

How to Create Entity Relationship Diagrams (ERDs) with Mermaid.js

An **Entity Relationship Diagram (ERD)** visually represents relationships between entities in a database. With [Mermaid.js](#), you can create ERDs using concise, readable syntax directly in HTML, Markdown, or documentation tools.

Step 1: Include Mermaid.js

Add this ES module script to load Mermaid:

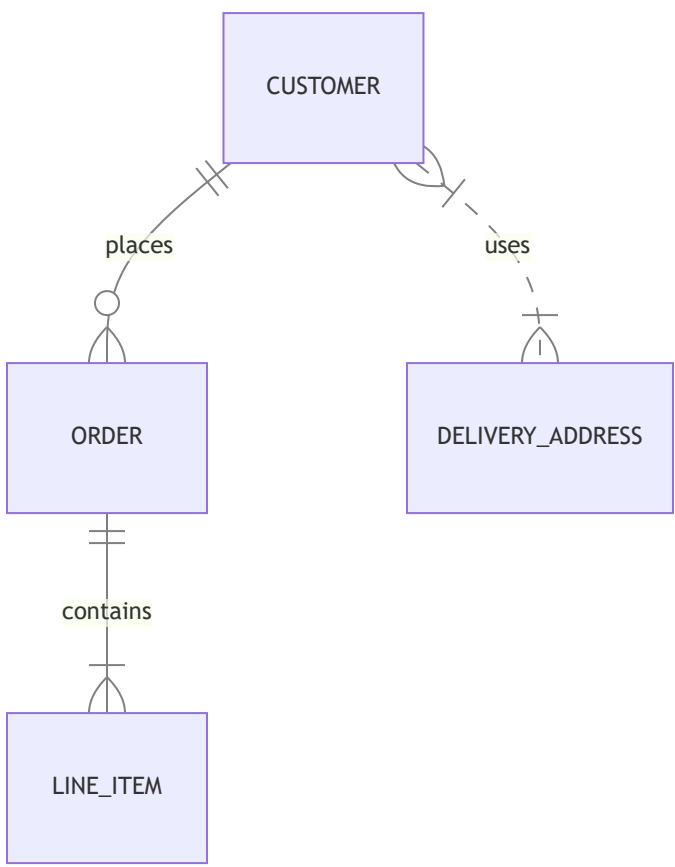
```
<script type="module">
import mermaid from 'https://cdn.jsdelivr.net/npm/mermaid@10/dist/mermaid.esm.min.mjs';
mermaid.initialize({ startOnLoad: true });
</script>
```

Basic Syntax for ERDs

Start with `erDiagram`, then define entities and relationships using Mermaid's declarative format:

```
<div class="mermaid">
erDiagram
    CUSTOMER ||--o{ ORDER : places
    ORDER ||--}|{ LINE_ITEM : contains
    CUSTOMER }|..}|{ DELIVERY_ADDRESS : uses
</div>
```

Rendered Example:



ER Relationship Notation

Symbol	Meaning	Example
	Exactly one	Customer --o{ Order
o{	Zero or more	Order o{--} Customer
{	One or more	Order {--} Customer
} ..} {	Many-to-many	Customer } ..} { Address

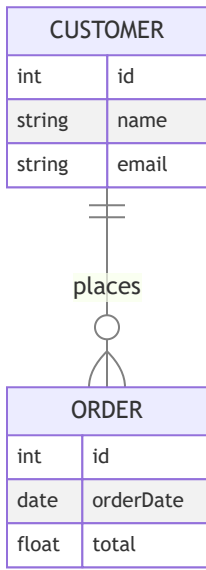
Declaring Entity Attributes

Mermaid allows you to define entity fields using the `entity` block. Here's an example:

```
<div class="mermaid">
erDiagram
    CUSTOMER {
        int id
        string name
        string email
    }

    ORDER {
        int id
        date orderDate
        float total
    }

    CUSTOMER ||--o{ ORDER : places
</div>
```



Advanced Example

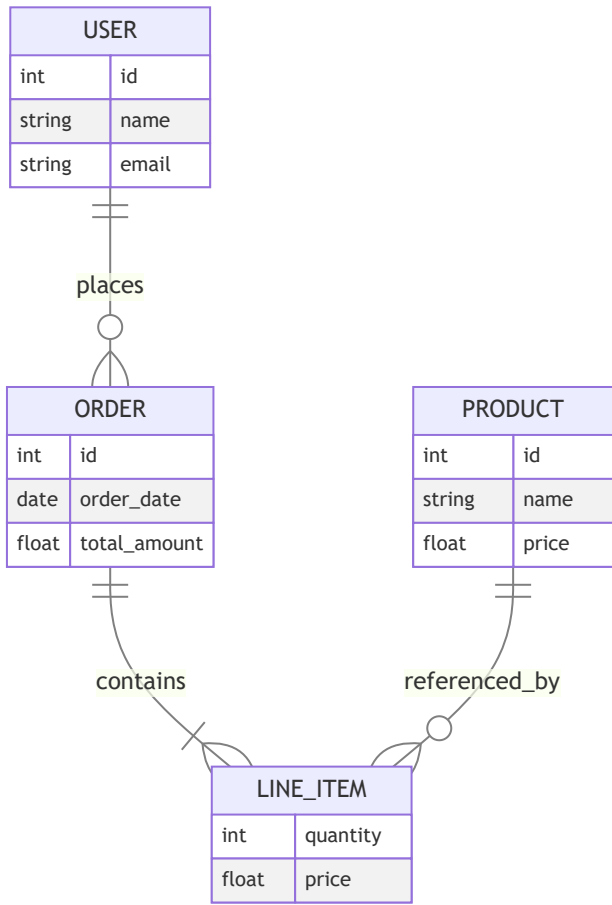
```
<div class="mermaid">
erDiagram
    USER {
        int id
        string name
        string email
    }

    PRODUCT {
        int id
        string name
        float price
    }

    ORDER {
        int id
        date order_date
        float total_amount
    }

    LINE_ITEM {
        int quantity
        float price
    }

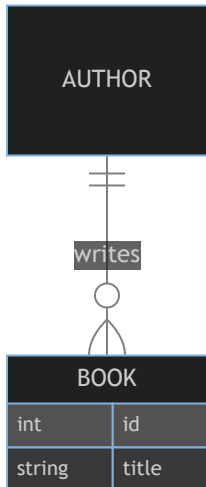
    USER ||--o{ ORDER : places
    ORDER ||--}|{ LINE_ITEM : contains
    PRODUCT ||--o{ LINE_ITEM : referenced_by
</div>
```



Theming (Optional)

Customize with Mermaid directives:

```
<div class="mermaid">
%%{ init: { "theme": "dark" } }%%
erDiagram
    AUTHOR ||--o{ BOOK : writes
    BOOK {
        int id
        string title
    }
</div>
```



Resources

- Official syntax docs: mermaid.js.org/syntax/entityRelationshipDiagram
- Try online: [Mermaid Live Editor](#)

Summary

- Use `erDiagram` for modeling database relationships visually
- Define entities with fields for clarity
- Apply relationship cardinality and labels
- Embed diagrams in HTML or Markdown-based documentation

Mermaid ERDs make it simple to explain data structures and their relationships. Perfect for developers, data architects, and technical documentation writers.