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Introduction to API Design

Master the Basics of Effective API Design

DEFINITION

> API design is the process of creating interfaces that allow different software systems to communicate. A well-designed API is user-friendly, efficient, and scalable.

KEY CONCEPTS

REST Principles

REST stands for Representational State Transfer, emphasizing stateless operations and resource-based interactions.

Endpoints

Endpoints are specific URLs where APIs can be accessed, each corresponding to a particular resource or action.

HTTP Methods

Common HTTP methods include GET, POST, PUT, and DELETE, defining the type of action to be performed.

Data Formats

APIs often use JSON or XML to structure data for easy transmission and readability.

Versioning

Versioning helps manage changes in an API without breaking existing client applications.

EXAMPLES

→ GET /users retrieves a list of users.

→ POST /orders creates a new order.

→ PUT /products/1 updates product details.

MEMORY TIPS

★ Remember REST as 'Representing State Transfer' to grasp its core concept.

★ Think of endpoints as 'addresses' for API resources.

★ Use the acronym CRUD (Create, Read, Update, Delete) to recall HTTP methods.

COMMON MISTAKES

✗ Neglecting proper documentation for users.

✗ Overcomplicating API endpoints with unnecessary parameters.

✗ Failing to handle errors gracefully.

QUICK RECAP

API design is crucial for seamless software interaction. Focus on REST principles, clear endpoints, and proper versioning to create effective APIs.