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Cloud & DevOps Migration Checklist

A Step-by-Step Guide to Secure, Scalable, and Automated Infrastructure Migration

This checklist outlines the essential steps for planning, executing, and optimizing a successful migration to the cloud. Leveraging DevOps principles ensures your migration is automated, secure, and has minimal business disruption.

Phase 1: Discovery & Strategy

- **Infrastructure Audit**
  Catalog all existing servers, applications, databases, and dependencies.
- **Cloud Readiness Assessment**
  Assess applications for cloud compatibility (Rehost, Replatform, Refactor).
- **Business Goals & Key Performance Indicators**
  Define success metrics (uptime, performance, cost savings) and milestones.

Phase 2: Secure Cloud Architecture

- **Multi-AZ Network Design**
  Design landing zones (VPCs, public/private subnets, NAT Gateways).
- **Identity & Access Management (IAM)**
  Enforce Least Privilege Access, MFA, and SSO controls.
- **Data Security & Encryption**
  Implement encryption at rest (KMS) and in transit (SSL/TLS).

Phase 3: DevOps & Infrastructure as Code (IaC)

- **Declarative Infrastructure**
  Write Terraform or CloudFormation templates to ensure repeatable deployments.
- **CI/CD Automation Pipelines**
  Build pipelines (GitHub Actions, GitLab CI) for testing and auto-deploy.
- **Containerization Setup**
  Dockerize applications and configure Kubernetes (EKS/AKS) or AWS ECS.

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Phase 4: Data & Application Migration

- **Database Migration Strategy**
  Establish replication (e.g. AWS DMS) or plan maintenance window for cutover.
- **Storage Migration**
  Sync static assets to secure object storage (S3/Azure Blob) with CDN distribution.
- **Zero-Downtime Cutover**
  Configure DNS routing (Route53), TTL adjustments, and rollback procedures.

Phase 5: Validation & Optimization

- **Load & Performance Testing**
  Validate application responsiveness and auto-scaling rules under peak loads.
- **Automated Backup & Disaster Recovery**
  Configure and test cross-region backups, RTO, and RPO goals.
- **Observability & Cost Controls**
  Set up Prometheus/Grafana or CloudWatch dashboards. Configure budget alerts.

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