

# TRAINING CONTENTS

Session No.	Topics	No. of class hours
1	<b>Linux Architecture Fundamentals</b> <ul style="list-style-type: none"><li>○ Introduction to Linux architecture</li><li>○ Understanding the kernel and system calls</li><li>○ Linux file system hierarchy</li></ul>	3
2	<b>IPtables and Firewall Management</b> <ul style="list-style-type: none"><li>○ IPtables concepts and structure</li><li>○ Writing and managing firewall rules</li><li>○ Practical examples of securing a Linux</li></ul>	3
3	<b>Network Configuration Basics</b> <ul style="list-style-type: none"><li>○ Network interfaces and IP addressing</li><li>○ DNS configuration</li><li>○ Network troubleshooting tools</li></ul>	3
4	<b>Shell Scripting Essentials</b> <ul style="list-style-type: none"><li>○ Introduction to Bash scripting</li><li>○ Shell scripting basics</li><li>○ Writing and executing shell scripts</li></ul>	3
5	<b>Vi/Vim Editor Mastery</b> <ul style="list-style-type: none"><li>○ Basic Vi/Vim commands</li><li>○ Editing and navigating files efficiently</li><li>○ Customizing Vi/Vim</li></ul>	3
6	<b>Linux User and File Administration</b> <ul style="list-style-type: none"><li>○ Permissions and ownership</li><li>○ User and group management</li><li>○ Access control lists (ACLs)</li></ul>	3
7	<b>Network Device Operations</b> <ul style="list-style-type: none"><li>○ Switch functionality and operations</li><li>○ Router functionality and operations</li><li>○ Layer 2 vs Layer 3 devices</li></ul>	3
8	<b>Advanced Linux Networking</b> <ul style="list-style-type: none"><li>○ Linux namespaces</li><li>○ Virtual networks</li><li>○ Network isolation techniques</li></ul>	3
9	<b>Docker Fundamentals</b> <ul style="list-style-type: none"><li>○ Basic concepts of containerization</li><li>○ Docker architecture</li><li>○ Essential Docker commands</li></ul>	3
10	<b>Dockerfile Development</b> <ul style="list-style-type: none"><li>○ Dockerfile syntax and best practices</li><li>○ Multi-stage builds</li><li>○ Image optimization techniques</li></ul>	3

11	<b>Docker Networking</b> <ul style="list-style-type: none"> <li>○ Docker network drivers</li> <li>○ Network management</li> <li>○ Container communication</li> </ul>	3
12	<b>SQL Container Deployment</b> <ul style="list-style-type: none"> <li>○ SQL replication with Docker</li> <li>○ Database containerization</li> <li>○ Performance optimization</li> </ul>	3
13	<b>Redis Container Implementation</b> <ul style="list-style-type: none"> <li>○ Redis deployment strategies</li> <li>○ Cache management</li> <li>○ Integration patterns</li> </ul>	3
14	<b>Nginx Container Architecture</b> <ul style="list-style-type: none"> <li>○ Nginx containerization</li> <li>○ Load balancer configuration</li> <li>○ Reverse proxy setup</li> </ul>	3
15	<b>Docker Compose Implementation</b> <ul style="list-style-type: none"> <li>○ Compose file structure</li> <li>○ Multi-container deployments</li> <li>○ Application lifecycle management</li> </ul>	3
16	<b>Kubernetes Architecture</b> <ul style="list-style-type: none"> <li>○ Core components</li> <li>○ Control plane elements</li> <li>○ Worker node architecture</li> </ul>	3
17	<b>Kubernetes Pod Management</b> <ul style="list-style-type: none"> <li>○ Pod lifecycle</li> <li>○ ReplicaSets</li> <li>○ Deployment strategies</li> </ul>	3
18	<b>Kubernetes Networking</b> <ul style="list-style-type: none"> <li>○ Service types</li> <li>○ Network policies</li> <li>○ Ingress configuration</li> </ul>	3

19	<b>Kubernetes Configuration</b> <ul style="list-style-type: none"> <li>○ Secrets management</li> <li>○ ConfigMaps</li> <li>○ Resource quotas</li> </ul>	3
20	<b>Kubernetes Scaling</b> <ul style="list-style-type: none"> <li>○ Horizontal Pod Autoscaling</li> <li>○ Vertical Pod Autoscaling</li> <li>○ Cluster scaling</li> </ul>	3
21	<b>Build Automation</b> <ul style="list-style-type: none"> <li>○ Makefile creation</li> <li>○ Docker image automation</li> <li>○ Registry integration</li> </ul>	3
22	<b>GitHub Actions</b> <ul style="list-style-type: none"> <li>○ Workflow configuration</li> <li>○ CI/CD pipeline setup</li> <li>○ Integration strategies</li> </ul>	3
23	<b>Kubernetes Deployment Automation</b> <ul style="list-style-type: none"> <li>○ Continuous deployment</li> <li>○ Rolling updates</li> <li>○ Deployment strategies</li> </ul>	3
24	<b>Monitoring Fundamentals</b> <ul style="list-style-type: none"> <li>○ Prometheus setup</li> <li>○ Grafana configuration</li> <li>○ Alert management</li> </ul>	3
25	<b>AWS Computing</b> <ul style="list-style-type: none"> <li>○ EC2 fundamentals</li> <li>○ Application deployment</li> <li>○ Instance management</li> </ul>	3
26	<b>AWS Networking</b> <ul style="list-style-type: none"> <li>○ VPC design</li> <li>○ Subnet configuration</li> <li>○ Route tables</li> </ul>	3
27	<b>AWS Security</b> <ul style="list-style-type: none"> <li>○ Security groups</li> <li>○ IAM management</li> <li>○ Network access control</li> </ul>	3

	<b>Total class hours</b>	81 hours
28	<b>CV Writing:</b> Crafting an effective CV, structuring for impact, tailoring CVs for job roles, common mistakes, and ATS optimization	3
29	<b>Job Interview:</b> Resume-based and behavioral interviews, common interview questions, STAR method, body language, and mock interview practice	4
30	<b>Industrial Life:</b> Workplace culture, professional ethics, career growth, communication skills, handling work pressure, and networking strategies	3
3	<b>Total mentorship class hours</b>	10