3-3-1: Application Migration Strategies

After completing this episode, you should be able to:

- Identify and explain the application migration strategies and considerations, given a scenario

Description: In this episode, the learner will examine key aspects of application migration strategies to consider. We will explore rehosting, re-platforming, re-architecting, retiring, and more.

- Describe the importance of implementing a cloud migration strategy
    - Choosing the right strategy is critical to balancing
        - ♠ The need for technological innovation
        - ♠ Aligning with business requirements
        - ♠ Reducing cost
        - ♠ Improving and optimizing performance
        - ♠ Leveraging cloud-native solutions
- Gartner's 5R's of Cloud Migration
    - Rehost (Lift and Shift) - Move applications to the cloud without changes.
    - Refactor (Repackage) - Make minor adjustments to applications to capitalize on cloud efficiencies.
    - Revise (Replatform) - Modify or extend the existing code base to fit the cloud environment before migrating.
    - Rebuild (Redevelop) - Rebuild the application from scratch using cloud-native technologies.
    - Replace (Retire/Retain) - Eliminate or replace existing applications with cloud-native or SaaS solutions.
- AWS's Original 6R's of Cloud Migration
    - Rehost - Transfer applications to the cloud as they are.
    - Replatform - Make a few cloud optimizations to realize a tangible benefit without changing the core architecture of the application.
    - Repurchase - Move to a different product, typically a SaaS platform.
    - Refactor / Rearchitect - Re-imagine how the application is architected and developed by using cloud-native features.
    - Retire - Get rid of the applications that are no longer useful.
    - Retain - Keep applications in the on-premises environment for various reasons.
- AWS's Revised 7R's of Cloud Migration
    - Rehost - Similar to the original, with a focus on quick migration with minimal alterations.
    - Replatform - Update and optimize without heavy re-architecting.
    - Repurchase - Move to a cloud-native product, often a SaaS solution.
    - Refactor / Rearchitect - Fundamentally alter the application to be agile, scalable, and efficient by exploiting cloud technologies.
    - Retire - Identify and eliminate outdated or unnecessary applications.
    - Retain - Keep certain applications in their current environment when it makes the most strategic sense.
    - Relocate - Move virtual machines or containers directly to the cloud without changing the underlying architecture or the host infrastructure.
- Describe practical applications for these migration strategies
    - Each strategy requires a careful evaluation of the application portfolio to determine the best approach based on the specific needs, potential benefits, and constraints.
    - Examples:
        - ♠ Rehosting might be best for applications needing quick cloud migration with minimal disruption
        - ♠ Replatforming can provide a balance between cost and benefit by enhancing

performance with minimal changes
- ♠ Refactoring is ideal for applications that can significantly benefit from cloud-native features in the long term
- ♠ Retaining certain legacy applications might be necessary until they are ready for migration or retirement
- ♠ Retiring obsolete applications simplifies the IT landscape and focuses resources on more valuable areas