

NAME :- SAHIL PRAVIN THAKUR

PRN : - 2020BTECS00042

BATCH : - S3

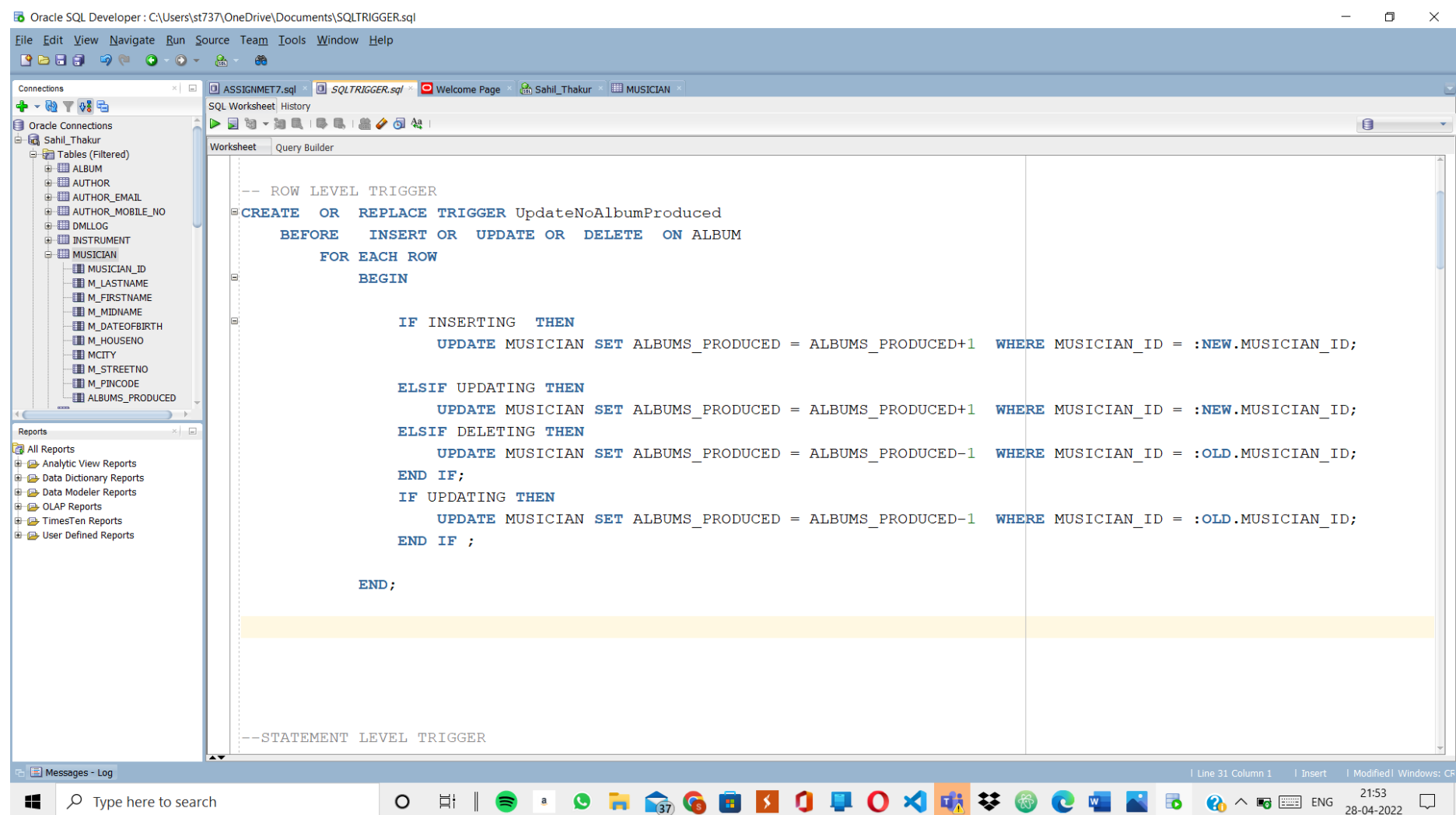
SUB :- DATA BASE ENGINEERING LAB ASSIGNMENT 7

Assignment :- 7

Title :-

Study of trigger

1) Here is the implementation of ROW LEVEL trigger to update count of album produce any changes in album table



The screenshot displays the Oracle SQL Developer interface. On the left, the 'Connections' pane shows a connection to 'Sahil_Thakur'. Below it, the 'Tables (Filtered)' pane lists several tables, including 'MUSICIAN' and 'ALBUM'. The 'MUSICIAN' table structure is visible, showing columns like 'MUSICIAN_ID', 'M_LASTNAME', 'M_FIRSTNAME', 'M_MIDNAME', 'M_DATEOFBIRTH', 'M_HOUSENO', 'M_CITY', 'M_STREETNO', 'M_PINCODE', and 'ALBUMS_PRODUCED'. The main 'Worksheet' area contains the following SQL code:

```
-- ROW LEVEL TRIGGER
CREATE OR REPLACE TRIGGER UpdateNoAlbumProduced
BEFORE INSERT OR UPDATE OR DELETE ON ALBUM
FOR EACH ROW
BEGIN

    IF INSERTING THEN
        UPDATE MUSICIAN SET ALBUMS_PRODUCED = ALBUMS_PRODUCED+1 WHERE MUSICIAN_ID = :NEW.MUSICIAN_ID;

    ELSIF UPDATING THEN
        UPDATE MUSICIAN SET ALBUMS_PRODUCED = ALBUMS_PRODUCED+1 WHERE MUSICIAN_ID = :NEW.MUSICIAN_ID;
    ELSIF DELETING THEN
        UPDATE MUSICIAN SET ALBUMS_PRODUCED = ALBUMS_PRODUCED-1 WHERE MUSICIAN_ID = :OLD.MUSICIAN_ID;
    END IF;
    IF UPDATING THEN
        UPDATE MUSICIAN SET ALBUMS_PRODUCED = ALBUMS_PRODUCED-1 WHERE MUSICIAN_ID = :OLD.MUSICIAN_ID;
    END IF ;

END;
```

At the bottom of the worksheet, there is a comment: `--STATEMENT LEVEL TRIGGER`. The status bar at the bottom indicates 'Line 31 Column 1' and 'Insert' mode.

1) Insert operation

Here is the musician table before performing insert operation in album table

Oracle SQL Developer : Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

MUSICIAN_ID	M_LASTNAME	M_FIRSTNAME	M_MIDNAME	M_DATEOFBIRTH	M_HOUSENO	MCITY	M_STREETNO	M_PINCODE	ALBUMS_PRODUCED
1	Thakur	sahil	pravin	17-08-01	5	khopoli	21	410-203	1
2	Patil	Saurabh	Santosh	21-08-01	8	Pen	20	410-201	3
3	Acharya	Shubhankar	Ajit	01-01-03	5	satara	17	400-203	2
4	Pawar	Akashay	Ashok	13-08-01	9	satara	19	410-209	1
5	Kekade	Divya	Milind	29-07-02	8	Solapur	56	413-002	1
6	Patil	Shubham	Suresh	30-10-01	10	Dheku	90	410-203	1
7	Uikey	Mayur	Narendra	19-07-02	11	Akola	91	411-701	0
8	Khot	Nikit	Shivchandra	19-08-01	90	Kholhapur	29	430-203	1
9	Bhoir	Riya	Rajkumar	07-04-03	5	Pen	11	410-208	0
10	Thakur	Sakshi	Rajendra	10-08-05	9	Pen	89	410-203	1

Insert Query

Oracle SQL Developer : Sahil_Thakur

Tables (Filtered)

- ALBUM
- ALBUM_IDENTIFIER
- MUSICIAN_ID
- ALBUM_FORMAT
- ALBUM_TITLE
- COPYRIGHT_DATA
- AUTHOR
- AUTHOR_EMAIL
- AUTHOR_MOBILE_NO
- INSTRUMENT
- MUSICIAN
- MUSICIAN_EMAIL
- MUSICIAN_MOBILE_NO
- PLAYS
- SING
- SONG
- WRITES

```
INSERT INTO ALBUM
VALUES (22, 7, 'MP3','INDIAN_ARMY','20-04-2011');
```

Script Output

Task completed in 0.05 seconds

1 row inserted.

1 row inserted.

Musician table after peforming insert operation in album Table

Oracle SQL Developer : Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

FileEditViewNavigateRunTeamToolsWindowHelp

Connections

Oracle Connections

Sahil_Thakur

Tables (Filtered)

ALBUM

MUSICIAN_ID

ALBUM_FORMAT

ALBUM_TITLE

COPYRIGHT_DATA

AUTHOR

AUTHOR_EMAIL

AUTHOR_MOBILE_NO

INSTRUMENT

MUSICIAN

MUSICIAN_EMAIL

MUSICIAN_MOBILE_NO

PLAYS

SING

SONG

WRITES

Views

Reports

All Reports

Analytic View Reports

Data Dictionary Reports

Data Modeler Reports

OLAP Reports

TimesTen Reports

User Defined Reports

SQLTRIGGER.sqlWelcome PageSahil_ThakurMUSICIAN

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependenciesDetailsPartitionsIndexesSQL

SortFilter

	MUSICIAN_ID	M_LASTNAME	M_FIRSTNAME	M_MIDNAME	M_DATEOFBIRTH	M_HOUSENO	MCITY	M_STREETNO	M_PINCODE	ALBUMS_PRODUCED
1	1	Thakur	sahil	pravin	17-08-01	5	khopoli	21	410-203	1
2	2	Patil	Saurabh	Santosh	21-08-01	8	Pen	20	410-201	3
3	3	Acharya	Shubhankar	Ajit	01-01-03	5	satara	17	400-203	2
4	4	Pawar	Akashay	Ashok	13-08-01	9	satara	19	410-209	1
5	5	Kekade	Divya	Milind	29-07-02	8	Solapur	56	413-002	1
6	6	Patil	Shubham	Suresh	30-10-01	10	Dheku	90	410-203	1
7	7	Uikey	Mayur	Narendra	19-07-02	11	Akola	91	411-701	1
8	8	Khot	Nikit	Shivchandra	19-08-01	90	Kholhapur	29	430-203	1
9	9	Bhoir	Riya	Rajkumar	07-04-03	5	Pen	11	410-208	0
10	10	Thakur	Sakshi	Rajendra	10-08-05	9	Pen	89	410-203	1

Compiler - LogSaved: Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

2) Delete operation

Musician table before performing delete operation in album Table

Oracle SQL Developer : Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

MUSICIAN_ID	M_LASTNAME	M_FIRSTNAME	M_MIDNAME	M_DATEOFBIRTH	M_HOUSENO	MCITY	M_STREETNO	M_PINCODE	ALBUMS_PRODUCED
1	Thakur	sahil	pravin	17-08-01	5	khopoli	21	410-203	1
2	Patil	Saurabh	Santosh	21-08-01	8	Pen	20	410-201	3
3	Acharya	Shubhankar	Ajit	01-01-03	5	satara	17	400-203	2
4	Pawar	Akashay	Ashok	13-08-01	9	satara	19	410-209	1
5	Kekade	Divya	Milind	29-07-02	8	Solapur	56	413-002	1
6	Patil	Shubham	Suresh	30-10-01	10	Dheku	90	410-203	1
7	Uikey	Mayur	Narendra	19-07-02	11	Akola	91	411-701	1
8	Khot	Nikit	Shivchandra	19-08-01	90	Kholhapur	29	430-203	1
9	Bhoir	Riya	Rajkumar	07-04-03	5	Pen	11	410-208	0
10	Thakur	Sakshi	Rajendra	10-08-05	9	Pen	89	410-203	1

Query to perform delete operation

Oracle SQL Developer : Sahil_Thakur

Worksheet

Query Builder

0.073 seconds

Script Output

Task completed in 0.073 seconds

1 row updated.

1 row deleted.

Musician table after performing delete operation in album Table

Oracle SQL Developer : Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

FileEditViewNavigateRunTeamToolsWindowHelp

Connections

SQLTRIGGER.sqlWelcome PageSahil_ThakurMUSICIAN

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependenciesDetailsPartitionsIndexesSQL

	MUSICIAN_ID	M_LASTNAME	M_FIRSTNAME	M_MIDNAME	M_DATEOFBIRTH	M_HOUSENO	MCITY	M_STREETNO	M_PINCODE	ALBUMS_PRODUCED
1	1	Thakur	sahil	pravin	17-08-01	5	khopoli	21	410-203	1
2	2	Patil	Saurabh	Santosh	21-08-01	8	Pen	20	410-201	3
3	3	Acharya	Shubhankar	Ajit	01-01-03	5	satara	17	400-203	2
4	4	Pawar	Akashay	Ashok	13-08-01	9	satara	19	410-209	1
5	5	Kekade	Divya	Milind	29-07-02	8	Solapur	56	413-002	0
6	6	Patil	Shubham	Suresh	30-10-01	10	Dheku	90	410-203	1
7	7	Uikey	Mayur	Narendra	19-07-02	11	Akola	91	411-701	1
8	8	Khot	Nikit	Shivchandra	19-08-01	90	Kholhapur	29	430-203	1
9	9	Bhoir	Riya	Rajkumar	07-04-03	5	Pen	11	410-208	0
10	10	Thakur	Sakshi	Rajendra	10-08-05	9	Pen	89	410-203	1

Messages - Log

3) Update

Musician table before performing update operation in album Table

Oracle SQL Developer : Table 2020BTECS00042.MUSICIAN@Sahil_Thakur

FileEditViewNavigateRunTeamToolsWindowHelp

Connections

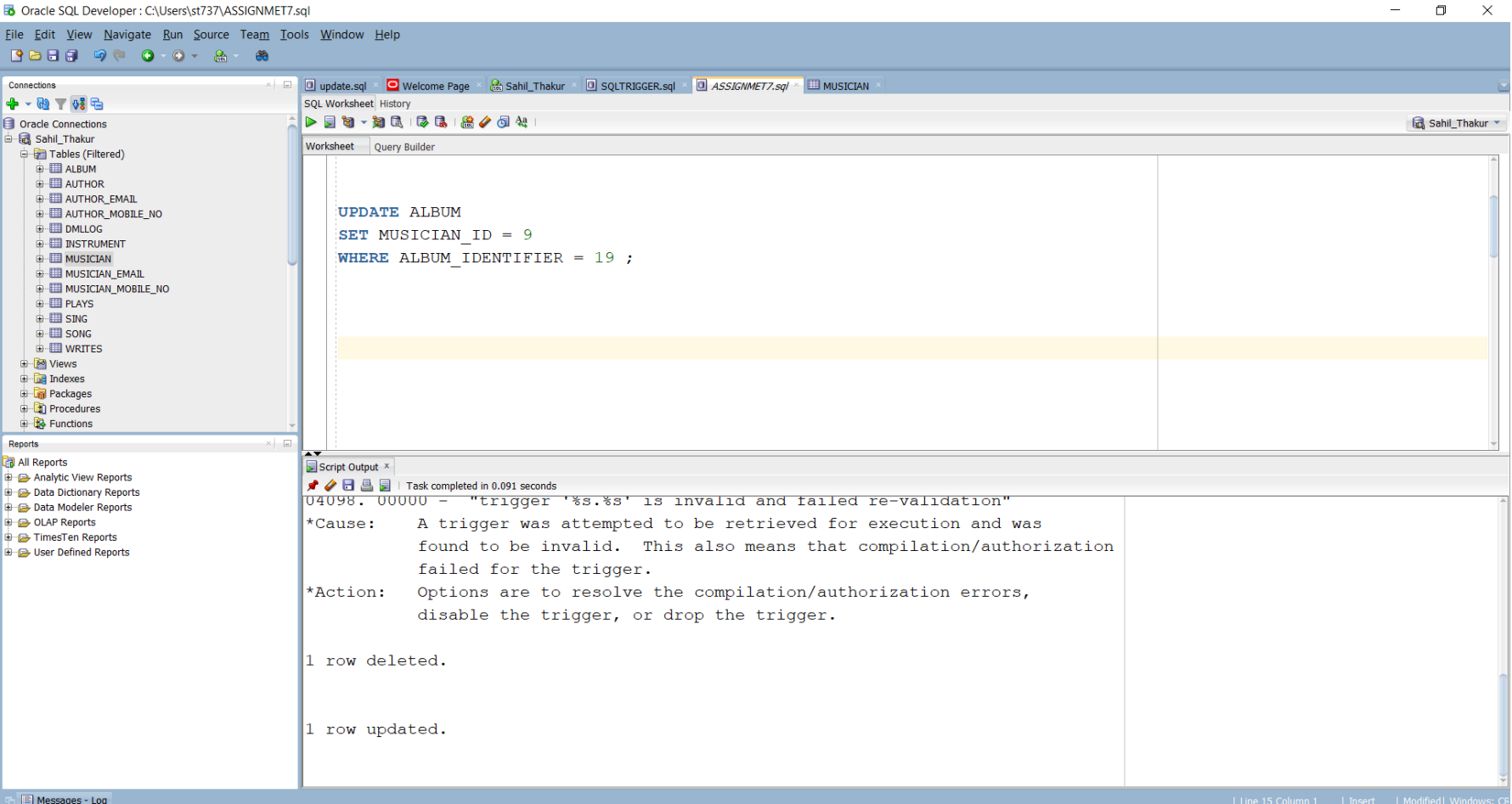
SQLTRIGGER.sqlWelcome PageSahil_ThakurMUSICIAN

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependenciesDetailsPartitionsIndexesSQL

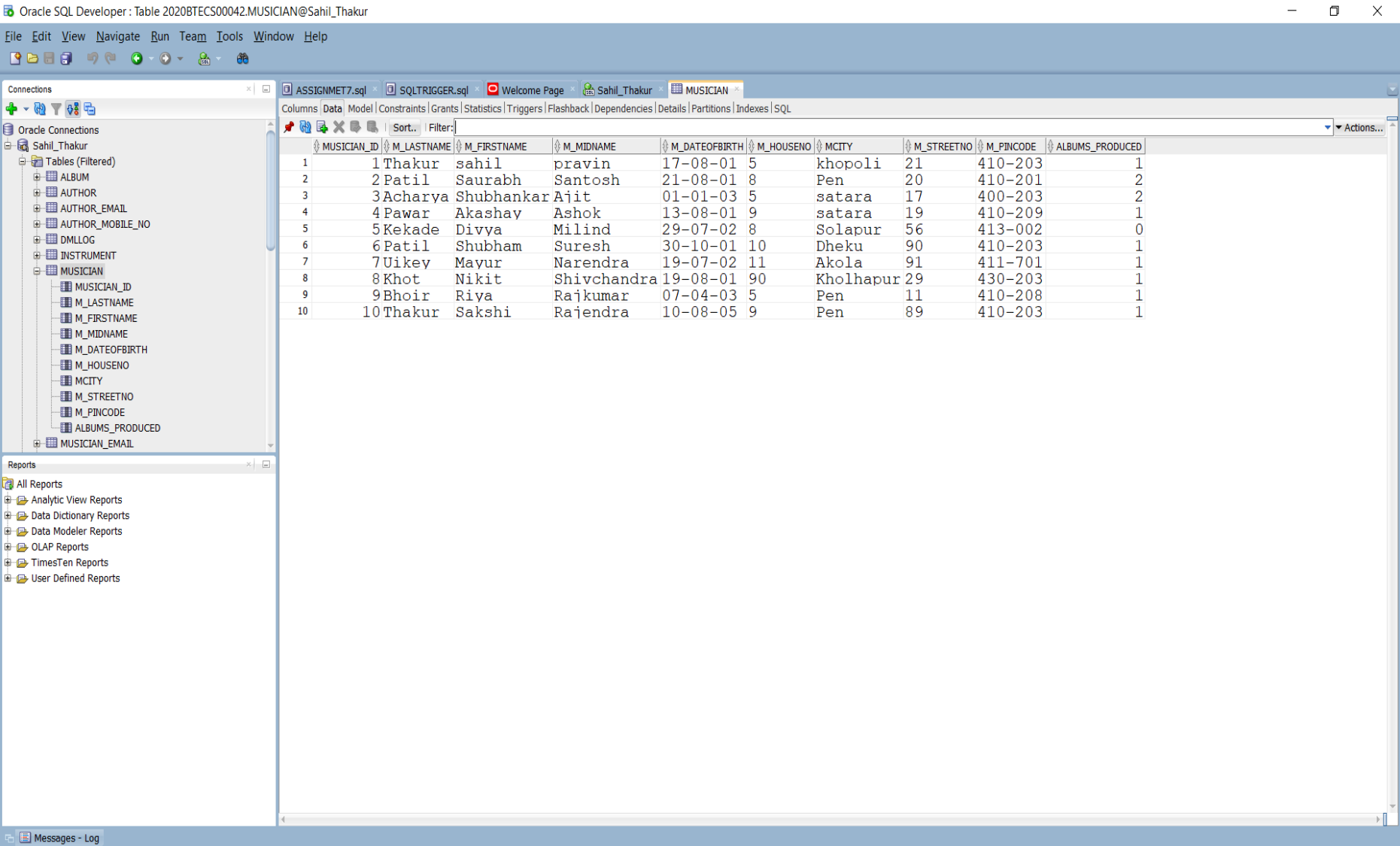
	MUSICIAN_ID	M_LASTNAME	M_FIRSTNAME	M_MIDNAME	M_DATEOFBIRTH	M_HOUSENO	MCITY	M_STREETNO	M_PINCODE	ALBUMS_PRODUCED
1	1	Thakur	sahil	pravin	17-08-01	5	khopoli	21	410-203	1
2	2	Patil	Saurabh	Santosh	21-08-01	8	Pen	20	410-201	3
3	3	Acharya	Shubhankar	Ajit	01-01-03	5	satara	17	400-203	2
4	4	Pawar	Akashay	Ashok	13-08-01	9	satara	19	410-209	1
5	5	Kekade	Divya	Milind	29-07-02	8	Solapur	56	413-002	0
6	6	Patil	Shubham	Suresh	30-10-01	10	Dheku	90	410-203	1
7	7	Uikey	Mayur	Narendra	19-07-02	11	Akola	91	411-701	1
8	8	Khot	Nikit	Shivchandra	19-08-01	90	Kholhapur	29	430-203	1
9	9	Bhoir	Riya	Rajkumar	07-04-03	5	Pen	11	410-208	0
10	10	Thakur	Sakshi	Rajendra	10-08-05	9	Pen	89	410-203	1

Messages - Log

Query to perform update operation

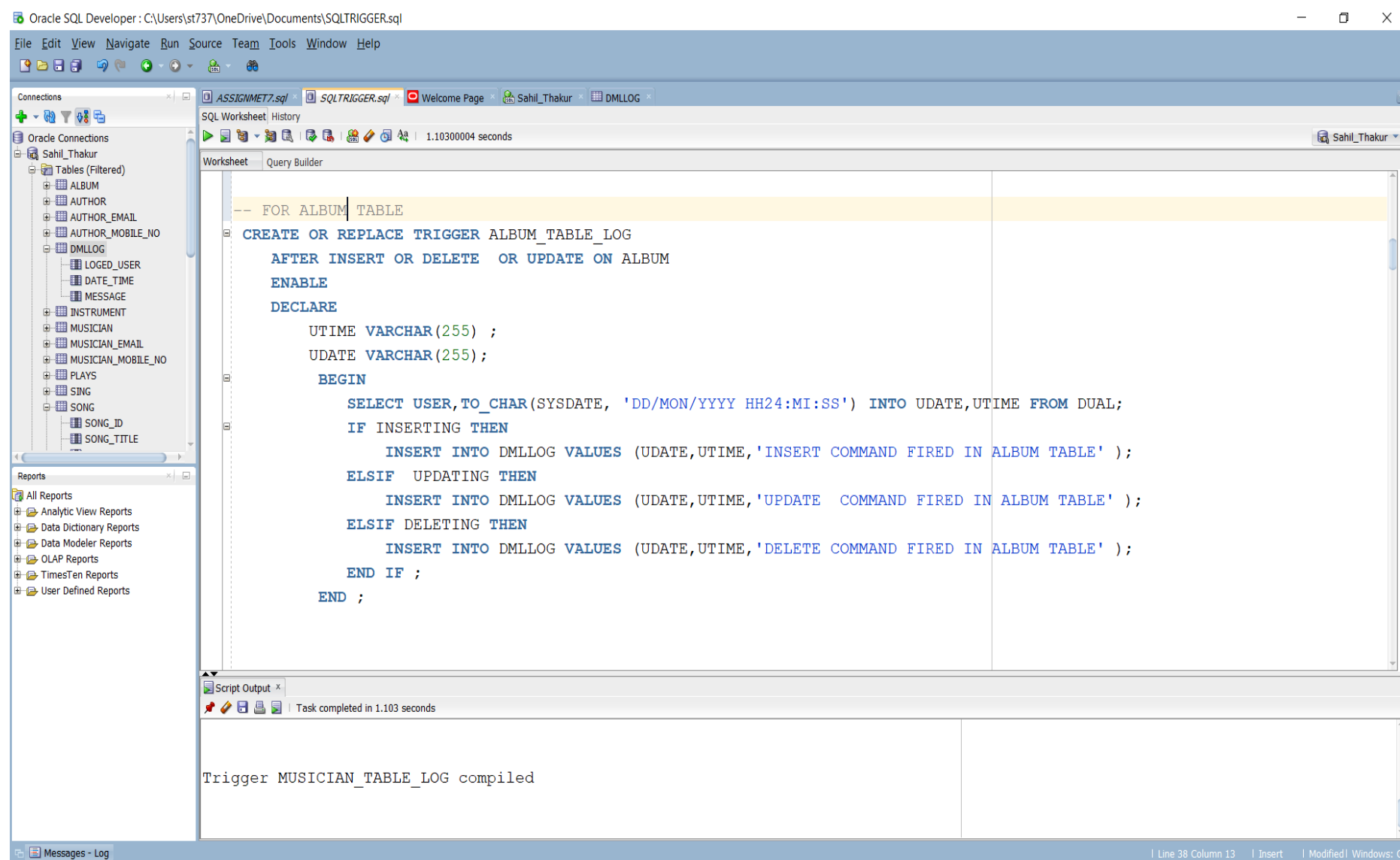


Musician table after performing update operation

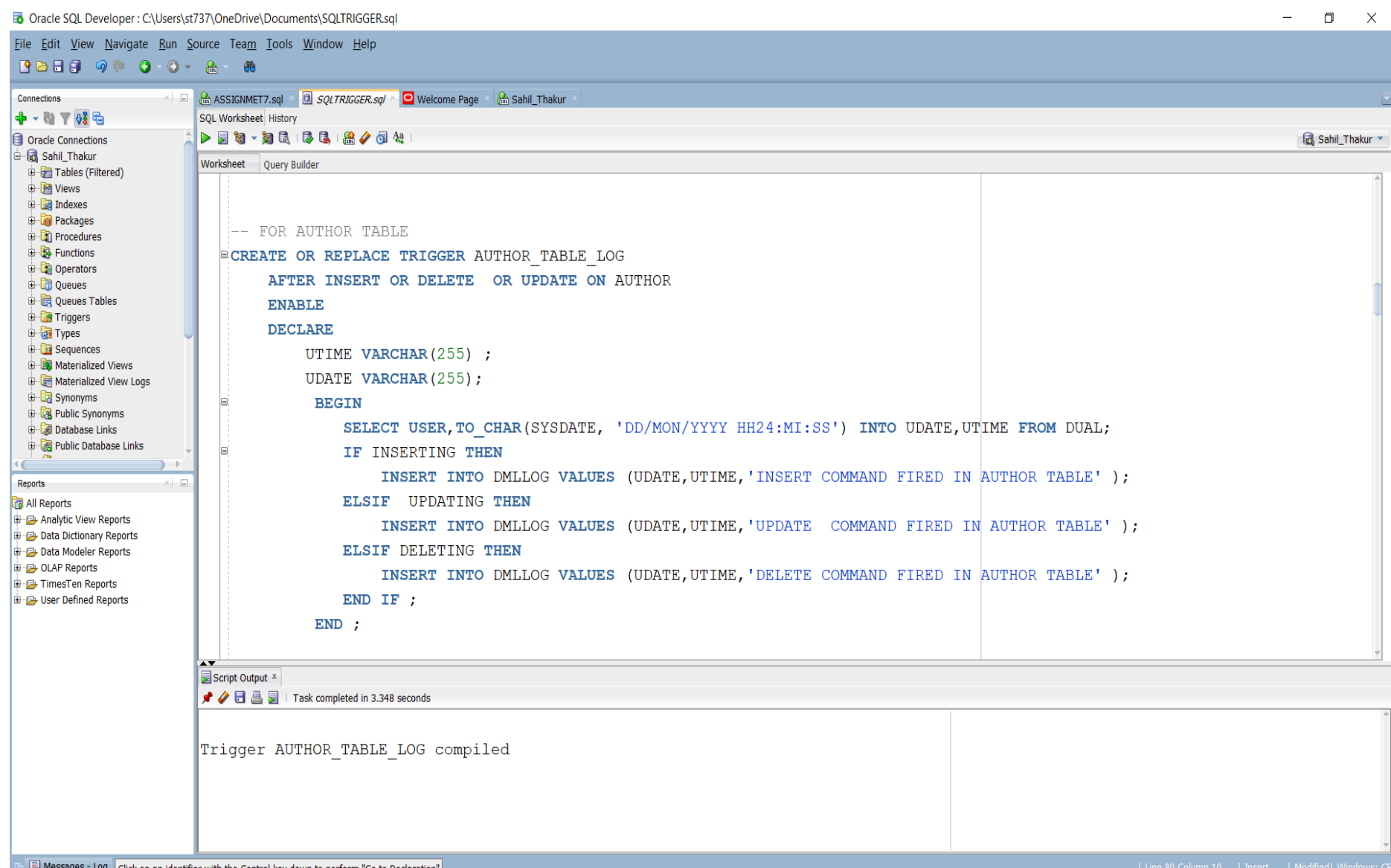


2) Statement Level trigger

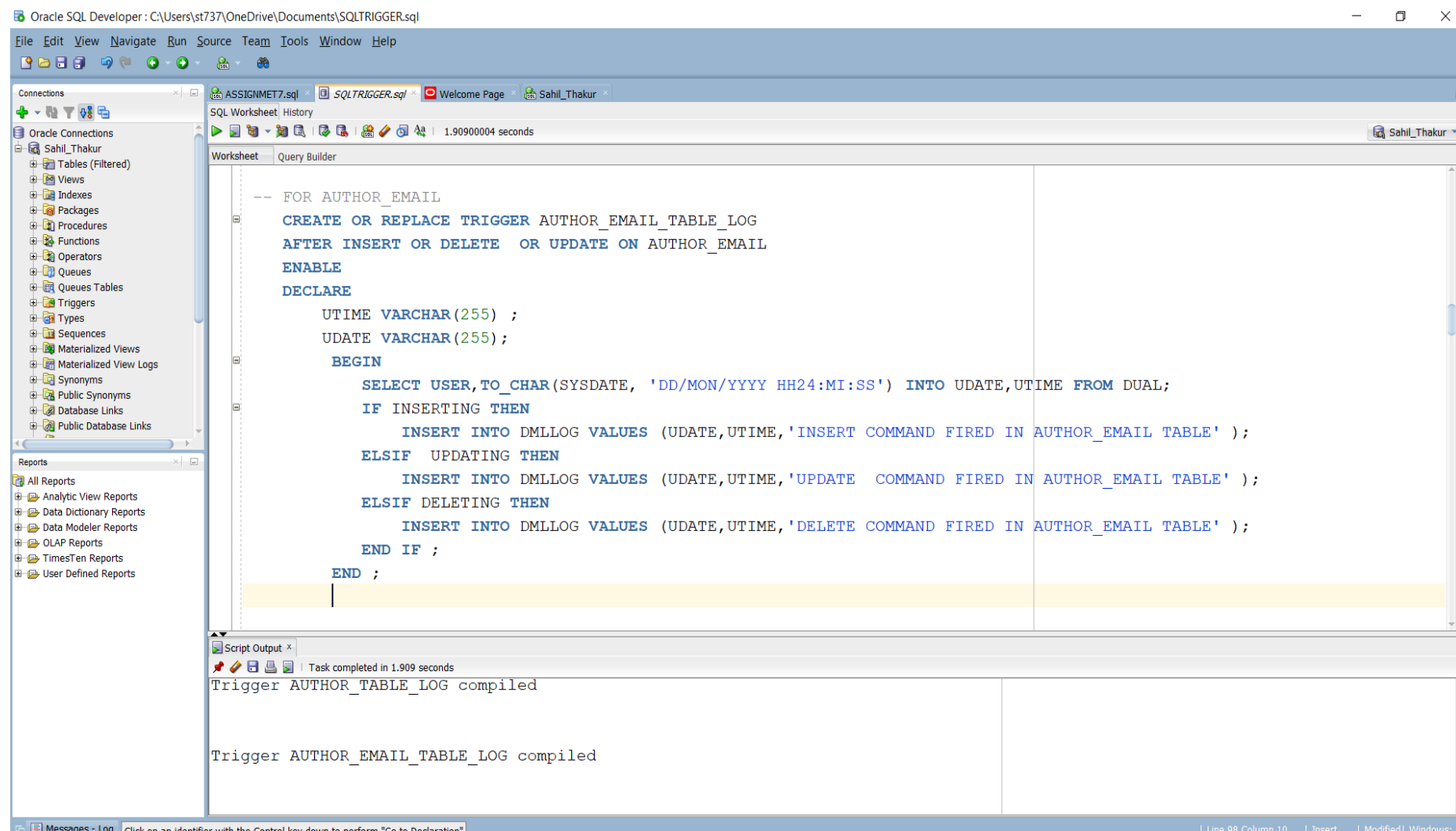
1) For Album Table



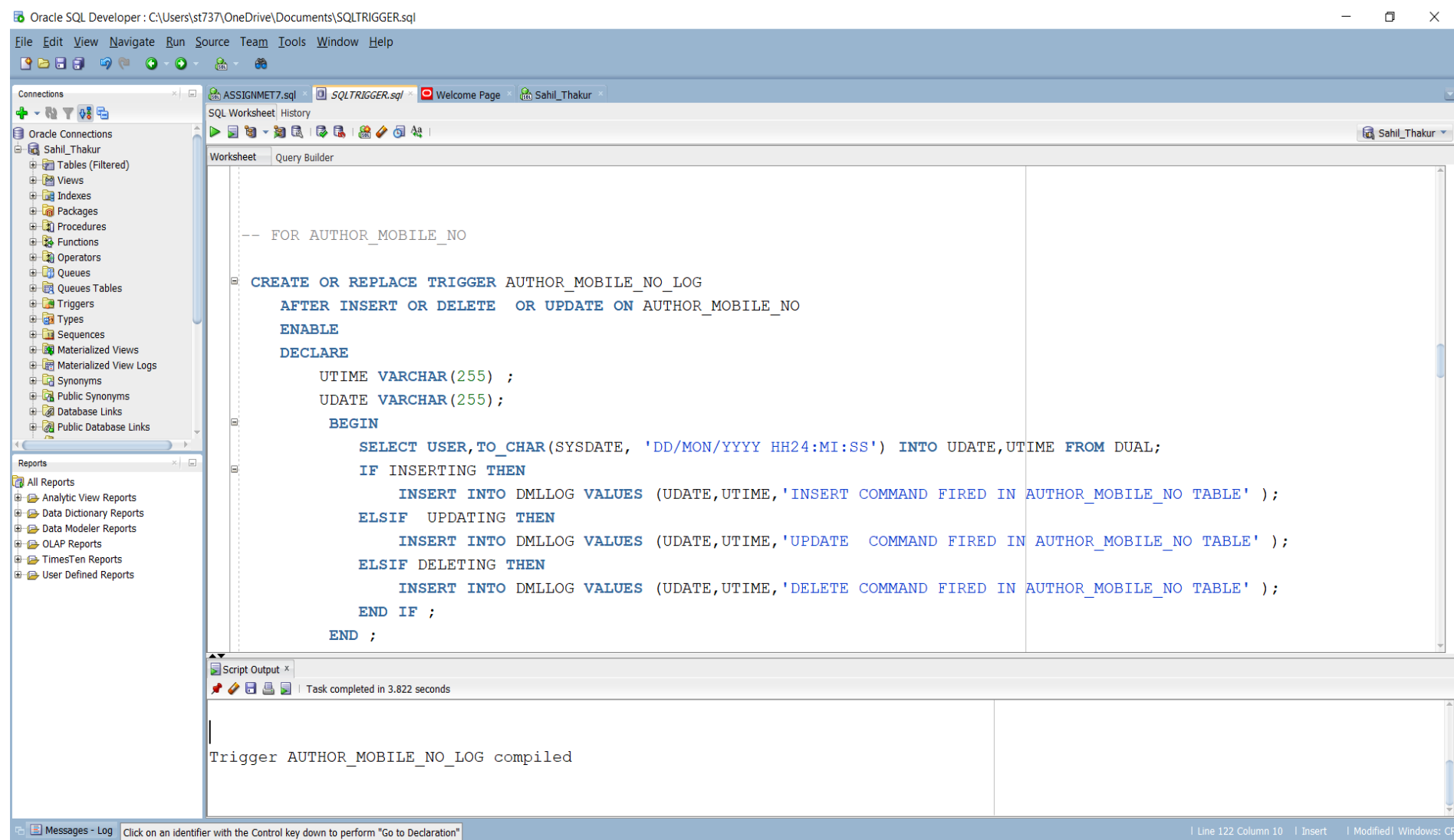
2) For Author Table



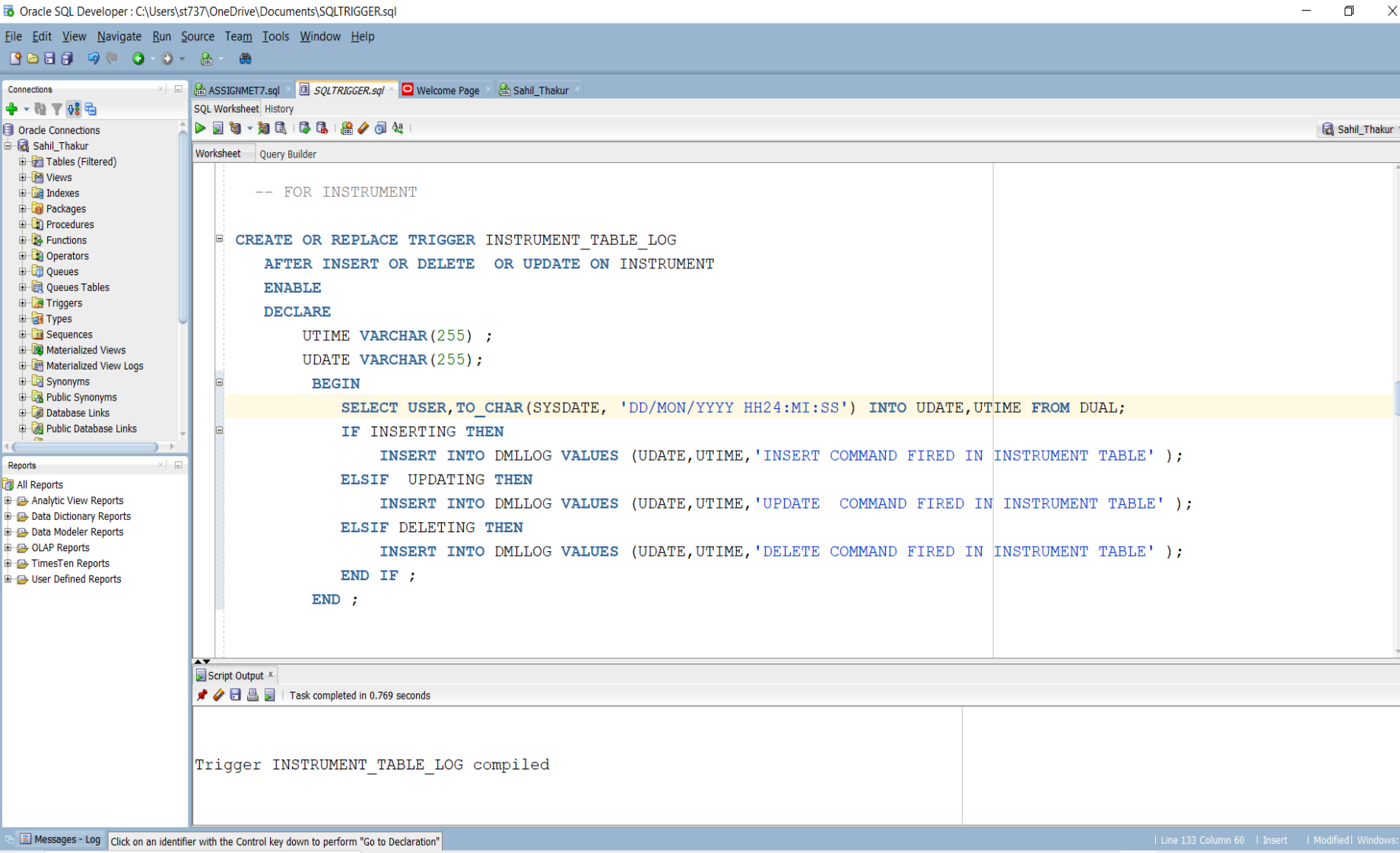
3) For Author_Email



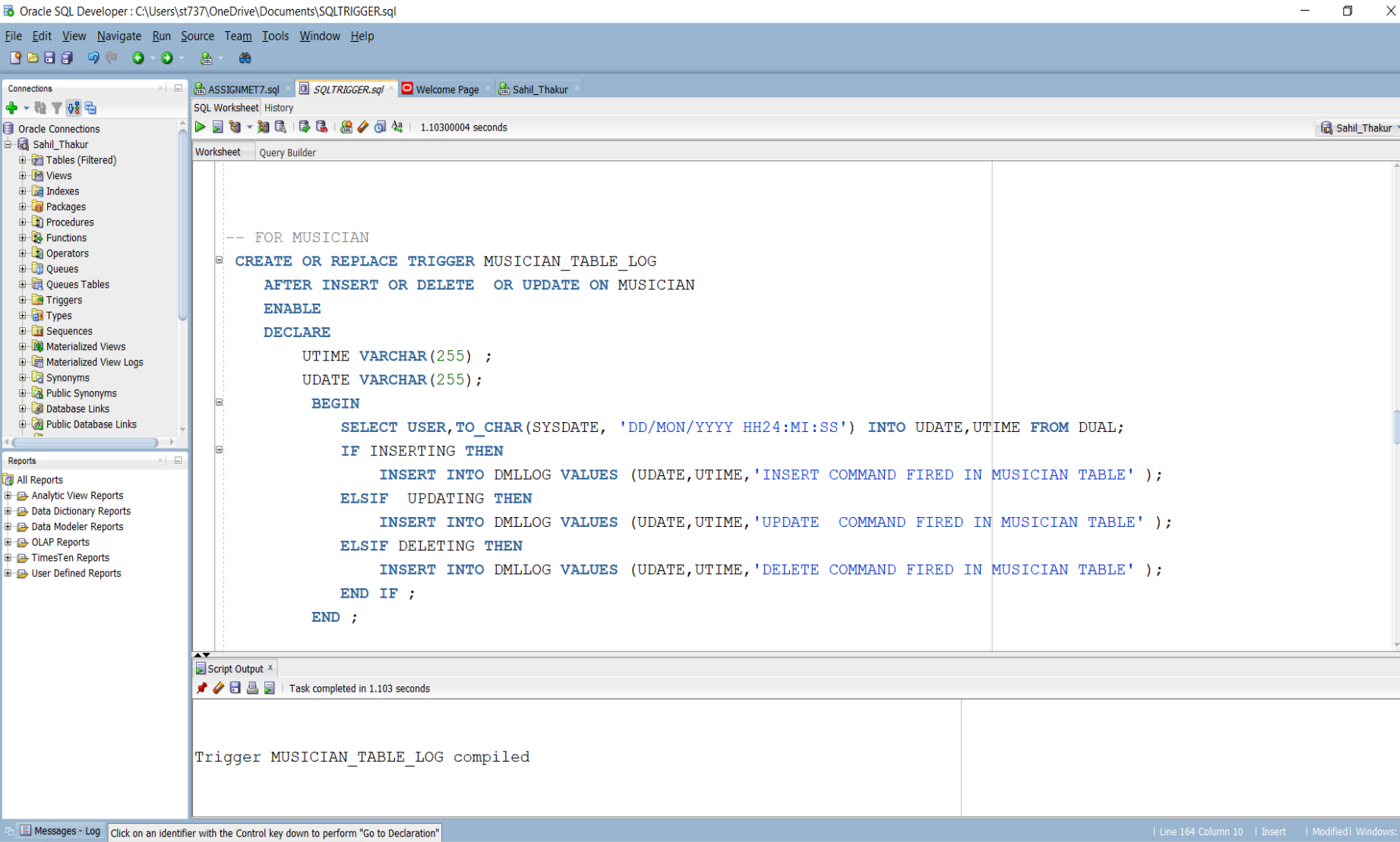
4) For Author_mobile_no



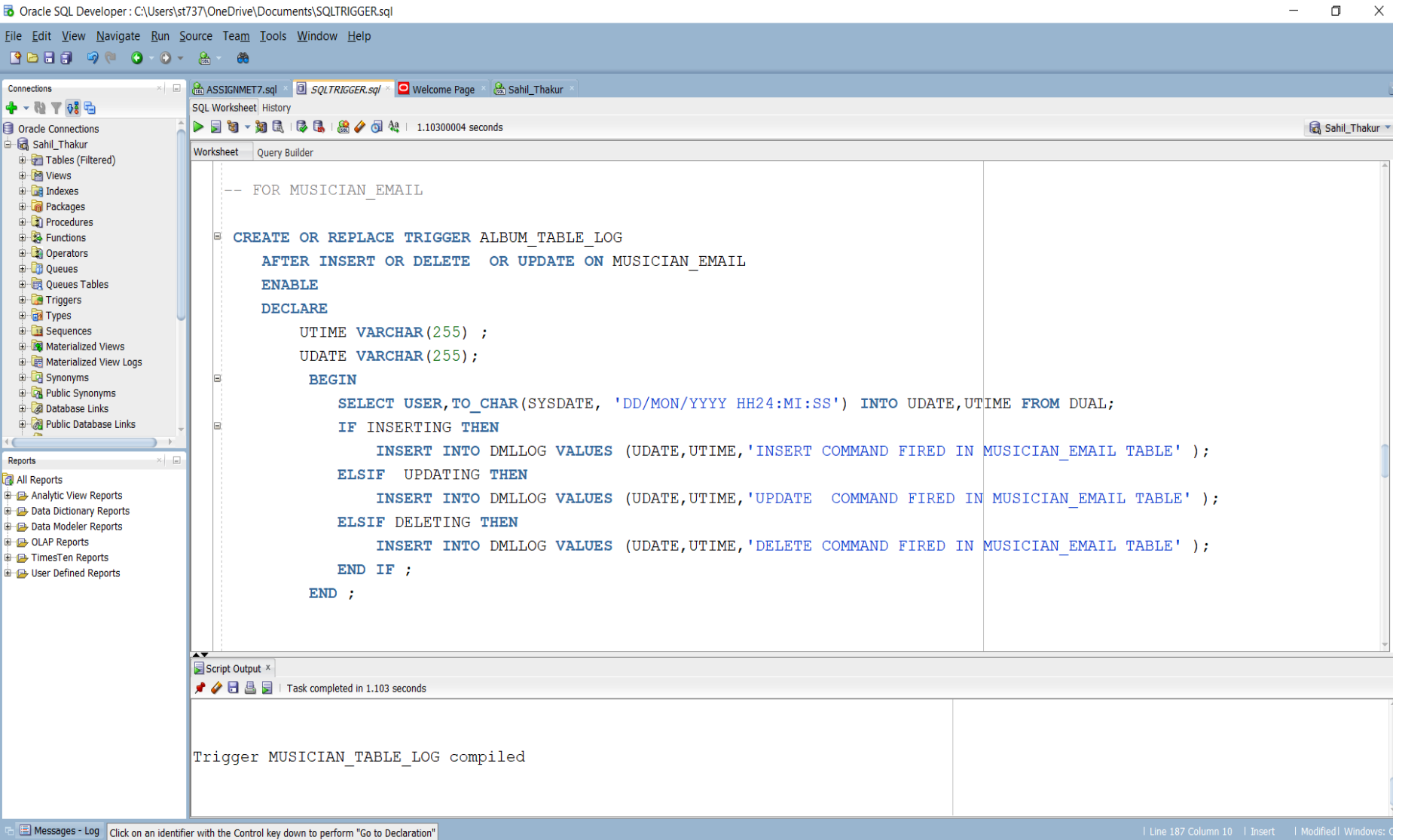
5) For Instriment Table



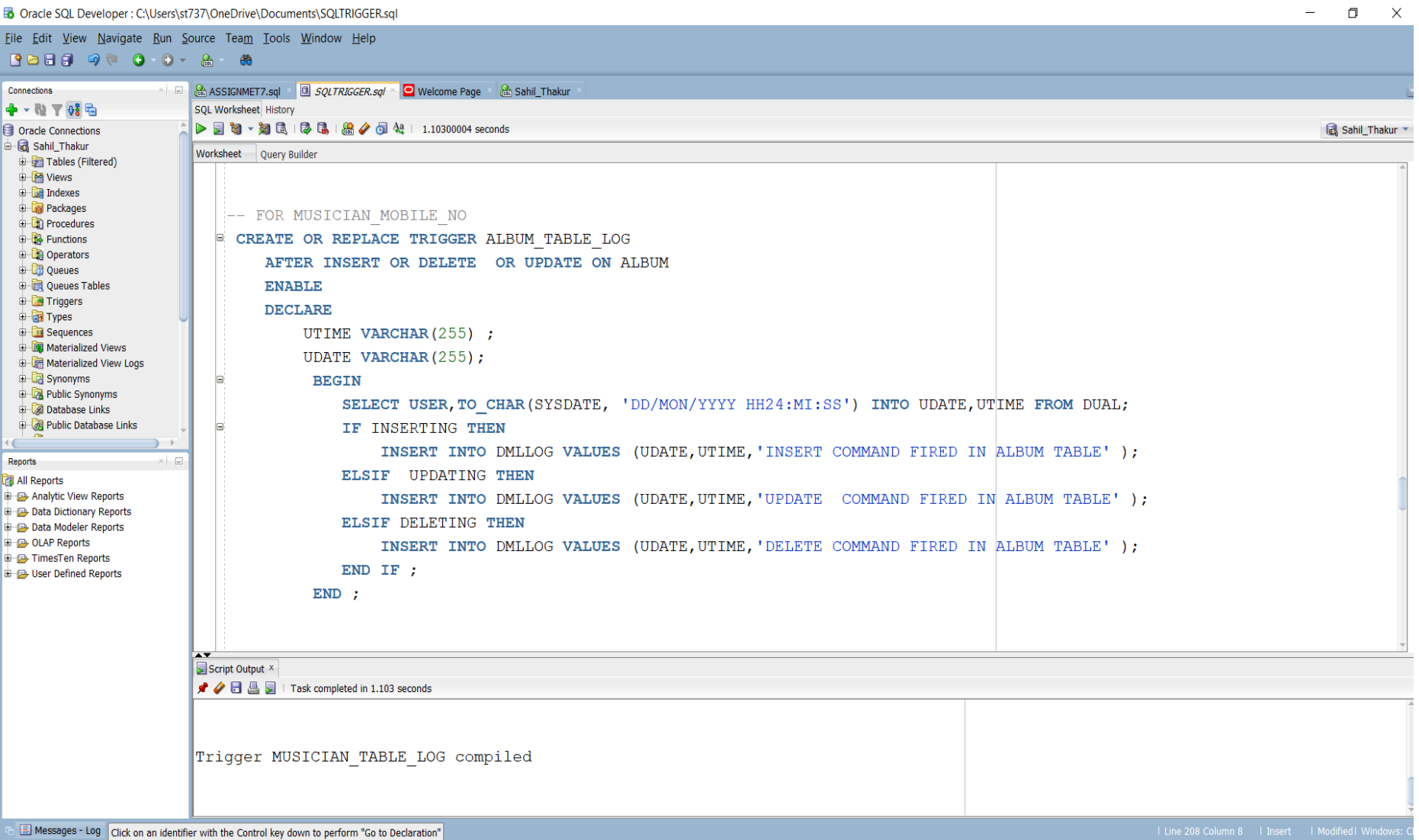
6) For Musician Table



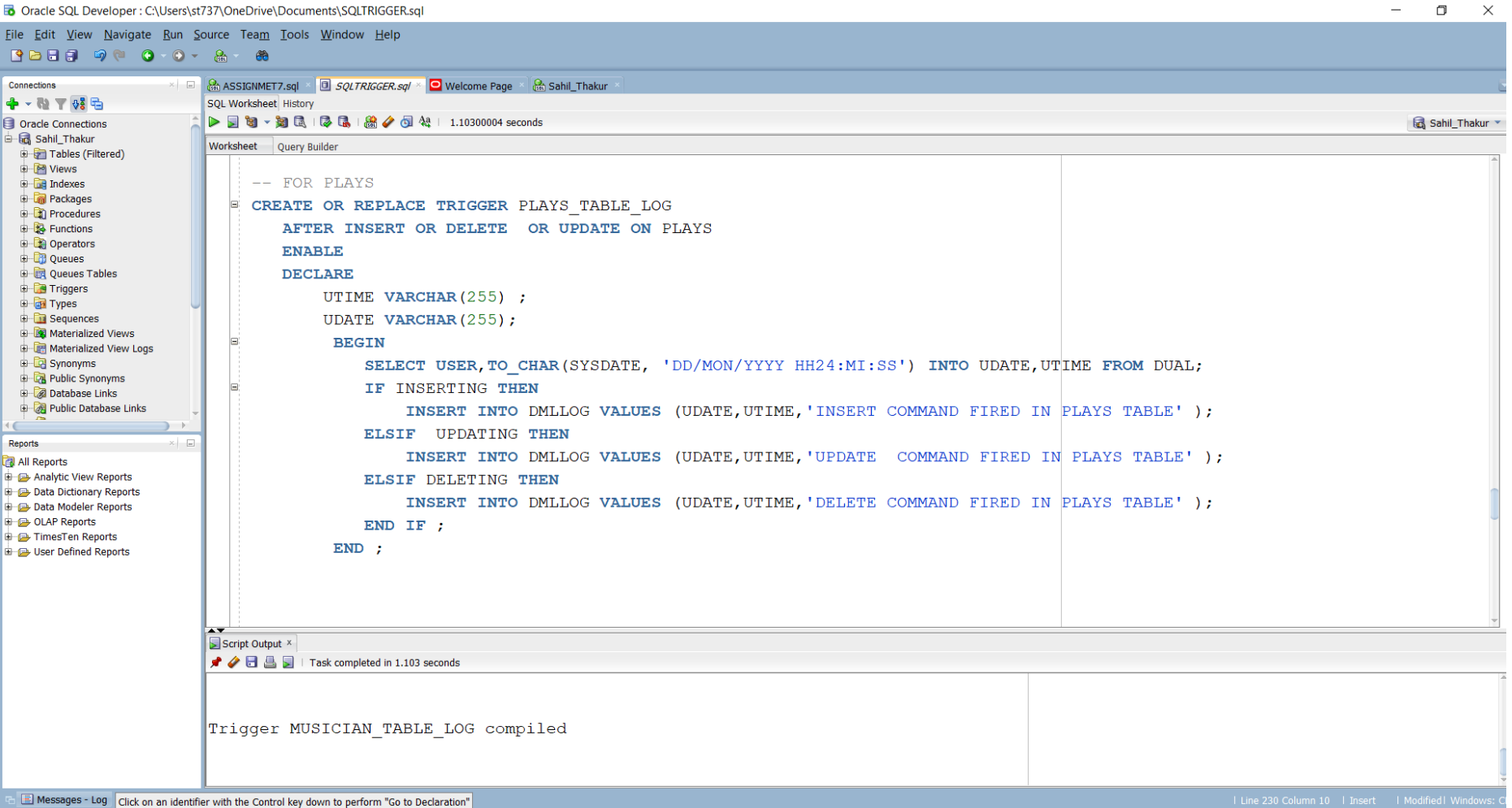
7) For Musician_email Table



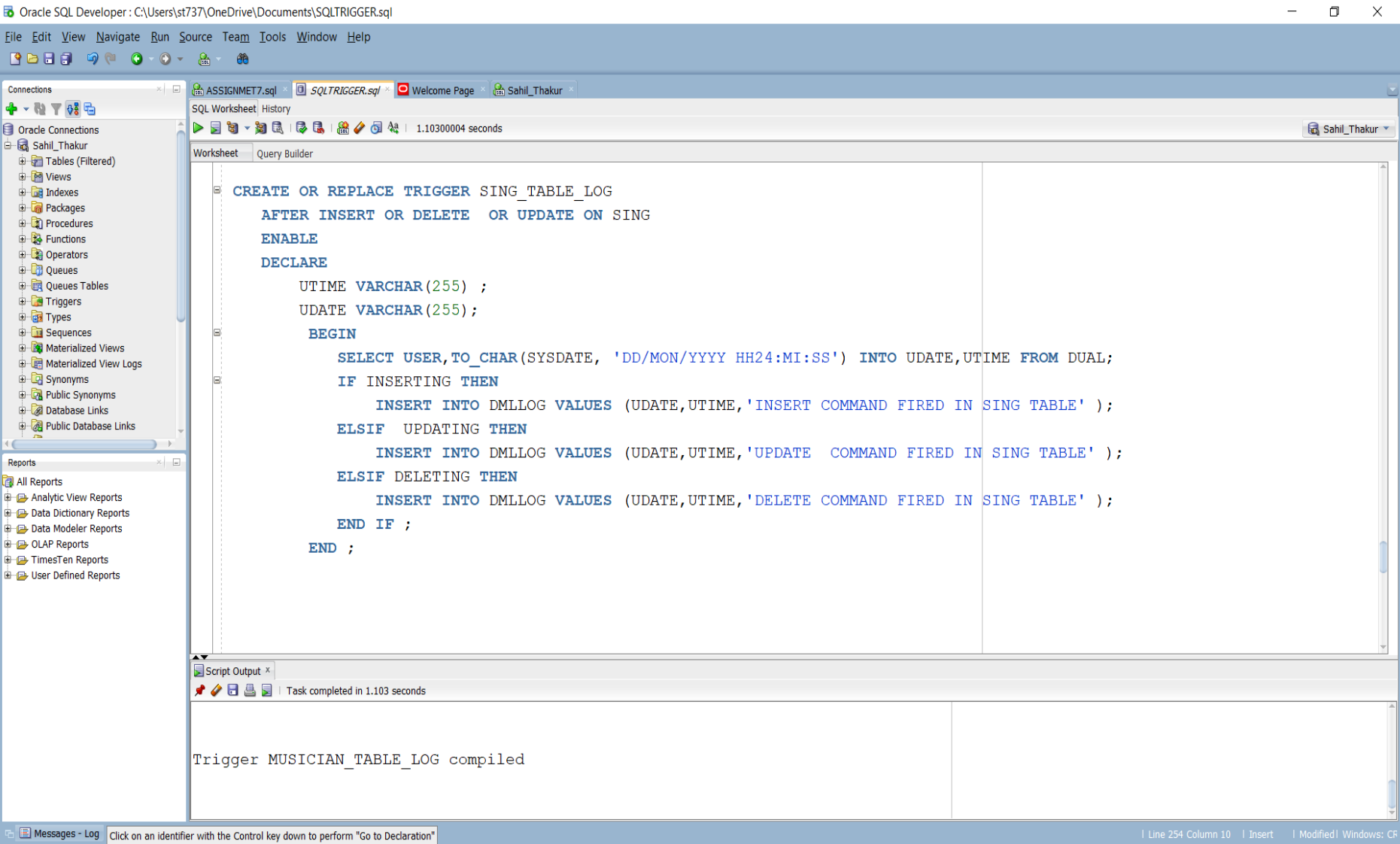
8) For Musician_Mobile_no



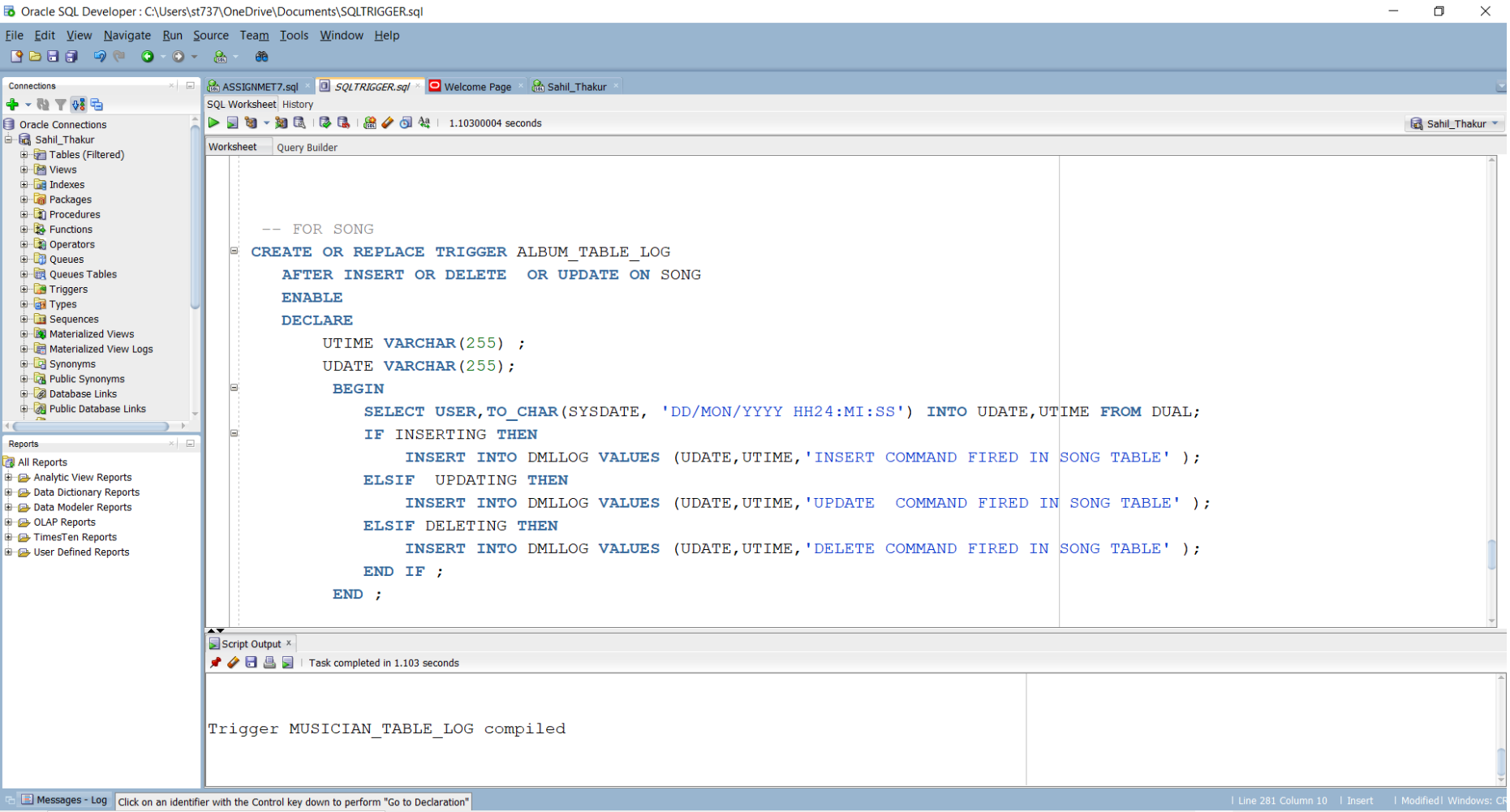
9) For Plays Table



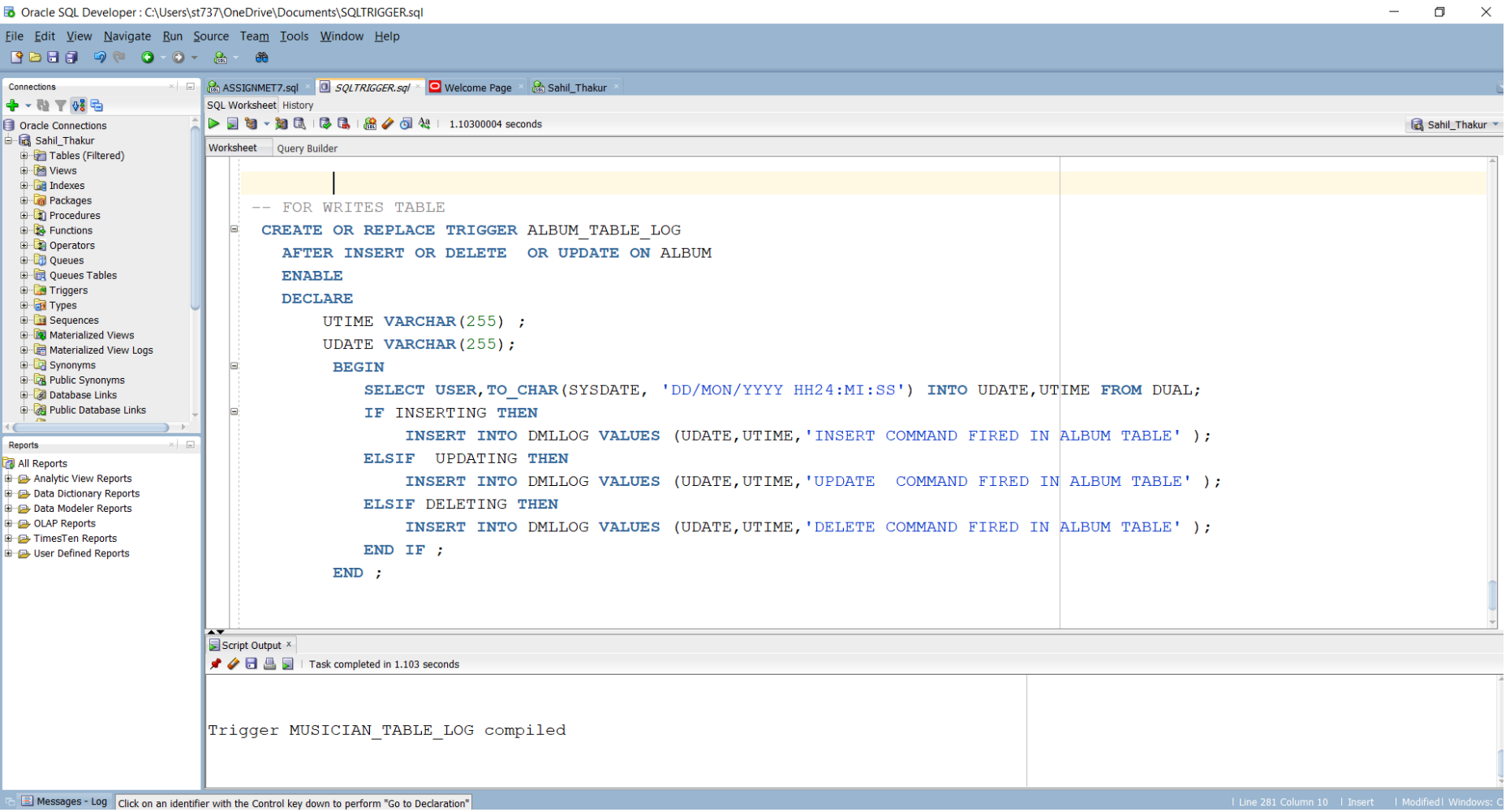
10) For SING Table



11) For Song Table



12) For Writes Table



DML Log

	LOGGED_USER	DATE_TIME	MESSAGE
1	2020BTECS00042	30/APR/2022 04:25:00	UPDATE COMMAND FIRED IN ALBUM TABLE
2	2020BTECS00042	30/APR/2022 04:42:59	DELETE COMMAND FIRED IN ALBUM TABLE
3	2020BTECS00042	30/APR/2022 09:40:54	DELETE COMMAND FIRED IN SING TABLE

Difference Between Row Level Trigger and Statement Level Trigger

1) Row-Level Triggers execute once for each and every row transection while Statement -level trigger execute only once for single transection

2) “FOR EACH ROW” clause is present in the creating the row-level-trigger while it omitted in statement-level trigger

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