**Event-Driven Architecture (EDA)**

**Event-driven architecture** is a software architecture paradigm where the flow of execution is determined by events. An event signifies a change in state, and when it occurs, it triggers corresponding actions.

**Key Components**

1. **Events:** A change in state or an occurrence.
2. **Producers:** Emit events.
3. **Consumers:** Subscribe to and process events.
4. **Event Bus/Broker:** A message broker that routes events from producers to consumers.

**How EDA Works**

1. A producer emits an event to the event bus.
2. The event bus routes the event to interested consumers.
3. Consumers process the event and perform necessary actions.

**Characteristics**

* **Asynchronous:** Producers and consumers don't need to wait for each other.
* **Decoupled:** Components are independent, promoting scalability and maintainability.
* **Reactive:** Systems can respond to events in near real-time.

**Common Use Cases**

* Real-time data processing
* Microservices communication
* IoT applications
* Complex event processing

