

Database Design

System Development Life Cycle



ACADEMY

Objectives

This lesson covers the following objectives:

- List and describe the different stages of the system development life cycle (SDLC)
- Identify the role of data modeling in the system development life cycle
- Relate the project tasks to the different stages of the system development life cycle

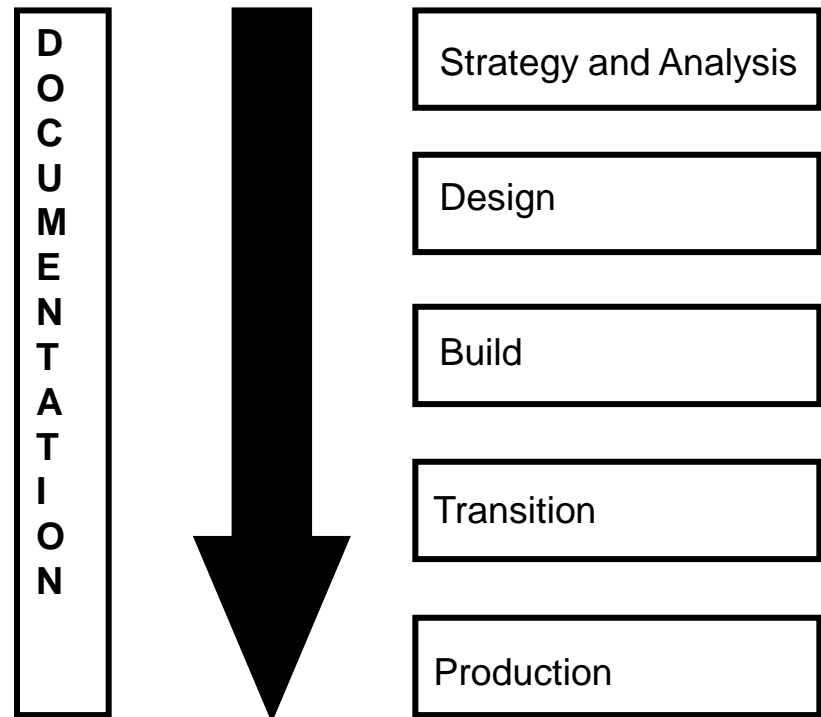
Purpose

When you build a house, you draw up the plans before you start construction. During construction, you lay the foundation before you start putting up walls. You finish all the major construction before you start decorating. The architect, the builder, and the decorator coordinate their efforts so that they do their jobs at the appropriate times.

A knowledge of the tasks associated with each stage of the system-development life cycle will help you better plan a project and be a productive member of the team.

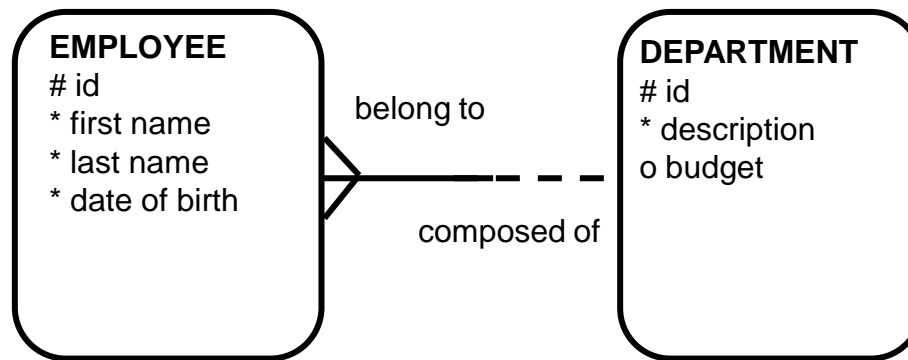
System Development Life Cycle

You can develop a database, from concept through production, by using the system development life cycle (SDLC) for software development. Applying this top-down, systematic approach to database development transforms business-information requirements into an operational database.



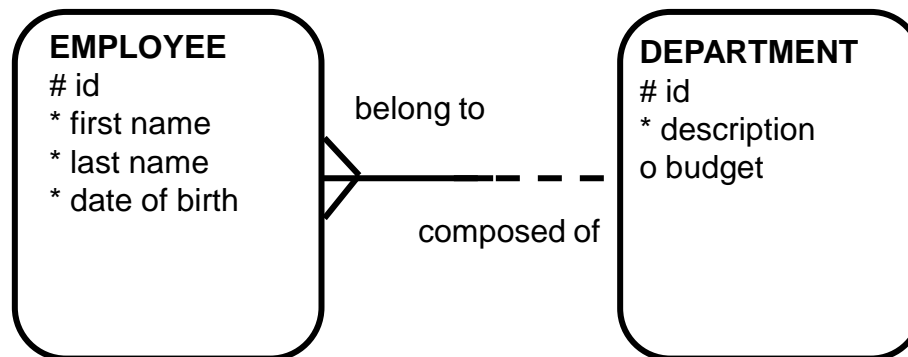
Strategy and Analysis

Study and analyze the business requirements. Interview users and managers to identify the information requirements. Incorporate the enterprise and application mission statements as well as any future system specifications.



Strategy and Analysis (cont.)

Build conceptual models of the system. Transfer the business narrative into a graphical representation of business-information needs and rules. Confirm and refine the model with the analysts and experts.



Design

Transform the model developed in the strategy and analysis phase. Map entities to tables, attributes to columns, relationships to foreign keys, and business rules to constraints.

EMPLOYEES (EPE)		
pk	*	id
	*	first_name
	*	last_name
	o	date_of_birth
fk	*	dpt_code

refers to

DEPARTMENTS (DPT)		
pk	*	id
	*	description
	o	budget

Build

Write and execute the commands to create the tables and supporting objects for the database.

Populate the tables with data.

Develop user documentation, help text, and operations manuals to support the use and operation of the system.

Transition and Production

Transition

Conduct user-acceptance testing. Convert existing data and parallel operations. Make any modifications required.

Production

Roll out the system to the users. Operate the production system. Monitor its performance and enhance and refine the system.

Terminology

Key terms used in this lesson included:

- Parallel operations
- Populate
- System development life cycle
- User acceptance testing

Summary

In this lesson, you should have learned how to:

- List and describe the different stages of the system development life cycle (SDLC)
- Identify the role of data modeling in the system development life cycle
- Relate the project tasks to the different stages of the system development life cycle