קרן קיימת לישראל
Forests

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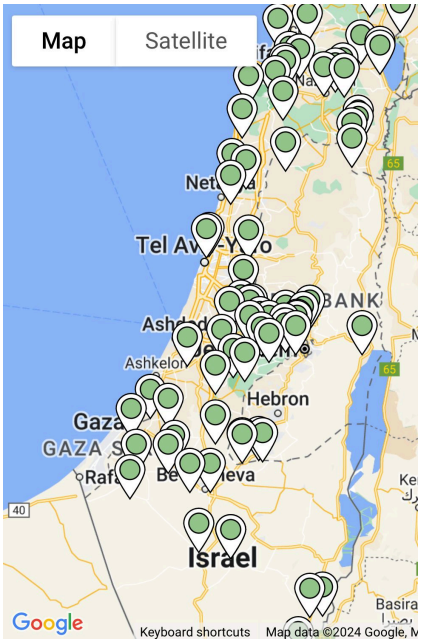
Table Of Contents:

About:



Keren Kayemet LeYisrael, Jewish National Fund(KKL-JNF):
Since its establishment in 1901, KKL-JNF has been developing the land of Israel, strengthening the bond between the Jewish people and its homeland.
KKL-JNF has planted over 240 million trees on an area of about 247,000 acres. Today, KKL-JNF is the only organization in Israel that is responsible for afforestation, as stipulated in the covenant signed between KKL-JNF and the state of Israel.
KKL-JNF plants a variety of trees in Israel's forests - conifers, deciduous trees and fruit trees. Some of the trees are indigenous to this region and some are species that were brought to Israel from other countries.

A forest is more than just a cluster of trees; it goes beyond the sum of its parts. Forests are complex ecosystems, home to a myriad of plants and animals. No two forests are the same; young and old, broad-leafed and conifers, temperate and desert - each has a spirit of its own, and a unique character.

What is Forest Explorer?

Forest Explorer is a pioneering organization dedicated to the study, conservation, and education of forest ecosystems. Forest Explorer maintains a comprehensive database that houses extensive information on various aspects of forests, including individual forest profiles, tree species, research stations, donors, fire prevention actions, and educational programs. This wealth of data not only aids in research and conservation efforts but also supports educational initiatives and community engagement.

Researchers and scientists frequently use Forest Explorer to access detailed information about forests. The database includes identifiers, names, locations, and other critical details about different forests, enabling researchers to study and compare forest ecosystems comprehensively. Additionally, the tree database provides valuable insights into the types and origins of trees within these forests, facilitating ecological studies and helping to understand the biodiversity and health of forest environments.

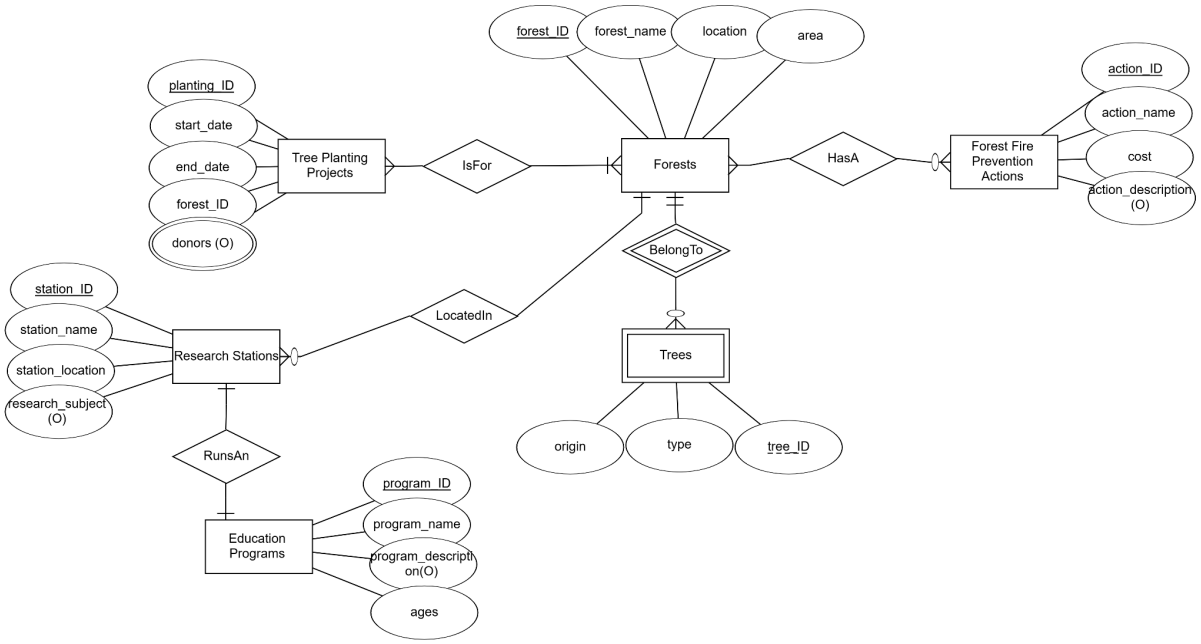
Forest Explorer also serves as a crucial tool for environmentalists and conservationists. The information about research stations, including their locations and ongoing projects, helps coordinate and enhance conservation efforts. Donor information is meticulously recorded, ensuring transparency and effective management of contributions that support various environmental projects. These donations play a significant role in funding research and conservation activities, making donor tracking an essential feature of Forest Explorer.

One of the standout features of Forest Explorer is its focus on forest fire prevention. By documenting and analyzing fire prevention actions, the organization helps develop effective strategies to protect forests from fires. This data is crucial for fire prevention agencies and policy makers who work to mitigate the risks and impacts of forest fires.

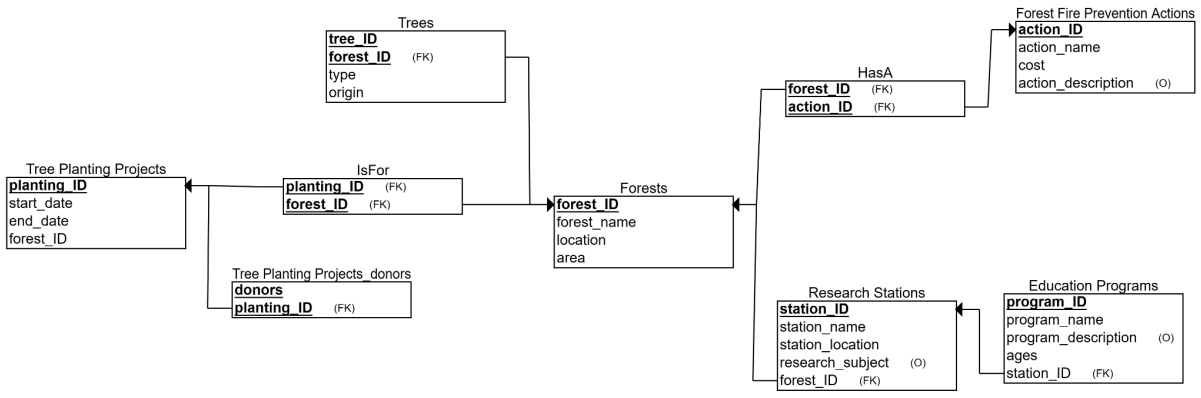
In the realm of education, Forest Explorer offers detailed information about various educational programs related to forests. These programs are designed to raise awareness and educate the public about forest conservation and environmental science. By providing descriptions and details of these programs, Forest Explorer facilitates greater participation and engagement, helping to foster a more informed and environmentally conscious community. A school might want to go on a field trip to a local forest and learn about the ecosystem there that is appropriate for their ages.

Overall, Forest Explorer is a multifaceted organization that supports a wide range of activities essential for forest conservation and education. Its comprehensive data management, research support, donation tracking, fire prevention planning, and educational program management functionalities make it a crucial resource for researchers, environmentalists, educators, and policy makers. Through its work, Forest Explorer contributes significantly to the understanding, preservation, and appreciation of forest ecosystems worldwide.

ERD:



DSD:



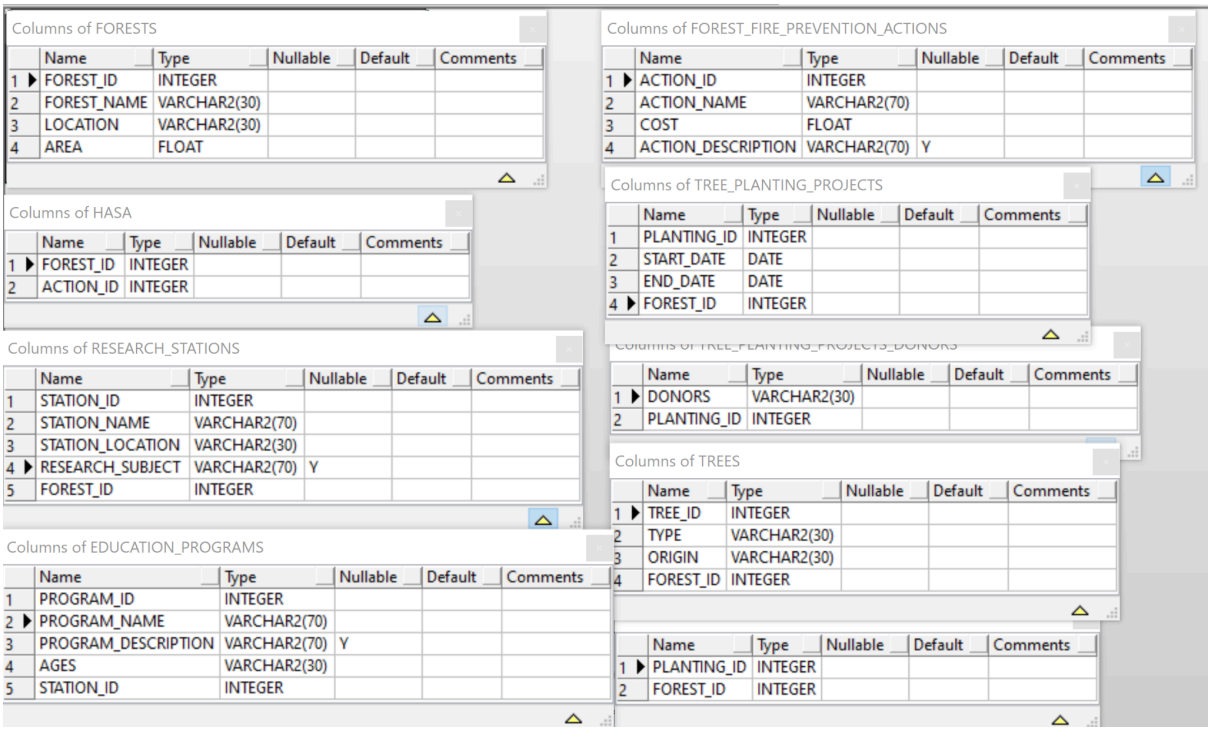
1. Forests:
    - Attributes: forest_ID, forest_name, location, area.
    - Description: Contains information about different forests, serving as the central entity to which other entities are connected.
2. Trees:
    - Attributes: tree_ID, type, origin.
    - Description: Details about the trees within the forests, including their type and origin.
    - Relationship: Each tree belongs to a specific forest.
3. Research Stations:
    - Attributes: station_ID, station_name, station_location, research_subject (optional).
    - Description: Information about research stations located in forests, including their name, location, and subjects of research.
    - Relationship: Research stations are located within forests.
4. Tree Planting Projects:
    - Attributes: planting_ID, start_date, end_date, forest_ID, donors.
    - Description: Details about tree planting projects, including their start and end dates, the forest they are associated with, and a donor who donated the forest.
    - Relationship: Each tree planting project is for a specific forest.
5. Forest Fire Prevention Actions:
    - Attributes: action_ID, action_name, cost, action_description (optional).
    - Description: Actions taken to prevent forest fires, including their names, costs, and descriptions.
    - Relationship: These actions are associated with forests, each forest has an action.
6. Education Programs:
    - Attributes: program_ID, program_name, program_description (optional), ages.
    - Description: Information about educational programs related to forests, including their names, descriptions, and target age groups.
    - Relationship: Research stations run educational programs.

CREATE TABLE

```
CREATE TABLE Forests
(
  forest_ID INT NOT NULL,
  forest_name VARCHAR(30) NOT NULL,
  location VARCHAR(30) NOT NULL,
  area FLOAT NOT NULL,
  PRIMARY KEY (forest_ID)
);

CREATE TABLE Research_Stations
(
  station_ID INT NOT NULL,
  station_name VARCHAR(70) NOT NULL,
  station_location VARCHAR(30) NOT NULL,
  research_subject VARCHAR(70),
  forest_ID INT NOT NULL,
  PRIMARY KEY (station_ID),
  FOREIGN KEY (forest_ID) REFERENCES Forests(forest_ID)
);

CREATE TABLE Forest_Fire_Prevention_Actions
(
  action_ID INT NOT NULL,
  action_name VARCHAR(70) NOT NULL,
  cost FLOAT NOT NULL,
  action_description VARCHAR(70),
  PRIMARY KEY (action_ID)
);

CREATE TABLE Education_Programs
(
  program_ID INT NOT NULL,
  program_name VARCHAR(70) NOT NULL,
  program_description VARCHAR(70),
  ages VARCHAR(30) NOT NULL,
  station_ID INT NOT NULL,
  PRIMARY KEY (program_ID),
  FOREIGN KEY (station_ID) REFERENCES Research_Stations(station_ID)
);

CREATE TABLE Tree_Planting_Projects
(
  planting_ID INT NOT NULL,
```

```
  start_date DATE NOT NULL,
  end_date DATE NOT NULL,
  forest_ID INT NOT NULL,
  PRIMARY KEY (planting_ID)
);

CREATE TABLE Trees
(
  tree_ID INT NOT NULL,
  type VARCHAR(30) NOT NULL,
  origin VARCHAR(30) NOT NULL,
  forest_ID INT NOT NULL,
  PRIMARY KEY (tree_ID, forest_ID),
  FOREIGN KEY (forest_ID) REFERENCES Forests(forest_ID)
);

CREATE TABLE HasA
(
  forest_ID INT NOT NULL,
  action_ID INT NOT NULL,
  PRIMARY KEY (forest_ID, action_ID),
  FOREIGN KEY (forest_ID) REFERENCES Forests(forest_ID),
  FOREIGN KEY (action_ID) REFERENCES Forest_Fire_Prevention_Actions(action_ID)
);

CREATE TABLE IsFor
(
  planting_ID INT NOT NULL,
  forest_ID INT NOT NULL,
  PRIMARY KEY (planting_ID, forest_ID),
  FOREIGN KEY (planting_ID) REFERENCES Tree_Planting_Projects(planting_ID),
  FOREIGN KEY (forest_ID) REFERENCES Forests(forest_ID)
);

CREATE TABLE Tree_Planting_Projects_donors
(
  donors VARCHAR(30) NOT NULL,
  planting_ID INT NOT NULL,
  PRIMARY KEY (donors, planting_ID),
  FOREIGN KEY (planting_ID) REFERENCES Tree_Planting_Projects(planting_ID)
);
```

Tables descriptions:



Columns of FORESTS

	Name	Type	Nullable	Default	Comments
1	FOREST_ID	INTEGER			
2	FOREST_NAME	VARCHAR2(30)			
3	LOCATION	VARCHAR2(30)			
4	AREA	FLOAT			

Columns of FOREST_FIRE_PREVENTION_ACTIONS

	Name	Type	Nullable	Default	Comments
1	ACTION_ID	INTEGER			
2	ACTION_NAME	VARCHAR2(70)			
3	COST	FLOAT			
4	ACTION_DESCRIPTION	VARCHAR2(70)	Y		

Columns of HASA

	Name	Type	Nullable	Default	Comments
1	FOREST_ID	INTEGER			
2	ACTION_ID	INTEGER			

Columns of TREE_PLANTING_PROJECTS

	Name	Type	Nullable	Default	Comments
1	PLANTING_ID	INTEGER			
2	START_DATE	DATE			
3	END_DATE	DATE			
4	FOREST_ID	INTEGER			

Columns of RESEARCH_STATIONS

	Name	Type	Nullable	Default	Comments
1	STATION_ID	INTEGER			
2	STATION_NAME	VARCHAR2(70)			
3	STATION_LOCATION	VARCHAR2(30)			
4	RESEARCH_SUBJECT	VARCHAR2(70)	Y		
5	FOREST_ID	INTEGER			

	Name	Type	Nullable	Default	Comments
1	DONORS	VARCHAR2(30)			
2	PLANTING_ID	INTEGER			

Columns of TREES

	Name	Type	Nullable	Default	Comments
1	TREE_ID	INTEGER			
2	TYPE	VARCHAR2(30)			
3	ORIGIN	VARCHAR2(30)			
4	FOREST_ID	INTEGER			

Columns of EDUCATION_PROGRAMS

	Name	Type	Nullable	Default	Comments
1	PROGRAM_ID	INTEGER			
2	PROGRAM_NAME	VARCHAR2(70)			
3	PROGRAM_DESCRIPTION	VARCHAR2(70)	Y		
4	AGES	VARCHAR2(30)			
5	STATION_ID	INTEGER			

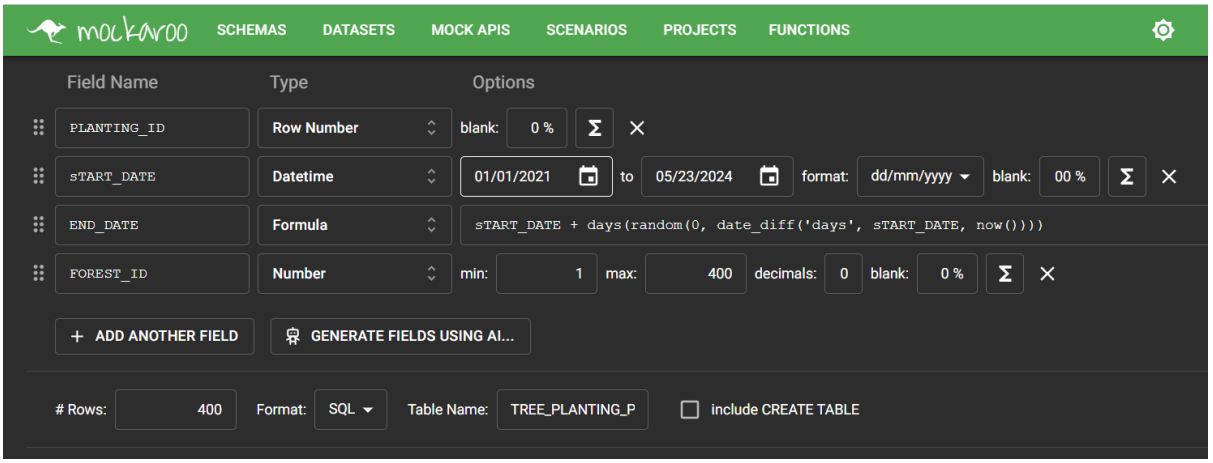
	Name	Type	Nullable	Default	Comments
1	PLANTING_ID	INTEGER			
2	FOREST_ID	INTEGER			

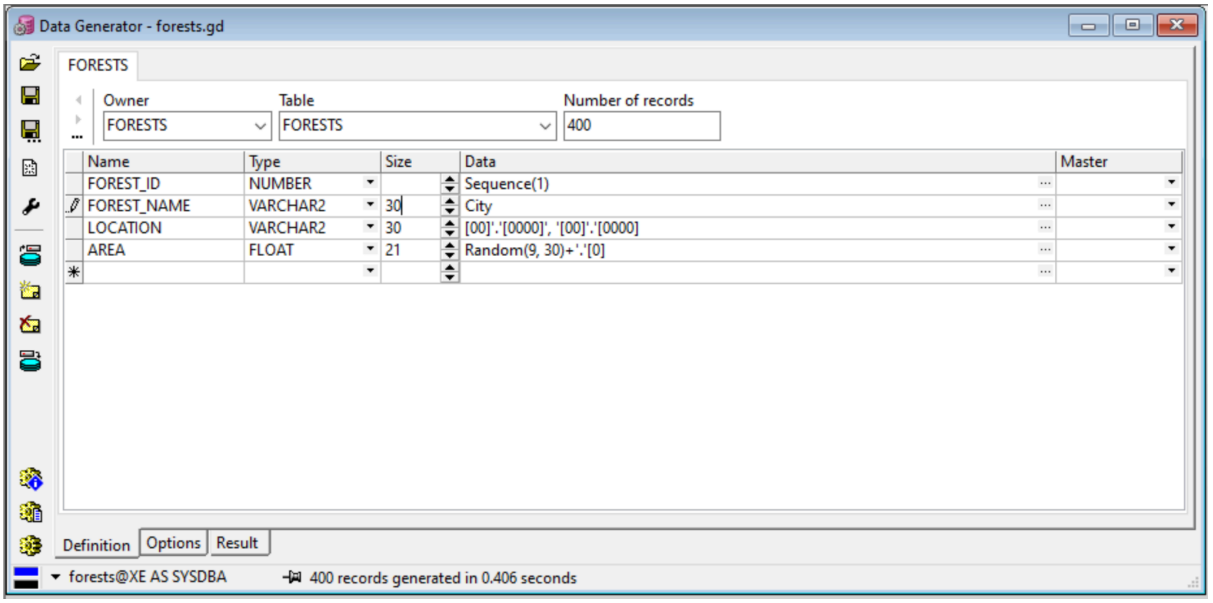
3 ways we inserted data:

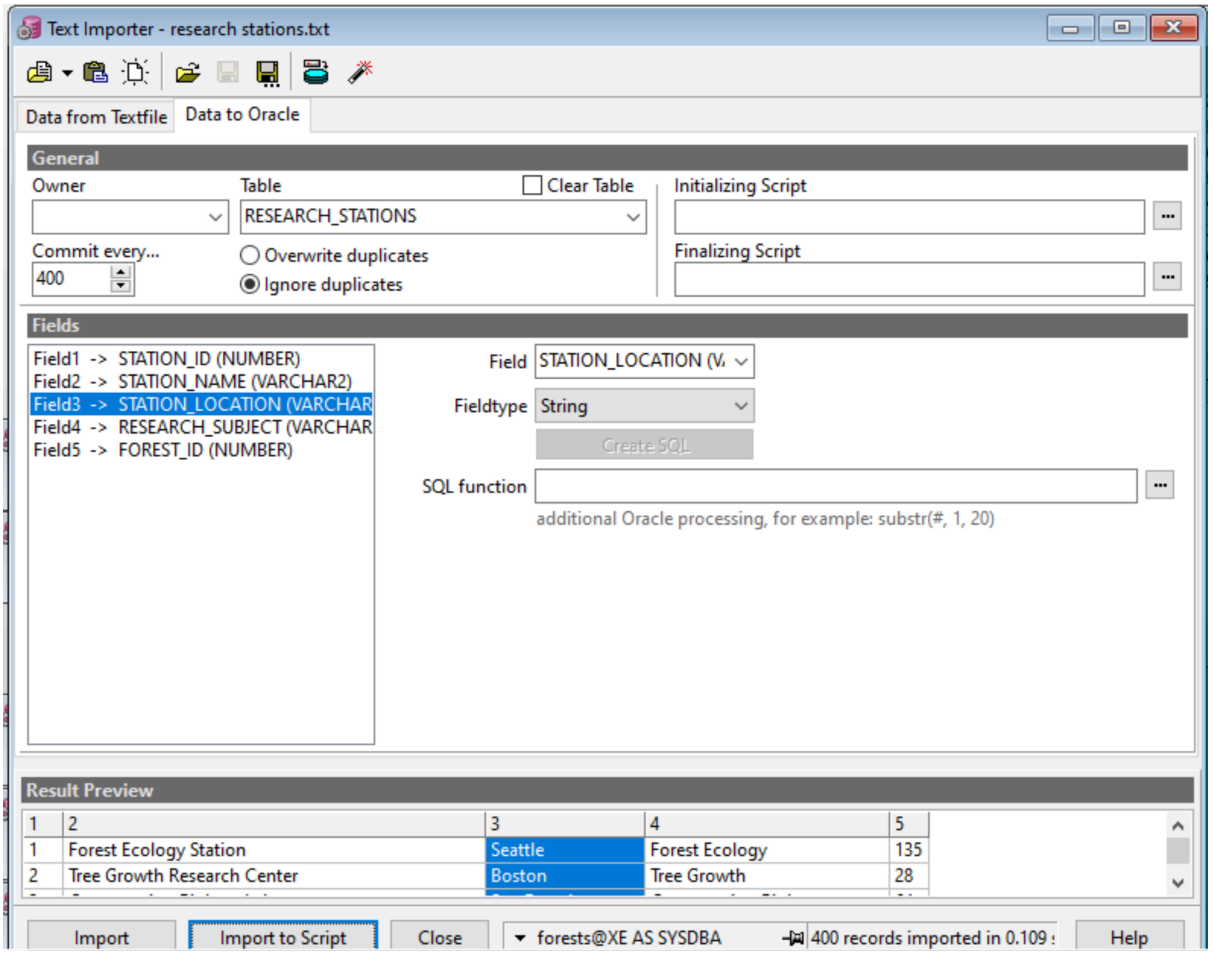
In data generator:
Forests

In insert file:
Trees, research_stations, isFor, hasA

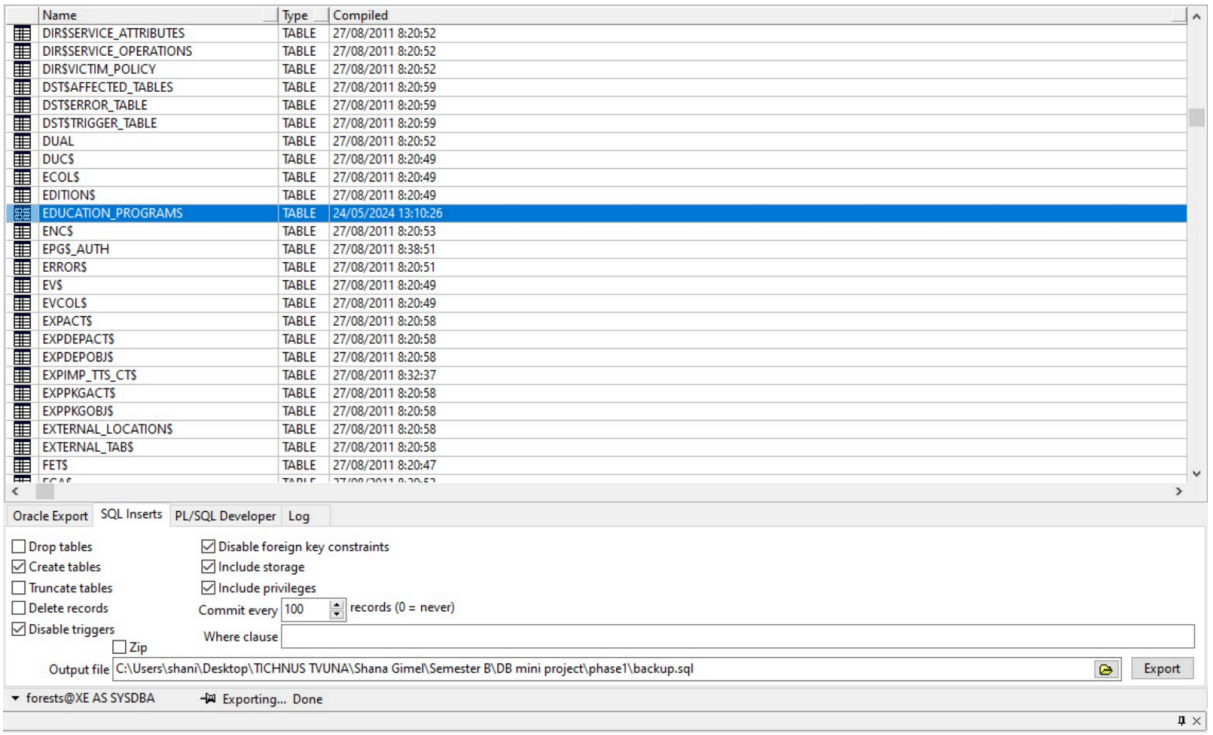
In mockaroo:
Tree_planting_projects, fire_ prevention_actions, donors, eduactional_programs


mockaroo
SCHEMAS
DATASETS
MOCK APIS
SCENARIOS
PROJECTS
FUNCTIONS
Field Name
Type
Options
PLANTING_ID
Row Number
blank:
0 %
sTART_DATE
Datetime
01/01/2021
to
05/23/2024
format:
dd/mm/yyyy
blank:
00 %
END_DATE
Formula
sTART_DATE + days(random(0, date_diff('days', sTART_DATE, now())))
FOREST_ID
Number
min:
1
max:
400
decimals:
0
blank:
0 %
ADD ANOTHER FIELD
GENERATE FIELDS USING AI...
Rows:
400
Format:
SQL
Table Name:
TREE_PLANTING_P
include CREATE TABLE


Data Generator - forests.gd
FORESTS
Owner
FORESTS
Table
FORESTS
Number of records
400
Name
Type
Size
Data
Master
FOREST_ID
NUMBER
Sequence(1)
FOREST_NAME
VARCHAR2
30
City
LOCATION
VARCHAR2
30
[00]'.'[0000], '[00]'.'[0000]
AREA
FLOAT
21
Random(9, 30)+'.'[0]
Definition
Options
Result
forests@XE AS SYSDBA
400 records generated in 0.406 seconds


Text Importer - research stations.txt
Data from Textfile
Data to Oracle
General
Owner
Table
RESEARCH_STATIONS
Clear Table
Initializing Script
Commit every...
400
Overwrite duplicates
Ignore duplicates
Finalizing Script
Fields
Field1 -> STATION_ID (NUMBER)
Field2 -> STATION_NAME (VARCHAR2)
Field3 -> STATION_LOCATION (VARCHAR
Field4 -> RESEARCH_SUBJECT (VARCHAR
Field5 -> FOREST_ID (NUMBER)
Field
STATION_LOCATION (V
Fieldtype
String
Create SQL
SQL function
additional Oracle processing, for example: substr(#, 1, 20)
Result Preview
1 2 3 4 5
1 Forest Ecology Station Seattle Forest Ecology 135
2 Tree Growth Research Center Boston Tree Growth 28
Import
Import to Script
Close
forests@XE AS SYSDBA
400 records imported in 0.109 s
Help

Backup:


Name
Type
Compiled
DIR$SERVICE_ATTRIBUTES TABLE 27/08/2011 8:20:52
DIR$SERVICE_OPERATIONS TABLE 27/08/2011 8:20:52
DIR$VICTIM_POLICY TABLE 27/08/2011 8:20:52
DST$AFFECTED_TABLES TABLE 27/08/2011 8:20:59
DST$ERROR_TABLE TABLE 27/08/2011 8:20:59
DST$TRIGGER_TABLE TABLE 27/08/2011 8:20:59
DUAL TABLE 27/08/2011 8:20:52
DUC$ TABLE 27/08/2011 8:20:49
ECOL$ TABLE 27/08/2011 8:20:49
EDITION$ TABLE 27/08/2011 8:20:49
EDUCATION_PROGRAMS TABLE 24/05/2024 13:10:26
ENC$ TABLE 27/08/2011 8:20:53
EPG$_AUTH TABLE 27/08/2011 8:38:51
ERROR$ TABLE 27/08/2011 8:20:51
EV$ TABLE 27/08/2011 8:20:49
EVCOL$ TABLE 27/08/2011 8:20:49
EXPACT$ TABLE 27/08/2011 8:20:58
EXPDEPACT$ TABLE 27/08/2011 8:20:58
EXPDEPOBJ$ TABLE 27/08/2011 8:20:58
EXPIMP_TTS_CT$ TABLE 27/08/2011 8:32:37
EXPPKGACT$ TABLE 27/08/2011 8:20:58
EXPPKGOBJ$ TABLE 27/08/2011 8:20:58
EXTERNAL_LOCATION$ TABLE 27/08/2011 8:20:58
EXTERNAL_TAB$ TABLE 27/08/2011 8:20:58
FET$ TABLE 27/08/2011 8:20:47
Oracle Export
SQL Inserts
PL/SQL Developer
Log
Drop tables
Create tables
Truncate tables
Delete records
Disable triggers
Zip
Disable foreign key constraints
Include storage
Include privileges
Commit every 100 records (0 = never)
Where clause
Output file C:\Users\shani\Desktop\TICHNUS TVUNA\Shana Gimel\Semester B\DB mini project\phase1\backup.sql
Export
forests@XE AS SYSDBA
Exporting... Done