

Microservice – A solution architecture that splits each business solution into separate parts. Each application process is run as a service. These services communicate via API's. Code does not need to be shared between services.

Notes:

- Each microservice can be developed, deployed, and scaled independently
- Microservices do not need to be written in the same language, they can use different frameworks, and they can use different databases

Benefits of using microservices

- Scalable: Each microservice can scale independently, based off of its needs
- Technology Diversity: Each microservice can be created using the most appropriate technology for its purpose
- Independent Teams: Each microservice can have its own team working on it
- CI/CD: Each microservice can be developed, tested, and deployed independently

## Example of how Amazon uses microservices

Below are the microservices involved in Amazon E-commerce Application:

1. **User Service:** Manages user accounts, authentication, and preferences. It handles user registration, login, and profile management, ensuring a personalized experience for users.
2. **Search Service:** Powers the search functionality on the platform, enabling users to find products quickly. It indexes product information and provides relevant search results based on user queries.
3. **Catalog Service:** Manages the product catalog, including product details, categories, and relationships. It ensures that product information is accurate, up-to-date, and easily accessible to users.
4. **Cart Service:** Manages the user's shopping cart, allowing them to add, remove, and modify items before checkout. It ensures a seamless shopping experience by keeping track of selected items.
5. **Wishlist Service:** Manages user wishlists, allowing them to save products for future purchase. It provides a convenient way for users to track and manage their desired items.
6. **Order Taking Service:** Accepts and processes orders placed by customers. It validates orders, checks for product availability, and initiates the order fulfillment process.
7. **Order Processing Service:** Manages the processing and fulfillment of orders. It coordinates with inventory, shipping, and payment services to ensure timely and accurate order delivery.
8. **Payment Service:** Handles payment processing for orders. It securely processes payment transactions, integrates with payment gateways, and manages payment-related data.
9. **Logistics Service:** Coordinates the logistics of order delivery. It calculates shipping costs, assigns carriers, tracks shipments, and manages delivery routes.
10. **Warehouse Service:** Manages inventory across warehouses. It tracks inventory levels, updates stock availability, and coordinates stock replenishment.
11. **Notification Service:** Sends notifications to users regarding their orders, promotions, and other relevant information. It keeps users informed about the status of their interactions with the platform.
12. **Recommendation Service:** Provides personalized product recommendations to users. It analyzes user behavior and preferences to suggest relevant products, improving the user experience and driving sales.

## Videos Explaining Microservices

[Microservices Explained in 5 Minutes \(youtube.com\)](https://www.youtube.com/watch?v=LL_j7ilk7rc)

[https://www.youtube.com/watch?v=LL\\_j7ilk7rc](https://www.youtube.com/watch?v=LL_j7ilk7rc)

[What are Microservices? \(youtube.com\)](https://www.youtube.com/watch?v=CdBtNQZH8a4)

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## Articles Talking about Microservices

[What are Microservices? | AWS \(amazon.com\)](#)

<https://aws.amazon.com/microservices/>

[What are Microservices? - GeeksforGeeks](#)

<https://www.geeksforgeeks.org/microservices/>