

3.Blue-Green Deployment

Definition:

- **Blue-Green Deployment** is a deployment technique where two identical environments, "Blue" (current) and "Green" (new), are used to minimize downtime and reduce deployment risk.

Key Points:

1. Process:

- The **Blue environment** hosts the current version (V1.0) of the application, while the **Green environment** is used for deploying the new version (V2.0).
- Traffic is initially directed to the Blue environment. After successfully deploying V2.0 to Green, traffic is shifted to Green.

2. Advantages:

- **Zero downtime:** Users experience no interruption as the switch between environments is instantaneous.
- **Rollback capability:** In case of issues in the Green environment, you can quickly switch back to Blue without affecting the users.

3. Example Flow:

- Step 1: Blue environment running V1.0, Green is idle.
- Step 2: Deploy V2.0 to Green.
- Step 3: Switch traffic to Green; Blue becomes idle.
- Step 4: If V2.0 fails, switch back to Blue (V1.0).

Diagram:

- Two identical environments, Blue and Green, represent the system's different stages, ensuring smooth updates without affecting live users.

