Yelp HR Questions

Network

1. What is DNS?
DNS is short for Domain Name System(DNS), it is a hierarchical distributed naming system for computer, services, or other services connected to the Internet.
It is used for translating domain name to IP address.

2. Protocol used to transfer message in Http application? TCP reliable.
Basically, Transmission Control Protocol(TCP) is commonly used. However, HTTP can use unreliable protocols such as the User Datagram Protocol(UDP).

3. What is SSL?
SSL is short for **Secure Sockets Layer**. It is the standard security technology for establishing an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browser remain private and integral.
Transport Layer Security(TLS)

4. Port Number for HTTP? 80.

5. What does HTML stands for? HTTP? URL?
HTML stands for **Hyper Text Markup Language.** HTML is a language for describing web pages.

The Hypertext Transfer Protocol(HTTP) is the underlying protocol used by the World Wide Web to define how messages are formatted and transmitted.
A Uniform Resource Locator, is a string that constitutes a reference to a resource. It is a web address, usually used with HTTP.

6. What is the protocol used underneath FTP? TCP
The File Transfer Protocol(FTP) is a standard network protocol used to transfer computer from one host to another host over a TCP-based network. FTP is built on a client-server architecture and uses separate control and data connections between the client and the server.

7. Difference between Post and Get?
GET and POST are two different types of HTTP requests.
GET request should never be used when dealing with sensitive data. Get request have length restrictions. Get requests should be used only to retrieve data. Get requests can be cached.

Post requests have no restrictions on data length and post requests are never cached.

8. How can you know which website your user is comming? Http header Referrer.

9. The Difference Between HTTP and HTTPS?

"HTTPS" stands for "Hyper Text Transfer Protocol Secure." It means that information exchanged between you and a web site is encrypted and cannot be hijacked by someone who might want to electronically eavesdrop when you type a credit card number, a password, a social security number, or any other person information. HTTPS usually uses the SSL encryption methods.

10. How cookies are working?

A cookie is a piece of text that a Web server can store on a user's hard disk. Cookies allow a Web site to store information on a user's machine and later retrieve it. The pieces of information are stored as name-value pairs. In the broadest sense, a cookie allows a site to store state information on your machine. This information lets a Web site remember what state your browser is in.

UNIX

1. Unix command to search for a specific text through files in a directory. <grep>

grep -inr "collections." MongoDB

2. Find number of unique lines a file.

sort MongoDB/mongoDB.md | uniq -c

wc [-clmw] [file]. -c: number of bytes. -l: number of lines. -m: number of characters. -w: number of words.

3. Signal for kill command ? SIGKILL 和 9 是一样的

kill - The kill command will kill a process using the kill signal and PID given by the user. To use the SIGKILL signal with "kill", type one of the following for a process with a PID of 0710.

kill -<SIGKILL> <pid> send sigterm to process.

if no signal is specified, the TERM signal is send.

TERM 15 means stop. Kill 9 mean force stop.

ps aux | grep youdao

kill 4898

kill -9 pid

4. What is the command for viewing memory management information in Linux?

vmstate, free

The "vmstat" command shows summary information about memory, processes, interrupts, paging and block I/O information.

The "free" command shows a nicely summarized table containing information about the memory on your computer.

5. Linux command for checking cpu usage <top>

It is just like the Task Manager in Windows and displays a list of the running tasks and various details about each application. The output is automatically updated often.

One of the best ways to see both RAM and CPU usage is to type '$ vmstat', which will display 5 sections of useful memory information, including RAM and CPU information. You can also type '$ top', which displays a very exhaustive list of memory information, but it is easy to get the important data lost in the flood.

6. How can you get the ip address of the other machine?
ping hostname/domain name
ps -ef 显示正在运行的进程

SQL

1. SQL command to move a row in a table?
insert into talbelname (value1, value2, value3) values (value1, value2, value3)

2. How to retrieve a row from a table in SQL.
select * from table limit 1;

3. What command would you use to retrieve one row of data from a table using SQL?
select top 1 from tables;
FETCH FIRST N ROWS ONLY

4. Delete one line from database.
delete from tablename where condition

5. which one of the following describe inner join ? 1. A intersection B. 2. A Union B.
Inner Join -- A intersect B
outer Join -- A union B
Left outer join -- A left outer join will give all rows in A, plus any common rows in B.
A full outer join will give you the union of A and B. All rows in A and all rows in B.

Data Structures

1. Number of bits to represent a single octal digit?
2^3 = 8. three bits. present 8 values.

2. max value that can be represented by unsigned int? int max and min.
4 Bytes, 32 Bits. 2^32 = 4 GB = 4 billion
Java 2^16 - 1 is max. -2^16 is min.
2 raised to the 5th power

3. Time complexity for search an item in HashMap:
O(1), BST, O(logn)

4. What is the best and worst case time complexities for a hash table.
Search, Insertion, Deletion
Avg, O(1). Worst, O(n) -- Hash Confliction

5. Time complexity of adding things to LinkedList.
Add to first or end is O(1). add to any position is O(n);
Search is O(n), delete single list, double list both are O(1)

6. Would it generally be better to run a binary search on a sorted Array or LinkedList?
Array. Because we can use index to get every element easily.

7. What is Big O notation?
Big - O notation is a relative representation of the complexity of an algorithm.
We use is in the analysis of algorithms to compare the efficiency of different algorithms.
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8. What is static variable?
static variable is a variable that has been allocated statically, Its life time remains equal to the life time of the program.

9. Which operation is more expensive? Multiply, < Divide> or Add

Python
1. python native datatypes?
Boolean, Number, String, Byte, List, Tuple, Set, Dictionary.
2. immutable python types?
Number, String , Tuple
http://www.w3resource.com/python/python-data-type.php

Others
1. What is the average disk access times? 10-20ms
Access time = Seek time + Rotation Delay + Transfer time. An HDD's Average Access Time is its average Seek time which technically is the time to do all possible seeks divided by the number of all possible seeks.

2. How does process communicate with each other? <Socket, Pipe, Message queues, shared memory>

Pipes can be used when a process creates child processes or threads and wants to communicate with them.

Named pipes(mkfifo) are used to communicate between threads within a process or between two unrelated processes.
Message queues are used to communicate between threads within a process or two unrelated processes.
Shared memory is used to communicate between threads within a process or two unrelated processes, allowing both to share a given region of memory.

http://blog.csdn.net/21aspnet/article/details/7479469
http://developer.nokia.com/community/wiki/How_to_communicate_between_two_threads_or_processes

3. How many bytes are contained in a 32 bit OS? | How many bytes does a 32 bit OS work with?

2^32 bits / 8 bits per byte = 2^29 bytes = 536, 870, 912 bytes. (536 millions, 870 thousands and 912).

A 32 bit operating system works on 4 bytes (4 * 8 bits in a byte = 32). The reason this is important is because data structures like integers can hold much more information in a 64 bit system.

the Maximum memory could be used is 4GB. 2^32 =4GB.

4. What happens after you enter an url?
You type in the URL and hit go. The browser needs to translate that URL www.somesite.com into an IP address so it knows what computer on the internet to connect to (That URL is just there to make it easier for us humans - kinda like speed-dial for phone numbers I guess). So your browser will see if it already has the appropriate IP address cached away from previous visits to the site. If not, it will make a DNS query to your DNS server (might be your router or your ISP's DNS server). Once your browser knows what IP to use, it will connect to the appropriate web Server and ask for the page. The web Server then returns the requested page and your browser renders it to the screen.

5. Explain DNS resolution

6. Difference between a process and a thread?
In computing, a process is an instance of a computer program that is being executed. It contains the program code and its current activity. Depending on the operating system (OS), a process may be made up of multiple threads of execution that execute instructions concurrently.

Security
1. XSS

2. SQL Injection