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Summary & Highlights

Congratulations! You have completed this module. At this point, you know that:

- Software architecture functions as a blueprint and represents the importance of a good architectural design.
- Structured design breaks down a software problem into well-organized smaller solution elements whereas behavioral models describe the behavior of the system without explaining how the system implements the behavior.
- Developing UML diagrams saves time and money by helping developers quickly get up to speed on a project, plan features in advance of coding, and navigate source code easily. Types of UML diagrams include state transition, interaction, and class diagrams.
- Objects contain data, and they also have behaviors that prescribe the actions the object can take, whereas classes are blueprints for objects.
- A service-oriented architecture (SOA) consists of loosely coupled services that interface with each other via a communication protocol over a network. Distributed systems run on multiple services on different machines, but they appear to the end-user as a single coherent system.
- An architectural pattern is a repeatable solution to an architectural problem. Types of architectural patterns include 2-tier, 3-tier, event-driven, peer-to-peer, and microservices. Two or more patterns can be combined in a single system, but some are mutually exclusive.
- Application environments include development, testing or QA, staging, and production.
 Production environments tend to be more complex than pre-production because they must take into account non-functional requirements like load, security, reliability, and scalability.
- Application environments can be deployed either on-premises on traditional hardware, or on public, private, or hybrid cloud platforms.
- Common components needed for a production environment include a firewall, a load balancer, web and application servers, proxy servers, and database servers.

