# Cloud Migration Strategy Guide

Cloud migration is a strategic initiative involving the transfer of digital assets, workloads, and services from legacy infrastructure or alternate cloud environments to a modern cloud platform such as **AWS**, **Microsoft Azure**, or **Google Cloud Platform (GCP)**. This transition enables organizations to achieve improved **scalability**, **cost-efficiency**, **business agility**, and **innovation readiness**.

## Basic (Business-Level) Strategy

✅ **1. Define Business Objectives**

- Reduce infrastructure cost
- Improve scalability and agility
- Enhance performance and uptime
- Enable remote workforce and digital transformation

✅ **2. Assess Current Infrastructure**

- Audit all applications, databases, storage, and workloads
- Identify legacy systems and dependencies

✅ **3. Choose the Right Cloud Model**

- **Public Cloud:** AWS, Azure, GCP
- **Private Cloud:** In-house or hosted
- **Hybrid Cloud:** A mix of both

✅ **4. Create a Cloud Adoption Roadmap**

- Set short-term and long-term goals
- Define KPIs to measure migration success

✅ **5. Plan for Security & Compliance**

- Align with ISO, PCI, GDPR, and industry-specific regulations

- Implement Identity and Access Management (IAM)

✅ **6. Cost Planning & Optimization**

- Estimate total migration cost
- Use tools like **AWS Pricing Calculator** and **Trusted Advisor**
- Implement **FinOps (Cloud Cost Optimization)** best practices

## Technical (Engineering-Level) Strategy

✅ **1. Discovery & Dependency Mapping**

- Use tools like **AWS Application Discovery Service** or **AWS Migration Hub**
- Identify dependencies across applications, services, and systems

✅ **2. Choose a Migration Strategy – The 7 R's**

| Strategy | Description |
|---|---|
| Rehost | Lift and Shift |
| Replatform | Lift, Tweak, and Shift |
| Repurchase | Move to SaaS |
| Refactor | Re-architect for the cloud |
| Retire | Decommission unused components |
| Retain | Keep on-prem temporarily |
| Relocate | Move infrastructure without changes |

✅ **3. Design Target Architecture**

- Select region and availability zones
- Design VPC, subnets, and security groups
- Plan IAM roles, route tables, NAT gateways, and load balancers

✅ **4. Select Tools & Services**

| Function | Tools |
|---|---|
| Compute | EC2, Lambda, ECS |
| Storage | S3, EBS, EFS |
| Database | RDS, DynamoDB, Aurora |

| | |
|---|---|
| Migration | AWS DMS, Snowball, CloudEndure |
| Networking | VPC, VPN, Transit Gateway |
| Monitoring | CloudWatch, X-Ray |
| Automation | CodePipeline, Terraform, Ansible |

✅ **5. Data Migration Strategy**

- **Database Migration:** AWS DMS, native backup/restore
- **File Storage Migration:** S3 CLI, AWS DataSync, Snowball
- **Zero Downtime:** Use replication and blue/green deployment

✅ **6. Testing & Validation**

- Conduct load and functional testing
- Monitor performance before and after migration
- Validate DNS configurations, SSL certificates, and application endpoints

✅ **7. Cutover & Go-Live**

- Schedule a go-live window
- Perform full backups
- Execute final cutover and monitor system behavior

✅ **8. Post-Migration Optimization**

- Enable auto-scaling and elastic infrastructure
- Set up CloudWatch alarms and dashboards
- Implement **CloudTrail** and **GuardDuty** for continuous security monitoring
- Review cost and performance regularly

## Cloud Platforms Supported by HADS Technovations LLP

✅ **AWS**
✅ **Microsoft Azure**
✅ **Google Cloud Platform**
✅ **Hybrid Cloud Architecture**

✅ **Private Cloud** (OpenStack / VMware)

## Our Cloud Migration Offerings (Sample)

- Cloud Readiness Assessment
- Full-stack Migration Execution
- DevOps Integration During Migration
- Cloud-native Application Refactoring
- Ongoing Cloud Managed Services
- **FinOps** (Cloud Cost Optimization)
- Security and Compliance Enforcement

## Cloud Migration Lifecycle (Visual Flow)

**Assessment → Planning → Design → Migration → Validation → Optimization**