BLAZING BOOST WEB DEVELOPER VACANCY.SELF-TEST

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## WEB

- Describe in details what happening right after you have entered URL in

 address bar?

**Answer:**

1. The browser extracts the domain name from the URL.

2. If requested object is in browser cache and is fresh Browsers displays the html content3**.**Otherwise DNS lookup to find the ip address of the server.

4. Browser initiates a TCP connection with the server.

5. Browser sends a HTTP request to the server.

6. Server handles the incoming request

8. Browser receives the HTTP response

9. Browsers displays the html content

- How works client-server application?

**Answer:**

A client/server application is a piece of software that runs on a client computer and makes requests to a remote server. In simple words there is a "boss" and it’s "employees".  
The Boss allocates certain resources like "PC, Internet bandwidth, Stationary etc." and certain shared resources like "water tank, AC, etc.”  
Every communication happens or is recorded by the boss but some employees are allowed to communicate with each other too.

## PHP

- Is php interpreted or compiled language?

**Answer:**

Both. PHP is compiled down to an intermediate byte code that is then interpreted by the runtime engine. Because you do not compile it once, then run it many times. Every time it is run, it is interpreted.

- What is internal pointer of an array?

**Answer:**

There's an internal implementation for "arrays" in PHP "behind the scenes", written in C. This implementation defines the details of how array data is actually stored in memory, how arrays behave, how they can be accessed etc. Part of this C implementation is an "array pointer", which simply points to a specific index of the array

- How to sort two-dimensional array by two values using one line of PHP code?

**Answer:**

- Which native functions used for user input sanitization?

**Answer:**

filter\_var (string, FILTER\_SANITIZE\_STRING);

- What difference between class and object?

**Answer:**

A class is a template for objects. A class defines object properties including a valid range of values, and a default value. A class also describes object behavior. An object is a member or an "instance" of a class. An object has a state in which all of its properties have values that you either explicitly defines or that are defined by default settings.

- What difference between abstract class and interface?

**Answer:**

**Interface**

An interface is a **contract.**

**An interface is an empty shell**

There are only the signatures of the methods, which implies that the methods do not have a body. The interface can't do anything. It's just a pattern.

Interfaces can only have constants and methods stubs.

All methods of an interface must be defined as public

**Abstract Class**

Abstract classes, unlike interfaces, are classes.

Abstract classes look a lot like interfaces, but they have something more: You can define a behavior for them.

Abstract classes can have constants, members; method stubs (methods without a body)

Methods and members of an abstract class can be defined with any visibility

- What difference between builder and factory pattern?

**A factory** is simply a wrapper function around a constructor (possibly one in a different class). The key difference is that a factory method pattern requires the entire object to be built in a single method call, with the entire parameters pass in on a single line. The final object will be returned.

**A builder pattern**, on the other hand, is in essence a wrapper object around all the possible parameters you might want to pass into a constructor invocation. This allows you to use setter methods to slowly build up your parameter list. One additional method on a builder class is a build () method, which simply passes the builder object into the desired constructor, and returns the result.

## ZEND

- How to check if user logged in using one line of code?

**Answer:**

- How to create absolute link using route name?

**Answer:**

- How to pass variable to layout view?

**Answer:**

- How to get current database instance from controller without model using one line of code?

**Answer:**

## MySQL

- How looks relational database?

**Answer:**

A relational [database](http://searchsqlserver.techtarget.com/definition/database) is a collection of [data](http://searchdatamanagement.techtarget.com/definition/data) items organized as a set of formally-described [tables](http://searchsoa.techtarget.com/definition/table) from which data can be accessed or reassembled in many different ways without having to reorganize the database tables

Which is a set of tables containing data fitted into predefined categories. Each table (which is sometimes called a *relation*) contains one or more data categories in columns. Each [row](http://searchoracle.techtarget.com/definition/row) contains a unique instance of data for the categories defined by the columns. For example, a typical business order entry database would include a table that described a customer with columns for name, address, phone number, and so forth. Another table would describe an order: product, customer, date, sales price, and so forth. A user of the database could obtain a [*view*](http://searchsqlserver.techtarget.com/definition/view) of the database that fitted the user's needs.

- Where can I see all queries to database?

**Answer:**

Start MySQL with the --log option:

mysqld --log=log\_file\_name or place the following in your my.cnf file:

log = log\_file\_name

- Explain first three database normalization forms (and in which cases better don't use them)

**Answer:**

**First Normal Form (1NF)**

## No repeating elements or groups of elements

Don't repeat your columns. Avoid this:

|  |  |  |  |
| --- | --- | --- | --- |
| OrderId | ItemId1 | ItemId2 | … |
| 1 | 100 | 101 |  |

ItemId1, 2, should be split out into relational tables.

## Second Normal Form (2NF)

## No partial dependencies on a concatenated key

Example:

|  |  |  |  |
| --- | --- | --- | --- |
| OrderId (PK) | ItemId (PK) | OrderDate | … |
| 1 | 100 | 2009-01-01 |  |
| 1 | 101 | 2009-01-01 |  |

In the table above the OrderDate will always be the same for a given OrderId regardless of the value of the ItemId column. This means data duplication, which is de-normalization.

Here’s how we correct the problem:

|  |  |  |
| --- | --- | --- |
| **Orders** |  |  |
| OrderId (PK) | OrderDate | … |
| 1 | 2009-01-01 |  |

|  |  |  |
| --- | --- | --- |
| **Order\_Items** |  |  |
| OrderId (PK) | ItemId (PK) | … |
| 1 | 100 |  |
| 1 | 101 |  |

## Third Normal Form (3NF)

## No dependencies on non-key attributes

2NF covers the case of multi-column primary keys. 3NF is meant to cover single column keys. Simply stated, pull out columns that don’t directly relate to the subject of the row (the primary key), and put them in their own table.

Example:

|  |  |  |  |
| --- | --- | --- | --- |
| **Orders** |  |  |  |
| OrderId (PK) | OrderDate | CustomerName | CustomerCity |
| 1 | 2009-01-01 | John Smith | Chicago |

Customer information could be the subject of its own table. Pull out customer name and other customer fields into another table, and then put a Customer foreign key into Orders.

- How work column indexes?

**Answer:**

Basically an index on a table works like an index in a book.

Let's say you have a book about databases and you want to find some information about, say, storage. Without an index (assuming no other aid, such as a table of contents) you'd have to go through the pages one by one, until you found the topic (that's a full table scan). On the other hand, an index has a list of keywords, so you'd consult the index and see that storage is mentioned on pages 113-120,231 and 354. Then you could flip to those pages directly, without searching (that's a search with an index, somewhat faster).

Of course, how useful the index will be, depends on many things - a few examples, using the simile above:

* if you had a book on databases and indexed the word "database", you'd see that it's mentioned on pages 1-59,61-290, and 292 to 400. In such case, the index is not much help and it might be faster to go through the pages one by one (in a database, this is "poor selectivity").
* For a 10-page book, it makes no sense to make an index, as you may end up with a 10-page book prefixed by a 5-page index, which is just silly - just scan the 10 pages and be done with it.
* The index also needs to be useful - there's generally no point to index e.g. the frequency of the letter "L" per page.

## CSS

- Write selector to element with class ```.menu``` and without class

```.opened```

**Answer:**

- Which selector responsible for neighboring elements?

**Answer:**

An adjacent selector or next-sibling selector. It will select only the specified element that immediately follows the former specified element.

Syntax: former\_element + target\_element { style properties }

Example: li: first-of-type + li {color: red;}

- Difference between position relative, absolute, fixed?

**Answer:**

Position: relative

An element with position: relative; is positioned relative to its normal position.

Setting the top, right, bottom, and left properties of a relatively-positioned element will cause it to be adjusted away from its normal position. Other content will not be adjusted to fit into any gap left by the element.

## Position: absolute

An element with position: absolute; is positioned relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed).

However; if an absolute positioned element has no positioned ancestors, it uses the document body, and moves along with page scrolling.

**Note:** A "positioned" element is one whose position is anything except static.

## Position: fixed

An element with position: fixed; is positioned relative to the viewport, which means it always stays in the same place even if the page is scrolled. The top, right, bottom, and left properties are used to position the element.

A fixed element does not leave a gap in the page where it would normally have been located.

- List all possible ways to hide element on page.

**Answer:**

**1. Use the display property.**

display: none;

**2. Use the visibility property.**

visibility: hidden;

**3. Use the opacity property.**

opacity: 0;

**4. Use the z-index property, with margins.**

z-index: 1000;

margin: -100px;

**5. Use the left (or right) property.**

left: -9999px;

position: relative;

**6. Use the left (or right) property, with the position: absolute property.**

left: -9999px;

position: absolute;

**7. Use the transform property.**

transform: translateX(-9999px);

**8. Use the clip property.**

clip:rect(0px, 0px, 0px, 0px);

## HTML

- How to send file to server using HTML5? Give an example.

**Answer:**

Here is the HTML code :

<input type="file" id="fileinput" />

Now we will upload files using **XMLHttpRequest** (Ajax).

For each files selected by the user we will create an HTTP request to send the file to the server.

First create a function to upload a file using **XMLHttpRequest :**

function uploadFile(file){

var url = 'server/index.php';

var xhr = new XMLHttpRequest();

var fd = new FormData();

xhr.open("POST", url, true);

xhr.onreadystatechange = function() {

if (xhr.readyState == 4 && xhr.status == 200) {

// Every thing ok, file uploaded

}

};

fd.append("upload\_file", file);

xhr.send(fd);

}

This function will create an ajax request (POST) on the **url** and send the file in the **“**upload**\_**file**”** request parameter (we may access this parameter with the $\_FILES['upload\_file'] variable.

- What meaning of script tag attributes: defer and async?

**Answer:**

Defer

The defer attribute is a boolean attribute.

When present, it specifies that the script is executed when the page has finished parsing.

**Note:** The defer attribute is only for external scripts (should only be used if the src attribute is present).

Example: <script src="demo\_defer.js" defer></script>

Async

The async attribute is a boolean attribute.

When present, it specifies that the script will be executed asynchronously as soon as it is available.

**Note:** The async attribute is only for external scripts (and should only be used if the src attribute is present).

**Note:** There are several ways an external script can be executed:

* If async is present: The script is executed asynchronously with the rest of the page (the script will be executed while the page continues the parsing)
* If async is not present and defer is present: The script is executed when the page has finished parsing
* If neither async or defer is present: The script is fetched and executed immediately, before the browser continues parsing the page

Example: <script src="demo\_async.js" async></script>

- Create simple and valid HTML5 page with drop-down menu using only CSS3 that works on mobile devices also.

**Answer:**