



## Experiment No: 1

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### 1. Aim: URL Shortner Designing

### 2. Requirement Gathering:

#### a. Functional Requirements

- Create a short URL from a Long URL
- Optional:
  - (a) Support custom URL
  - (b) Supports expiration date : Default + Custom expiration
  - (c) Unique Short URL
- User should get redirected to the original URL from short URL.

#### b. Non-Functional Requirements

- Low Latency: response in least amount of time: ( On URL-creation, on URL Redirect) - 200 ms
- Scalability: 100M daily active user & application should be able to short 1B URL
- Unique: Shorten URL should be Unique.
- Availability: 24 x 7 available

### 3. Core Entities

- Short – URL
- Long – URL
- User

## 4. Tool Used

- Postman API
- draw.io
- Lucid Chart
- excalidraw

## 5. API Designing

### i. POST Endpoint :

- /v1/url -> short-URL
- Body
  - {  
    longURL,  
    customURL ? (optional),  
    expirationDate  
}

### ii. GET Endpoint:

- /v1/url/{short-url}