**Use cases and workflows**

**Epic 1: Project Planning and Requirements Analysis**

* **User Story 1.1: Define Project Goals and Objectives**
  + Define specific objectives and success metrics for migration.
  + Identify stakeholders and gather high-level requirements.
* **User Story 1.2: Requirements Gathering**
  + Document infrastructure, application, data, and compliance requirements.
  + Identify technical constraints, regulatory needs, and dependencies.
* **User Story 1.3: Risk Assessment and Mitigation Planning**
  + Conduct risk analysis and create a mitigation plan.
  + Define business continuity and disaster recovery requirements.
* **User Story 1.4: Budget and Cost Estimation**
  + Estimate project costs, including infrastructure, licensing, and resource allocation.
  + Create a budget tracking mechanism for ongoing monitoring.

**Epic 2: Infrastructure Design and Architecture**

* **User Story 2.1: Define Cloud Architecture**
  + Design a scalable and resilient cloud architecture.
  + Plan network topology, including VPC, subnets, and firewall configurations.
* **User Story 2.2: Choose Cloud Services and Tools**
  + Select appropriate cloud services (compute, storage, database, etc.) based on requirements.
  + Define CI/CD and monitoring tools to support development and operations.
* **User Story 2.3: Set Up Security Framework**
  + Define security policies, including identity and access management (IAM).
  + Configure logging, encryption, and compliance controls for data security.

**Epic 3: Data Migration Planning and Execution**

* **User Story 3.1: Data Backup Strategy**
  + Establish a data backup plan for all critical data.
  + Test the integrity of backups to ensure data availability.
* **User Story 3.2: Data Transfer and Storage Planning**
  + Plan data transfer method (e.g., offline transfer, cloud sync) based on data volume.
  + Define target storage architecture in the cloud, considering scalability and durability.
* **User Story 3.3: Data Migration Execution**
  + Migrate data in batches, validate data integrity after each transfer.
  + Monitor data migration for any discrepancies and resolve issues in real-time.
* **User Story 3.4: Post-Migration Data Validation**
  + Validate that all data was transferred correctly and securely.
  + Ensure data consistency and accessibility in the new cloud environment.

**Epic 4: Application Migration and Testing**

* **User Story 4.1: Application Assessment and Compatibility Testing**
  + Conduct application dependency analysis and compatibility assessment.
  + Identify applications requiring refactoring or re-platforming.
* **User Story 4.2: Application Migration Planning**
  + Create a phased migration plan for applications, prioritizing critical workloads.
  + Set rollback plans for each application migration phase.
* **User Story 4.3: Application Migration Execution**
  + Migrate applications to the cloud, monitor during and after the migration.
  + Validate functionality in the new environment and troubleshoot any issues.
* **User Story 4.4: Post-Migration Testing**
  + Perform load and performance testing to ensure applications meet SLAs.
  + Conduct user acceptance testing (UAT) for each application.

**Epic 5: Security and Compliance Validation**

* **User Story 5.1: Compliance Assessment and Certification**
  + Conduct a compliance audit (GDPR, HIPAA, etc.) to ensure regulatory adherence.
  + Obtain necessary certifications or documentation for cloud compliance.
* **User Story 5.2: Security Controls Validation**
  + Validate IAM policies, access control, and encryption.
  + Test intrusion detection and incident response mechanisms.
* **User Story 5.3: Ongoing Security Monitoring Setup**
  + Configure security monitoring tools for alerts and compliance checks.
  + Establish incident response workflows and review policies.

**Epic 6: Operational Readiness and Performance Optimization**

* **User Story 6.1: Monitoring and Alerting Configuration**
  + Set up monitoring for infrastructure and applications (e.g., uptime, response time).
  + Configure alerts for performance, security, and availability issues.
* **User Story 6.2: Cost Optimization Analysis**
  + Analyze resource usage and recommend adjustments for cost efficiency.
  + Implement autoscaling and reserved instances where applicable.
* **User Story 6.3: Performance Tuning and Optimization**
  + Tune infrastructure and application settings for optimal cloud performance.
  + Test and validate performance improvements post-migration.

**Epic 7: Knowledge Transfer and Documentation**

* **User Story 7.1: Documentation of New Environment**
  + Document architecture, infrastructure settings, and configurations.
  + Create a knowledge base for troubleshooting and operational procedures.
* **User Story 7.2: Training for IT and Operations Teams**
  + Conduct training sessions on managing and maintaining cloud resources.
  + Provide training on new security practices, monitoring tools, and CI/CD pipelines.

**Epic 8: Go-Live and Post-Migration Review**

* **User Story 8.1: Final Testing and Go-Live Readiness Check**
  + Verify all systems, data, and applications are functioning as expected.
  + Ensure readiness for full cloud transition and user handover.
* **User Story 8.2: Go-Live Execution**
  + Execute the go-live transition, monitoring all systems and applications closely.
  + Coordinate with stakeholders and perform final checks.
* **User Story 8.3: Post-Migration Performance Review**
  + Evaluate project success against initial KPIs (cost, performance, uptime).
  + Gather feedback from users and stakeholders on post-migration experience.
* **User Story 8.4: Project Closure and Handover**
  + Officially close the project, finalizing all documentation.
  + Transition full responsibility to the operations team with detailed handover.