

Creating Sequence Diagrams with Mermaid.js

Sequence diagrams are essential in software development for visualizing how processes operate and interact over time. With [Mermaid.js](#), you can build these diagrams using a simple text syntax and embed them directly in your HTML. In this guide, you'll learn how to use Mermaid.js to create powerful, clear sequence diagrams for your applications.

🚀 Step 1: Load Mermaid in Your HTML

To begin, include Mermaid as a module in your HTML. The latest version (v10+) supports native ES module loading:

```
<script type="module">
  import mermaid from 'https://cdn.jsdelivr.net/npm/mermaid@10/dist/mermaid.esm.min.mjs';
  mermaid.initialize({ startOnLoad: true });
</script>
```

Mermaid will automatically find and render all diagrams inside elements with the `mermaid` class on page load.

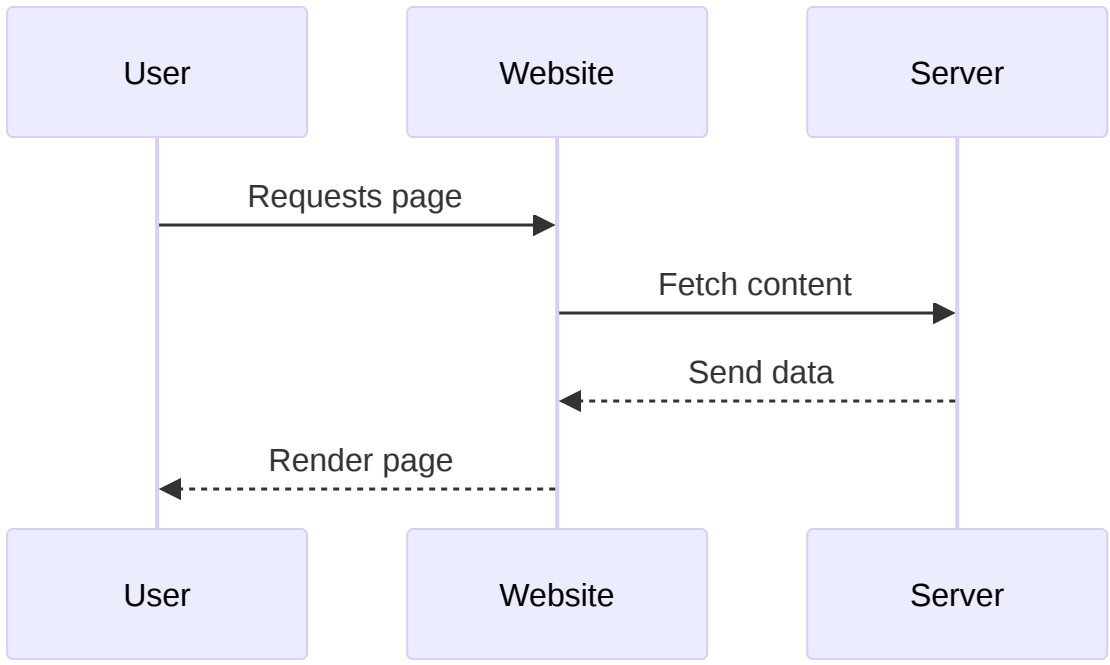
📌 Basic Syntax of a Sequence Diagram

A sequence diagram starts with the keyword `sequenceDiagram` and follows a simple, readable structure:

```
<div class="mermaid">
sequenceDiagram
  participant User
  participant Website
  participant Server

  User->>Website: Requests page
  Website->>Server: Fetch content
  Server-->>Website: Send data
  Website-->>User: Render page
</div>
```

Rendered Example:

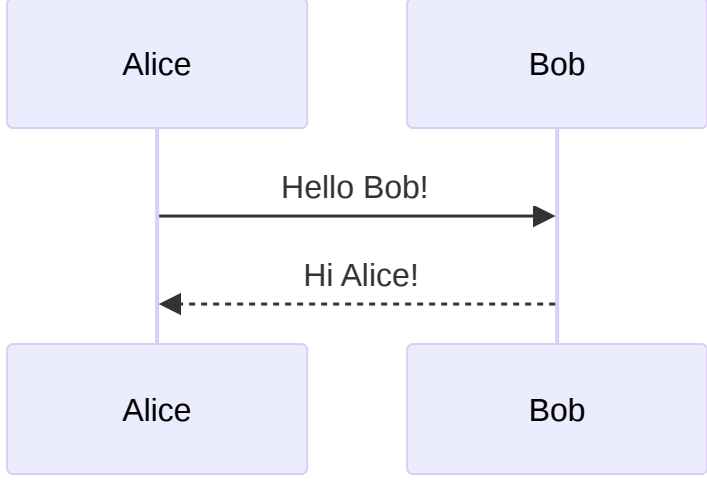


👤 Defining Participants

Use the `participant` keyword to define actors or objects in the sequence. You can alias participants for better readability:

```
<div class="mermaid">
sequenceDiagram
  participant A as Alice
  participant B as Bob

  A->>B: Hello Bob!
  B-->>A: Hi Alice!
</div>
```

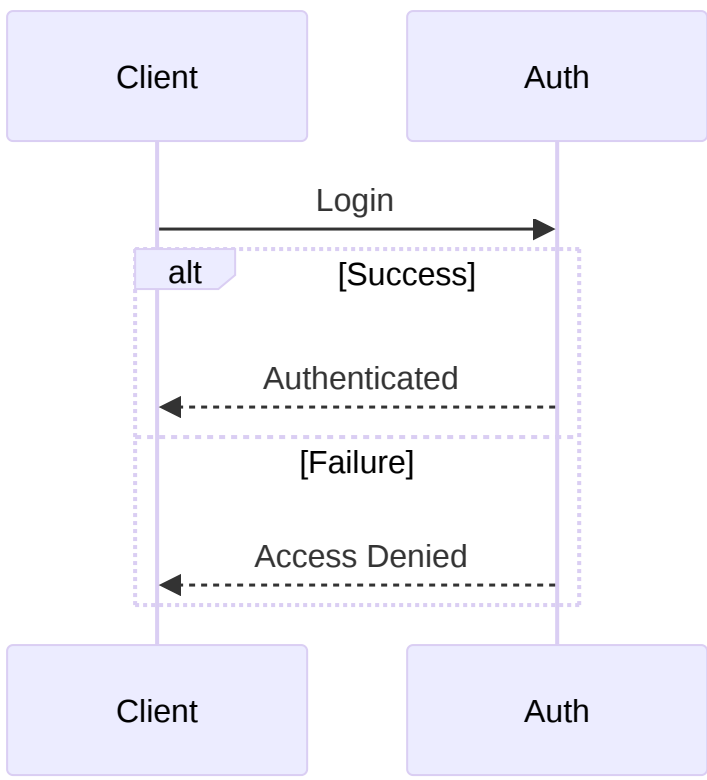


🔄 Loops and Conditionals

Mermaid supports control structures like loops, alternatives, and options:

```
<div class="mermaid">
sequenceDiagram
  participant Client
  participant Auth

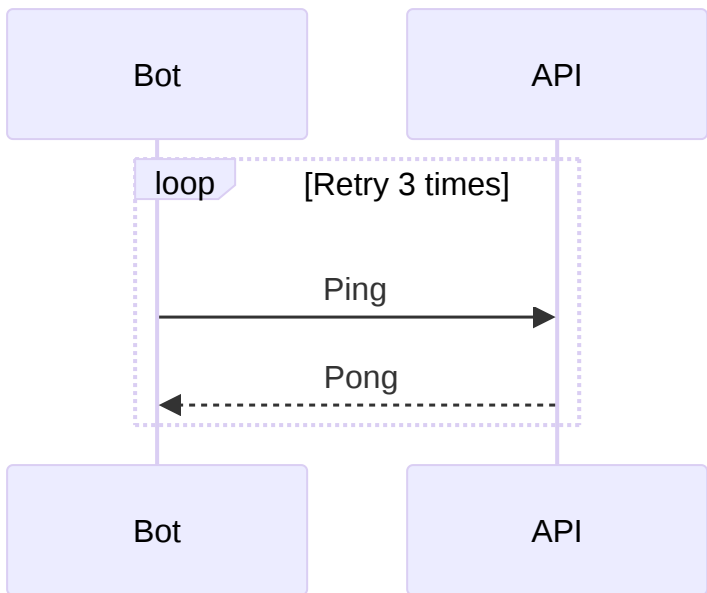
  Client->>Auth: Login
  alt Success
    Auth-->>Client: Authenticated
  else Failure
    Auth-->>Client: Access Denied
  end
</div>
```



You can also use `loop`, `opt`, and `par` for more control:

```
<div class="mermaid">
sequenceDiagram
  participant Bot
  participant API

  loop Retry 3 times
    Bot->>API: Ping
    API-->>Bot: Pong
  end
</div>
```

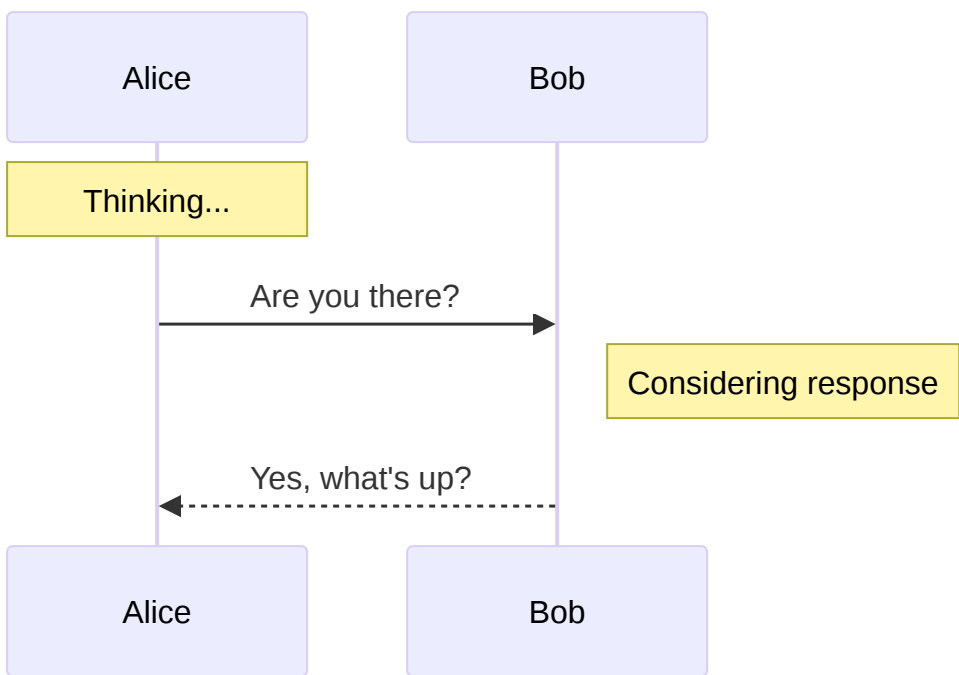


✨ Notes and Styling

You can add notes to clarify interactions:

```
<div class="mermaid">
sequenceDiagram
  participant Alice
  participant Bob

  Note over Alice: Thinking...
  Alice->>Bob: Are you there?
  Note right of Bob: Considering response
  Bob-->>Alice: Yes, what's up?
</div>
```

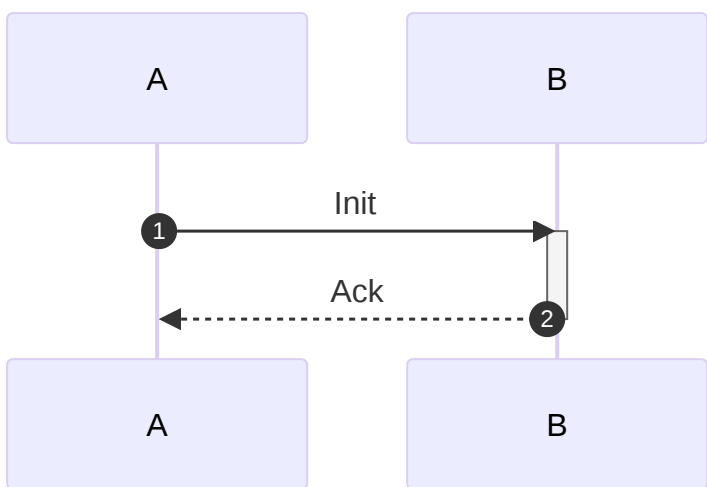


🔧 Advanced Features

- Use `activate` / `deactivate` to highlight active lifelines
- Use `rect` and `end` to group interactions
- Use `autonumber` to add message numbers

```
<div class="mermaid">
sequenceDiagram
  autonumber
  participant A
  participant B

  A->>B: Init
  B-->>A: Ack
  deactivate B
</div>
```



📖 Reference

This post is based on the official Mermaid documentation. Explore all the available features and syntax rules here:

<https://mermaid.js.org/syntax/sequenceDiagram.html>

🚀 Wrapping Up

Mermaid makes it incredibly easy to embed clean, expressive sequence diagrams directly in your documentation, blogs, and web apps—using just plain text. It's especially useful in technical teams, API design, and system architecture discussions. Try combining it with tools like Markdown editors, Docusaurus, or MkDocs for seamless documentation workflows!