

Mobile Development Using PHP and Oracle

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The following describes the procedure developed during Summer 2015, for developing web pages friendly to mobile devices.

1. Install Zend Server.

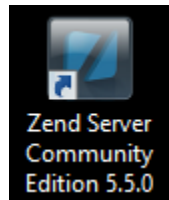
If installation is successful then you should see below things in your laptop or system.

a) You should see "**htdocs**" in Apache2 folder .

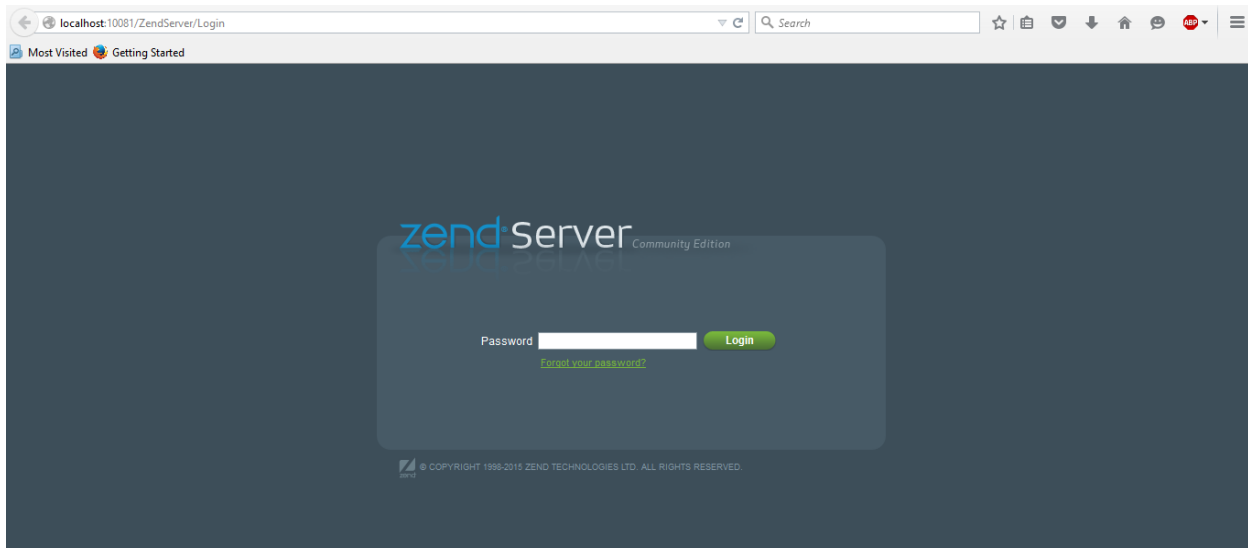
For example C:\Program Files (x86)\Zend\Apache2\htdocs

b) Zend Server Community edition for setting the configurations. (Zend Server Community Edition was used only for illustration purpose.)

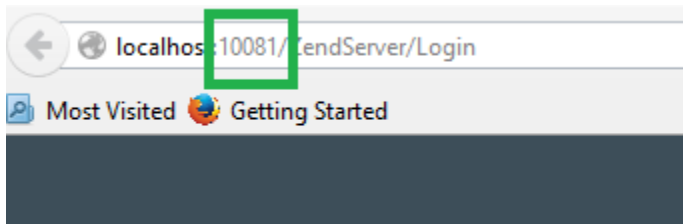
Below is the icon you will be able to find on the desktop if you select to create desktop icon at the conclusion of your installation.



Once you click on the above icon you will see the following page



Note: Please note down the port number on which Zend Server is running. You can find port number in the screen URL. Generally it will be 10081.



2. Write the below code either in notepad, notepad ++ or in other text editor and save it as "MobileTest.php" in 'htdocs' folder.

The path for htdocs is if you take the default setting at installation of Zend Server:
C:\Program Files (x86)\Zend\Apache2\htdocs

```
<!DOCTYPE html>
<html>
<body>

<h1>My First Mobile Program</h1>

<?php

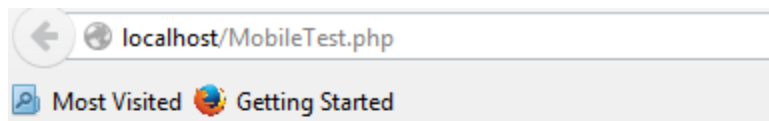
echo "I am testing my program in mobile emulator";

?>

</body>
</html>
```

3. Test the above code in your regular browser and make sure it is running without any errors.

For testing, enter <http://localhost/MobileTest.php> as the URL in the browser and you see something similar to the following screen shot.

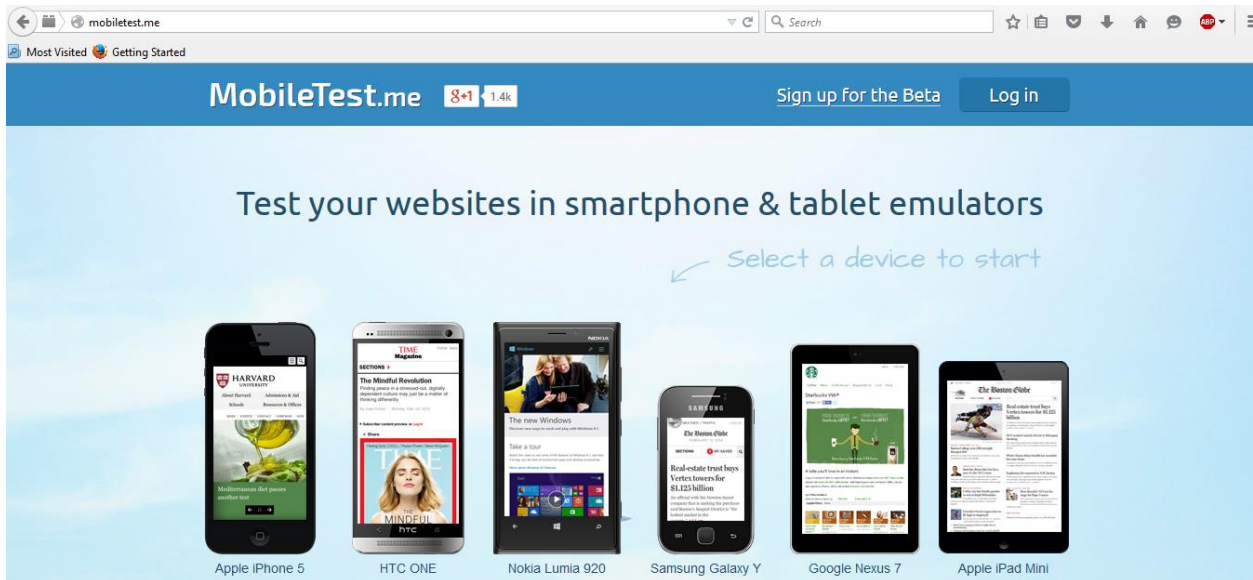


My First Mobile Program

I am testing my program in mobile emulator

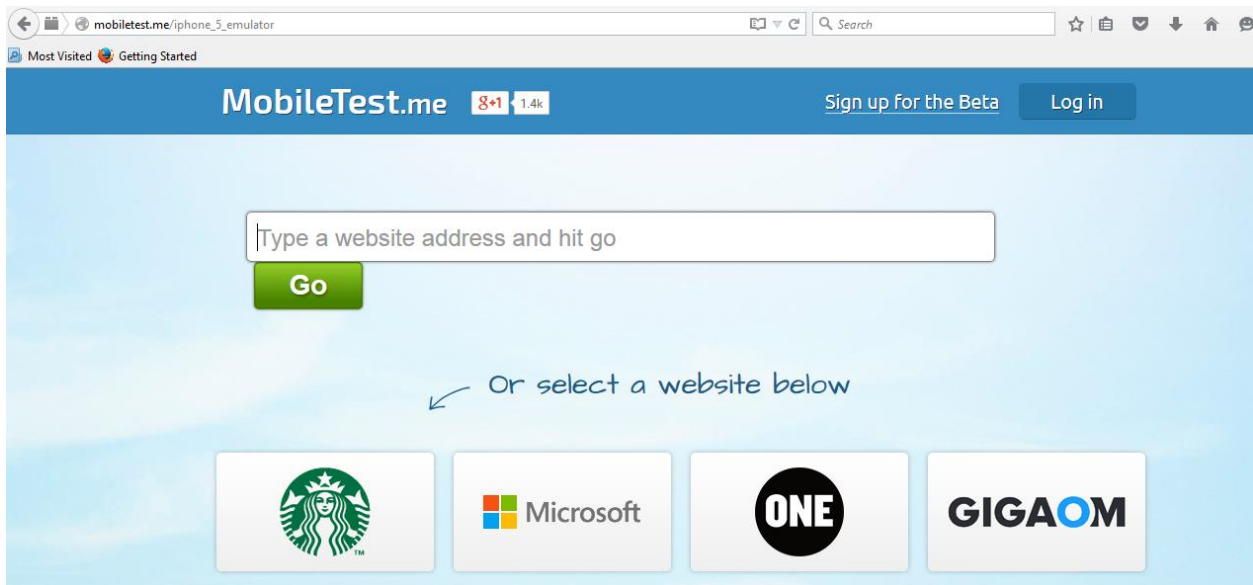
4. Then, you can test your code in a mobile emulator. In order to find all the emulators(Android, IOS etc.) in one place, we find the web site of mobiletest.me useful.

Type mobiletest.me in your browser you will see the following screen



You can test the program in all mobile platforms such as Android, Apple IOS, Windows Phone OS.

First we can select Apple iPhone 5. Once you click on Apple iPhone 5 you will see the following screen



Here we need to enter the URL for our PHP program in order to run it. You can use any one of the below URL and hit GO

1. <http://localhost/MobileTest.php>

Localhost is a hostname that means this computer and may be used to access the computer's own network services via its loopback network interface. Using the loopback interface bypasses local network interface hardware.

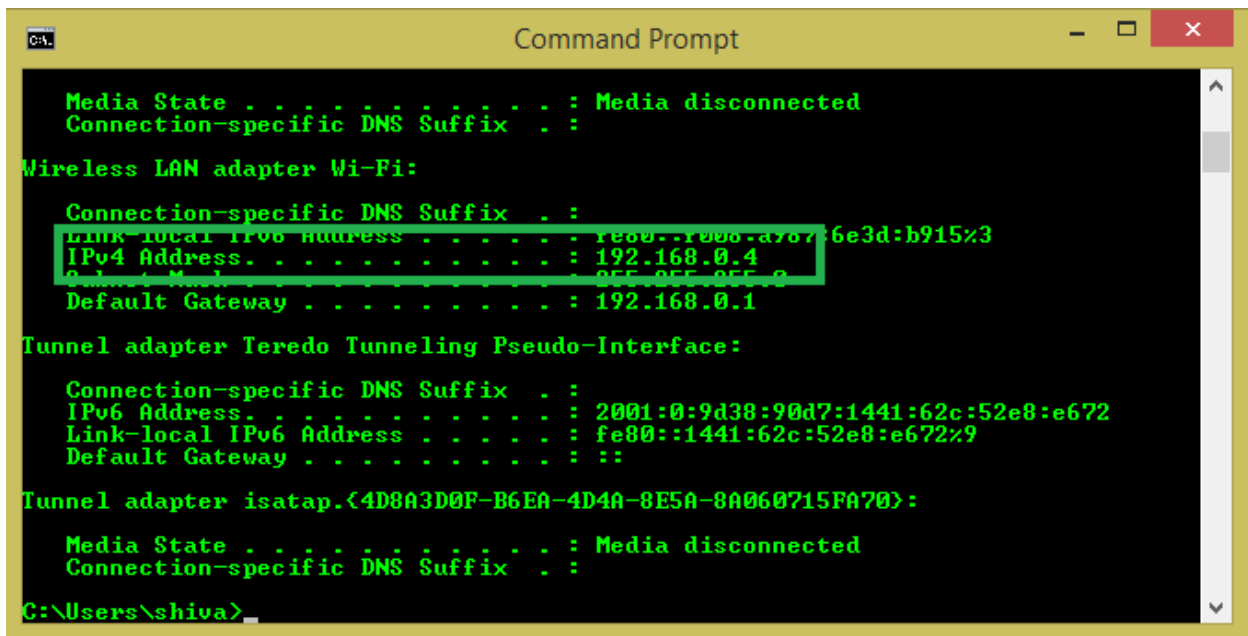
2. <http://127.0.0.1/MobileTest.php>

On most computer systems, "localhost" resolves to the IP address 127.0.0.1, which is the most commonly used IPv4 loopback address.

3. <http://Your IP address/MobileTest.php>

To find your IP address, please follow the following steps:

- 1.Type CMD or Command Prompt in run. It opens a command prompt
- 2.Type IPCONFIG in command prompt.
3. Your IP address is IPV4address as shown below.



```
Command Prompt

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix  . :

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix  . :
Link-local IPv6 Address . . . . . : fe80::1000:a787:6e3d:b915%3
IPv4 Address. . . . . : 192.168.0.4
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.1

Tunnel adapter Teredo Tunneling Pseudo-Interface:

Connection-specific DNS Suffix  . :
IPv6 Address. . . . . : 2001:0:9d38:90d7:1441:62c:52e8:e672
Link-local IPv6 Address . . . . . : fe80::1441:62c:52e8:e672%9
Default Gateway . . . . . : ::

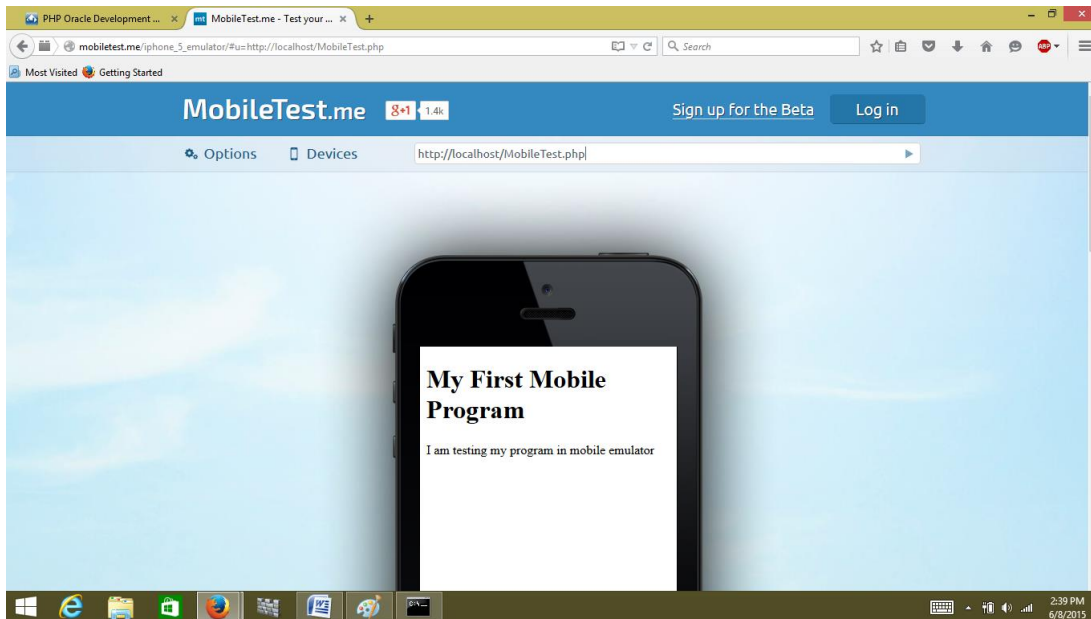
Tunnel adapter isatap.{4D8A3D0F-B6EA-4D4A-8E5A-8A060715FA70}:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix  . :

C:\Users\shiva>
```

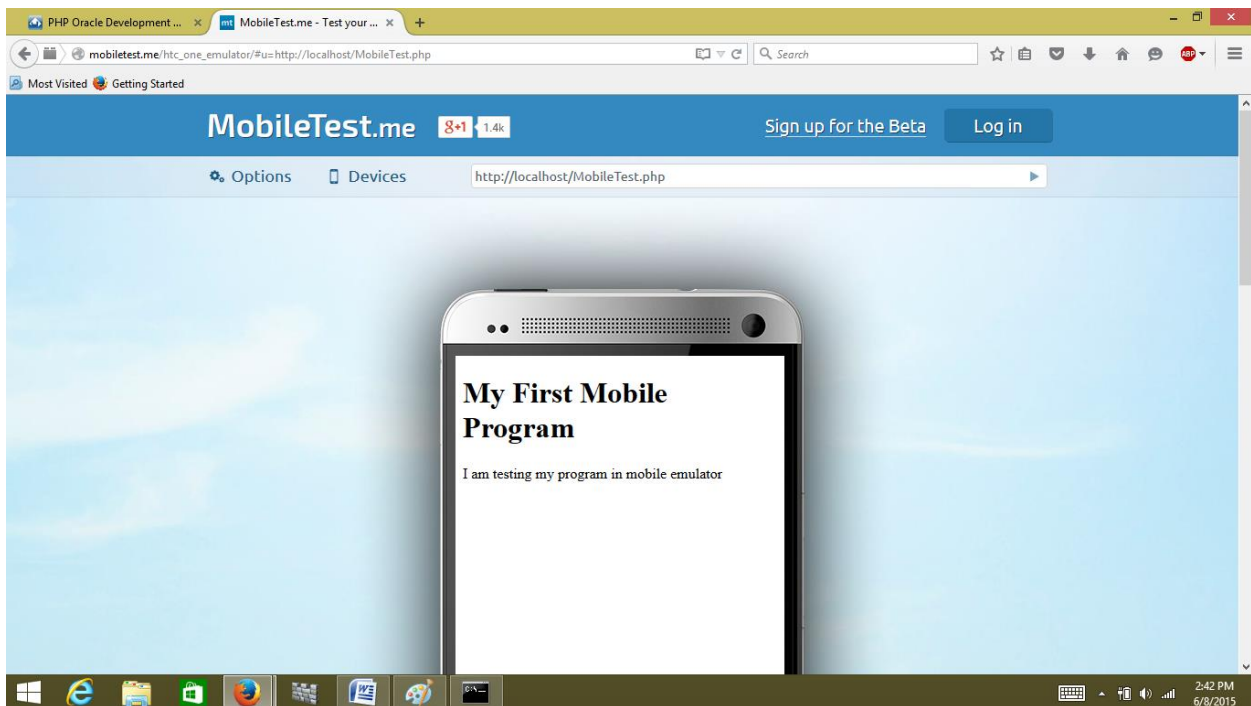
In this example, your URL will be: <http://192.168.0.4/MobileTest.php>

You will see the following screen. If you type any of the above URL.

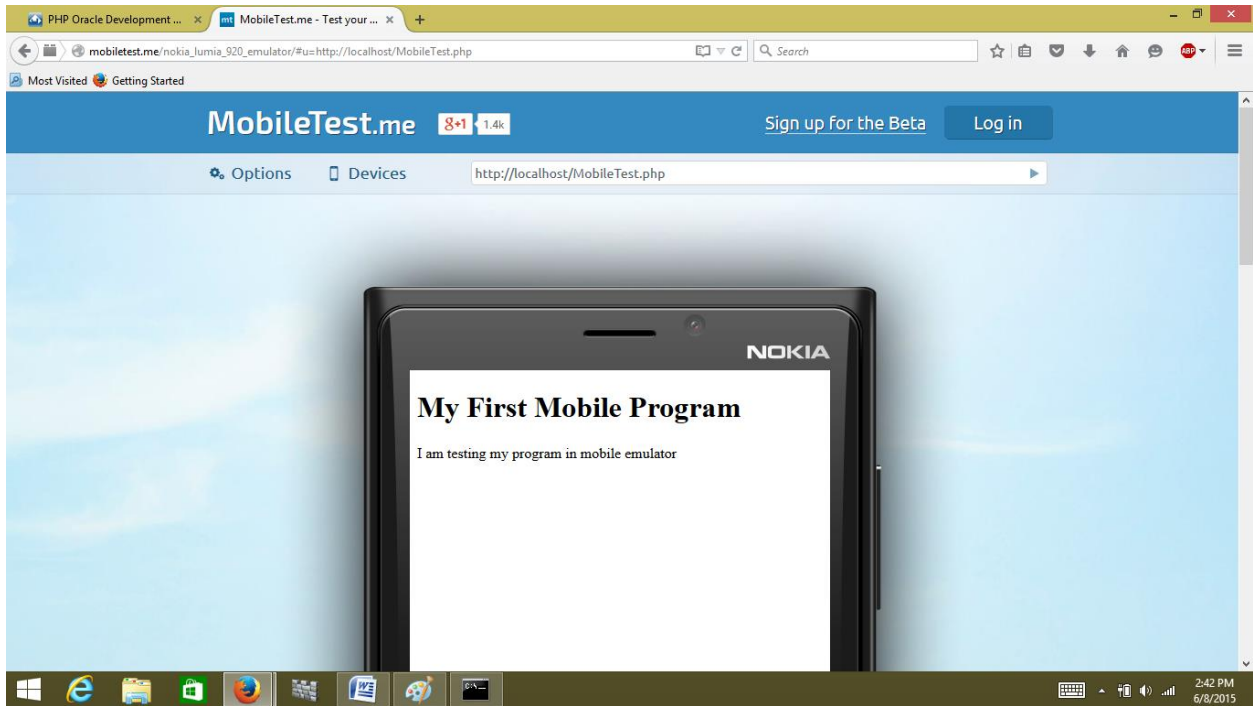


Follow the same steps by selecting 'HTC ONE' (Android device) or 'Nokia Lumia 920' (Windows Phone OS). You should see something similar to the following screens.

For HTC ONE



For Nokia Lumia 920



Responsive Web Design Tester Plugin

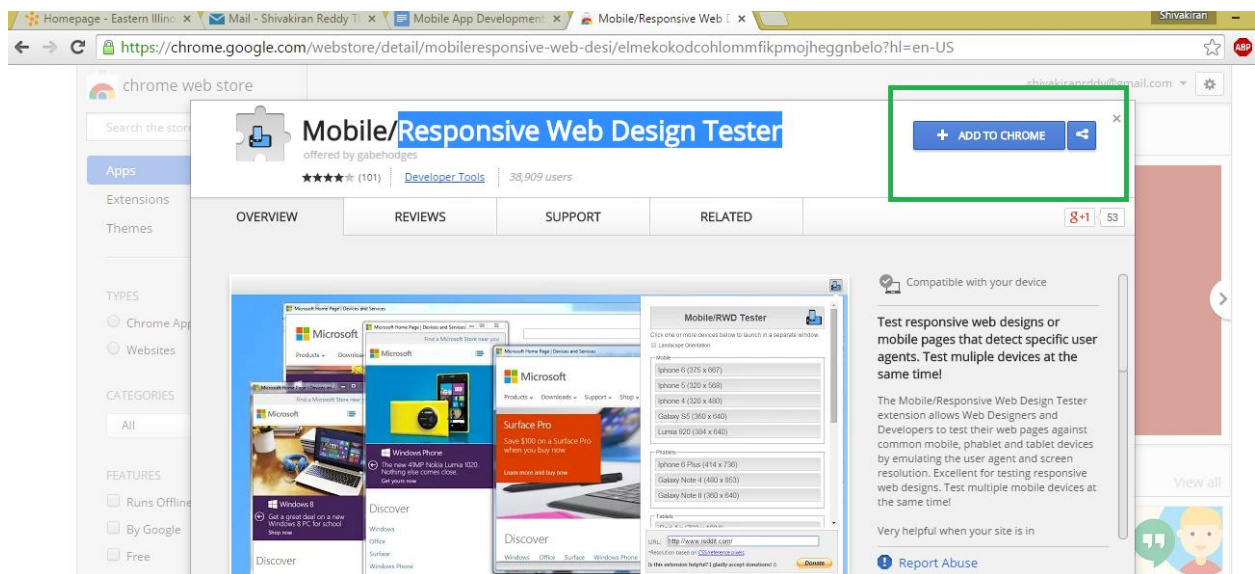
Another Alternative Way to Test Your Mobile Web Page

I am showing this for google chrome.

Type the below URL

<https://chrome.google.com/webstore/detail/mobileresponsive-web-desi/elmekokodcohlommfikpmojheggnbelo?hl=en-US>

For other browsers type Responsive Web Design Tester and add plugin to your browser. Following is the screen shot.



After installation you should see “Responsive Web Design Tester” icon on your browser as shown in following screen

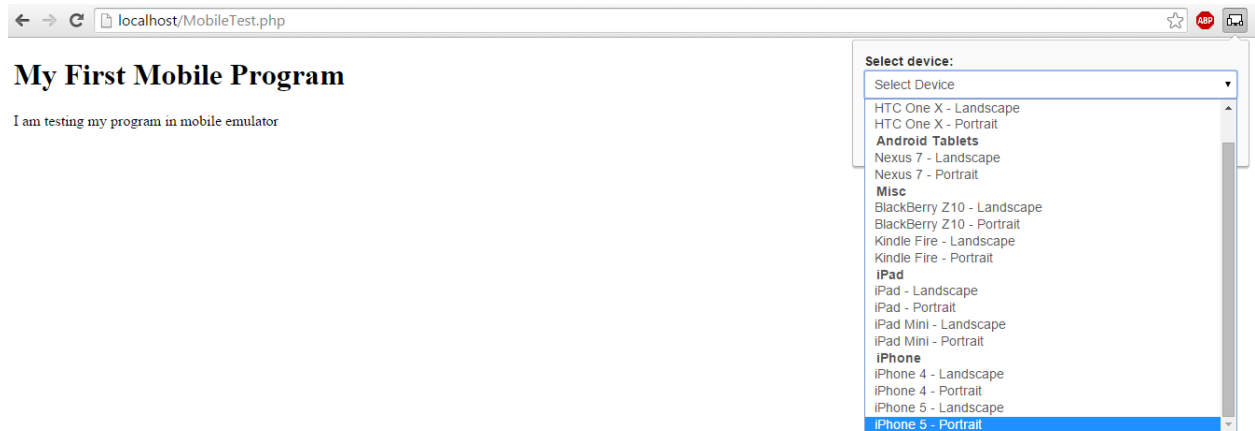


My First Mobile Program

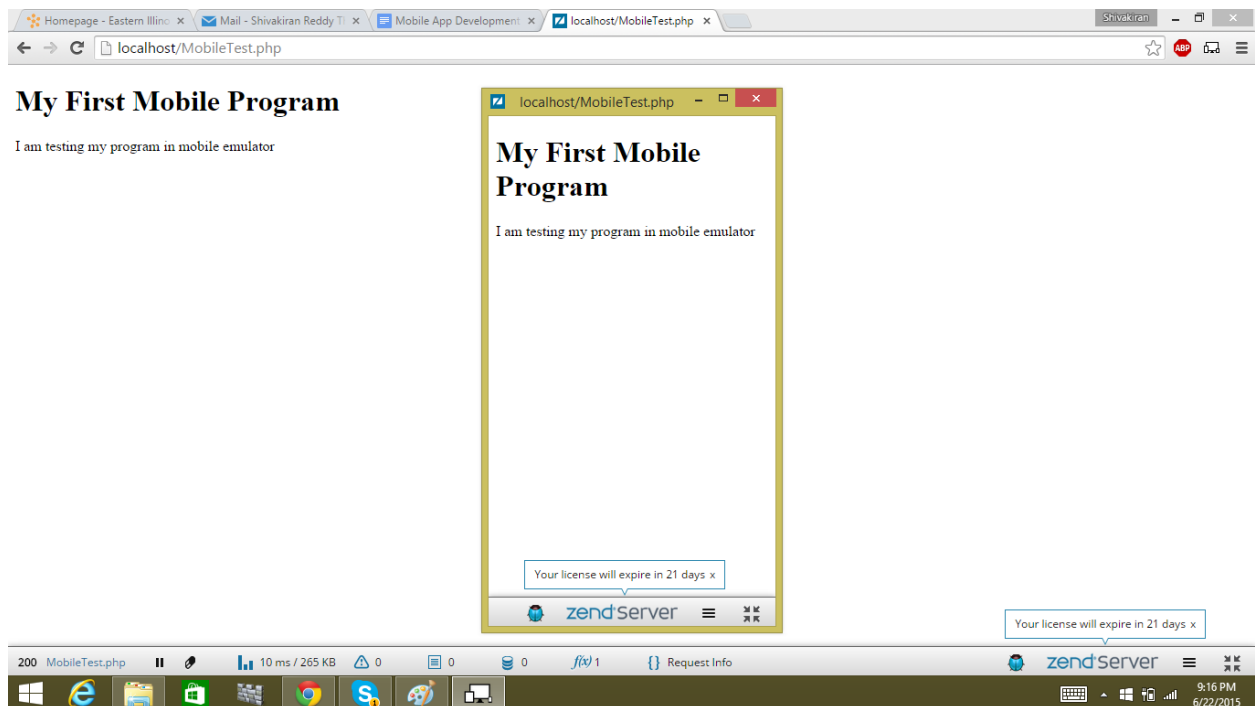
I am testing my program in mobile emulator

Type “<http://localhost/MobileTest.php>” in the browser and click on “Responsive Web Design Tester” icon.

Select the screen desired. For example, I am selecting 'Iphone5-Portrait'



Following is the screen you should see



Check for all the emulator of your choice (for example, iPhone 5 portrait and HTC One X for Android device).

The following shows steps for developing device independent web page

1. Develop a normal html web page.

The following is an example of the code, named as mobPageTest_before.html or mobPageTest_before.php.

```
<html>
<head>
<title> This tested for testing page in all mobile browsers. </title>
<!--This is syntax for integrating CSS into HTML page-->
<link type="text/css" rel="stylesheet" href="main_before.css"/>
</head>
<body>
<h1>This is a test page before implementing HTML5</h1>
<!--Writing div with id container-->
<div id="container">
<!--Adding image to the page-->

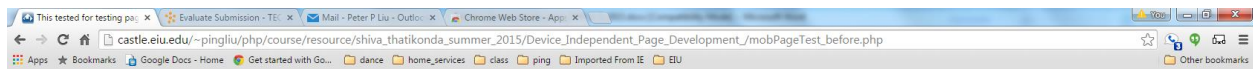
<!--Writing section with id as left-column-->
<section id="left-column">
This is the left column for the responsive page
</section>
<!--Writing aside with id as right-column-->
<aside id="right-column">
This is the right column for the responsive page
</aside>
</div>
```

</body>

</html>

Note: An image (named Imp.jpg) was used to illustrate the concept. You may use any other image if you like.

The following shows the page on a web browser (on a desk top computer, Windows 7 OS).



This is a test page before implementing HTML5 tag. You may download responsive web design tester to see how it fits in a mobile device.



This is the right column for the responsive page.



2. Modify CSS file:

The css file in the above code, named as "main_before.css" is shown as following:

```
/*This style for div id as container*/
```

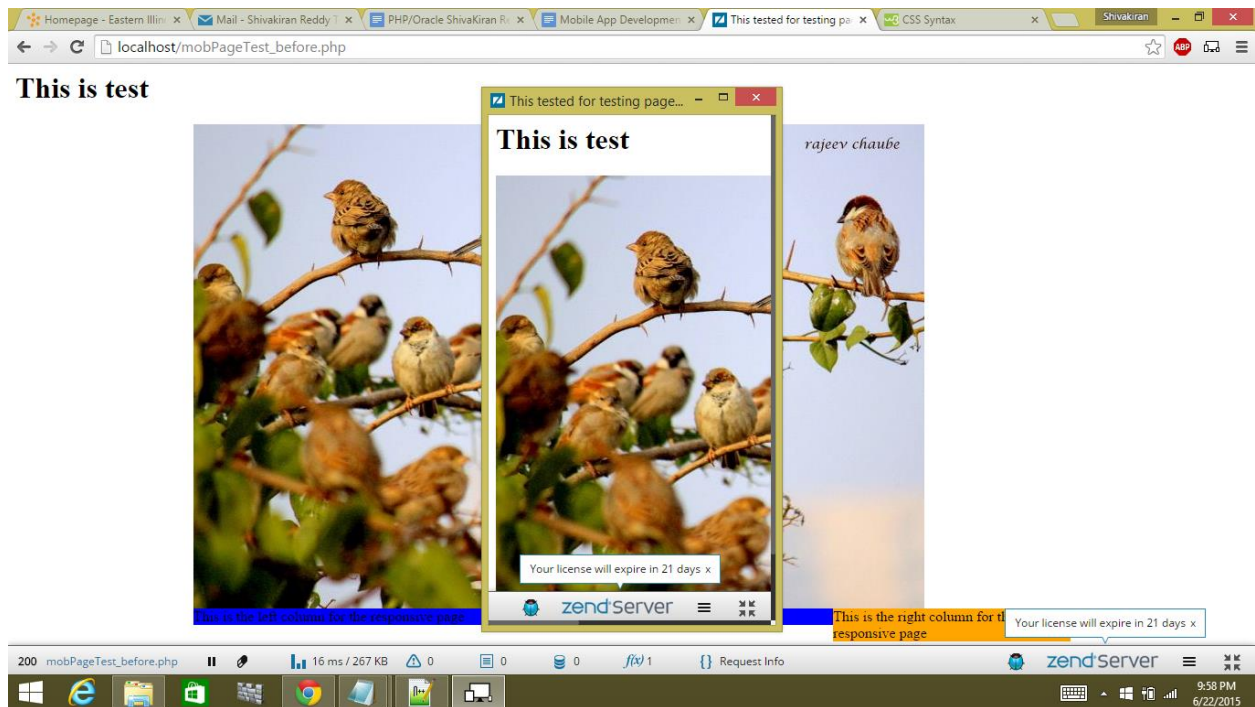
```
#container
{
width:960px;
margin:0px auto;
}
/*This style for section id as left-column*/
#left-column{
width:700px;
float:left;
background:blue;
}
/*This style for aside id as right-column*/
#right-column{
width:260px;
float:left;
background:orange;
}
```

Note:Place the php or html page and CSS inhtdocs

3. Test the page either in 'Responsive Web Design Tester' or mobileTest.me

For example, we may use the following link to test the web page on a mobile device, as follows:

http://localhost/mobPageTest_before.php and run it and after that select device in 'Responsive Web Design Tester' and output should like the following screen



4. Add HTML5 tag that defines page width to match with device width, as follows:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

The new code will look like following and name it as "mobPageTest.html" or "mobPageTest.php":

```
<html>
```

```
<head>
```

```
<title> This tested for testing page in all mobile browsers. </title>
```

```
<!--This is syntax for integrating CSS into HTML page-->
```

```
<link type="text/css" rel="stylesheet" href="main_after.css"/>
```

```
<!--This is syntax for developing device independent that matches with device width-->
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

```
</head>
<body>
<h1>This is a test page after implementing HTML5</h1>
<!--Writing div with id container-->
<div id="container">
<!--Adding image to the page-->

<!--Writing section with id as left-column-->
<section id="left-column">
This is the left column for the responsive page
</section>
<!--Writing aside with id as right-column-->
<aside id="right-column">
This is the right column for the responsive page
</aside>
</div>

</body>
</html>
```

5. Modify CSS file:

After adding HTML 5 tag in your code, we need to define the parameters in the main_after.css file, in order to define width for each block in your web page. In above code we have div,section,aside,image blocks.

Following is the code which defines width for them.

```
@media screen and (max-width:959px){  
#container{  
width:100%;  
}  
#left-column{  
width:70%;  
//The column width is 70% of the total container width.  
}  
#right-column{  
width:30%;  
}  
img{  
width:100%;  
}  
}
```

Now your new css file will look like following and will be named as main_after.css

```
/*This style for div id as container*/  
#container
```

```
{  
width:960px;  
margin:0px auto;  
}  
/*This style for section id as left-column*/  
#left-column{  
width:700px;  
float:left;  
background:blue;  
}  
/*This style for aside id as right-column*/  
#right-column{  
width:260px;  
float:left;  
background:orange;  
}  
/*This is the code which defines the width based on the device length*/  
@media screen and (max-width:959px){  
#container{  
width:100%;  
}  
#left-column{  
width:70%;  
}  
#right-column{
```



```

width:30%;

}

img{

width:100%;

}

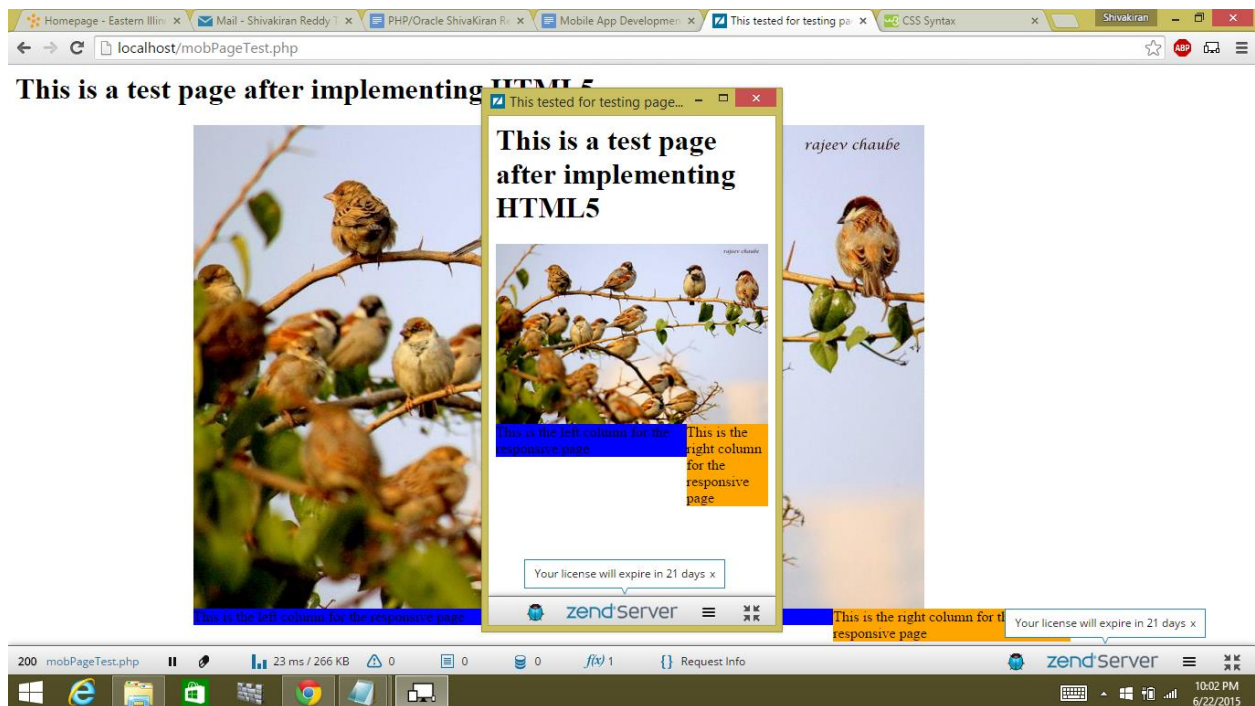
}

```

6. Test the page either in ‘Responsive Web Design Tester’ or mobileTest.me

For example, the following screen shot shows an iPhone 5 portrait mobile device.

http://localhost/mobPageTest.php and run it and after that select device in ‘Responsive Web Design Tester’ and output should like the following screen



All the components including image, text and graphic bar fall within the image frame of the this mobile device. You have created a web page that is adaptive to any mobile devices.

If you like to test above coding (and save your time to retype the code), you may download all the files [here](#).