The Art Gallery Sales Tracking System

A system for 100 artists, 1000 pieces, 5000 customers per year Phase 2

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**Entity Relationship Diagram for The Art Gallery Sales Tracking System**

**A screenshot of a map

Description automatically generated**

**List of assumptions for Entity Relationship Model**

* Artist Sales Year to Date D\*, Artist Total Sales For Period D\*, Artist Sales Last Year D\* are the descriptive attributes between ARTIST and SALE.
* Artist Total Asking Price For Period D\*\*, is the descriptive attribute between ARTIST and ARTWORK.
* Collector Sales Last Year D\*, Collector Sales Year to Date D\*, Collector Total Sales For Period D\*, are the descriptive attributes between COLLECTOR and SALE.
* Collector Total Asking Price For Period D\*\*, is the descriptive attribute between COLLECTOR and ARTWORK.
* Artist Last Name D\*, Artist First Name D\*, are the descriptive attributes between SALE and ARTIST.
* Total Asking Price For Period D\*, is the descriptive attribute between SALE and ARTWORK.
* Salesperson First Name D\*, Salesperson Last Name D\*, Total All Sales For Week D\* are the descriptive attributes between SALE and SALEPERSON.
* Salesperson Commission For Period D\*, Salesperson Total Sales For Period D\* are the descriptive attributes between SALEPERSON and SALE.
* Purchases Last Year D\*, Purchases Year to Date D\* are the descriptive attributes between BUYER and SALE.

**Data Dictionary for Entity Relationship Model**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity Name | Attribute | Unique Identifier | DataType |
| ARTSHOW | Artshow No. | √ | NUMERIC |
| Artshow Type |  | CHAR |
| Artshow Title |  | CHAR |
| Artshow Opening Date |  | Date |
| Artshow Closing Date |  | Date |
| Artshow Theme |  | CHAR |
| Show Featured Artist |  | CHAR |
| Featured Artwork |  | CHAR |
| ARTIST | Artist ID | √ | NUMERIC |
| Artist Last Name |  | CHAR |
| Artist First Name |  | CHAR |
| Artist Address |  | CHAR |
| Artist Reputation |  | CHAR |
| Artist Telephone# |  | Integer |
| Artist Interviewer Name |  | CHAR |
| Artist Interview Date |  | Date |
| ArtistType |  | CHAR |
| ArtistMedium |  | CHAR |
| ArtistStyle |  | CHAR |
| Artist Zip Code |  | Integer |
| Artist City |  | CHAR |
| Artist State |  | CHAR |
| Artist Street |  | CHAR |
| Artist Sales Year to Date D\* |  | NUMERIC |
| Artist Total Sales For Period D\* |  | NUMERIC |
| Artist Total Asking Price For Period D\* |  | NUMERIC |
| Artist Sales Last Year D\* |  | NUMERIC |
| ARTWORK | Artwork ID | √ | CHAR |
| Artwork Title |  | CHAR |
| Artist First Name |  | CHAR |
| Artist Last Name |  | Integer |
| Year Completed |  | CHAR |
| Artwork Type |  | CHAR |
| Artwork Style |  | CHAR |
| Artwork Size |  | Date |
| Date Listed |  | Date |
| Date Returned |  | Date |
| Date Shown |  | CHAR |
| Artwork Status |  | NUMERIC |
| Asking Price |  | NUMERIC |

**Data Dictionary for Entity Relationship Model**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity Name | Attribute | Unique Identifier | DataType |
| COLLECTOR | Collector ID | √ | NUMERIC |
| Collector First Name |  | CHAR |
| Collector Last Name |  | CHAR |
| Collector Interviewer |  | CHAR |
| Collector Interview Date |  | Date |
| Collector Address |  | CHAR |
| Collector City |  | CHAR |
| Collector State |  | CHAR |
| Collector Street |  | CHAR |
| Collector Zip |  | Integer |
| Collector Phone |  | Integer |
| Collector Sales Last Year D\* |  | NUMERIC |
| Collector Sales Year to Date D\* |  | NUMERIC |
| Collector Total Sales For Period D\* |  | NUMERIC |
| Collector Total Asking Price For Period D\* |  | NUMERIC |
| SALE | Sale# | √ | NUMERIC |
| Artwork Title |  | CHAR |
| Sale Date |  | Date |
| Sale Price |  | NUMERIC |
| Sale Tax |  | NUMERIC |
| Sale Total |  | NUMERIC |
| Amount Remitted to Owner |  | NUMERIC |
| Receipt# |  | NUMERIC |
| Payment Method |  | CHAR |
| Salesperson Commission |  | NUMERIC |
| Payment Check Amount |  | NUMERIC |
| Payment Check Stub |  | NUMERIC |
| Artist Last Name D\* |  | CHAR |
| Artist First Name D\* |  | CHAR |
| Salesperson First Name D\* |  | CHAR |
| Salesperson Last Name D\* |  | CHAR |
| Salesperson Name |  | CHAR |
| Total Asking Price For Period D\* |  | NUMERIC |
| Total All Sales For Week D\* |  | NUMERIC |
| SALEPERSON | Saleperson ID | √ | NUMERIC |
| Saleperson First Name |  | CHAR |
| Saleperson Last Name |  | CHAR |
| Saleperson Address |  | CHAR |
| Saleperson Phone# |  | Integer |
| Salesperson Commission For Period D\* |  | NUMERIC |
| Salesperson Total Sales For Period D\* |  | NUMERIC |

**Data Dictionary for Entity Relationship Model**

|  |  |  |  |
| --- | --- | --- | --- |
| Entity Name | Attribute | Unique Identifier | DataType |
| BUYER | Buyer ID | √ | NUMERIC |
| Buyer First Name |  | CHAR |
| Buyer Address |  | CHAR |
| Buyer City |  | CHAR |
| Buyer Sate |  | CHAR |
| Buyer Street |  | CHAR |
| Buyer Last Name |  | CHAR |
| Buyer Phone# |  | Integer |
| Buyer Zip |  | Integer |
| Buyer Type |  | CHAR |
| Purchases Last Year D\* |  | NUMERIC |
| Purchases Year to Date D\* |  | NUMERIC |

**Default Relational Model for The Art Gallery Sales Tracking System**

A screenshot of a computer

Description automatically generated

**Revised Relational Model for The Art Gallery Sales Tracking System**

**A close up of a sign

Description automatically generated**

**Normalized Relational Model for The Art Gallery Sales Tracking System**

**A picture containing metal

Description automatically generated**

**List of assumptions for Normalized Relational Model**

* Artist\_Telephone#, Artist\_Zip\_Code, Style could have multiple values (repeating group) for a ARTIST
* Artist\_Address, Artist\_City, Artist\_Sate, Artist\_Street depend on Artist\_Zip\_Code
* An ARTIST could have have several Artist\_Interviewer\_Name, Artist\_Interview\_Date
* Collector\_Telephone#, Collector\_Zip\_Code could have multiple values (repeating group) for a COLLECTOR
* Collector\_Address, Collector\_City, Collector\_Sate, Collector\_Street depend on Collector\_Zip\_Code
* An COLLECTOR could have have several Collector\_Interviewer\_Name, Collector\_Interview\_Date
* Buyer\_Phone #, Buyer\_Zip, could have multiple values (repeating group) for a BUYER
* Buyer\_Address, Buyer\_City, Buyer\_Sate, Buyer\_Street depend on Buyer\_Zip
* Saleperson\_Phone#, Saleperson\_Address, could have multiple values (repeating group) for a SALEPERSON
* Featured\_Artist could have multiple values (repeating group) for a ARTSHOW.
* Featured\_Artwork depends on Artshow\_No.
* Collector\_Telephone#, Collector\_Zip\_Code, Style could have multiple values (repeating group) for an ARTWORK
* An ARTWORK could have have several Asking\_Price
* Date\_Shown, Date\_Listed, Date\_Returned depends on Artwork\_Medium
* Sale\_Total = Sale\_Price + Sale\_Tax
* Amount\_Remitted\_to\_Owner = Sale\_Total - Salesperson\_Commision
* Total\_All\_Sales\_For\_Week\_D\* depend on Sale\_Total
* Payment\_Check\_Stub, Payment\_Check\_Amount, Receipt# depend on Payment\_Method
* Total\_All\_Sales\_For\_Week\_D depend on Sale\_Total
* Artist\_Total\_Asking\_Price\_For\_Period\_D\* = Adding up the individual Asking\_Price of Artist within Period
* Collector\_Total\_Asking\_Price\_For\_Period\_D\* = Adding up the individual Asking\_Price of Collector within Period
* Total\_Asking\_Price\_For\_Period\_D\* = Adding up the individual Asking\_Price within Period
* Collector\_Sale\_Last\_Year\_D\* = Adding up the Sale\_Total\* of Collector last year
* Collector\_Total\_Sales\_For\_Period\_D\* = Adding up the Sale\_Total\* of Collector in Period
* *Collector\_Sales\_Year\_to\_Date\_D\* = Adding up all the* Sale\_Total\* of Collector
* Artist\_Total\_Sales\_For\_Period\_D\* = Adding up the Sale\_Total\* of Artist in Period
* Artist\_Sales\_Last\_Year\_D\* = Adding up the Sale\_Total\* of Artist last year
* Artist\_Sales\_Year\_to\_Date\_D\* = Adding up all the Sale\_Total\* of Artist
* Saleperson\_Commission\_For\_Period\_D\* = Adding up the Salesperson’s Salesperson\_Commission in Period
* Saleperson\_Total\_Sales\_For\_Period\_D\* = Adding up the Salesperson’s Sale\_Total\* in Period
* Purchase\_Last\_Year\_D\* = Adding up the Sale\_Total\* last year
* Purchase\_Year\_to\_Date\_D\* = Adding up all the Sale\_Total\*

**Generate the DDL for The Art Gallery Sales Tracking System**

CREATE TABLE artist (

artist\_id NUMBER(10) NOT NULL,

artist\_last\_name CHAR(20 CHAR),

artist\_first\_name CHAR(20 CHAR),

artist\_address CHAR(40 CHAR),

artist\_reputation CHAR(10 CHAR),

artist\_telephone# INTEGER,

type CHAR(20 CHAR),

medium CHAR(20 CHAR),

style CHAR(20 CHAR),

artist\_city CHAR(20 CHAR),

artist\_sate CHAR(20 CHAR),

artist\_street CHAR(20 CHAR),

artist\_zip\_code INTEGER,

artist\_interviewer\_name CHAR(20 CHAR),

artist\_interview\_date DATE

);

ALTER TABLE artist ADD CONSTRAINT artist\_pk PRIMARY KEY ( artist\_id );

CREATE TABLE artist\_artwork (

artwork\_id NUMBER(10) NOT NULL,

artist\_id NUMBER(10) NOT NULL,

artist\_total\_asking\_price\_for\_period\_d NUMBER(10)

);

ALTER TABLE artist\_artwork ADD CONSTRAINT artist\_artwork\_pk PRIMARY KEY ( artwork\_id );

CREATE TABLE artist\_sale (

sale# NUMBER(10) NOT NULL,

artist\_id NUMBER(10) NOT NULL,

artist\_first\_name\_d CHAR(20 CHAR),

artist\_last\_name\_d CHAR(20 CHAR),

artist\_sales\_year\_to\_date\_d NUMBER(10),

artist\_total\_sales\_for\_period\_d NUMBER(10),

artist\_sales\_last\_year\_d NUMBER(10)

);

ALTER TABLE artist\_sale ADD CONSTRAINT artist\_sale\_pk PRIMARY KEY ( sale# );

CREATE TABLE artshow (

"Artshow\_No." NUMBER(10) NOT NULL,

artshow\_type CHAR(20 CHAR),

artshow\_title CHAR(20 CHAR),

artshow\_opening\_date DATE,

artshow\_closing\_date DATE,

artshow\_theme CHAR(20 CHAR),

featured\_artist CHAR(20 CHAR)

);

ALTER TABLE artshow ADD CONSTRAINT artshow\_pk PRIMARY KEY ( "Artshow\_No." );

CREATE TABLE artshow\_artwork (

artshow\_artshow\_no\_ NUMBER(10) NOT NULL,

artwork\_artwork\_id NUMBER(10) NOT NULL

);

ALTER TABLE artshow\_artwork ADD CONSTRAINT artshow\_artwork\_pk PRIMARY KEY ( artshow\_artshow\_no\_,

artwork\_artwork\_id );

CREATE TABLE artshow2 (

"Artshow\_No." NUMBER(10) NOT NULL,

featured\_artwork CHAR(20 CHAR) NOT NULL

);

ALTER TABLE artshow2 ADD CONSTRAINT artshow2\_pk PRIMARY KEY ( "Artshow\_No.",

featured\_artwork );

CREATE TABLE artwork (

artwork\_id NUMBER(10) NOT NULL,

artwork\_title CHAR(20 CHAR),

artist\_first\_name CHAR(20 CHAR),

artist\_last\_name CHAR(20 CHAR),

year\_completed INTEGER,

artwork\_type CHAR(15 CHAR),

artwork\_medium CHAR(20 CHAR),

artwork\_style CHAR(20 CHAR),

artwork\_size CHAR(15 CHAR),

date\_listed DATE,

date\_returned DATE,

date\_shown DATE,

artwork\_status CHAR(10 CHAR),

asking\_price NUMBER(10),

collector\_id NUMBER(10) NOT NULL

);

ALTER TABLE artwork ADD CONSTRAINT artwork\_pk PRIMARY KEY ( artwork\_id );

CREATE TABLE artwork\_sale (

sale# NUMBER(10) NOT NULL,

artwork\_id NUMBER(10) NOT NULL,

total\_asking\_price\_for\_period\_d NUMBER(10)

);

ALTER TABLE artwork\_sale ADD CONSTRAINT artwork\_sale\_pk PRIMARY KEY ( sale# );

CREATE TABLE buyer (

buyer\_id NUMBER(10) NOT NULL,

buyer\_first\_name CHAR(20 CHAR),

buyer\_last\_name CHAR(20 CHAR),

buyer\_address CHAR(40 CHAR),

buyer\_phone# INTEGER,

listed\_date DATE,

buyer\_type CHAR(20 CHAR),

buyer\_city CHAR(20 CHAR),

buyer\_state CHAR(20 CHAR),

buyer\_street CHAR(20 CHAR),

buyer\_zip INTEGER

);

ALTER TABLE buyer ADD CONSTRAINT buyer\_pk PRIMARY KEY ( buyer\_id );

CREATE TABLE buyer\_artist (

buyer\_buyer\_id NUMBER(10) NOT NULL,

artist\_artist\_id NUMBER(10) NOT NULL

);

ALTER TABLE buyer\_artist ADD CONSTRAINT buyer\_artist\_pk PRIMARY KEY ( buyer\_buyer\_id,

artist\_artist\_id );

CREATE TABLE buyer\_sale (

sale# NUMBER(10) NOT NULL,

buyer\_id NUMBER(10) NOT NULL,

purchase\_year\_to\_date\_d NUMBER(10),

purchase\_last\_year\_d NUMBER(10)

);

ALTER TABLE buyer\_sale ADD CONSTRAINT buyer\_sale\_pk PRIMARY KEY ( sale# );

CREATE TABLE collector (

collector\_id NUMBER(10) NOT NULL,

collector\_last\_name CHAR(20 CHAR),

collector\_first\_name CHAR(20 CHAR),

collector\_interviewer CHAR(20 CHAR),

collector\_interview\_date DATE,

collector\_address CHAR(20 CHAR),

collector\_phone INTEGER,

collector\_city CHAR(20 CHAR),

collector\_state CHAR(20 CHAR),

collector\_street CHAR(20 CHAR),

collector\_zip INTEGER

);

ALTER TABLE collector ADD CONSTRAINT collector\_pk PRIMARY KEY ( collector\_id );

CREATE TABLE collector\_artist (

artist\_artist\_id NUMBER(10) NOT NULL,

collector\_collector\_id NUMBER(10) NOT NULL

);

ALTER TABLE collector\_artist ADD CONSTRAINT collector\_artist\_pk PRIMARY KEY ( artist\_artist\_id,

collector\_collector\_id );

CREATE TABLE collector\_artwork (

artwork\_id NUMBER(10) NOT NULL,

collector\_id NUMBER(10),

collector\_total\_asking\_price\_for\_period\_d NUMBER(10)

);

ALTER TABLE collector\_artwork ADD CONSTRAINT collector\_artwork\_pk PRIMARY KEY ( artwork\_id );

CREATE TABLE collector\_sale (

sale# NUMBER(10) NOT NULL,

collector\_id NUMBER(10) NOT NULL,

collector\_sale\_last\_year\_d NUMBER(10),

collector\_sales\_year\_to\_date\_d NUMBER(10),

collector\_total\_sales\_for\_period\_d NUMBER(10)

);

ALTER TABLE collector\_sale ADD CONSTRAINT collector\_sale\_pk PRIMARY KEY ( sale# );

CREATE TABLE sale (

sale# NUMBER(10) NOT NULL,

artwork\_title CHAR(20 CHAR),

sale\_date DATE,

sale\_price NUMBER(10),

sale\_tax NUMBER(10),

"Sale\_Total\*" NUMBER(10),

amount\_remitted\_to\_owner NUMBER(10),

receipt# NUMBER(10),

payment\_method CHAR(20 CHAR),

salesperson\_commision NUMBER(10),

payment\_check\_amount NUMBER(10),

payment\_check\_stub NUMBER(10)

);

ALTER TABLE sale ADD CONSTRAINT sale\_pk PRIMARY KEY ( sale# );

CREATE TABLE sale\_saleperson (

sale# NUMBER(10) NOT NULL,

saleperson\_id NUMBER(10) NOT NULL,

saleperson\_first\_name\_d CHAR(20 CHAR),

saleperson\_last\_name\_d CHAR(20 CHAR),

saleperson\_name\_d CHAR(20 CHAR),

saleperson\_commission\_for\_period\_d NUMBER(10),

saleperson\_total\_sales\_for\_period\_d NUMBER(10)

);

ALTER TABLE sale\_saleperson ADD CONSTRAINT sale\_saleperson\_pk PRIMARY KEY ( sale# );

CREATE TABLE sale2 (

sale\_total NUMBER(10) NOT NULL,

"Total\_All\_Sales\_For\_Week\_D\*" NUMBER(10)

);

ALTER TABLE sale2 ADD CONSTRAINT sale2\_pk PRIMARY KEY ( sale\_total );

CREATE TABLE saleperson (

saleperson\_id NUMBER(10) NOT NULL,

saleperson\_first\_name CHAR(20 CHAR),

salesperson\_last\_name CHAR(20 CHAR),

saleperson\_address CHAR(40 CHAR),

saleperson\_phone# INTEGER

);

ALTER TABLE saleperson ADD CONSTRAINT saleperson\_pk PRIMARY KEY ( saleperson\_id );

ALTER TABLE artist\_artwork

ADD CONSTRAINT artist\_artwork\_artist\_fk FOREIGN KEY ( artist\_id )

REFERENCES artist ( artist\_id );

ALTER TABLE artist\_artwork

ADD CONSTRAINT artist\_artwork\_artwork\_fk FOREIGN KEY ( artwork\_id )

REFERENCES artwork ( artwork\_id );

ALTER TABLE artist\_sale

ADD CONSTRAINT artist\_sale\_artist\_fk FOREIGN KEY ( artist\_id )

REFERENCES artist ( artist\_id );

ALTER TABLE artist\_sale

ADD CONSTRAINT artist\_sale\_sale\_fk FOREIGN KEY ( sale# )

REFERENCES sale ( sale# );

ALTER TABLE artshow\_artwork

ADD CONSTRAINT artshow\_artwork\_artshow\_fk FOREIGN KEY ( artshow\_artshow\_no\_ )

REFERENCES artshow ( "Artshow\_No." );

ALTER TABLE artshow\_artwork

ADD CONSTRAINT artshow\_artwork\_artwork\_fk FOREIGN KEY ( artwork\_artwork\_id )

REFERENCES artwork ( artwork\_id );

ALTER TABLE artshow2

ADD CONSTRAINT artshow2\_artshow\_fk FOREIGN KEY ( "Artshow\_No." )

REFERENCES artshow ( "Artshow\_No." );

ALTER TABLE artwork

ADD CONSTRAINT artwork\_collector\_fk FOREIGN KEY ( collector\_id )

REFERENCES collector ( collector\_id );

ALTER TABLE artwork\_sale

ADD CONSTRAINT artwork\_sale\_artwork\_fk FOREIGN KEY ( artwork\_id )

REFERENCES artwork ( artwork\_id );

ALTER TABLE artwork\_sale

ADD CONSTRAINT artwork\_sale\_sale\_fk FOREIGN KEY ( sale# )

REFERENCES sale ( sale# );

ALTER TABLE buyer\_artist

ADD CONSTRAINT buyer\_artist\_artist\_fk FOREIGN KEY ( artist\_artist\_id )

REFERENCES artist ( artist\_id );

ALTER TABLE buyer\_artist

ADD CONSTRAINT buyer\_artist\_buyer\_fk FOREIGN KEY ( buyer\_buyer\_id )

REFERENCES buyer ( buyer\_id );

ALTER TABLE buyer\_sale

ADD CONSTRAINT buyer\_sale\_buyer\_fk FOREIGN KEY ( buyer\_id )

REFERENCES buyer ( buyer\_id );

ALTER TABLE buyer\_sale

ADD CONSTRAINT buyer\_sale\_sale\_fk FOREIGN KEY ( sale# )

REFERENCES sale ( sale# );

ALTER TABLE collector\_artist

ADD CONSTRAINT collector\_artist\_artist\_fk FOREIGN KEY ( artist\_artist\_id )

REFERENCES artist ( artist\_id );

ALTER TABLE collector\_artist

ADD CONSTRAINT collector\_artist\_collector\_fk FOREIGN KEY ( collector\_collector\_id )

REFERENCES collector ( collector\_id );

ALTER TABLE collector\_sale

ADD CONSTRAINT collector\_sale\_collector\_fk FOREIGN KEY ( collector\_id )

REFERENCES collector ( collector\_id );

ALTER TABLE collector\_sale

ADD CONSTRAINT collector\_sale\_sale\_fk FOREIGN KEY ( sale# )

REFERENCES sale ( sale# );

ALTER TABLE sale\_saleperson

ADD CONSTRAINT sale\_saleperson\_sale\_fk FOREIGN KEY ( sale# )

REFERENCES sale ( sale# );

ALTER TABLE sale\_saleperson

ADD CONSTRAINT sale\_saleperson\_saleperson\_fk FOREIGN KEY ( saleperson\_id )

REFERENCES saleperson ( saleperson\_id );

-- Oracle SQL Developer Data Modeler Summary Report:

--

-- CREATE TABLE 19

-- CREATE INDEX 0

-- ALTER TABLE 39

-- CREATE VIEW 0

-- ALTER VIEW 0

-- CREATE PACKAGE 0

-- CREATE PACKAGE BODY 0

-- CREATE PROCEDURE 0

-- CREATE FUNCTION 0

-- CREATE TRIGGER 0

-- ALTER TRIGGER 0

-- CREATE COLLECTION TYPE 0

-- CREATE STRUCTURED TYPE 0

-- CREATE STRUCTURED TYPE BODY 0

-- CREATE CLUSTER 0

-- CREATE CONTEXT 0

-- CREATE DATABASE 0

-- CREATE DIMENSION 0

-- CREATE DIRECTORY 0

-- CREATE DISK GROUP 0

-- CREATE ROLE 0

-- CREATE ROLLBACK SEGMENT 0

-- CREATE SEQUENCE 0

-- CREATE MATERIALIZED VIEW 0

-- CREATE MATERIALIZED VIEW LOG 0

-- CREATE SYNONYM 0

-- CREATE TABLESPACE 0

-- CREATE USER 0

--

-- DROP TABLESPACE 0

-- DROP DATABASE 0

--

-- REDACTION POLICY 0

--

-- ORDS DROP SCHEMA 0

-- ORDS ENABLE SCHEMA 0

-- ORDS ENABLE OBJECT 0

--

-- ERRORS 0

-- WARNINGS 0

**Table *structures* for all tables arranged properly**

ARTIST

A screenshot of a social media post

Description automatically generated

ARTIST\_ARTWORK

A screenshot of a cell phone

Description automatically generated

ARTIST\_SALE

A screenshot of a cell phone

Description automatically generated

ARTSHOW

A screenshot of a cell phone

Description automatically generated

ARTSHOW2

A screenshot of a cell phone

Description automatically generated

ARTSHOW\_ARTWORK

A screenshot of a cell phone

Description automatically generated

ARTWORK

A screenshot of a social media post

Description automatically generated

ARTWORK\_SALE

A screenshot of a cell phone

Description automatically generated

BUYER

A screenshot of a social media post

Description automatically generated

BUYER\_ARTIST

A screenshot of a cell phone

Description automatically generated

BUYER\_SALE

A screenshot of a cell phone

Description automatically generated

COLLECTOR

A screenshot of a social media post

Description automatically generated

COLLECTOR\_ARTIST

A screenshot of a cell phone

Description automatically generated

COLLECTOR\_ARTWORK

A screenshot of a cell phone

Description automatically generated

COLLECTOR\_SALE

A screenshot of a cell phone

Description automatically generated

SALE

A screenshot of a social media post

Description automatically generated

SALE2

A screenshot of a cell phone

Description automatically generated

SALEPERSON

A screenshot of a cell phone

Description automatically generated

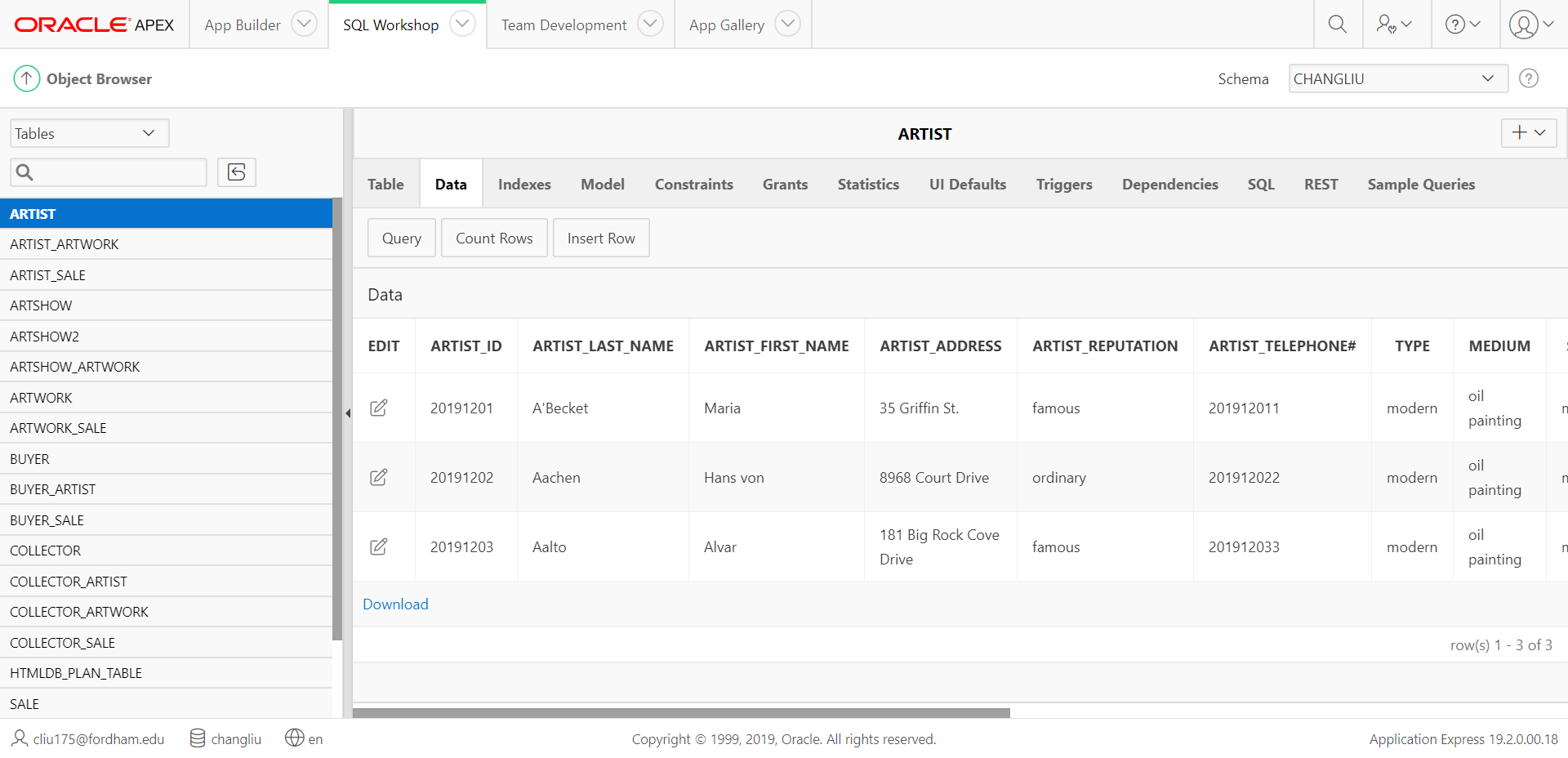
SALE\_SALEPERSON

A screenshot of a cell phone

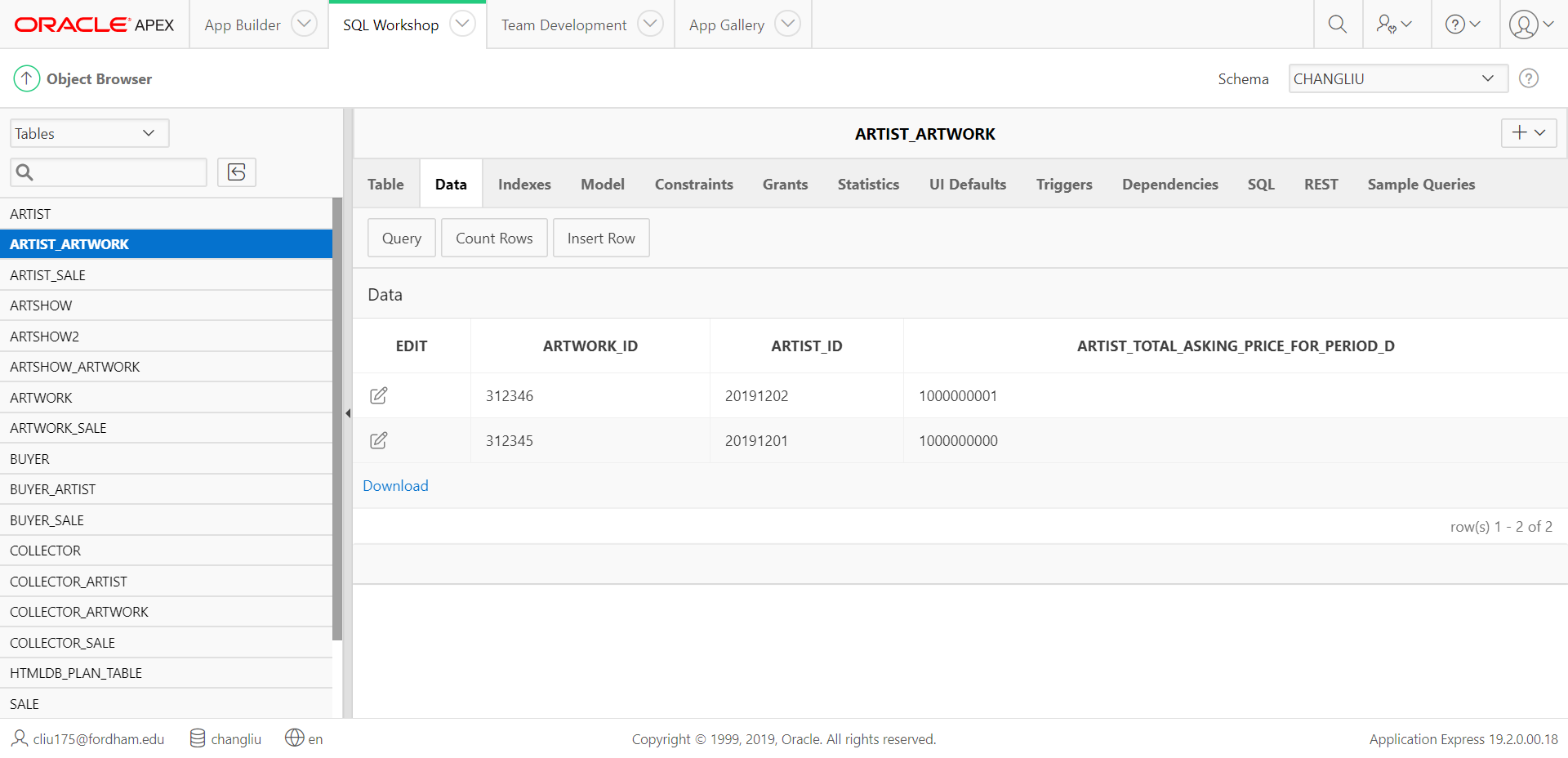
Description automatically generated

**Tables with data, arranged in alphabetical order.**

ARTIST



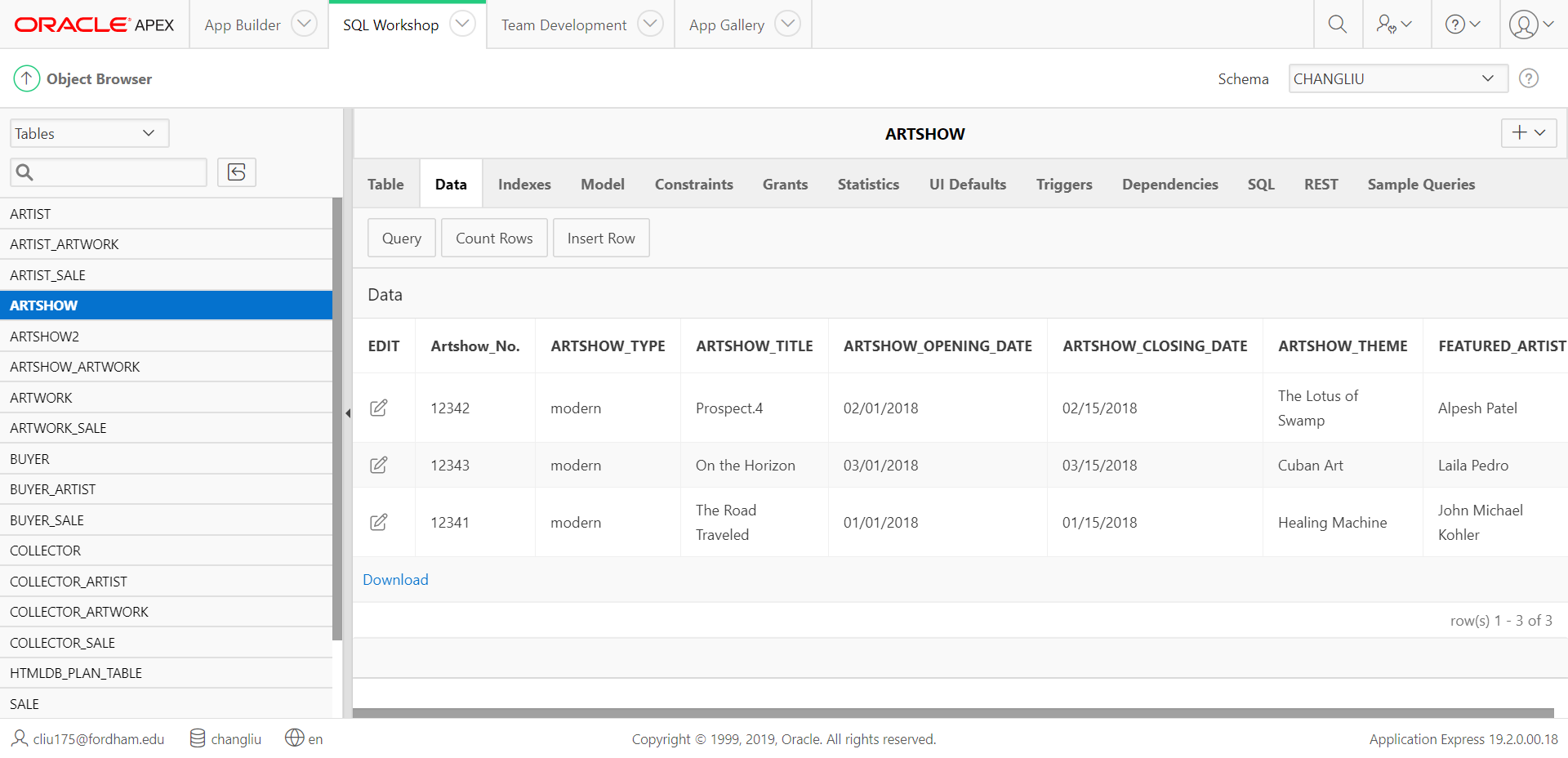
ARTIST\_ARTWORK



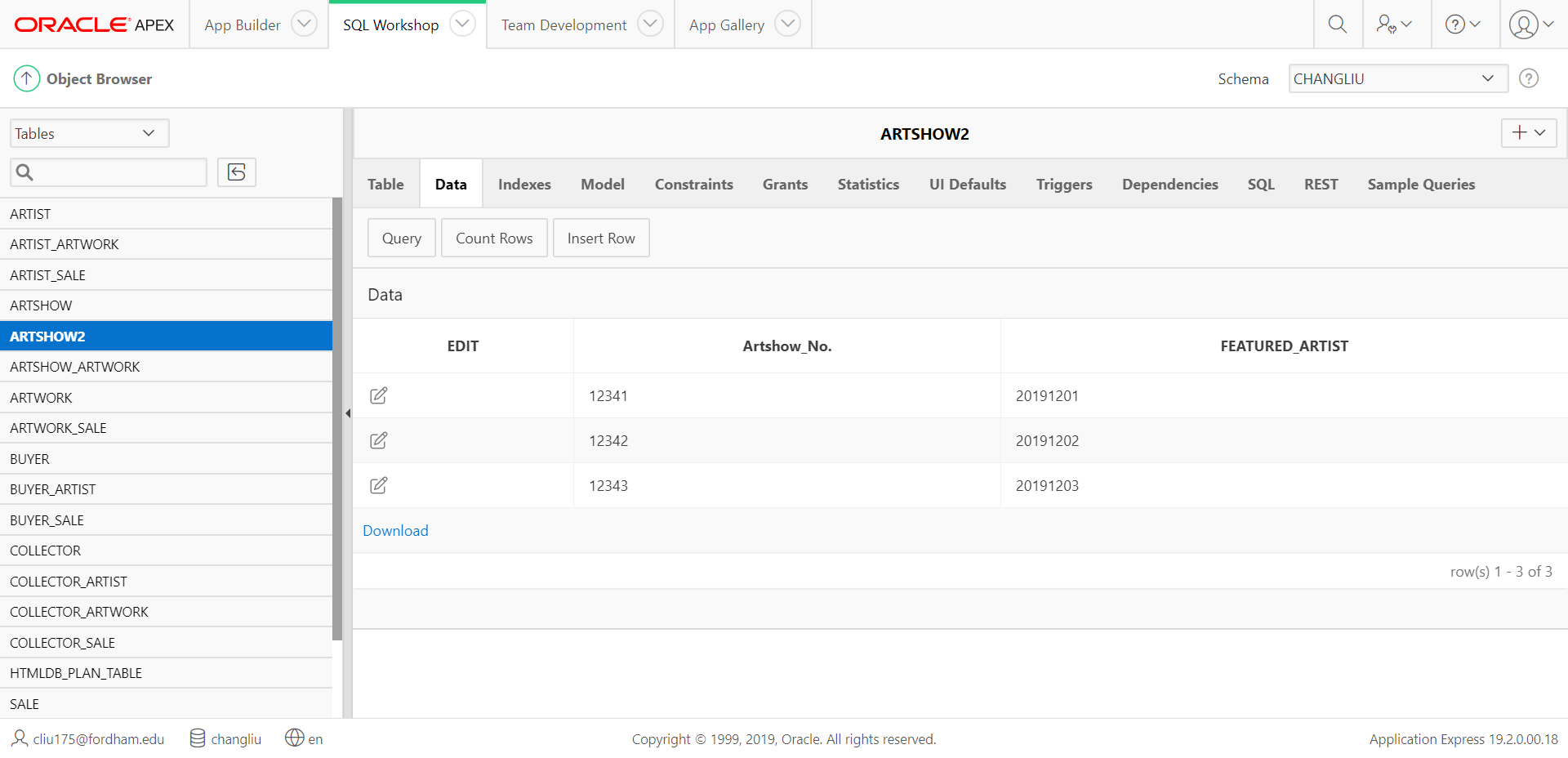
ARTIST\_SALE



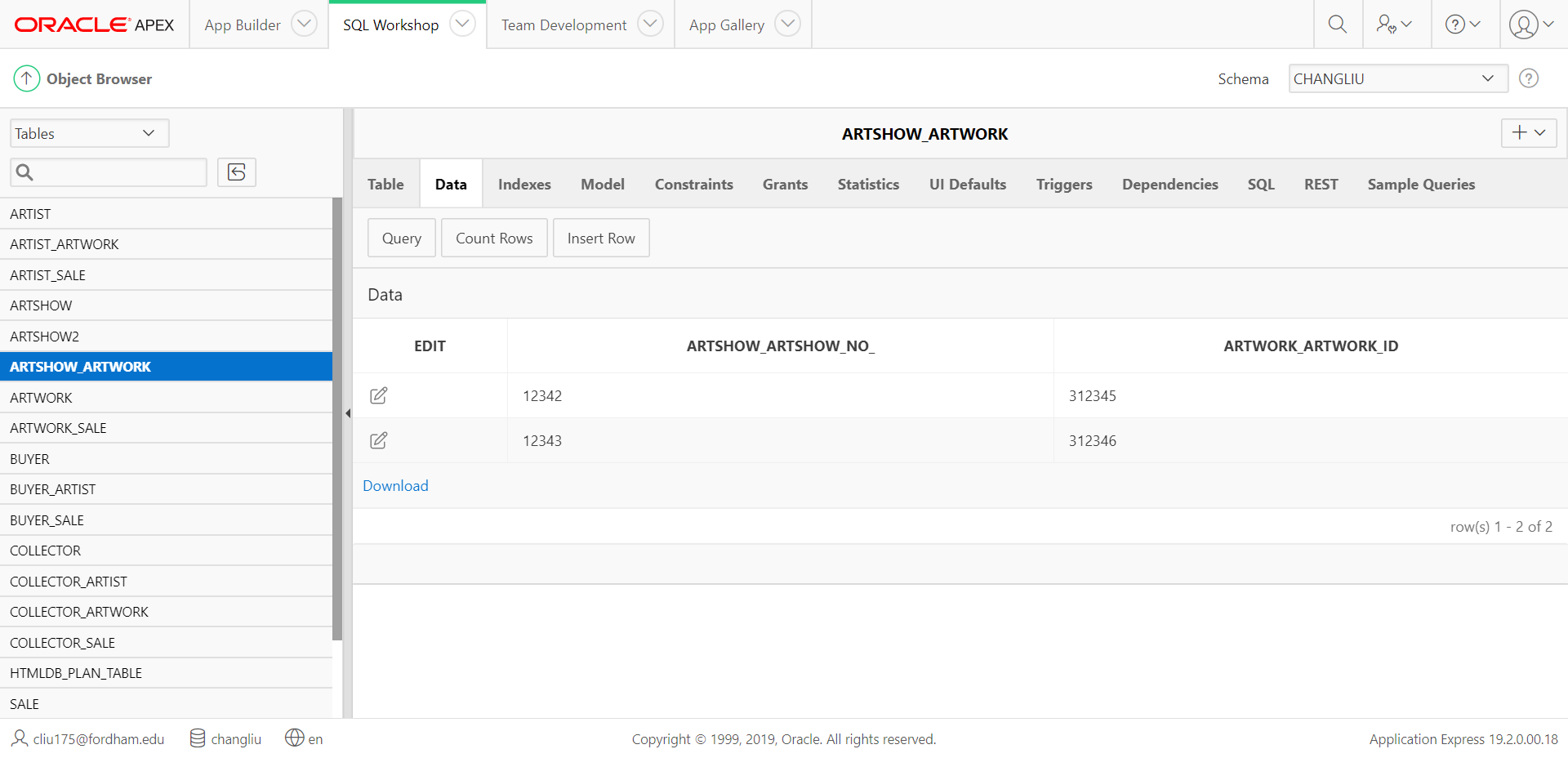
ARTSHOW



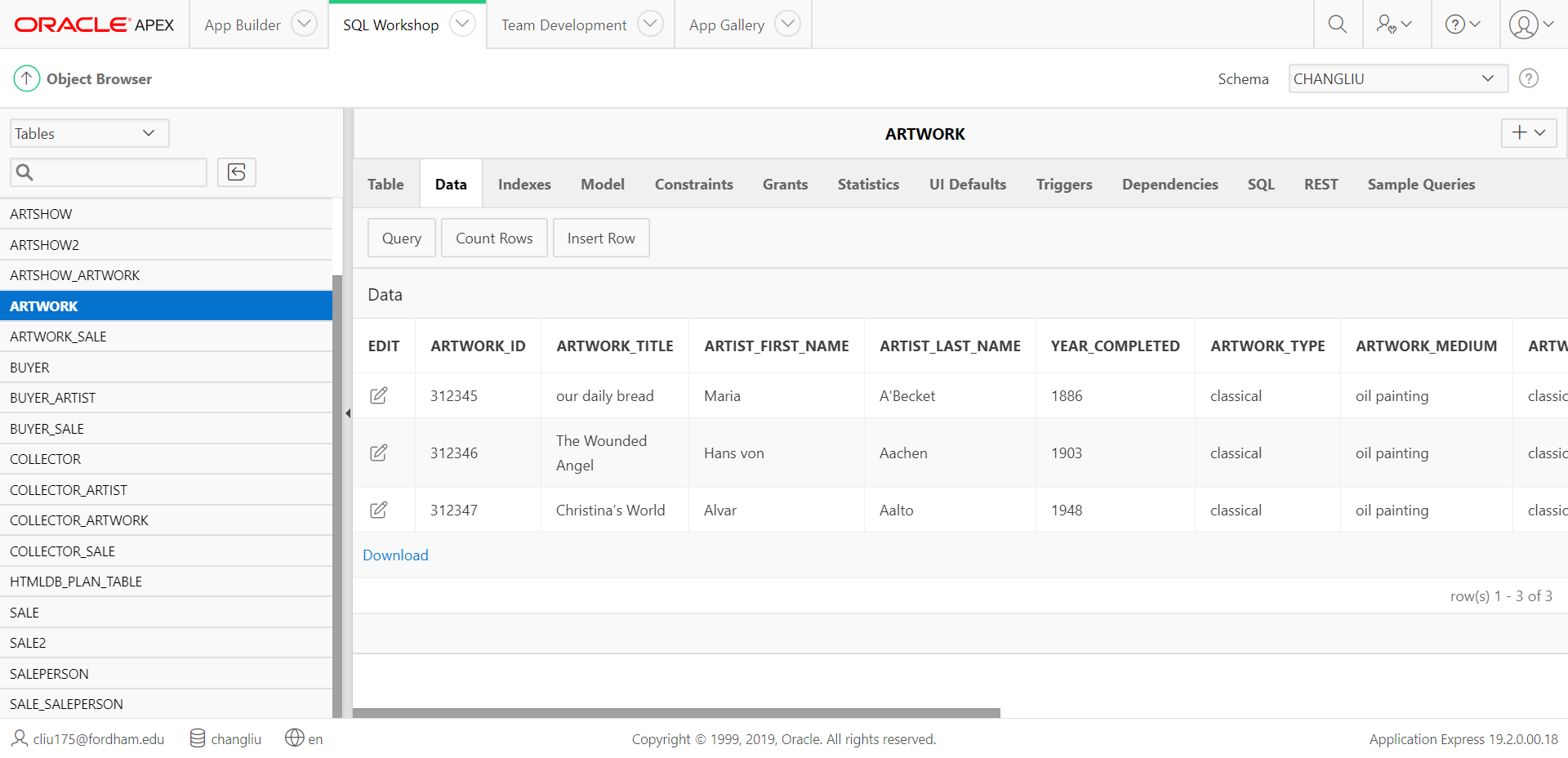
ARTSHOW2



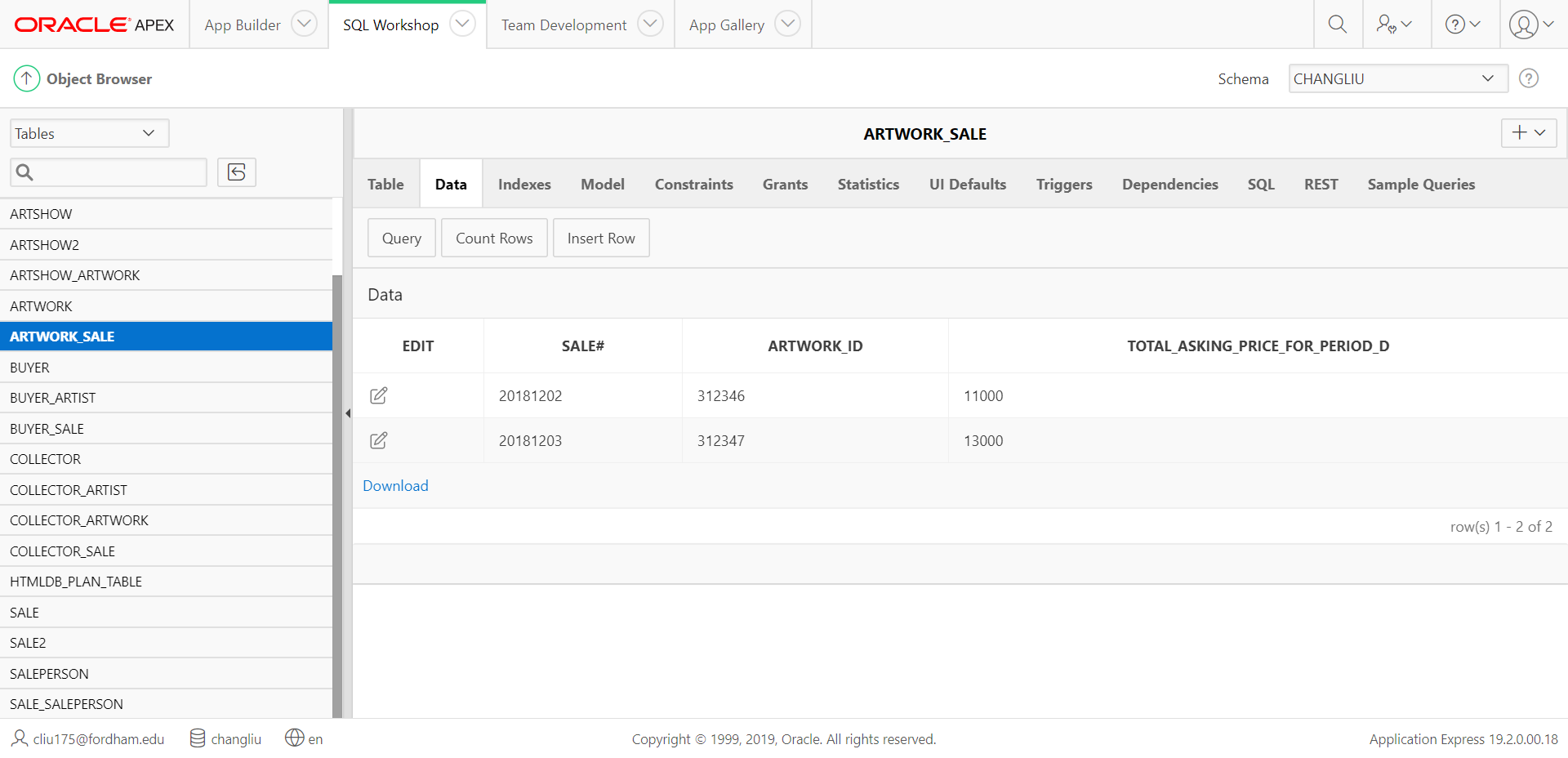
ARTSHOW\_ARTWORK



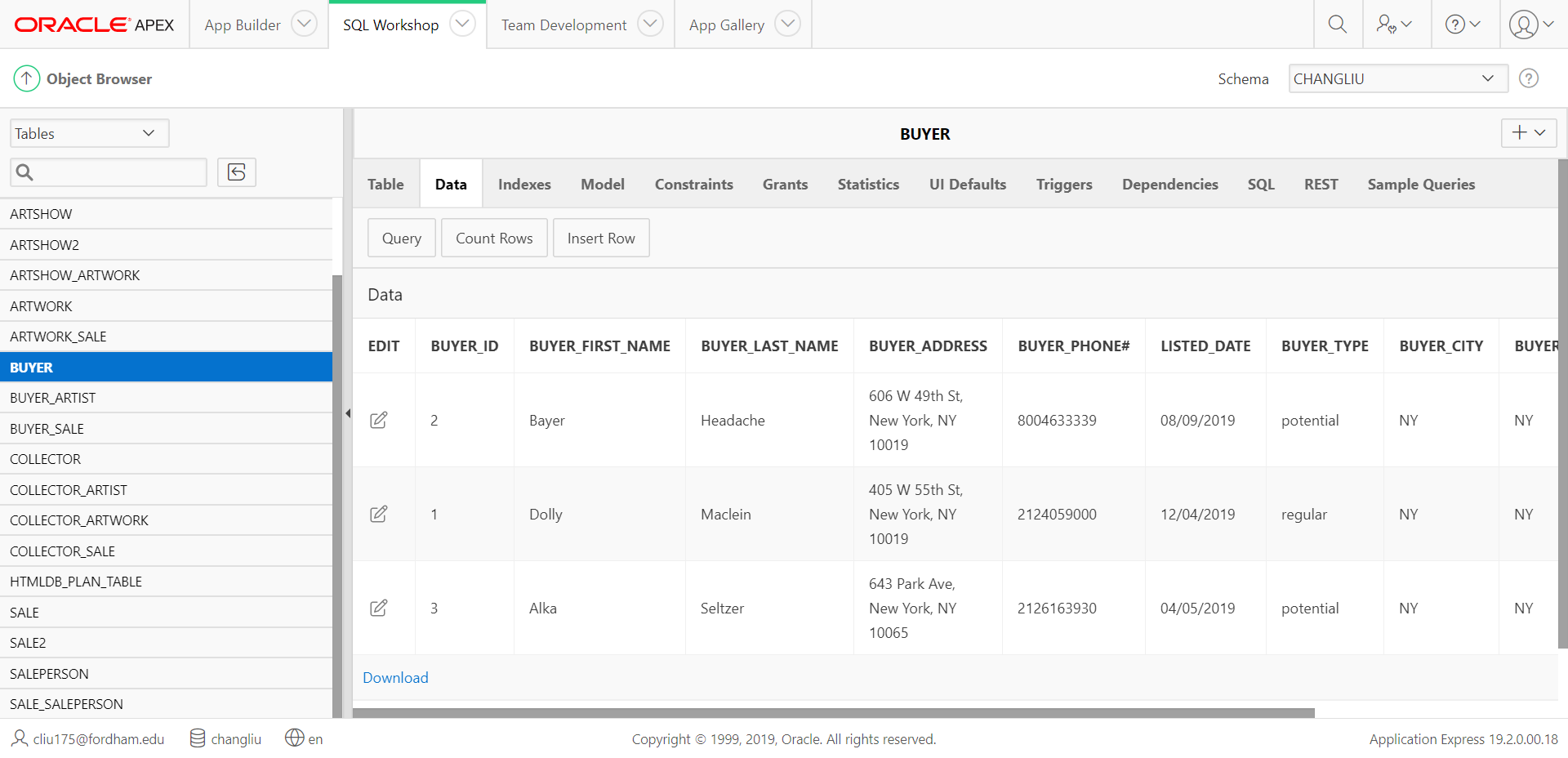
ARTWORK



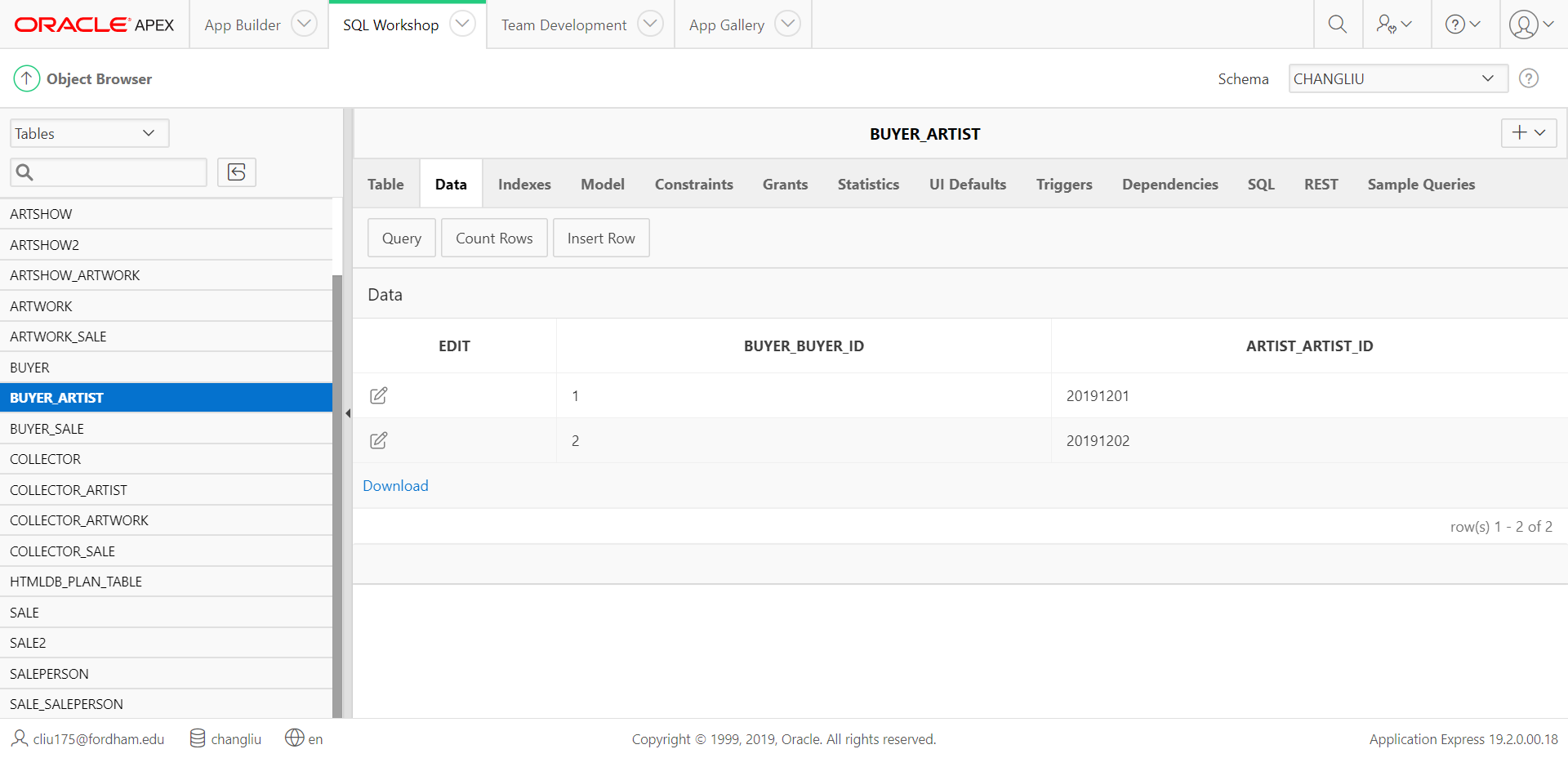
ARTWORK\_SALE



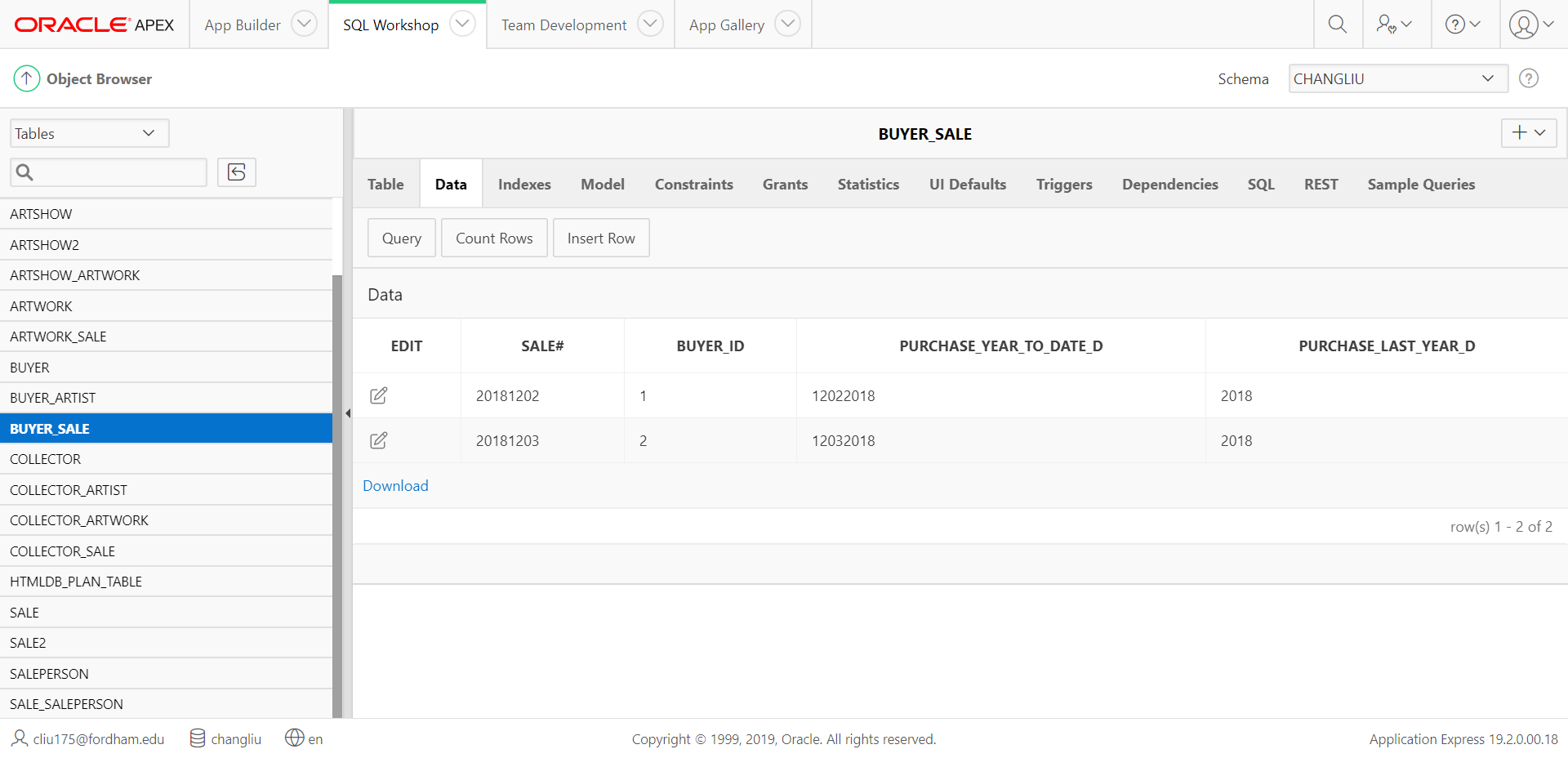
BUYER



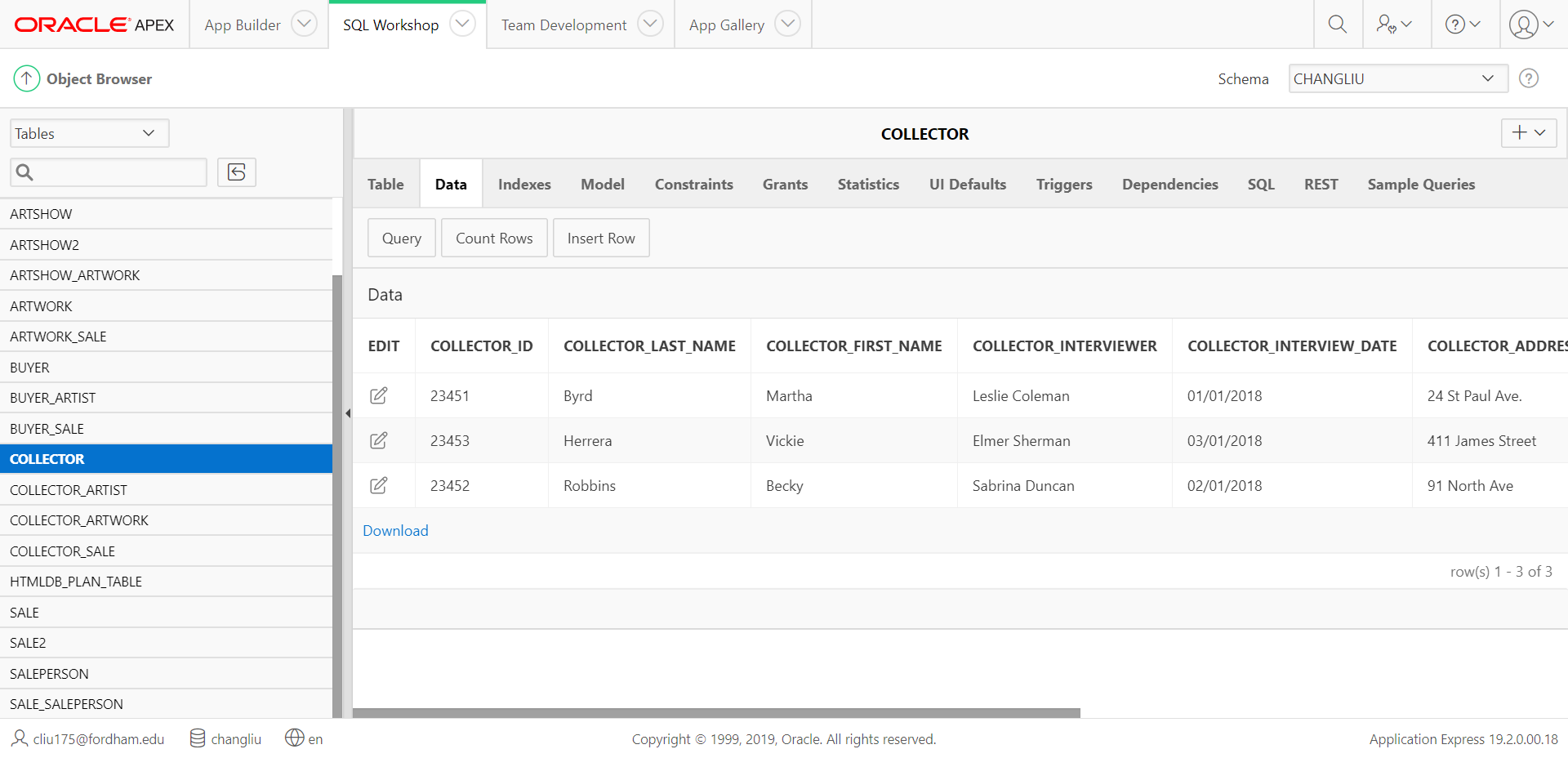
BUYER\_ARTIST



BUYER\_SALE



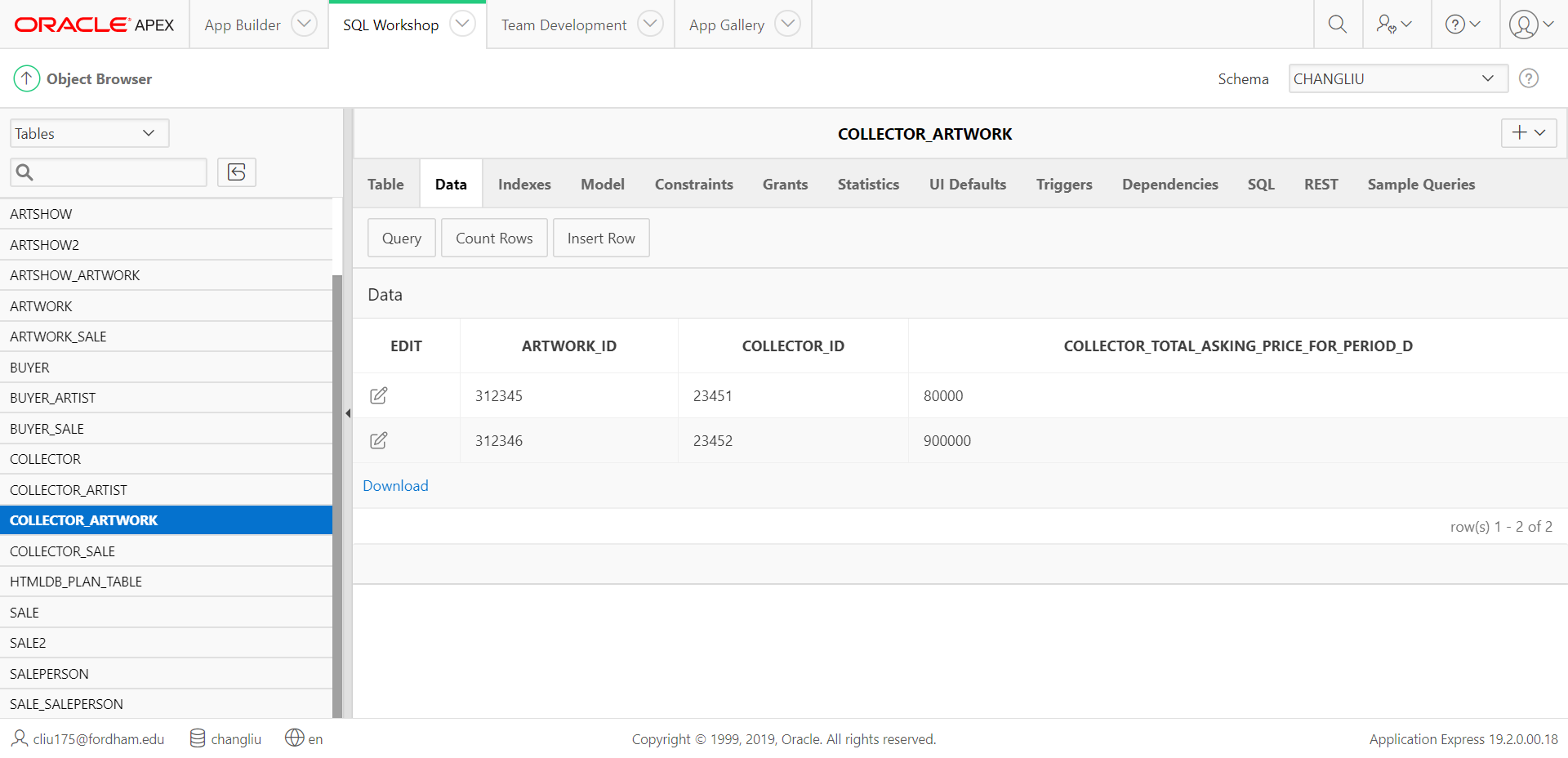
COLLECTOR



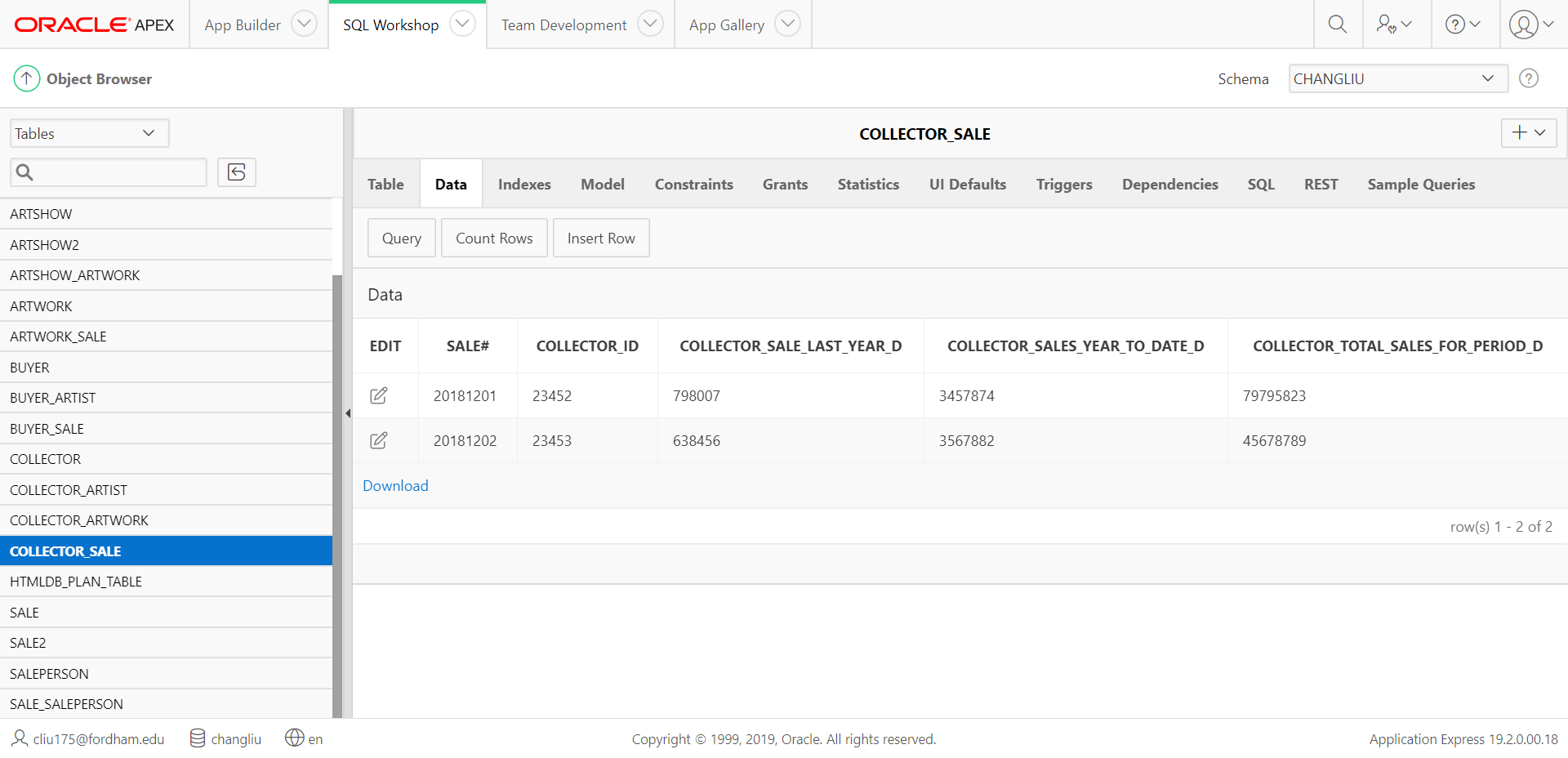
COLLECTOR\_ARTIST



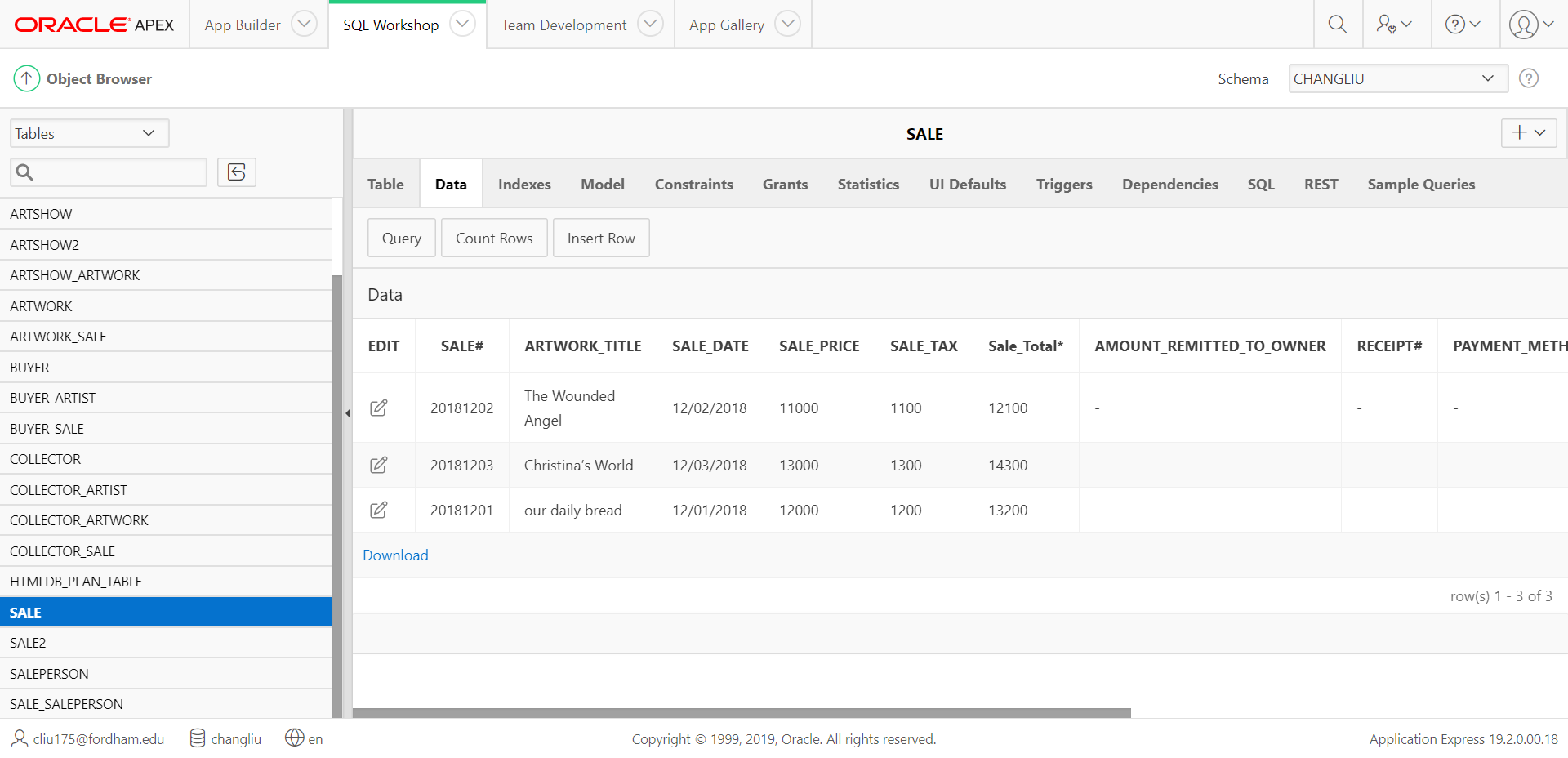
COLLECTOR\_ARTWORK



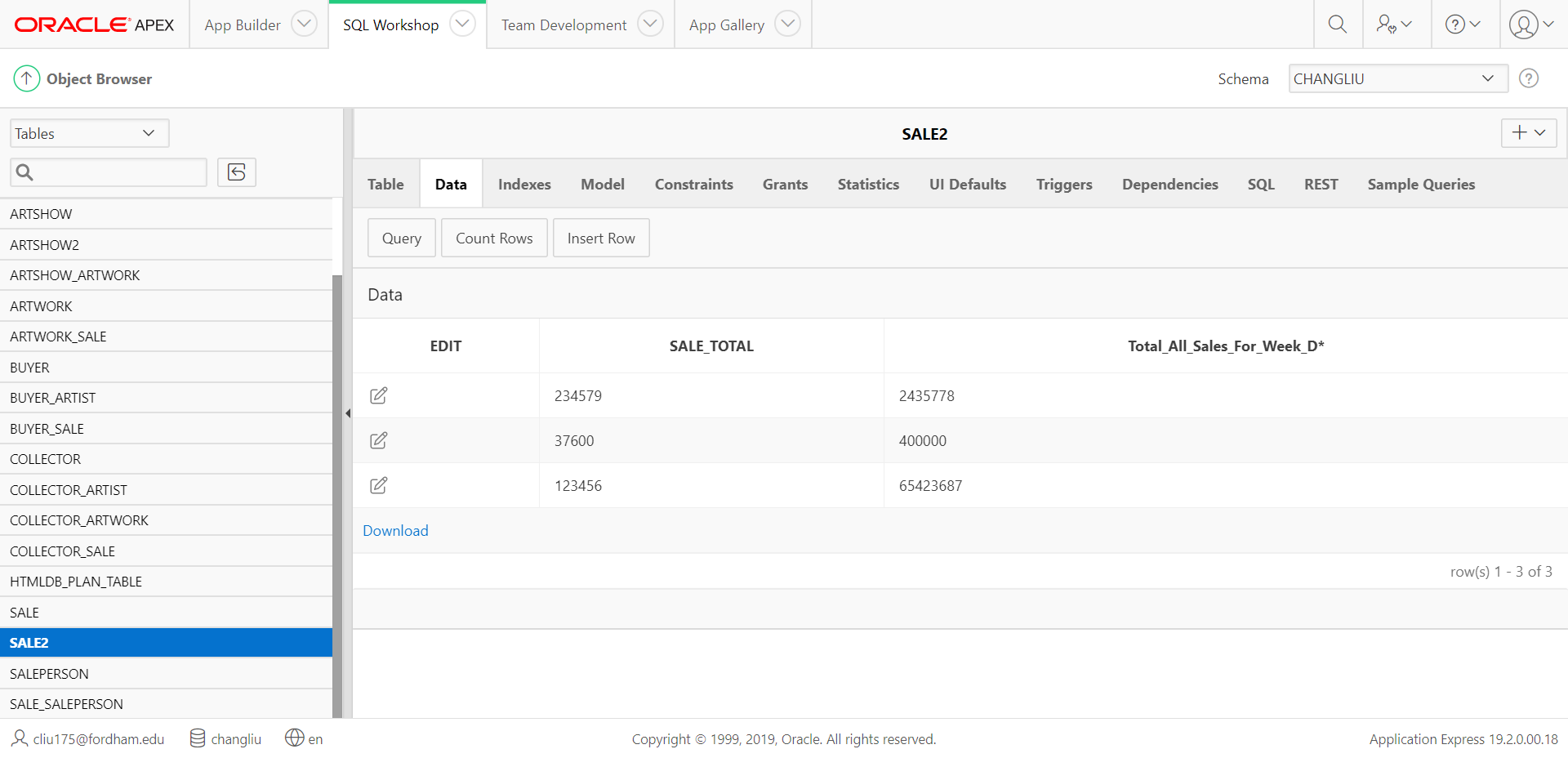
COLLECTOR\_SALE



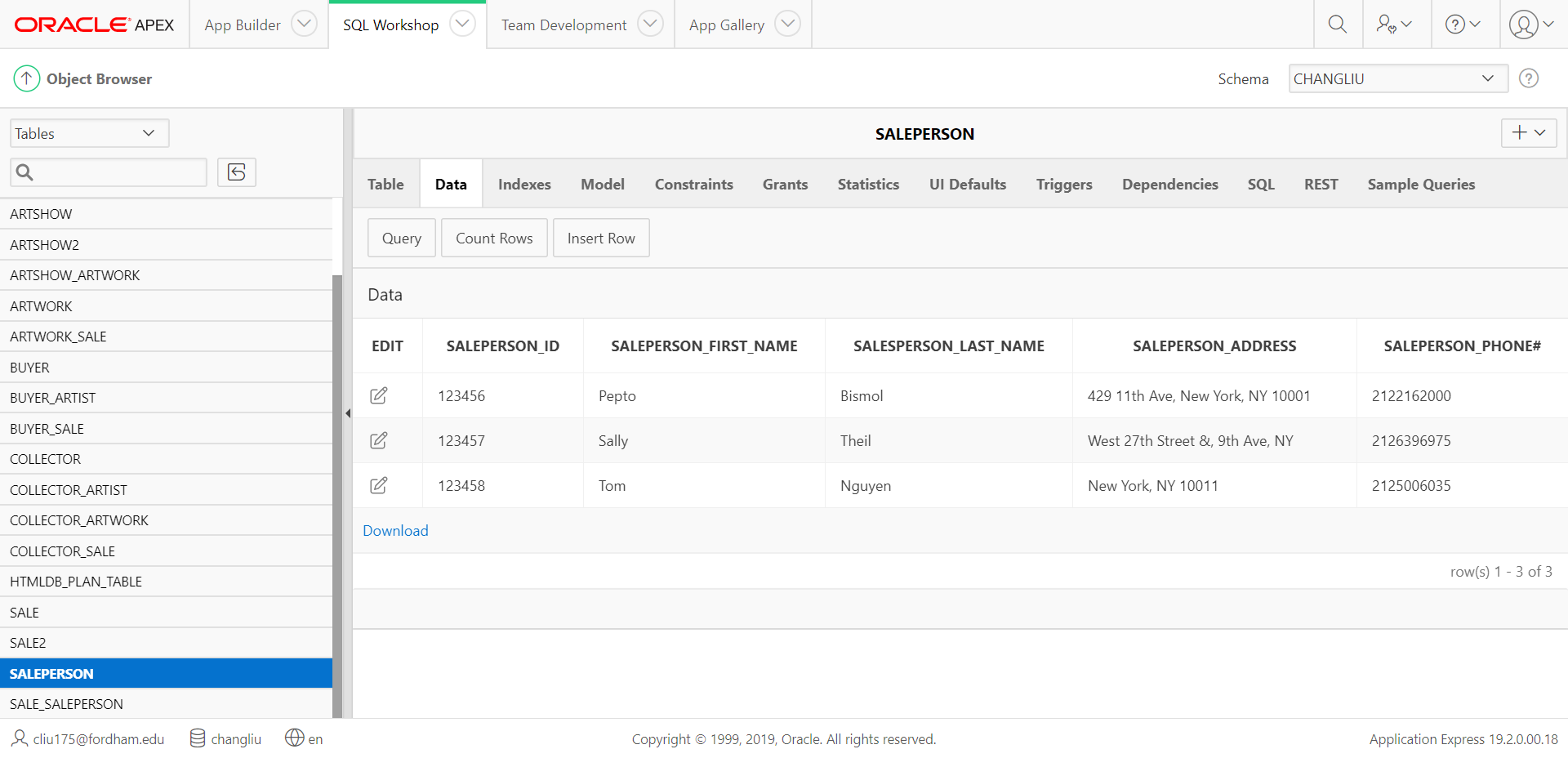
SALE



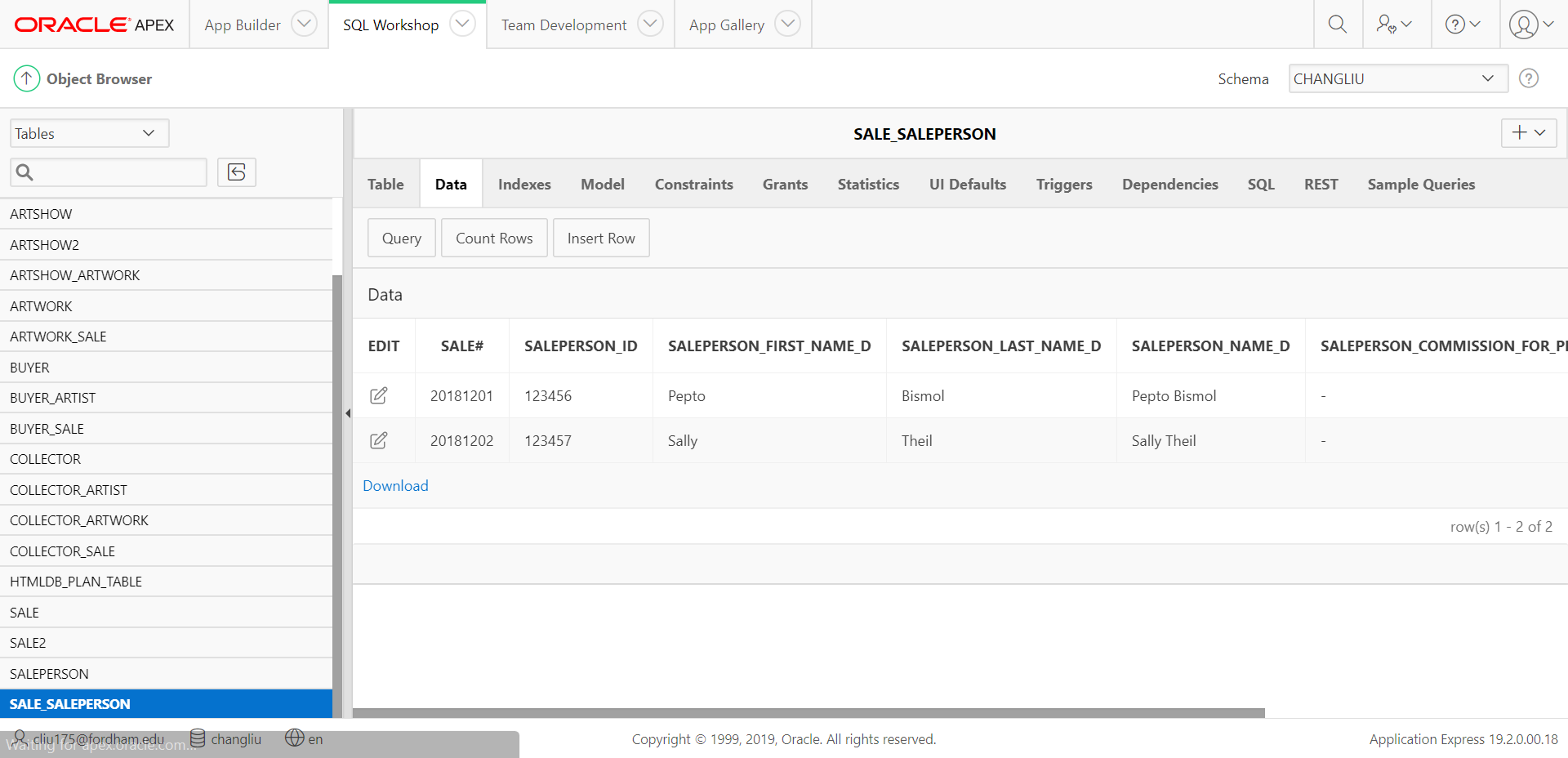
SALE2



SALEPERSON



SALE\_SALEPERSON



**The 12 queries [English version/sql version/output]**

1. A multi-table query that links 3 tables related to artist, artwork, and collector information together (minimum of 4 attributes excluding keys).

Give me each collector’s name and collection’s reputation of the artist, and the asking price of the artwork

SELECT COLLECTOR.COLLECTOR\_ID,ARTIST.ARTIST\_REPUTATION,COLLECTOR.COLLECTOR\_LAST\_NAME,COLLECTOR.COLLECTOR\_FIRST\_NAME,ARTWORK.ASKING\_PRICE

FROM ARTIST,COLLECTOR,ARTWORK,ARTIST\_ARTWORK

WHERE ARTWORK.ARTWORK\_ID=ARTIST\_ARTWORK.ARTWORK\_ID

AND ARTWORK.COLLECTOR\_ID=COLLECTOR.COLLECTOR\_ID

AND ARTIST\_ARTWORK.ARTIST\_ID=ARTIST.ARTIST\_ID

A screenshot of a cell phone

Description automatically generated

2. A multi-table query that links 3 tables related to sale, artwork, buyer, and salesperson together (minimum of 4 attributes excluding keys).

Give me which saleperson sales which artwork to which buyer on how much dollars.

SELECT SALEPERSON.SALEPERSON\_FIRST\_NAME,SALEPERSON.SALESPERSON\_LAST\_NAME,ARTWORK.ARTWORK\_TITLE ,SALE.SALE\_PRICE,BUYER.BUYER\_ID,BUYER.BUYER\_FIRST\_NAME,BUYER.BUYER\_LAST\_NAME

FROM SALE,ARTWORK,BUYER,SALEPERSON,SALE\_SALEPERSON,BUYER\_SALE

WHERE SALE\_SALEPERSON.SALE# =SALE.SALE#

AND SALE\_SALEPERSON.SALEPERSON\_ID=SALEPERSON.SALEPERSON\_ID

AND SALE.ARTWORK\_TITLE=ARTWORK.ARTWORK\_TITLE

AND BUYER\_SALE.SALE#=SALE.SALE#

AND BUYER\_SALE.BUYER\_ID=BUYER.BUYER\_ID

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Description automatically generated

3. A multi-table query that links sale, artwork, collector and salesperson information. (minimum of 4 attributes excluding keys).

Give me which saleperson sales which collector’s which artwork

SELECT SALE.SALE#,SALEPERSON.SALEPERSON\_ID,SALEPERSON.SALEPERSON\_FIRST\_NAME,SALEPERSON.SALESPERSON\_LAST\_NAME,SALE.ARTWORK\_TITLE,COLLECTOR.COLLECTOR\_ID,COLLECTOR.COLLECTOR\_LAST\_NAME,COLLECTOR.COLLECTOR\_FIRST\_NAME

FROM SALE,ARTWORK,COLLECTOR,SALEPERSON,COLLECTOR\_SALE,SALE\_SALEPERSON

WHERE SALE.SALE#=SALE\_SALEPERSON.SALE#

AND SALE\_SALEPERSON.SALEPERSON\_ID=SALEPERSON.SALEPERSON\_ID

AND SALE.ARTWORK\_TITLE=ARTWORK.ARTWORK\_TITLE

AND COLLECTOR\_SALE.COLLECTOR\_ID=COLLECTOR.COLLECTOR\_ID

AND COLLECTOR\_SALE.SALE#=SALE.SALE#

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Description automatically generated

4. A multi-table query that links artist, buyer, artwork and show information together (minimum of 4 attributes excluding keys).

Give me which buyer buys which artist’s which artwork.

SELECT ARTIST.ARTIST\_LAST\_NAME,ARTIST.ARTIST\_FIRST\_NAME,BUYER.BUYER\_FIRST\_NAME,BUYER.BUYER\_LAST\_NAME,ARTWORK.ARTWORK\_TITLE

FROM ARTIST,BUYER,ARTWORK,ARTIST\_ARTWORK,BUYER\_ARTIST

WHERE BUYER\_ARTIST.BUYER\_BUYER\_ID=BUYER.BUYER\_ID

AND BUYER\_ARTIST.ARTIST\_ARTIST\_ID=ARTIST.ARTIST\_ID

AND ARTIST.ARTIST\_ID=ARTIST\_ARTWORK.ARTIST\_ID

AND ARTIST\_ARTWORK.ARTWORK\_ID=ARTWORK.ARTWORK\_ID

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Description automatically generated

5. A multi-table (minimum 2 tables) that includes a calculated field.

Give me the total sale price, sale tax and total sale of this year.

select sum(sale\_price), sum(sale\_tax), sum(COLLECTOR\_SALES\_YEAR\_TO\_DATE\_D)

from sale, collector\_sale

where collector\_sale.sale# = sale.sale#

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Description automatically generated

6. A multi-table query (minimum 2 tables) that includes sorting.

Give me the type of buyer and artist.

select buyer.buyer\_type, artist. ARTIST\_REPUTATION

from artist, buyer, buyer\_artist

where artist. ARTIST\_ID = buyer\_artist. ARTIST\_ARTIST\_ID

and buyer. BUYER\_ID = buyer\_artist. BUYER\_BUYER\_ID

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Description automatically generated

7. A multi-table query that includes another calculated field.

Give me the artwork id, the total asking price for period, total asking price of this artwork.

Select ARTWORK.ARTWORK\_ID，sum(ARTIST\_ARTWORK.ARTIST\_TOTAL\_ASKING\_PRICE\_FOR\_PERIOD\_D), sum(ARTWORK. ASKING\_PRICE)

From ARTIST\_ARTWORK, ARTWORK

Where ARTIST\_ARTWORK. ARTWORK\_ID = ARTWORK. ARTWORK\_ID

Group by ARTWORK.ARTWORK\_ID

A screenshot of a cell phone

Description automatically generated

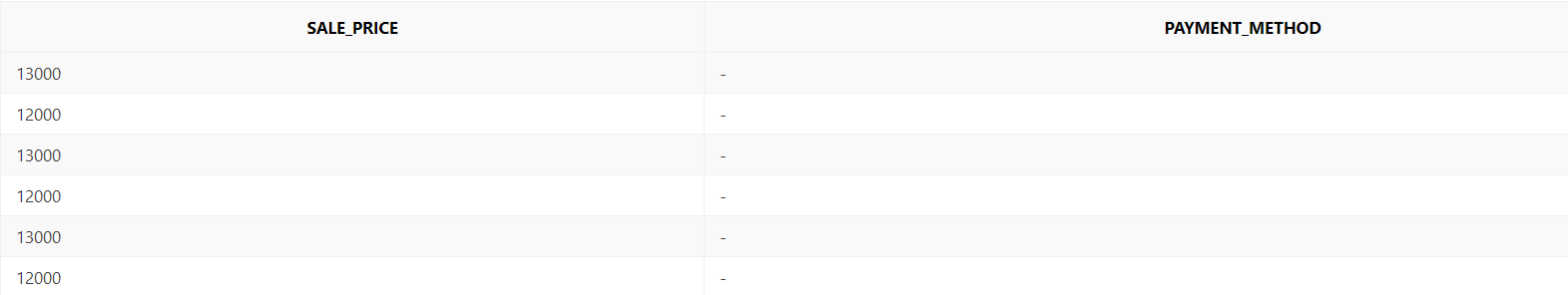
8. A multi-table query that includes a comparison.

Display artworks which are sold at a price larger than 11000 and are completed after 1866

SELECT SALE\_PRICE, PAYMENT\_METHOD

FROM SALE, ARTWORK

WHERE SALE\_PRICE > 11000 and YEAR\_COMPLETED>'1866'



9. A multi-table query with a date comparison.

Display artshow which start after 2018-01-01 or ends before 2018-02-15

SELECT ARTSHOW\_TITLE, ARTSHOW\_THEME

FROM ARTSHOW

WHERE ARTSHOW\_OPENING\_DATE > '2018-01-01' OR ARTSHOW\_CLOSING\_DATE< '2018-02-15'

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Description automatically generated

1. A multi-table query with a count and sort.

Display the number of artwork which is oil painting, sorting by alphabetical order of artworks’ last name and numerical order of id.

SELECT ARTWORK\_ID, ARTIST\_LAST\_NAME, ARTWORK\_ID, count(\*)

FROM ARTWORK

WHERE ARTWORK\_STYLE='classical'

GROUP BY ARTIST\_LAST\_NAME , ARTWORK\_ID

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Description automatically generated

11. A nested query (with sub query) of your choice.

Give me all data from ARTIST, if ARTIST\_ID is 20191201.

SELECT \*

FROM ARTIST

WHERE ARTIST\_ID in (SELECT ARTIST\_ID FROM ARTIST WHERE ARTIST\_ID = 20191201)

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Description automatically generated

12. A join query of your choice.

Collect all SALE and ARTWORK information for every single artwork.

SELECT \*

FROM ARTWORK

INNER JOIN SALE ON SALE.ARTWORK\_TITLE=ARTWORK.ARTWORK\_TITLE;

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Description automatically generated

**Screenshot of database in APEX (successfully generated)**

A screenshot of a computer

Description automatically generated