

C.R.U.D.

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www.wa4e.com

http://www.wa4e.com/code/crud.zip



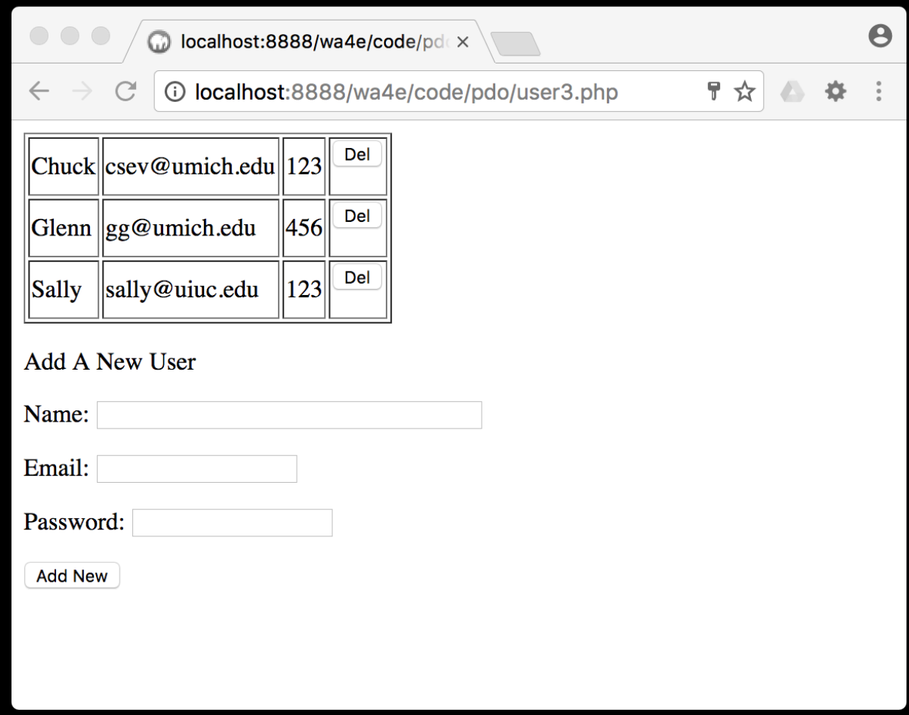
CRUD Pattern

- When we store things in database tables we generally need
  - Create - Insert a new row
  - Read - Read existing row(s)
  - Update - Change some values of a record
  - Delete - Delete a record
- So far we have done most of CRUD

Our Program is a Little Ugly

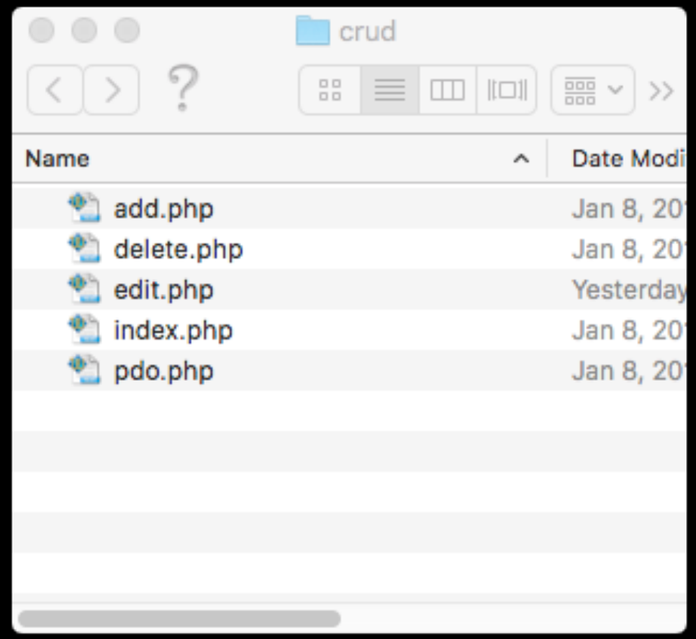
Usually we create several screens

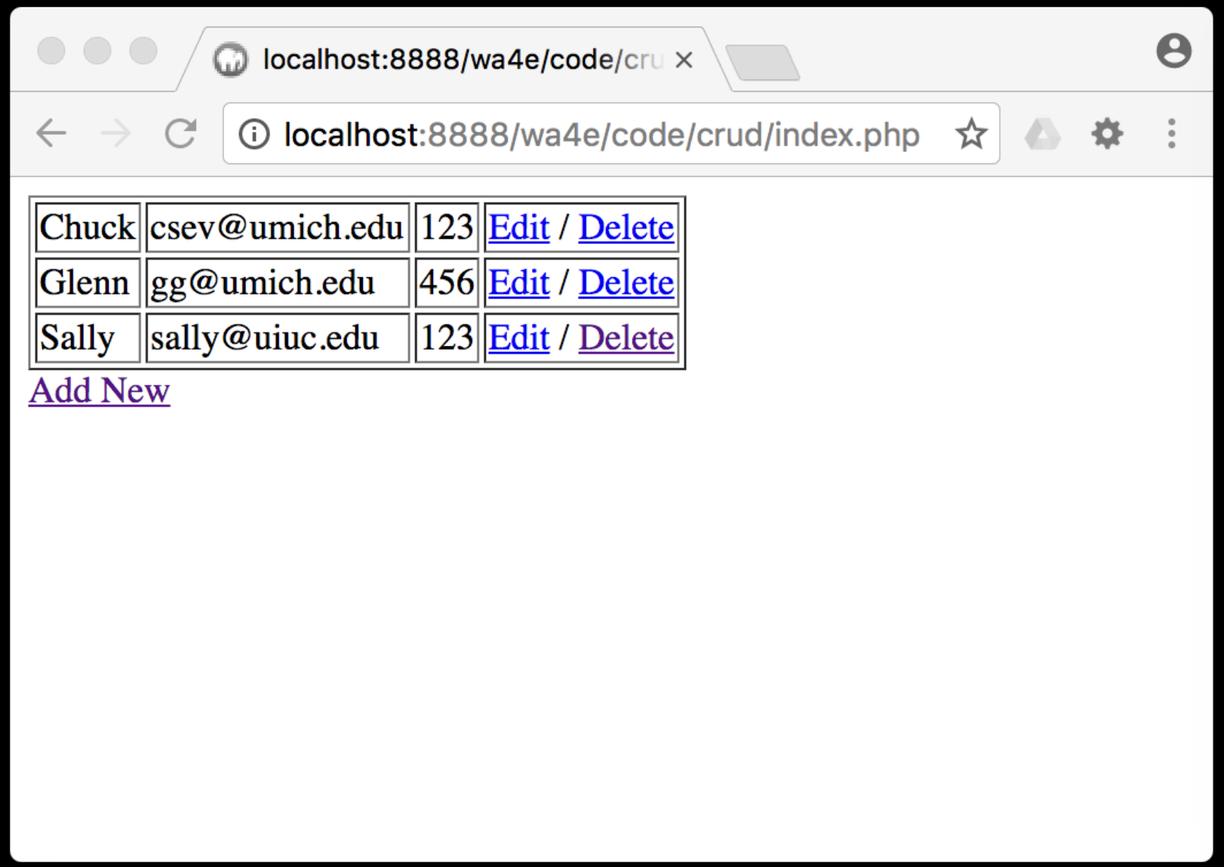
- Add new row
- View all rows (paging)
- View single row
- Edit single row
- Delete a row

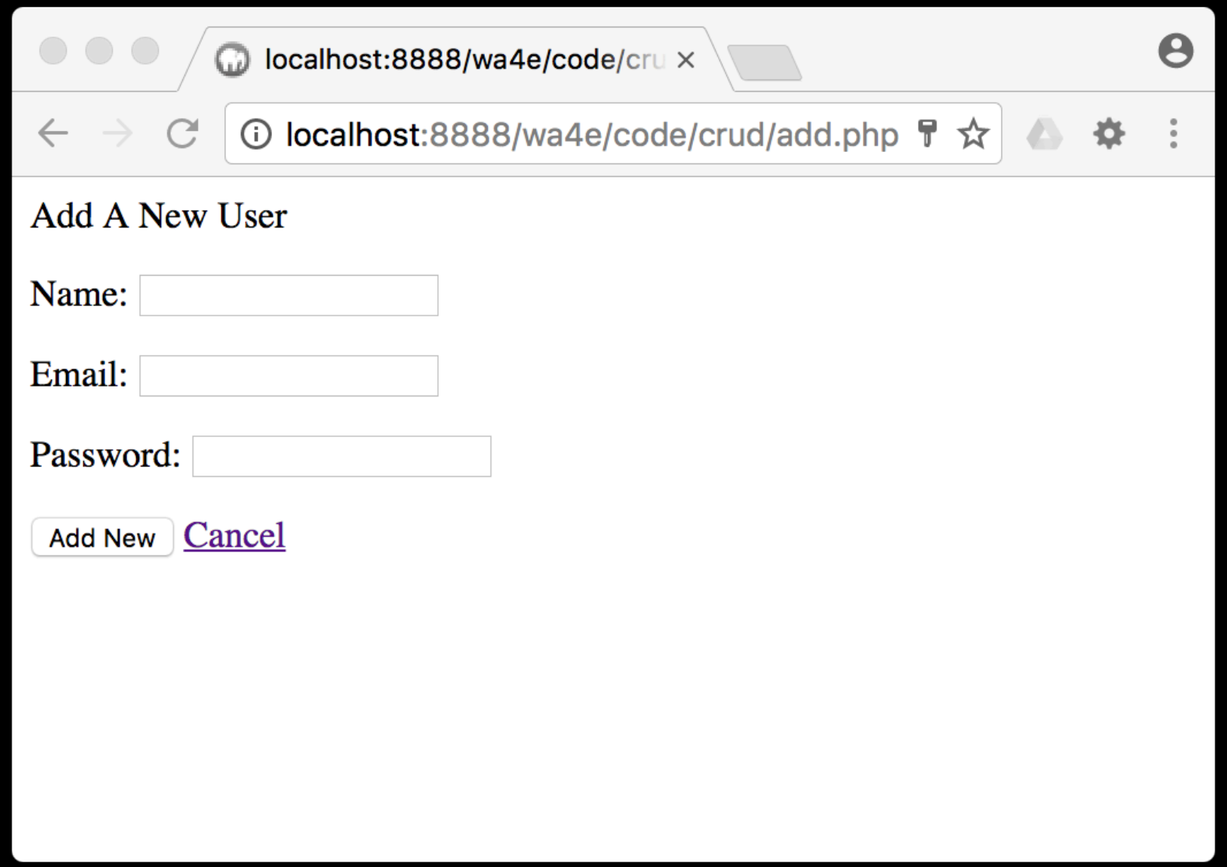


Five Separate Files

- index.php - Main list and links to other files
- add.php - Add a new entry
- delete.php - Delete an entry
- edit.php - Edit existing
- view.php (if index.php needs a detail view)




localhost:8888/wa4e/code/cru
localhost:8888/wa4e/code/crud/index.php
Chuck csev@umich.edu 123 Edit / Delete
Glenn gg@umich.edu 456 Edit / Delete
Sally sally@uiuc.edu 123 Edit / Delete
Add New

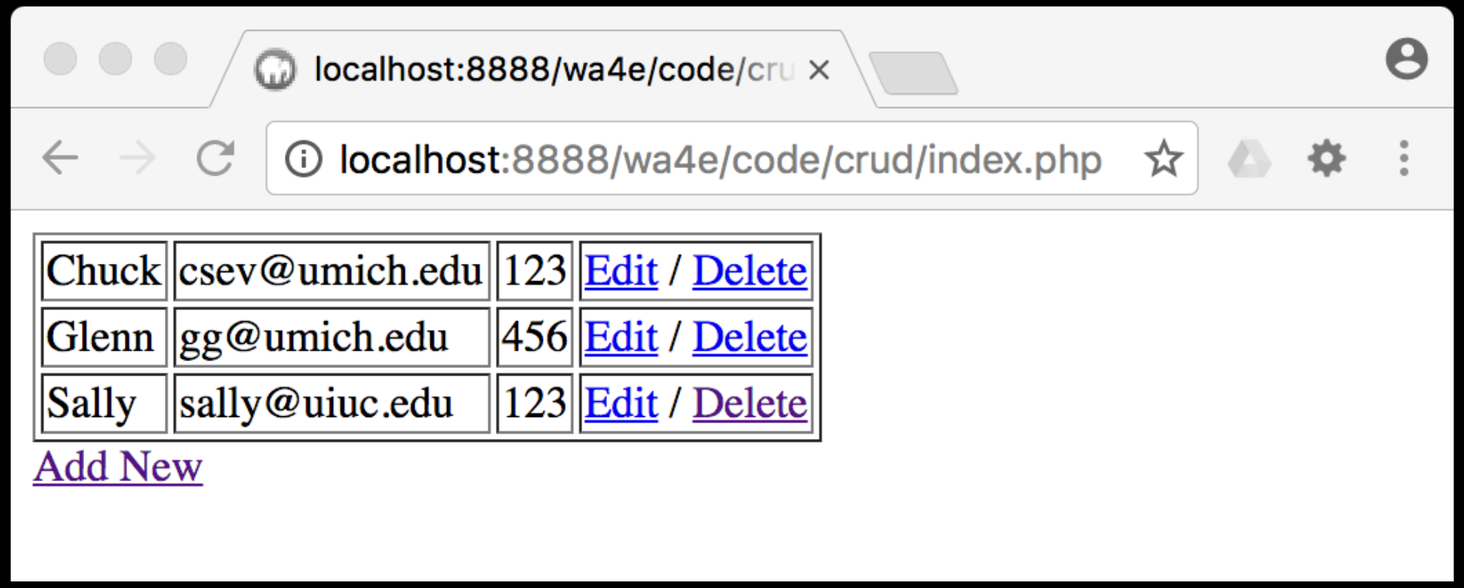

localhost:8888/wa4e/code/cru
localhost:8888/wa4e/code/crud/add.php
Add A New User
Name:
Email:
Password:
Add New
Cancel

index.php

```php
<?php
require_once "pdo.php";
session_start();
?>
<html><head></head>
<body>
<?php
if ( isset($_SESSION['error']) ) {
    echo '<p style="color:red">'.$_SESSION['error']."</p>\n";
    unset($_SESSION['error']);
}
if ( isset($_SESSION['success']) ) {
    echo '<p style="color:green">'.$_SESSION['success']."</p>\n";
    unset($_SESSION['success']);
}
echo('<table border="1">'."\n");
```

index.php

```php
<?php
echo('<table border="1">'."\n");
$stmt = $pdo->query("SELECT name, email, password, user_id FROM users");
while ( $row = $stmt->fetch(PDO::FETCH_ASSOC) ) {
    echo "<tr><td>";
    echo(htmlentities($row['name']));
    echo("</td><td>");
    echo(htmlentities($row['email']));
    echo("</td><td>");
    echo(htmlentities($row['password']));
    echo("</td><td>");
    echo('<a href="edit.php?user_id='.$row['user_id'].'">Edit</a> / ');
    echo('<a href="delete.php?user_id='. $row['user_id'].'">Delete</a>');
    echo("\n</form>\n");
    echo("</td></tr>\n");
}
?>
</table>
<a href="add.php">Add New</a>
?>
```

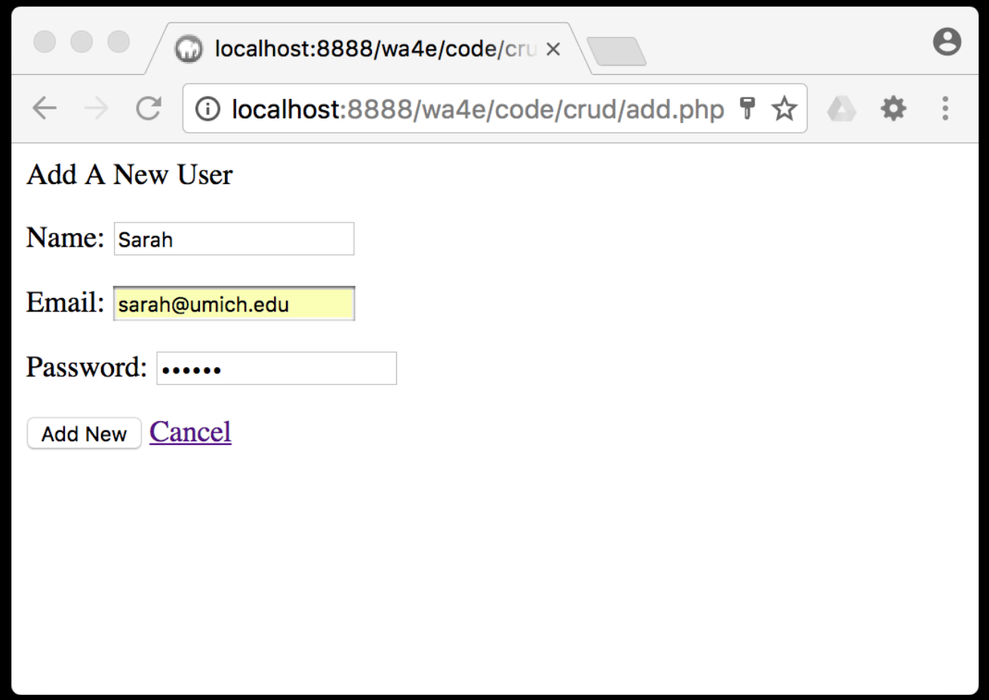


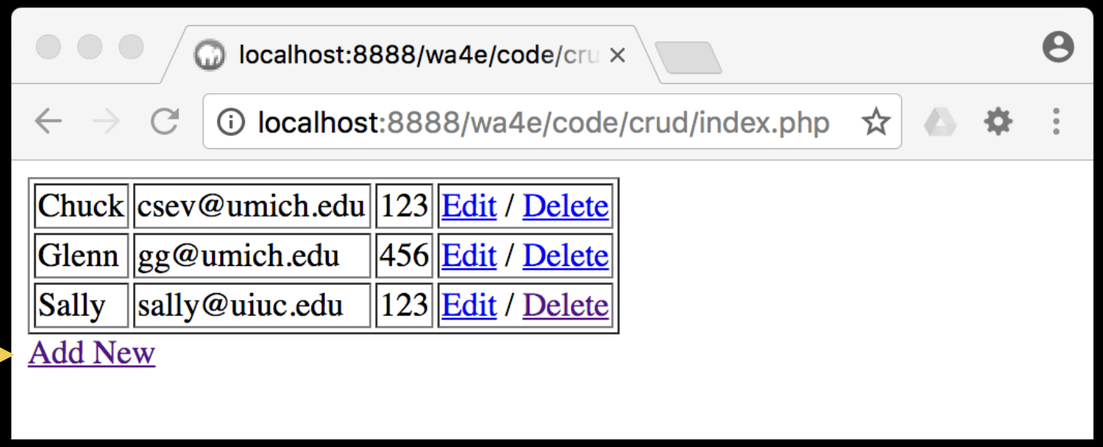

```
<tr><td>Chuck</td><td>csev@umich.edu</td><td>123</td><td>
<a href="edit.php?user_id=1">Edit</a> /
<a href="delete.php?user_id=1">Delete</a></td></tr>

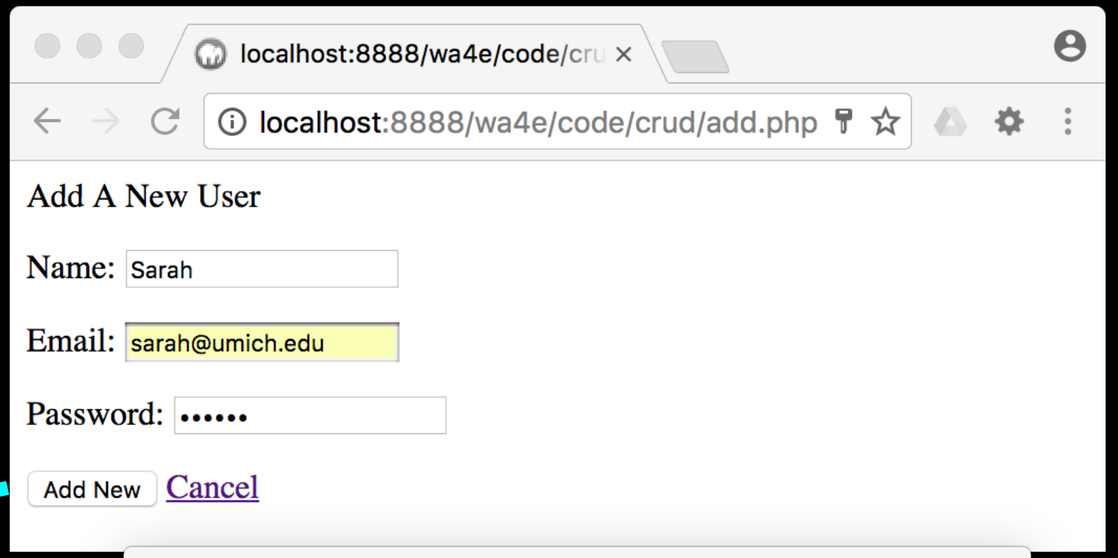
<tr><td>Glenn</td><td>gg@umich.edu</td><td>456</td><td>
<a href="edit.php?user_id=2">Edit</a> /
<a href="delete.php?user_id=2">Delete</a></td></tr>
```

add.php

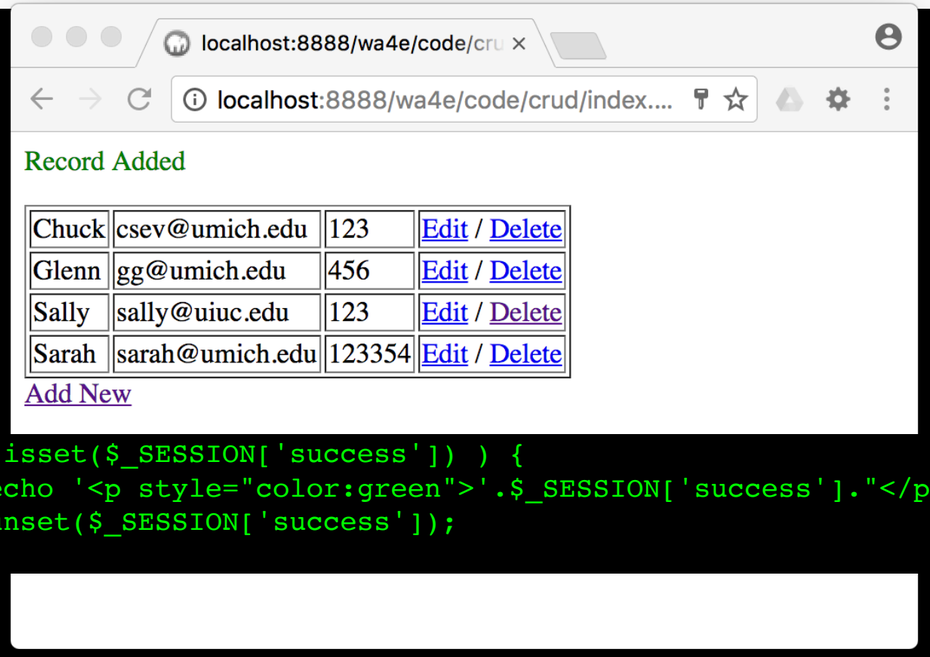
```php
<?php
require_once "pdo.php";
session_start();
if ( isset($_POST['name']) && isset($_POST['email'])
      && isset($_POST['password'])) {
    $sql = "INSERT INTO users (name, email, password)
              VALUES (:name, :email, :password)";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(
        ':name' => $_POST['name'],
        ':email' => $_POST['email'],
        ':password' => $_POST['password']));
    $_SESSION['success'] = 'Record Added';
    header( 'Location: index.php' ) ;
    return;
}
?>
<p>Add A New User</p>
<form method="post">
<p>Name:<input type="text" name="name"></p>
<p>Email:<input type="text" name="email"></p>
<p>Password:<input type="password" name="password"></p>
<p><input type="submit" value="Add New"/>
<a href="index.php">Cancel</a></p>
</form>
```








```php
<?php
if ( isset($_POST['name']) && isset($_POST['email'])
      && isset($_POST['password'])) {
    $sql = "INSERT INTO users (name, email, password)
              VALUES (:name, :email, :password)";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(
        ':name' => $_POST['name'],
       ':email' => $_POST['email'],
       ':password' => $_POST['password']));
   $_SESSION['success'] = 'Record Added';
   header( 'Location: index.php' ) ;
   return;
```



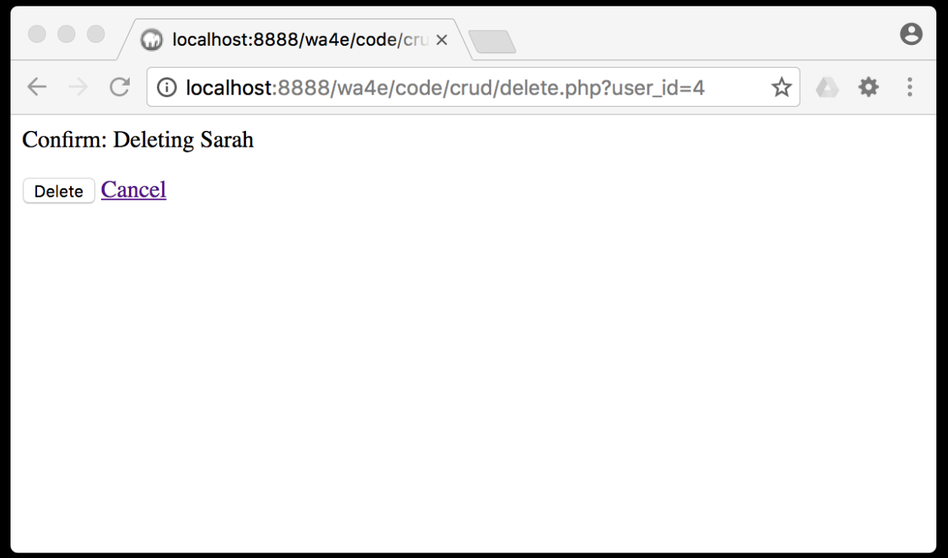

```php
if ( isset($_SESSION['success']) ) {
    echo '<p style="color:green">'.$_SESSION['success']."</p>\n";
    unset($_SESSION['success']);
}
```

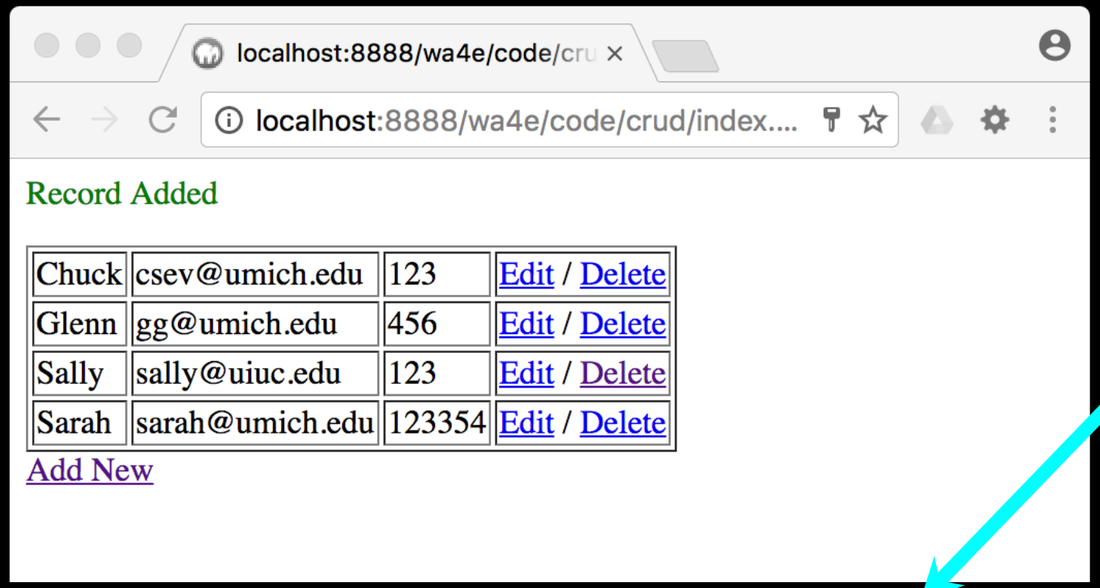
delete.php

Don't alter data in a GET.

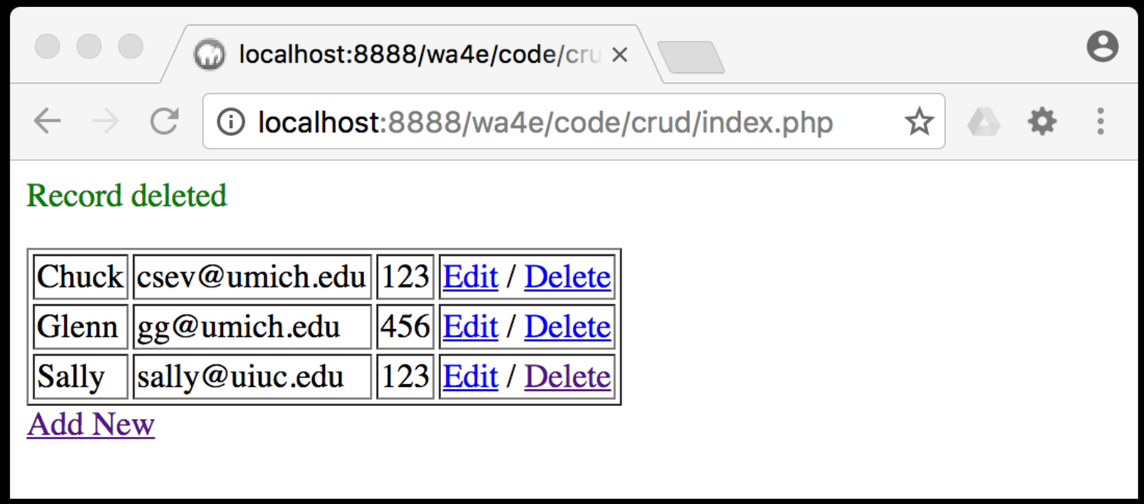
```php
<?php
require_once "pdo.php";
session_start();
if ( isset($_POST['delete']) && isset($_POST['user_id']) ) {
    $sql = "DELETE FROM users WHERE user_id = :zip";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(':zip' => $_POST['user_id']));
    $_SESSION['success'] = 'Record deleted';
    header( 'Location: index.php' ) ;
    return;
}
$stmt = $pdo->prepare("SELECT name, user_id FROM users where user_id = :xyz");
$stmt->execute(array(":xyz" => $_GET['user_id']));
$row = $stmt->fetch(PDO::FETCH_ASSOC);
if ( $row === false ) {
    $_SESSION['error'] = 'Bad value for user_id';
    header( 'Location: index.php' ) ;
    return;
}
?>
<p>Confirm: Deleting <?= htmlentities($row['name']) ?></p>

<form method="post"><input type="hidden"
name="user_id" value="<?= $row['user_id'] ?>">
<input type="submit" value="Delete" name="delete">
<a href="index.php">Cancel</a>
</form>
```





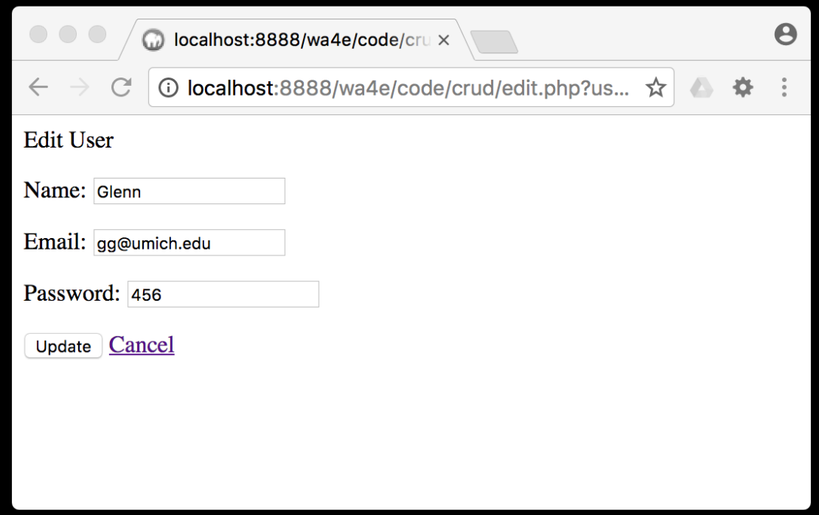





```php
<?php
if ( isset($_POST['delete']) && isset($_POST['user_id']) ) {
    $sql = "DELETE FROM users WHERE user_id = :zip";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(':zip' => $_POST['user_id']));
    $_SESSION['success'] = 'Record deleted';
    header( 'Location: index.php' ) ;
    return;
}
?>
```

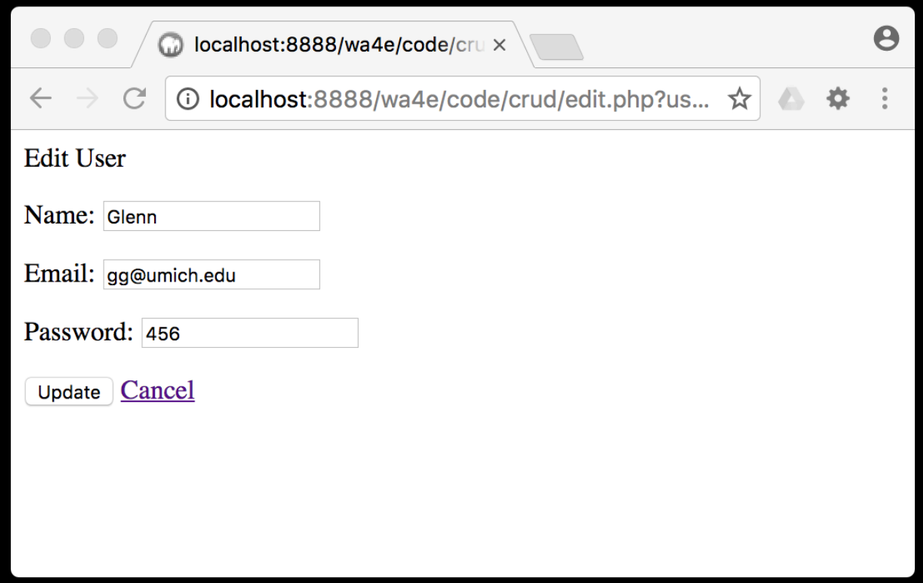
```php
if ( isset($_SESSION['success']) ) {
    echo '<p style="color:green">'.$_SESSION['success']."</p>\n";
    unset($_SESSION['success']);}
```

```php
<?php
require_once "pdo.php";
session_start();
if ( isset($_POST['name']) && isset($_POST['email'])
      && isset($_POST['password']) && isset($_POST['user_id']) ) {
    $sql = "UPDATE users SET name = :name,
            email = :email, password = :password
            WHERE user_id = :user_id";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(
        ':name' => $_POST['name'],
        ':email' => $_POST['email'],
        ':password' => $_POST['password'],
        ':user_id' => $_POST['user_id']));
    $_SESSION['success'] = 'Record updated';
    header( 'Location: index.php' ) ;
    return;
}
$stmt = $pdo->prepare("SELECT * FROM users where user_id = :xyz");
$stmt->execute(array(":xyz" => $_GET['user_id']));
$row = $stmt->fetch(PDO::FETCH_ASSOC);
if ( $row === false ) {
    $_SESSION['error'] = 'Bad value for user_id';
    header( 'Location: index.php' ) ;
    return;
}
```

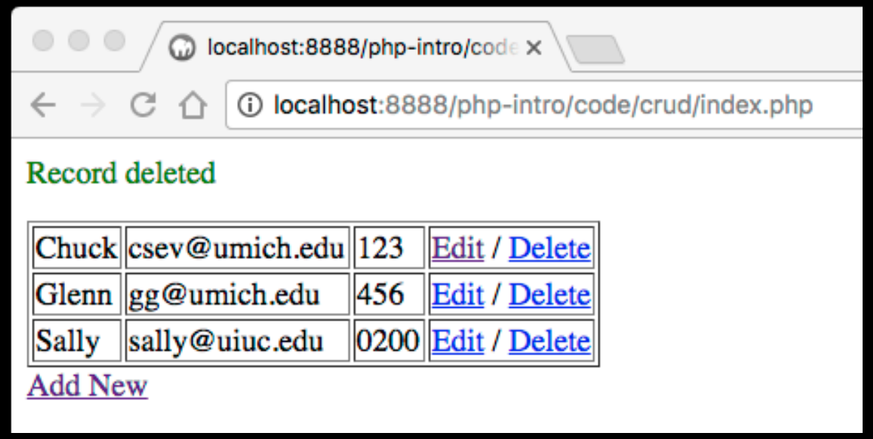


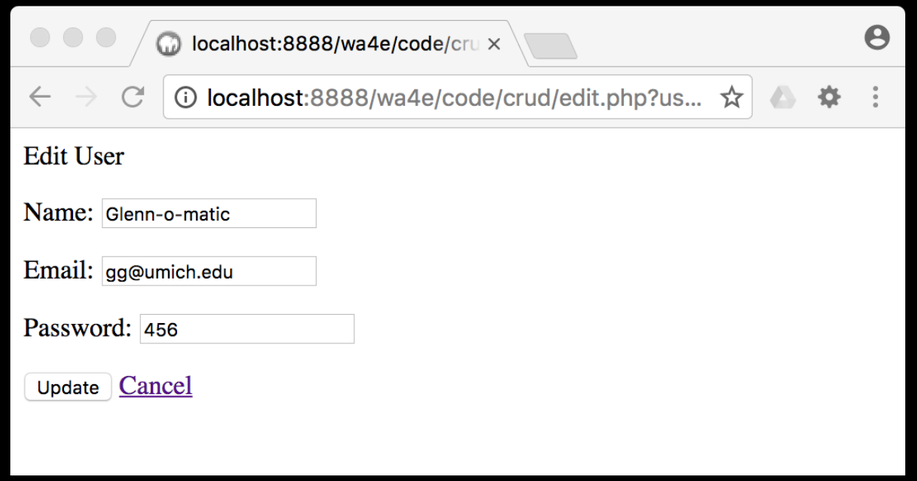
edit.php

```
$n = htmlentities($row['name']);
$e = htmlentities($row['email']);
$p = htmlentities($row['password']);
$user_id = $row['user_id'];
?>
<p>Edit User</p>
<form method="post">
<p>Name:
<input type="text" name="name" value="<?= $n ?>"></p>
<p>Email:
<input type="text" name="email" value="<?= $e ?>"></p>
<p>Password:
<input type="text" name="password" value="<?= $p ?>"></p>
<input type="hidden" name="user_id" value="<?= $user_id ?>">
<p><input type="submit" value="Update"/>
<a href="index.php">Cancel</a></p>
</form>
```

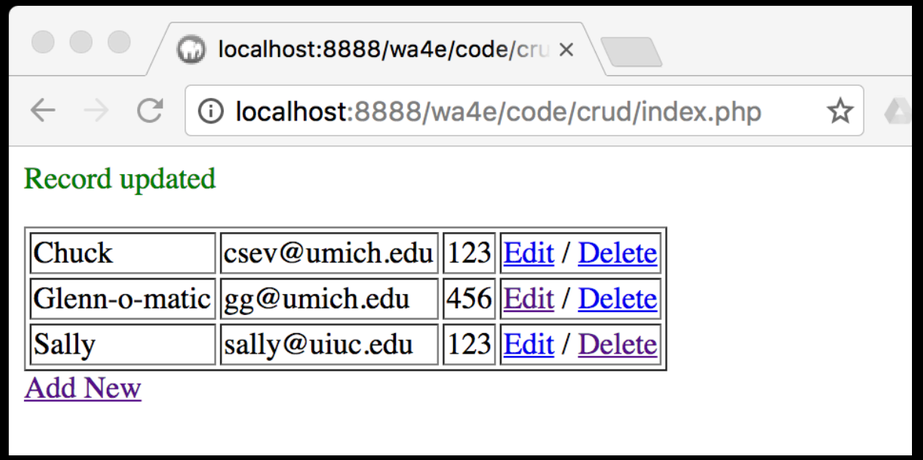


edit.php






```php
if ( isset($_POST['name']) && isset($_POST['email'])
     && isset($_POST['password']) && isset($_POST['user_id']) ) {
    $sql = "UPDATE users SET name = :name,
              email = :email, password = :password
            WHERE user_id = :user_id";
    $stmt = $pdo->prepare($sql);
    $stmt->execute(array(
        ':name' => $_POST['name'],
        ':email' => $_POST['email'],
        ':password' => $_POST['password'],
        ':user_id' => $_POST['user_id']));
    $_SESSION['success'] = 'Record updated';
    header( 'Location: index.php' ) ;
    return;
}
```



edit.php

Summary

- Making database connections
- Doing database operations
- SQL security (a.k.a. we love PDO prepared statements)
- Exploring errors...
- A multi-file CRUD application with redirect

Acknowledgements / Contributions



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