

Data Dev

Build a Database

teacher's quick-start tutorial

SQL Server



ORACLE®





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Session Outline

- Explore Basics of SQL
- Create a SQL Database
- Query Database using SQL
- Write a Simple PHP Webpage
- Develop PHP / MySQL Examples

SQL

How do you say **SQL**?

/ɛs.kjuːˈɛl/

OR

/'siːkwəl/

Structured Query Language

- programming and managing data in RDBMS
- ubiquitous database language

SQL

SQL functions fit into broad categories:

Data definition language

create database objects: tables, indexes and views
define access rights to database objects

Data manipulation language

includes commands to INSERT, UPDATE, DELETE and retrieve (SELECT) data within database tables

Basic Query Structure

```
SELECT column1, column2, ...  
FROM table_name;
```

column1, column2, are the field names
table_name ... is the table name

Exanded Query Structure

```
SELECT column1, column2, ...  
FROM table_name  
WHERE predicate/condition  
ORDER BY columnX;
```

column1, column2, are the field names

table_name ... is the table name

predicate/condition ... allows us to filter our results

order by ... ASC or DESC

SQL Keywords (a few of them)

AND/OR

ALTER

AS

BETWEEN

CREATE

DELETE

DROP

EXISTS

GROUP BY

HAVING

JOIN

LIKE

ORDER BY

SELECT

TRUNCATE

UNION

UPDATE

WHERE

UML

- The **Unified Modeling Language** is a general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system.



Hands-On Exercises

Using Cloud9's PHP/MySQL Workspace Template:

- **IDE** exploration (*using phpMyAdmin*)
- **Database** creation
- **Table** creation
- **Data** insertion
- **Query** execution

<https://github.com/mplyler/dev.catalyst-data.dev>

PHP Basics

PHP (recursive acronym for **PHP**: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

PHP Syntax

A **PHP** script starts with **<?php** and ends with **?>**:

```
<?php  
    // PHP code goes here  
?>
```

PHP Syntax

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>Basic PHP Page</h1>
```

```
<?php
```

```
    echo "Hello World!";
```

```
?>
```

```
</body>
```

```
</html>
```


PHP Syntax Facts

- php scripts can be added anywhere in the document
- keywords, classes and functions are not case-sensitive
- variable names are case-sensitive
- variables start with \$, followed by name (cannot start with a number)

Web Server Diagram



Hands-On Exercises

Using Cloud9's PHP/MySQL Workspace Template:

- **Hello World**
- **Connect to Database**
- **Simple Data Submission**
- **Form Submit** (*with “AJAX” functionality*)

<https://github.com/mplyler/dev.catalyst-data.dev>

The Next Steps

- Build on Basic Examples
- Challenge Yourself to Create a Small Project
- Develop a Balanced Approach:
80% Preparation/Planning
20% Coding

Questions?



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