

Schema Evolution

What is Schema Evolution?

Schema Evolution is the process of changing the structure of the schema over time without breaking existing producers or consumers

Why we need it?

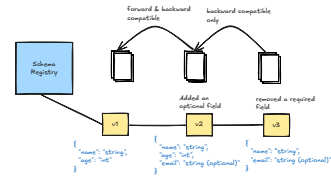
- In prod, data formats constantly change (new fields, renamed attributes, etc)
- Without versioning these changes cause schema drift
- Schema Registry prevents that by storing multiple versions of the same schema and enforcing compatibility rules

How it works?

- When a new version of schema is registered:

1. The Schema Registry compares it to the previous version
2. If it violates compatibility mode, registration is rejected
3. Otherwise, it's saved and assigned a new schema ID

Compatibility Modes



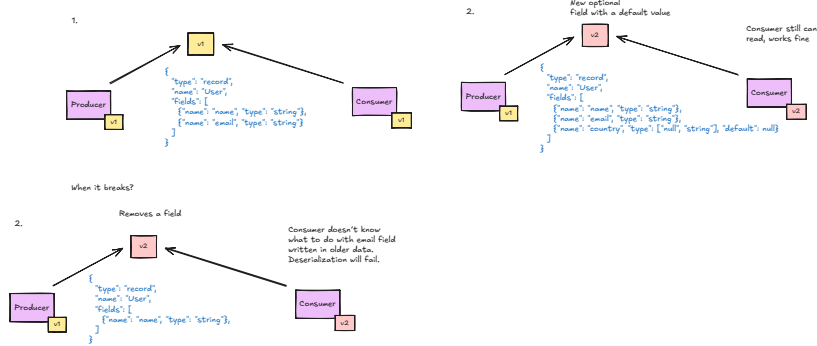
Backwards Compatibility

Ensures that newer readers can update their schema and still consume events written by old writers.

Forward Compatibility

Ensures newer writers can produce events with an updated schema that can still be read by older readers.

Backwards Compatibility Example



Forward Compatibility Example

