Cloud Deployment

1. Load Balancing:Instagram employs load balancing services to distribute incoming traffic evenly across multiple servers to ensure high availability and scalability. Load balancers help in efficiently handling user requests.

2. Storage and Data Management: Instagram uses various cloud-based storage solutions for different types of data. Object storage: Cloud providers' object storage services (e.g., Amazon S3, Google Cloud Storage) are used to store images, videos, and other media shared on the platform. Databases: A combination of relational databases (e.g., PostgreSQL, MySQL) and NoSQL databases (e.g., Cassandra, MongoDB) may be used to store user data, profiles, Reel information, and engagement metrics.

3. Content Delivery:To ensure that images and videos load quickly for users around the world, Instagram utilizes Content Delivery Networks (CDNs) provided by cloud service providers. CDNs cache and deliver content from servers located closer to end-users.

4. Compute Resources: Cloud computing platforms offer virtual machines and containers for hosting and running Instagram's backend services, including API servers, data processing, and AI algorithms.