Session 4-2 Retrieving Data from Database

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SELECT Statement to Retrieve Data

```
SELECT [ALL/DISTINCT] column_list
FROM table_list
[WHERE conditional expression]
[GROUP BY group_by_column_list]
[HAVING conditional expression]
[ORDER BY order_by_column_list]
```

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Useful Commands

- What tables are in your database?
  - `SELECT table_name from user_tables;`
- What columns are in a specific table?
  - E.g., “customers” table: `DESCRIBE customers;`

SELECT Statement Syntax

- Syntax gives the basic structure, or rules, for a command
- Optional clauses and keywords are shown in brackets

```
SELECT  [DISTINCT | UNIQUE] (*, columnname [ AS alias], …)
        FROM      tablename
        [WHERE    condition]
        [GROUP BY group_by_expression]
        [HAVING   group_condition]
        [ORDER BY columnname];
```

Figure 2-2 Syntax for the SELECT statement

SELECT Statement Syntax (cont'd)

- SELECT and FROM clauses are required
- SELECT clause identifies column(s)
- FROM clause identifies table(s)
- Each clause begins with a keyword

Selecting All Data in a Table

- Substitute an asterisk for the column names in a SELECT clause

```
SELECT *
FROM customers;
```

Figure 2-3 Command to select all data within a table

Selecting One Column from a Table

- Enter column name in SELECT clause

```
SELECT title
FROM books;
```

Figure 2-5 Command to select a single column

Selecting Multiple Columns from a Table

- Separate column names with a comma

```
SELECT title, pubdate
FROM books;
```

Figure 2-8 Command to select multiple columns from a table

Wrap-up

- SELECT statement
- Retrieve a column(s) from a single table