

## Q1. What is SDN and what problem in Networking does it solve?

**A:** SDN is a tool or platform that automates or simplifies a specific concern in the Networking domain, reducing manual effort and operational complexity for engineering teams.

## Q2. What are the core components or concepts in SDN?

**A:** SDN has key building blocks that work together: a configuration layer defines intent, a runtime layer enforces it, and an API or CLI layer allows operators to manage and observe the system.

## Q3. How does SDN compare to its main alternatives?

**A:** SDN trades off simplicity against feature richness differently than its alternatives. Choose SDN when its specific strengths performance, ecosystem, or ease of use align with your team's primary constraints.

## Q4. How do you get started with SDN for a new project?

**A:** Install SDN via its package manager or binary release. Follow the quickstart to initialize a project, configure the minimal required settings, and run the default command to verify the setup works end-to-end.

## Q5. What configuration options most affect SDN's behavior in production?

**A:** Production-critical settings typically include concurrency limits, timeout values, retry policies, resource limits, and logging levels. Review the official production hardening guide before deploying.

## Q6. How does SDN handle reliability and high availability?

**A:** SDN provides HA through leader election, replication, or stateless horizontal scaling. Deploy at least two instances across availability zones and configure health checks for automatic failover.

## Q7. What observability does SDN provide out of the box?

**A:** SDN exposes metrics (Prometheus endpoint or built-in dashboard), structured logs, and optionally distributed traces. Define SLOs on the key metrics and alert before users are affected.

## Q8. What are common performance bottlenecks in SDN?

**A:** Performance bottlenecks typically stem from misconfigured connection pools, large payload sizes, insufficient worker threads, or missing caches. Profile with built-in diagnostics before optimizing.

## Q9. What security best practices apply when running SDN?

**A:** Run SDN with the principle of least privilege, enable TLS for all communication, use a secrets manager for credentials, and keep the software patched to the latest stable release.

## Q10. What mistakes do teams commonly make when adopting SDN?

**A:** Common pitfalls include skipping the documentation and learning the API by trial and error, using default configurations in production, lacking a runbook for operational issues, and not testing failover scenarios.