# Cloud Support Engineer/DevOps Support Engineer /Technical Solutions Engineer INTERVIEW PREPARATION

The below guide should prove to be useful if you're interested in Cloud Support/DevOps profile in any organisation. The profile designation can vary from company to company but the gist is you work on customer problems, troubleshoot and provide a solution.

The interview mostly focused on domain knowledge of Operating System and Computer Networks. If you're a fresher, basic cloud knowledge studied in college curriculum should be enough. Apart from this personal projects can give you some edge over technologies you explored in college.

In case you're experienced candidate, questions can be specific to previous domain you've worked on. For example: If you're applying in database domain, then you should know troubleshooting in databases, best practices one should follow, kind of databases and how to choose between multiple options, etc.

Interview process generally consists of online test and F2F interviews. Online test can contains MCQ on core CS concepts and aptitude. Apart from this there could be programming questions with easy/medium difficulty.

## YouTube video link: https://youtu.be/kfWqpq4BvSQ

Top Topics for preparation

## Operating System

1.  File permissions, managing users and groups(chmod, chown command)
2.  Hard link and Soft link
3.  RAID
4.  Linux run levels
5.  Producer consumer problem
6.  Reader writer's problem
7.  Virtual memory and how it works, eg. How will a 5GB game will work on PC with 2GB RAM
8.  System performance(CPU, memory, Disk and Network)
9.  OS boot process(Linux/Windows)

10. Mutex vs semaphore
11. Segmentation and Paging[Memory management]
12. Page faults, how it's handled?
13. Cache and its types, comparison with memory, differences in RAM and ROM
14. Basic linux commands
15. CPU scheduling algorithms
16. Disk scheduling algorithms
17. Process and threads. What are they? what are the differences?
18. zombie process, what will you detect? How to handle?
19. Deadlock, necessary conditions for deadlock, its prevention strategy
20. Handling Thrashing
21. Software management example: install, upgrade, maintain, uninstall
22. OS background processes. How does they work? what's the requirement? How to manage?
23. System startup tasks
24. How to automate system? example cron jobs

## References for operating system preparation

- Video tutorials by Prof. P.K. Biswas, IIT KGP
- GeeksForGeeks Operating System guide

# Computer Networks

1. OSI model: complete understanding of each layer, protocols, security in each layer
2. Domain Name System(DNS and address resolution)
3. Subnetting and related calculations
4. All Routing Protocols
5. Hub, Switch, Router, Bridge, Gateway[All network devices working, their differences and use-cases where used]
6. TCP and UDP comparison in detail, Flow and error control
7. TCP handshake, connection establish and termination
8. Firewall, what is it? what's the requirement?
9. FTP, HTTP, SMTP, POP3, IMAP, HTTPS, ICMP
10. URL, URI and URN
11. Virtual Private Network(VPN)
12. Dynamic Host Configuration Protocol(DHCP and DORA process)
13. Sockets
14. IPv4 and IPv6 differences, datagram headers
15. Private and Public IP address

16. What happens in background when you hit google.com on web browser
17. SSL handshake
18. NAT
19. HTTP error codes
20. Fragmentation(MSS/MTU)
21. Packet segmentation
22. MAC
23. Network routing
24. Traceroute, Telnet
25. DDOS
26. Virtualization and its types
27. Network security
28. Port numbers for different protocols
29. Broadcast domain

## Example Troubleshooting Scenarios

1. How can I protect my laptop?/How to secure a server?
2. PC/Server is slow(troubleshooting steps can vary based on type of machine and OS). Detailed analysis on system performance improvement - CPU, memory, Disk, network or any other system hardware/software
3. Wifi connectivity is slow or any network connectivity issues
4. Website is accessible by entering DNS but not with uri(e.g. working with 52.22.22.22 but not with google.com)
5. System not able to bootup
6. Unable to login into the system/Unable to SSH into the server
7. System error troubleshooting. How will you check system logs? commands to find error snippets?

**Troubleshooting playlist link here**

## Programming Questions

As this is DevOps role, the questions should be of easy difficulty level. In my judgement, this should be easy question - swap two numbers with help of only two variables

## Online Test

It generally involves questions around basic CS concepts, aptitude and easy/medium difficulty programming questions.

# Behavioral Questions

Apart from technical questions, you should prepare for behavioral questions on how you'll handle or react on different kind of situations.

## Tips and Suggestions

- I combined multiple topics in above list of topics. In interviews, generally you're evaluated on how well you understand the system and not just memorizing the definitions.