



TABLE CREATION QUERY

Team- 1



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Objective:

The “Master_Table” table was designed to serve as a centralized, unified data structure by consolidating key fields from five interrelated datasets:

SOURCE TABLE	ALIAS	DESCRIPTION
Cognito data	cd	User identify, authentication, demographics
User data	ud	Learner details and academic information
Learner opportunity data	lo	Mapping between learners and opportunities
Opportunity data	od	Learning opportunity metadata
Cohort data	coh	Cohort grouping, timelines, and capacity

This consolidated table enhances:

- Query efficiency
- Reporting consistency
- Data- driven decision making

SQL Query Used:

The table was created using a CREATE TABLE AS SELECT (CTAS) query, as shown below:

```
CREATE TABLE Master_Table AS
```

```
SELECT
```

```
    cd.user_id AS cd_user_id,
```

```
    cd.email,
```

```
    cd.gender,
```

```
    cd.UserCreateDate,
```

```
    cd.UserLastModifiedDate,
```

```
    cd.birthdate,
```

```
    cd.city,
```

```
    cd.zip,
```

```
    cd.state,
```

```
    ud.user_id AS ud_user_id,
```

```
    ud.learner_id AS ud_learner_id,
```

```
    ud.country,
```

```
    ud.degree,
```

```
    ud.institution,
```

```
    ud.major,
```

```
    lo.enrollment_id,
```

```
    lo.learner_id,
```

```
    lo.assigned_cohort,
```

```
    lo.apply_date,
```

```
    lo.status,
```

```
    od.opportunity_id,
```

```
    od.opportunity_name,
```

```
    od.category,
```

```
od.opportunity_code,  
od.tracking_questions,
```

```
coh.cohort_id,  
coh.cohort_code,  
coh.start_date,  
coh.end_date,  
coh.size
```

```
FROM "CognitoData" cd  
JOIN "UserData" ud  
    ON cd.user_id = ud.user_id  
JOIN "LearnerOpportunity" lo  
    ON lo.enrollment_id = ud.learner_id  
JOIN "OpportunityData" od  
    ON lo.learner_id = od.opportunity_id  
JOIN "CohortData" coh  
    ON coh.cohort_code = lo.assigned_cohort;
```

Join Relationships Explained:

The relationships among tables are based on the following keys:

JOIN CONDITION	PURPOSE
cd.user_id= ud.user_id	Links user login/ authentication data with profile
ud.learner_id= lo.enrollment_id	Connects learner to opportunity application
lo.learner_id= od.opportunity_id	Maps opportunity application to opportunity metadata
lo.assigned_cohort= coh.cohort_code	Assigns learner to specific cohort session

These joins ensure logical integrity, even if foreign keys are not enforced at runtime.

Foreign Key References (Logical Design)

Though not applied via CTAS, the following relationships exist:

FIELD IN MASTER_TABLE	REFERENCES TABLE.COLUMN
cd_user_id	CognitoData.user_id
ud_learner_id	UserData.learner_id
enrollment_id	LearnerOpportunity.enrollment_id
opportunity_id	OpportunityData.opportunity_id
cohort_code	CohortData.cohort_code

Analytical & Operational Benefits:

The Master Table delivers several advantages:

- Eliminates repetitive joins during data analysis.
- Supports interactive dashboards (Power BI, Tableau, Google looker studio)
- Enables cross- domain analytics.
- Forms foundation for data quality checks and report automation.

Conclusion: The Marketing Data table was intentionally excluded as it has no relational linkage with other sources. It will be handled separately.