisability

dbo.Occupation

Dropped Ledger Tables

Views

External Resources

Synonyms

Programmability

Query Store

Extended Events

Storage

Security

SQLQuery6.sql - da...t (dash-admin (84)) SQLQuery5.sql - da...t (dash-admin (78)) SQLQuery4.sql -

/***** Script for SelectTopNRows command from SSMS *****/

Results Messages

| | individualID | yearOfBirth | householdID | CitizenshipStatus | yearOfDeath | GenderType | diverseStatus |
|----|--------------|-------------|-------------|----------------------|-------------|------------|-------------------------|
| 1 | 1 | 1960 | 310 | Worker_Visa | 2012 | Non-Binary | Indigenous_FirstNations |
| 2 | 2 | 1992 | 510 | Refugee_Claimant | 2008 | Female | Visible_Minority |
| 3 | 3 | 1953 | 411 | Refugee_Claimant | 2014 | Female | Visible_Minority |
| 4 | 4 | 1957 | 548 | Refugee_Claimant | 2018 | Male | Visible_Minority |
| 5 | 5 | 1960 | 835 | Refugee_Claimant | 2012 | Female | Visible_Minority |
| 6 | 6 | 1951 | 135 | Permanent_Resident | 2017 | Non-Binary | Indigenous_Inuit |
| 7 | 7 | 1992 | 157 | Refugee | 2008 | Female | Indigenous_Metis |
| 8 | 8 | 1953 | 255 | Refugee | 2014 | Male | Black |
| 9 | 9 | 1958 | 879 | Citizen_BornInCanada | 2008 | Other | None |
| 10 | 10 | 1957 | 714 | Worker_Visa | 2018 | Male | Indigenous_FirstNations |
| 11 | 11 | 1951 | 481 | Refugee_Claimant | 2017 | Female | Visible_Minority |
| 12 | 12 | 1966 | 436 | Permanent_Resident | 2006 | Male | Indigenous_Inuit |
| 13 | 13 | 1966 | 213 | Refugee | 2011 | Male | Black |
| 14 | 14 | 1973 | 371 | Refugee_Claimant | 2018 | Male | Visible_Minority |
| 15 | 15 | 1958 | 621 | Worker_Visa | 2008 | Male | Indigenous_FirstNations |
| 16 | 16 | 1966 | 601 | Permanent_Resident | 2006 | Female | Indigenous_Inuit |
| 17 | 17 | 1966 | 981 | Citizen_BornInCanada | 2021 | Female | None |
| 18 | 18 | 1958 | 282 | Citizen_BornInCanada | 2022 | Non-Binary | None |
| 19 | 19 | 1966 | 170 | Worker_Visa | 2011 | Female | Indigenous_FirstNations |
| 20 | 20 | 1993 | 892 | Citizen_BornInCanada | 2015 | Female | None |
| 21 | 21 | 1973 | 968 | Citizen_BornInCanada | 2018 | Other | None |
| 22 | 22 | 1966 | 551 | Permanent_Resident | 2021 | Male | Indigenous_Inuit |
| 23 | 23 | 1958 | 98 | Refugee_Claimant | 2022 | Male | Visible_Minority |
| 24 | 24 | 2001 | 94 | Refugee | 2007 | Male | Black |
| 25 | 25 | 1993 | 37 | Refugee_Claimant | 2015 | Non-Binary | Visible_Minority |
| 26 | 26 | 1977 | 4 | Worker_Visa | 2020 | Non-Binary | Indigenous_FirstNations |
| 27 | 27 | 2001 | 434 | Refugee | 2007 | Non-Binary | Black |
| 28 | 28 | 1994 | 76 | Student_Visa | 2019 | Female | Indigenous_FirstNations |
| 29 | 29 | 1981 | 739 | Permanent_Resident | 2012 | Female | Indigenous_Inuit |
| 30 | 30 | 1977 | 937 | Citizen_BornInCanada | 2020 | Other | None |

Query executed successfully. dash-admin.database

Data Framework

Individual Table

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- ▶ Individual Table
 - ▶ **Citizenship Status Type**

| Citizenship Status Type | |
|-------------------------|----------------------|
| 1 | Citizen_BornInCanada |
| 2 | Permanent_Resident |
| 3 | Refugee_Claimant |
| 4 | Refugee |
| 5 | Worker_Visa |
| 6 | Student_Visa |

Data Framework

Individual Table

- ▶ Individual Table

- ▶ Diverse Status Type

| Diverse Status Type | |
|---------------------|-------------------------|
| 1 | Visible_Minority |
| 2 | Indigenous_Metis |
| 3 | Indigenous_Inuit |
| 4 | Indigenous_FirstNations |
| 5 | Veteran |
| 6 | Black |
| 7 | None |

Data Framework

Individual Table

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- ▶ Individual Table
 - ▶ Gender Type

| Gender Type | |
|-------------|-------------|
| 1 | Female |
| 2 | Male |
| 3 | Non-Binary |
| 4 | Transgender |
| 5 | other |

Data Framework

Individual Table

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► Individual Table

► Disability Support Type

- to provide insights into the diverse support requirements based on different disability types.

| Disability Support Type | |
|-------------------------|---------------|
| 1 | Hearing |
| 2 | Visual |
| 3 | Walker |
| 4 | Wheelchair |
| 5 | Mental Health |
| 6 | Cognitive |
| 7 | Service Dog |

Data Types

- ▶ The types provided for this database are based on initial investigations and requirements in this phase of the DASH project.
- ▶ They will be expanded and modified as new requirements emerge.

| Unit Type | |
|-----------|--------------------|
| 1 | Market_Rental |
| 2 | Social_Housing |
| 3 | Affordable_Housing |
| 4 | Hotel |
| 5 | Shelter |

| Place Type | |
|------------|--------------|
| 1 | Family_House |
| 2 | Friend_House |
| 3 | Own_House |
| 4 | Prison |
| 5 | None |

| Gender Type | |
|-------------|-------------|
| 1 | Female |
| 2 | Male |
| 3 | Non-Binary |
| 4 | Transgender |
| 5 | other |

| Disability Support Type | |
|-------------------------|---------------|
| 1 | Hearing |
| 2 | Visual |
| 3 | Walker |
| 4 | Wheelchair |
| 5 | Mental Health |
| 6 | Cognitive |
| 7 | Service Dog |

| Citizenship Status Type | |
|-------------------------|----------------------|
| 1 | Citizen_BornInCanada |
| 2 | Permanent_Resident |
| 3 | Refugee_Claimant |
| 4 | Refugee |
| 5 | Worker_Visa |
| 6 | Student_Visa |

| Diverse Status Type | |
|---------------------|-------------------------|
| 1 | Visible_Minority |
| 2 | Indigenous_Metis |
| 3 | Indigenous_Inuit |
| 4 | Indigenous_FirstNations |
| 5 | Veteran |
| 6 | Black |
| 7 | None |

Enhancing BI and ML with Integrated Database

- ▶ Tables Filled with Provided Data Types and Synthesized with a Tool Generating Random but Accurate Amounts.
- ▶ **Integration with Power BI for Dynamic Reporting**
 - ▶ The Filled Database Feeds into Power BI, Enabling the Creation of Interactive Dashboards for Data Visualization
- ▶ **Enabling Machine Learning Predictions**
 - ▶ The Filled Database Fuels Machine Learning Algorithms, Leading to Predictions and Advanced Analytics.

