API Design-Create a Text Post

Hey IG, let's post this!

HTTP Method: POST   Endpoint: /v1/posts

```
HTTP Body:
{
    "userId": "12345",
    "text": "Excited for my trip to Europe!",
    "hashtags": ["travel", "fun"]
}
```

Client

Insta Servers

API Design-Create Image/ Video Post

Hey IG, let's post this!

HTTP Method: POST   Endpoint: /v1/posts

```
HTTP Body:
{
    "userId": "12345",
    "mediaUrl": "https://s3.amazonaws.com/user...",
    "description": "Relaxing by the beach.."
    "hashtags": ["relax", "chilling"]
}
```

Client

Insta Servers
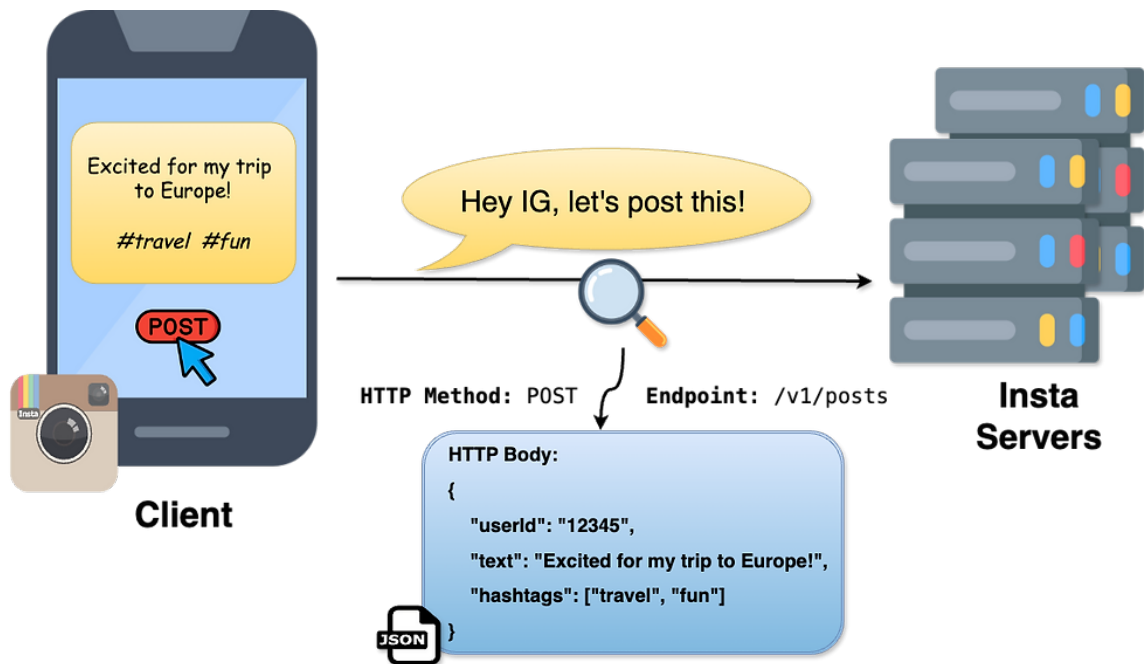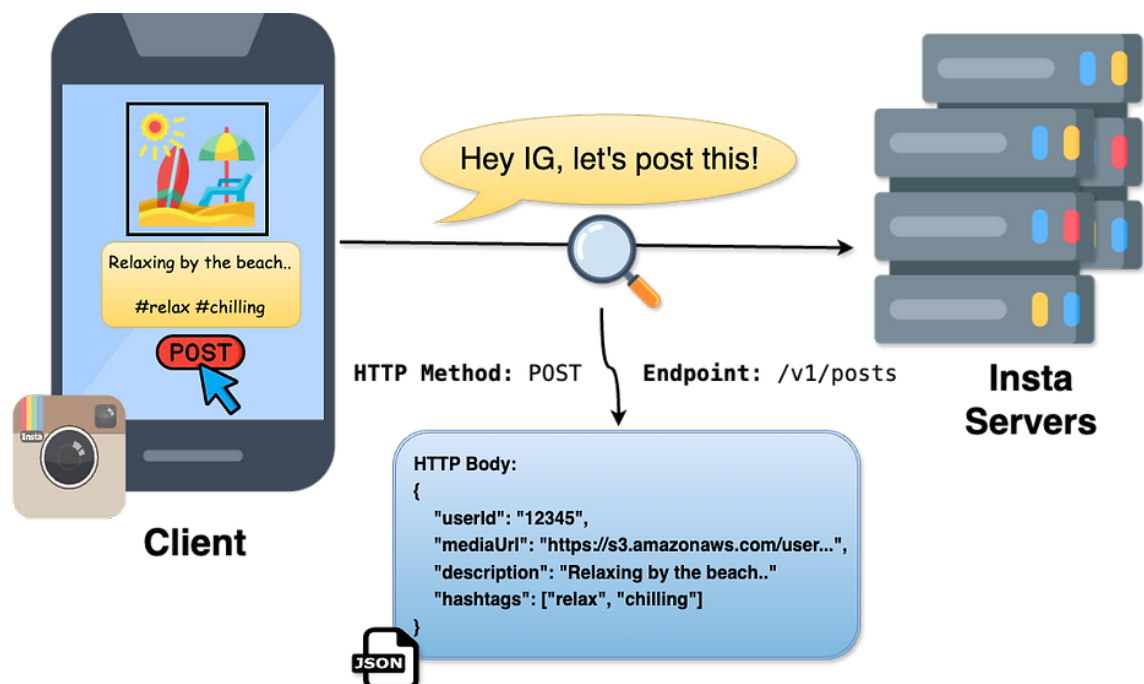
API Design-Like /Comment a Post
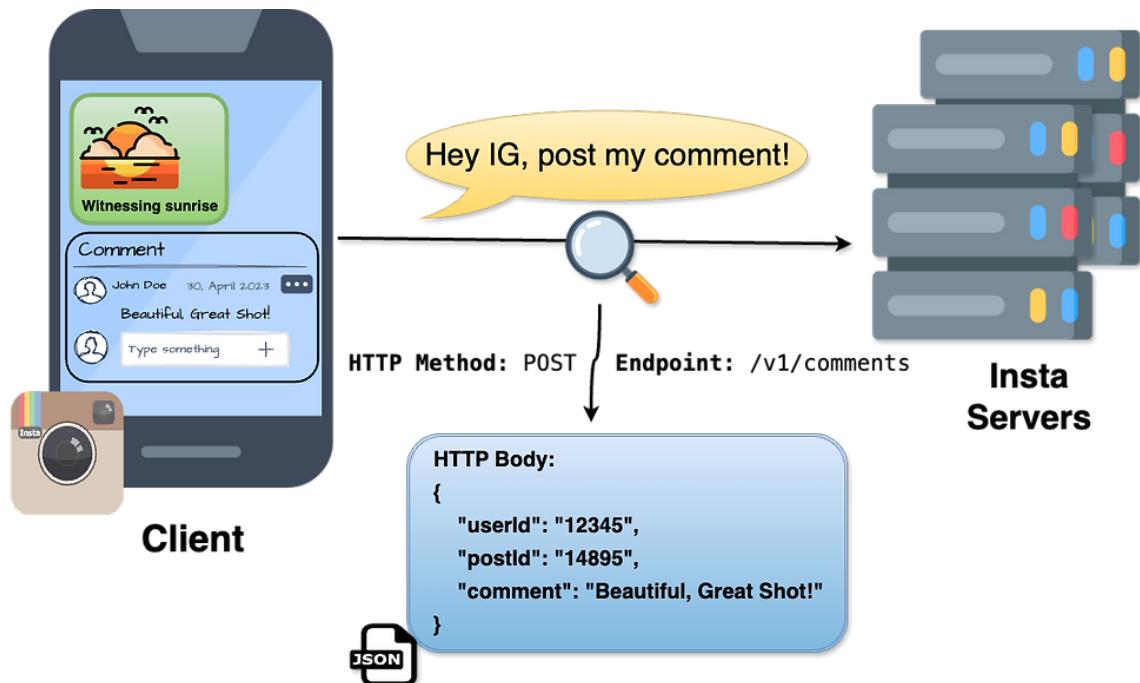
API Design-Follow / Unfollow another User

API Design-Read the Newsfeed (aka Timeline)

Hey IG, show me my news feed!

HTTP Method: GET

Endpoint: /v1/feeds/{userId}

Client

Insta Servers

High level Design- Follow / Unfollow another User

Follow DB
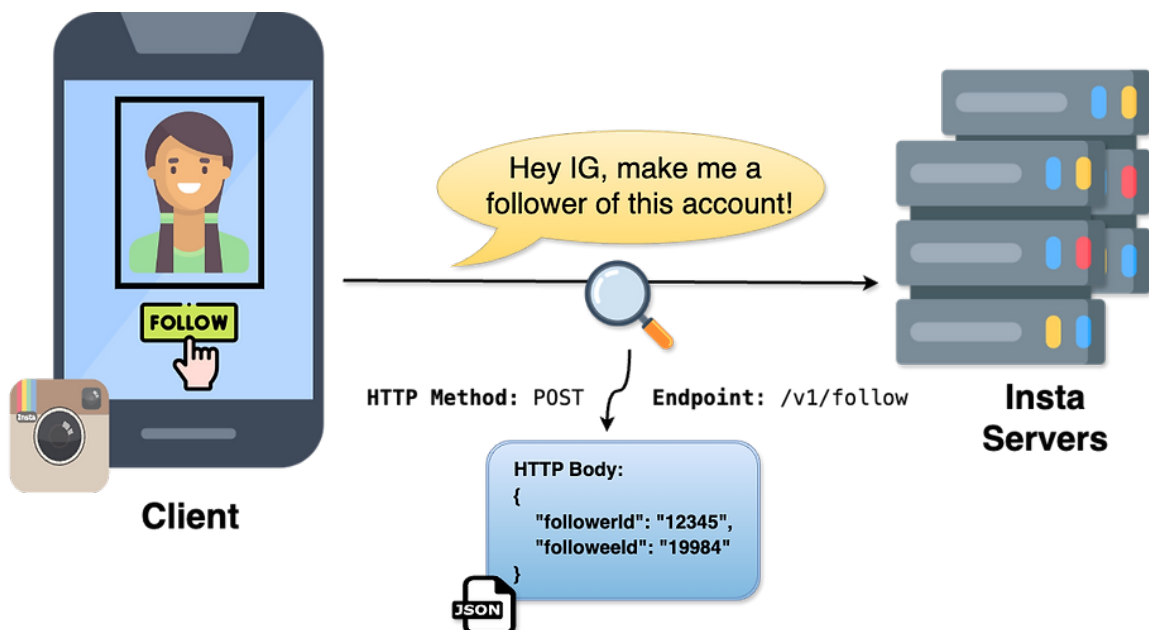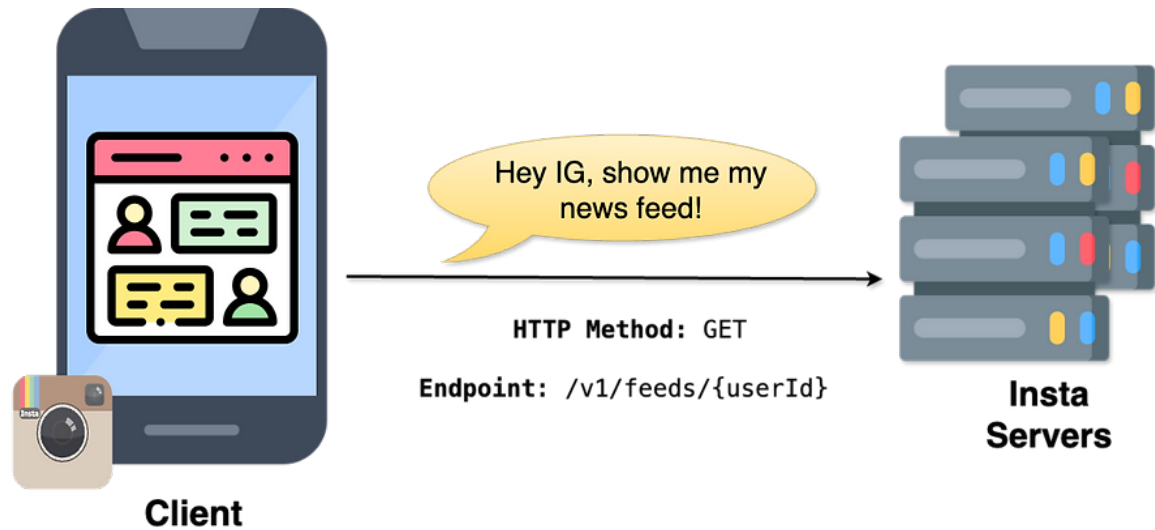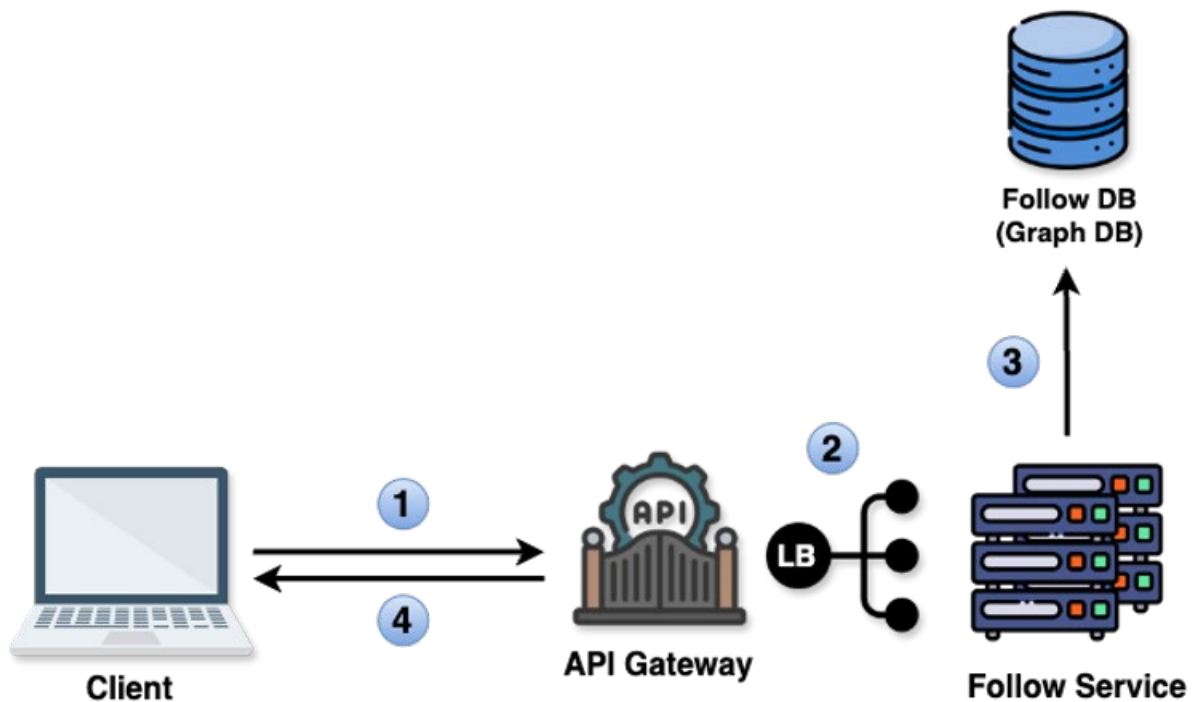(Graph DB)

Client

API Gateway

Follow Service

High level Design- Create Text Post
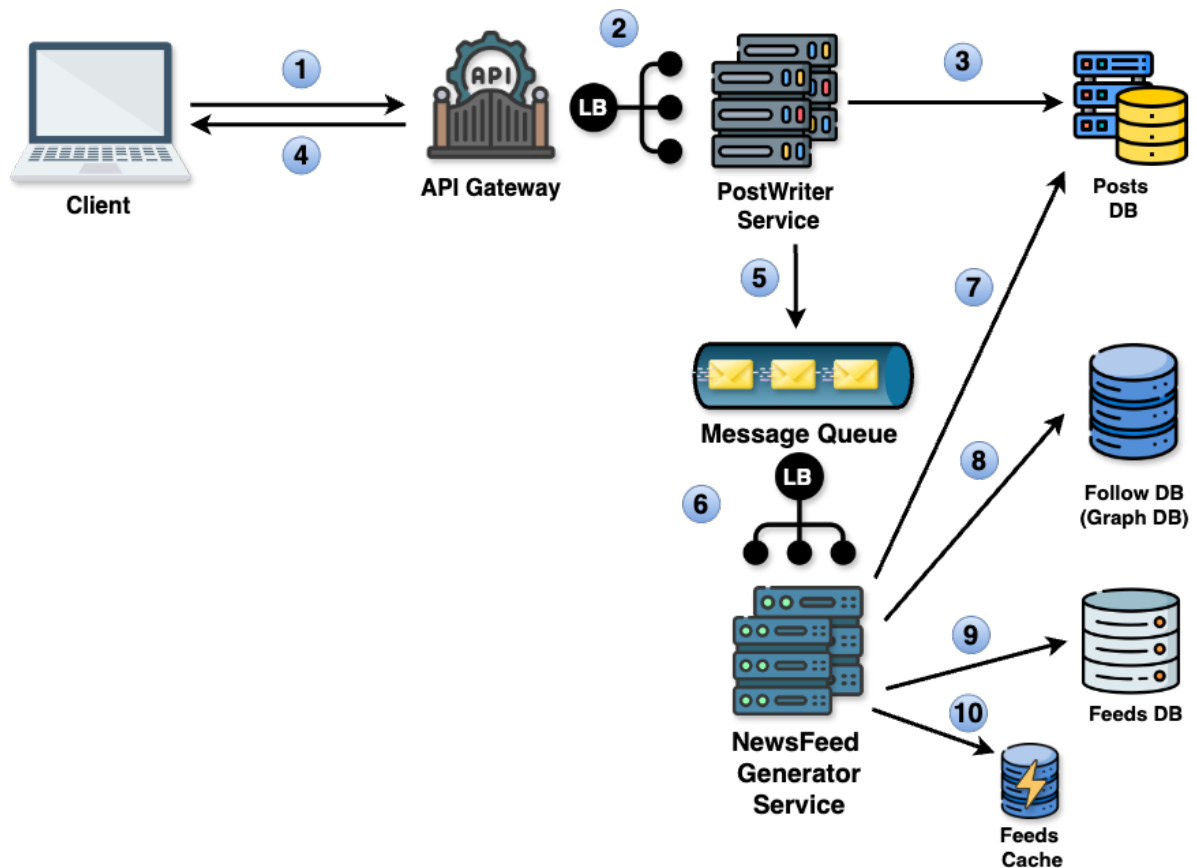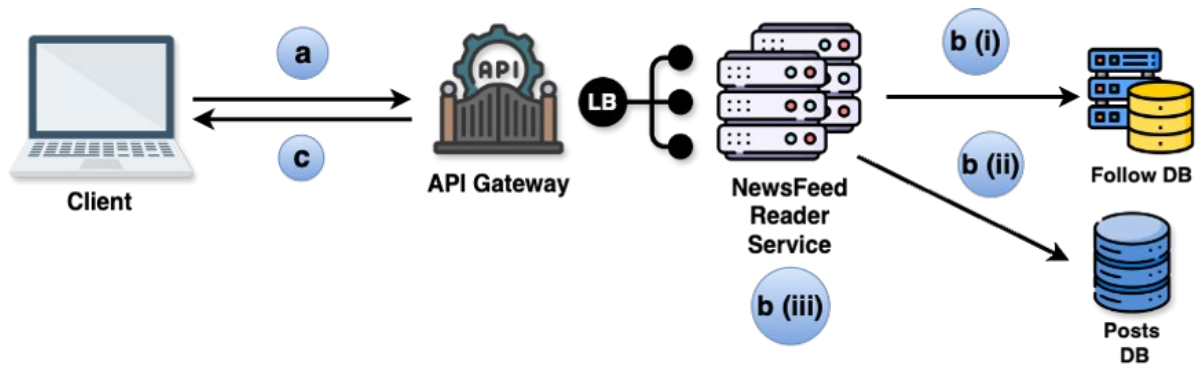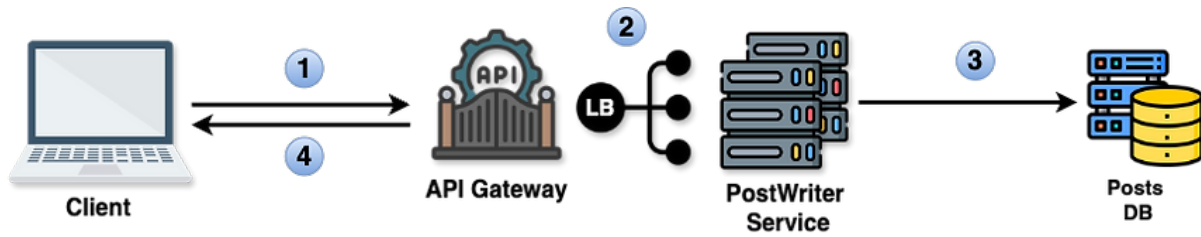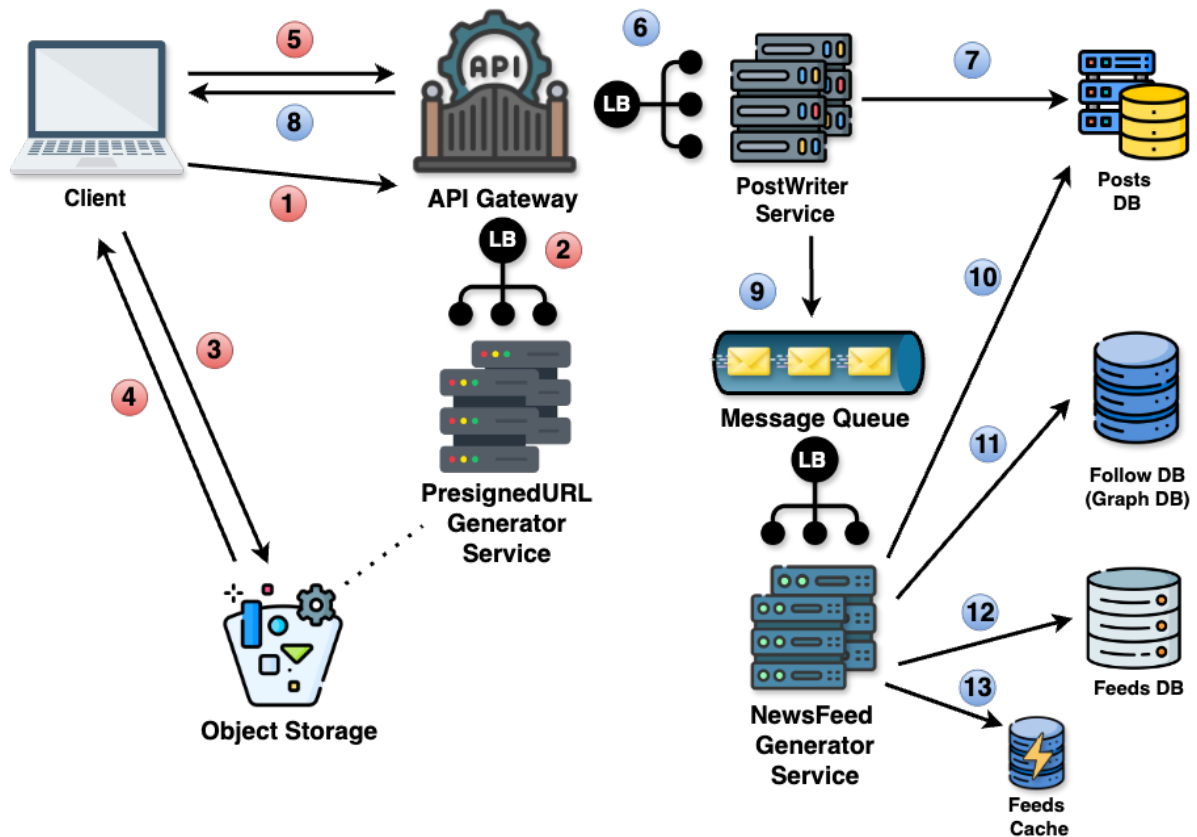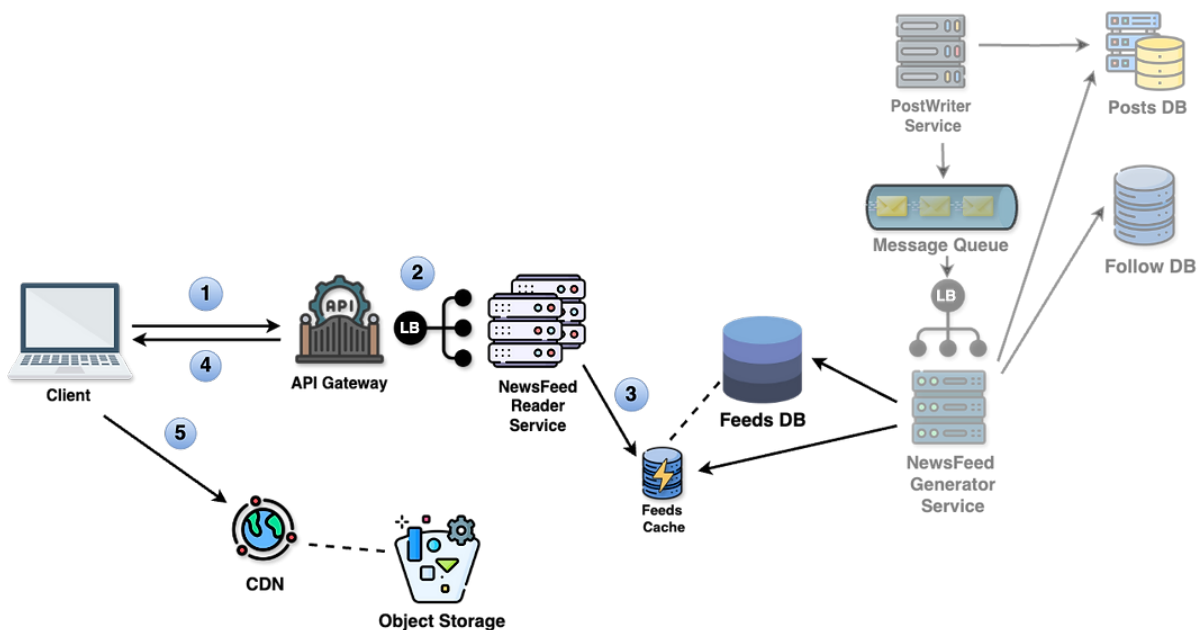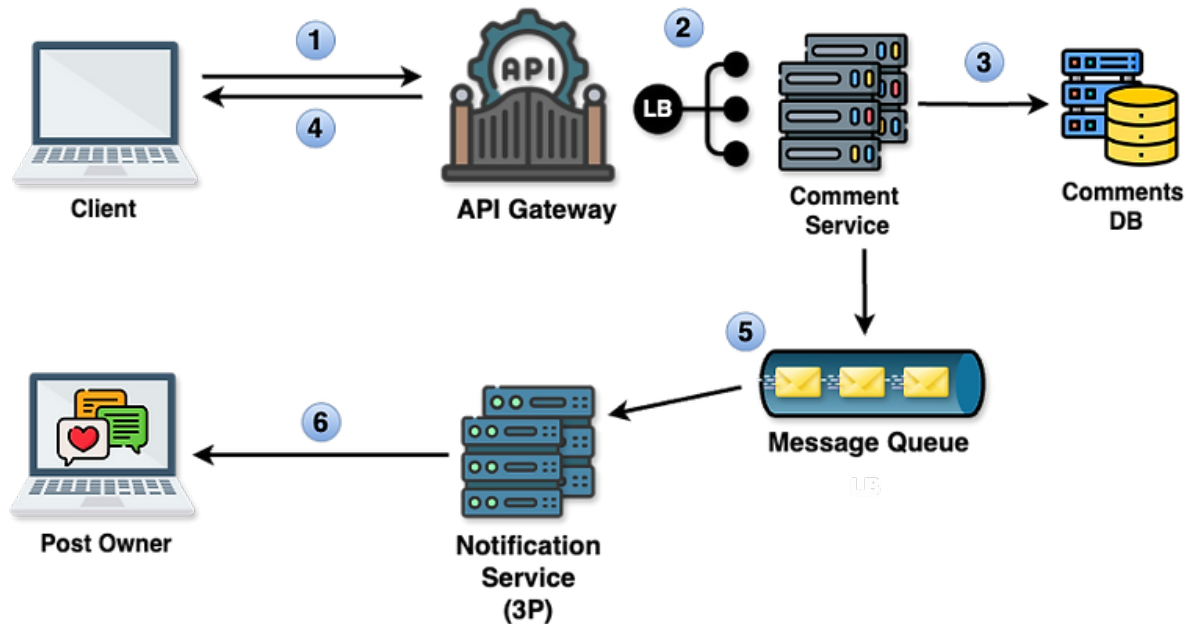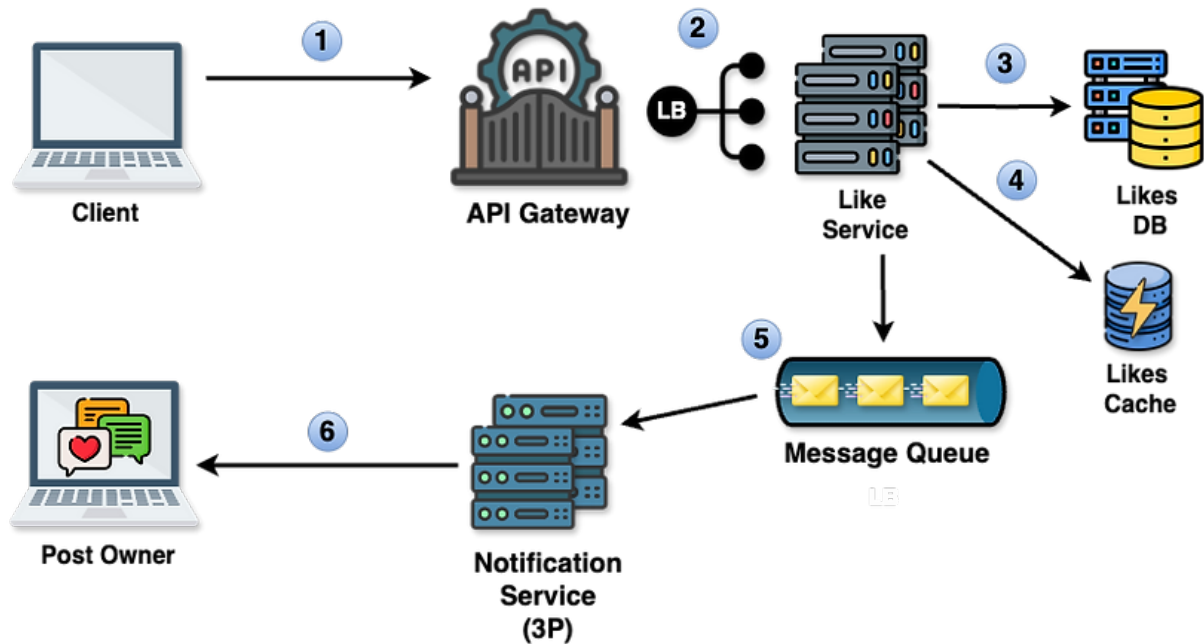
High level Design- Create Image/Video Post
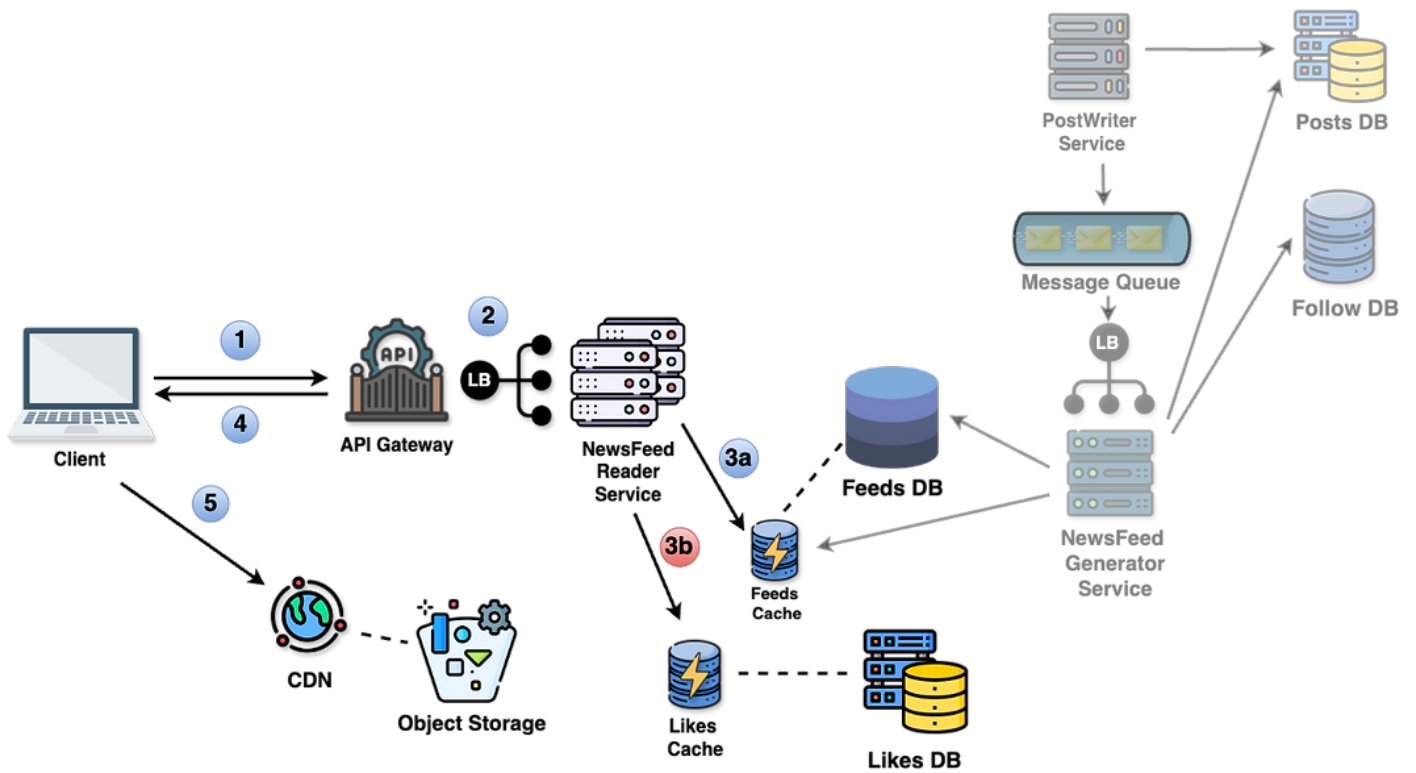

High level Design- Read the Newsfeed (aka timeline)

High level Design-Comment on a Post

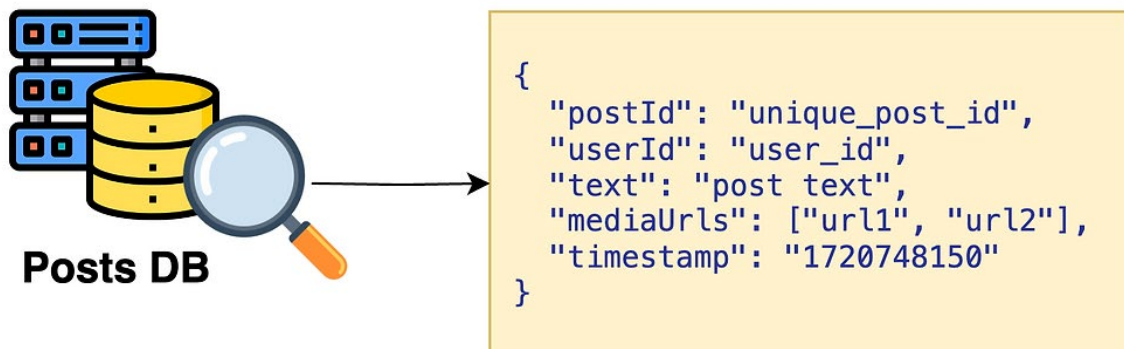# High level Design-Like on a Post

Posts Schema


```
{
    "postId": "unique_post_id",
    "userId": "user_id",
    "text": "post text",
    "mediaUrls": ["url1", "url2"],
    "timestamp": "1720748150"
}
```
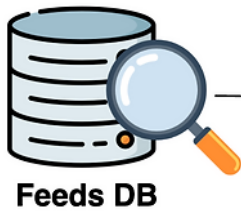
Feeds Schema
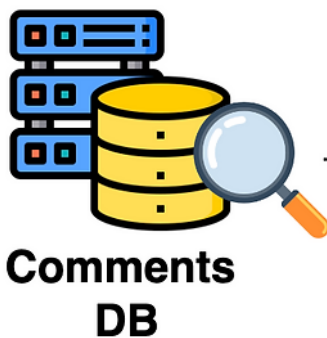


```json
{
    "userId": "unique_user_id",
    "feedItems": [
        {
            "postId": "13452",
            "userId": "84231",
            "text": "sample post text 1",
            "timestamp": "1720748111"
        },
        {
            "postId": "86475",
            "userId": "12394",
            "text": "sample post text 2",
            "mediaUrls": ["url1", "url2", ...]
            "timestamp": "1720713459"
        }
        // More posts...
    ]
}
```
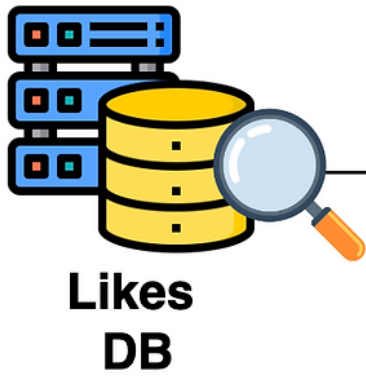
Feeds DB

Comments Schema


```json
{
  "commentId": "unique_comment_id",
  "userId": "user_id",
  "postId": "post_id",
  "comment": "comment text",
  "timestamp": "1720748150"
}
```
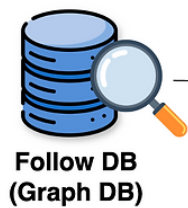
Comments DB
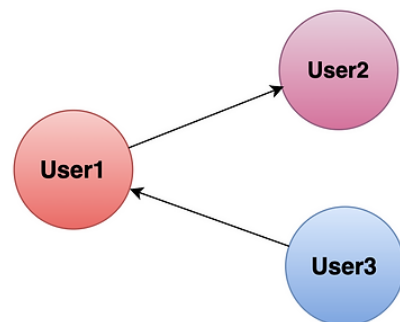
Likes Schema


```json
{
  "likeId": "unique_like_id",
  "userId": "user_id",
  "postId": "post_id",
  "timestamp": "1720741345"
}
```

Follow Schema


```json
{
  "userId": "<user1_id>",
  "followers": [
    {
      "followerId": "<user2_id>",
      "timestamp": "1720748150"
    },
    // More followers...
  ],
  "followees": [
    {
      "followeeId": "<user3_id>",
      "timestamp": "1720748150"
    },
    // More followees...
  ]
}
```

Media Processing