

A decorative graphic on the left side of the slide, consisting of a network of white lines and circles on a teal background, resembling a circuit board or a neural network.

# WEEK 5

SQL – DOING SELECTS AND VIEWS

# STUDENT OBJECTIVES

- Upon completion of this video, you should be able to:
  - View attributes and rows from one table
  - Join tables together and view their data
  - Create a view
  - Create an alias for a table or an attribute

## Basic Queries:

**SELECT** AttrName[, AttrName] **FROM** TableName[, TableName]  
**WHERE** Condition;

**Example:** *attribute* *Table.*  
**SELECT** name **FROM** pet **WHERE** species = "Dog";

or

*all.*  
**SELECT** \* **FROM** pet, owner **WHERE** pet.ownerid = owner.ownerid;  
(this is a join)

*ie. SELECT name, type FROM pet WHERE age > 10.*

*joining tables:*

*SELECT \* FROM owner, pet WHERE ownerid = pet.ownerid.*

*or using: WHERE owner.ownerid = pet.ownerid.*  
*TableName.attribute.*

# Creating Views:

```
CREATE VIEW ViewName AS SELECT AttrName[,  
    AttrName] FROM TableName[,TableName] WHERE  
    Condition;
```

Example: *view is for the case that you'll repeatedly using  
SELECT.*

```
CREATE VIEW ownersandpets AS SELECT firstname,  
    lastname, name FROM pet, owner WHERE  
    owner.ownerid=pet.ownerid;  
SELECT * FROM ownersandpets;
```

**QUESTION: What is a view and why do we need views?**

A searchable object that doesn't STORE data like a table but allows you to query it like a table, a virtual table (retrieves data from the real tables that are being combined together)

# Tuple Variables and Aliases

- Used for long tables or to change column names within the same table.
- For example, consider this table:

```
CREATE TABLE emp (ssn CHAR(3), name VARCHAR(20), salary INT,  
    supervisorssn CHAR(3), PRIMARY KEY(ssn), FOREIGN  
    KEY(supervisorssn) REFERENCES emp(ssn));
```

```
mysql> SELECT * FROM emp;
```

| ssn | name            | salary | supervisorssn |
|-----|-----------------|--------|---------------|
| 333 | Homer Simpson   | 40000  | 666           |
| 444 | Monty Burns     | 100000 | NULL          |
| 555 | Carl Friend     | 50000  | 666           |
| 666 | Waylan Smithers | 45000  | 444           |
| 777 | Lisa Simpson    | 20000  | 666           |

```
5 rows in set (0.00 sec)
```

NOW do this query in sql: *Find all employee bosses and their workers.*

```
mysql> SELECT * FROM emp;
```

| ssn | name            | salary | supervisorssn |
|-----|-----------------|--------|---------------|
| 333 | Homer Simpson   | 40000  | 666           |
| 444 | Monty Burns     | 100000 | NULL          |
| 555 | Carl Friend     | 50000  | 666           |
| 666 | Waylan Smithers | 45000  | 444           |
| 777 | Lisa Simpson    | 20000  | 666           |

5 rows in set (0.00 sec)

```
mysql> SELECT e.name AS "Supervisor Name", e2.name AS  
"Employee Name" FROM emp e, emp e2 WHERE  
e.ssn=e2.supervisorssn;
```

| Supervisor Name | Employee Name   |
|-----------------|-----------------|
| Waylan Smithers | Homer Simpson   |
| Waylan Smithers | Carl Friend     |
| Monty Burns     | Waylan Smithers |
| Waylan Smithers | Lisa Simpson    |

4 rows in set (0.00 sec)