**Linux Topics (Dive deep knowledge not limited to)**

Booting process (RHEL6,8) and Booting issues troubleshooting

Kernel error analysis, SOS report analysis

Memory Management, Connectivity troubleshooting (SSH, NFS, SFTP, FTP, DNS, Packet flow)

Performance troubleshooting (CPU,Memory,Disk,Network,hardware)

Website troubleshooting (DNS, Apache,nginx,proxy) and components of scalable website

File system management and user account/control

**Network Topics (Dive deep knowledge not limited to)**

DHCP, DORA,DNS,Network troubleshooting tools, Flow of a packet, OSI model

TCP/IP structure of packet, TCP 3 Way handshake, TCP Half close, TCP 4-way closure

Traceroute, ping MTR working in detail and output analysis, Bandwidth troubleshooting, Analysis of packet capture

**Links for getting basic idea of the topics. Dive deep needs to be done on these topics separately**

1. Booting - <https://www.tecmint.com/linux-boot-process/>
2. RHEL6/7 - <https://arkit.co.in/rhel-6-vs-rhel-7-difference-previous-newer-version/>
3. Book which covers most of networking part in detail –

<http://eti2506.elimu.net/Introduction/Books/Data%20Communications%20and%20Networking%20By%20Behrouz%20A.Forouzan.pdf> (You can google the link for Bhroze A forouzan in case the above link does not work.

– Focus on following topics in detail DHCP, DORA,DNS,Network troubleshooting tools, Flow of a packet, OSI model

TCP/IP structure of packet, TCP 3 Way handshake, TCP Half close, TCP 4-way closure

Traceroute, ping MTR working in detail and output analysis, Bandwidth troubleshooting, Analysis of packet capture

1. Networking video playlist - <https://www.youtube.com/playlist?list=PLF360ED1082F6F2A5>
2. Memory/swap management - <https://superuser.com/questions/1104553/linux-swap-slowing-my-system>
3. IOwait. <https://support.hpe.com/hpsc/doc/public/display?docId=c02783994>
4. Iostat -IO monitoring <https://www.tecmint.com/linux-performance-monitoring-with-vmstat-and-iostat-commands/>
5. Understand routing  <https://superuser.com/questions/331720/how-do-i-set-the-priority-of-network-connections-in-ubuntu>
6. Website error codes  <https://www.digitalocean.com/community/tutorials/how-to-troubleshoot-common-http-error-codes> and <http://www.windowsnetworking.com/articles-tutorials/network-protocols/Understanding-HTTP-Protocol-Part1.html>
7. Manage partitions <https://www.howtogeek.com/106873/how-to-use-fdisk-to-manage-partitions-on-linux/> and <https://blog.myduniahosting.com/how-to-resize-your-root-diskpartition-online-for-linux/>
8. Zombie and orphan process  <https://www.gmarik.info/blog/2012/orphan-vs-zombie-vs-daemon-processes/>
9. DHCP /DORA process  <https://ipwithease.com/understanding-dora-process-in-dhcp/>
10. How to understand if system is under memory pressure <https://www.tecmint.com/check-memory-usage-in-linux/>
11. TCP- Sequence and ack numbers – <https://youtu.be/8XJPZttC4RM>
12. Yum history manipulations <https://www.thegeekdiary.com/yum-history-command-examples-to-display-rollback-redo-undo-yum-transactions/>
13. <https://www.linuxnix.com/what-is-linuxunix-dmesg-command-and-how-to-use-it/>
14. website troubleshooting <https://www.digitalocean.com/community/tutorials/how-to-troubleshoot-common-site-issues-on-a-linux-server>
15. TCP- Sequence and ack numbers – <https://youtu.be/8XJPZttC4RM>
16. User management and permissions -<https://www.linux.com/learn/understanding-linux-file-permissions>
17. Process Management -  <http://ryanstutorials.net/linuxtutorial/processes.php> and  <http://www.hostingadvice.com/blog/linux-process-management-commands-know/> and  <http://www.informit.com/articles/article.aspx?p=370047>
18. Memory management - <http://www.tldp.org/LDP/tlk/mm/memory.html> and  <http://linux-training.be/sysadmin/ch18.html>
19. Cisco - <https://learningnetwork.cisco.com/community/certifications/ccna/icnd1/study-material>
20. TCP - <http://www.tcpipguide.com/free/t_TCPIPArchitectureandtheTCPIPModel-2.htm>
21. 3 way handshake - <https://support.microsoft.com/en-in/help/172983/explanation-of-the-three-way-handshake-via-tcp-ip>
22. NAT - <http://www.ciscopress.com/articles/article.asp?p=1725268>