RestFul API

JQUERY AJAX

RESTful API (Representational State Transfer)

Architectural style for designing networked applications

HTTP requests

REST APIs are stateless

Key Concepts:
- **Base URL:** The starting point for the API, which remains consistent for all requests.
- **Endpoints:** Specific paths appended to the base URL to perform actions on resources.
- **HTTP Methods:** Different types of requests (GET, POST, PUT, DELETE) used to interact with the API.

Sample Rest API
https://usmanlive.com/wp-json (Base URL)

Route	Method	Input	Comments
https://usmanlive.com/wp-json/api/stories	GET	–	Returns an array of stories
https://usmanlive.com/wp-json/api/stories/:id	GET	–	Replace :id with the id of the story to fetch a single record
https://usmanlive.com/wp-json/api/stories/:id	DELETE	–	Replace :id with the id of the story to Delete
https://usmanlive.com/wp-json/api/stories	POST	{"title":"–","content":"–"}	Submit a new story to add
https://usmanlive.com/wp-json/api/stories/:id	PUT	{"title":"–","content":"–"}	Replace :id with the id of the story to Edit

HTTP Methods CRUD

Each method serves a specific purpose in CRUD operations

- **C**reate
- **R**ead
- **U**pdate
- **D**elete)

Common Elements in All HTTP Requests

URL: The destination where the request is being sent (e.g., /api/stories).

HTTP Method: Specifies the action to be performed (GET, POST, PUT, PATCH, DELETE).

Headers: Metadata sent with the request (e.g., content type, authorization token).

Response Handling: How the server's response is processed (typically in JSON, XML, or HTML).
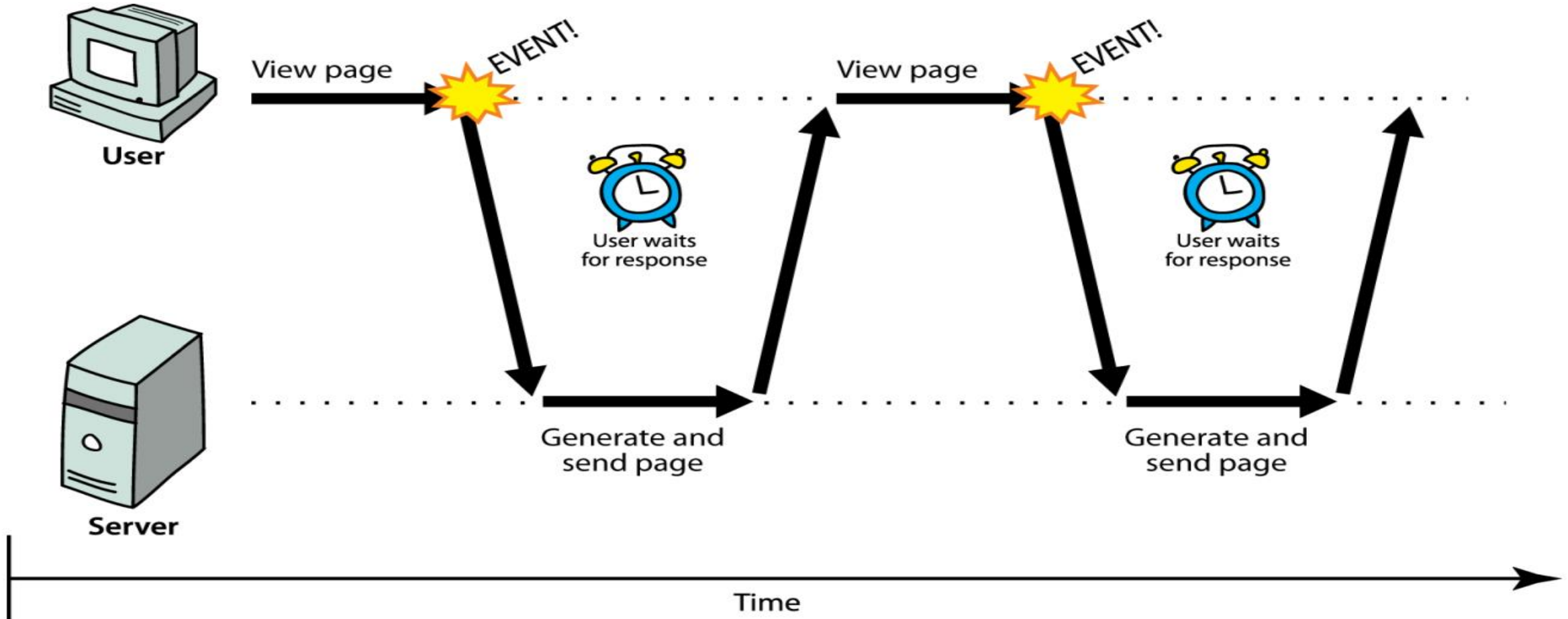
Differences in HTTP Methods

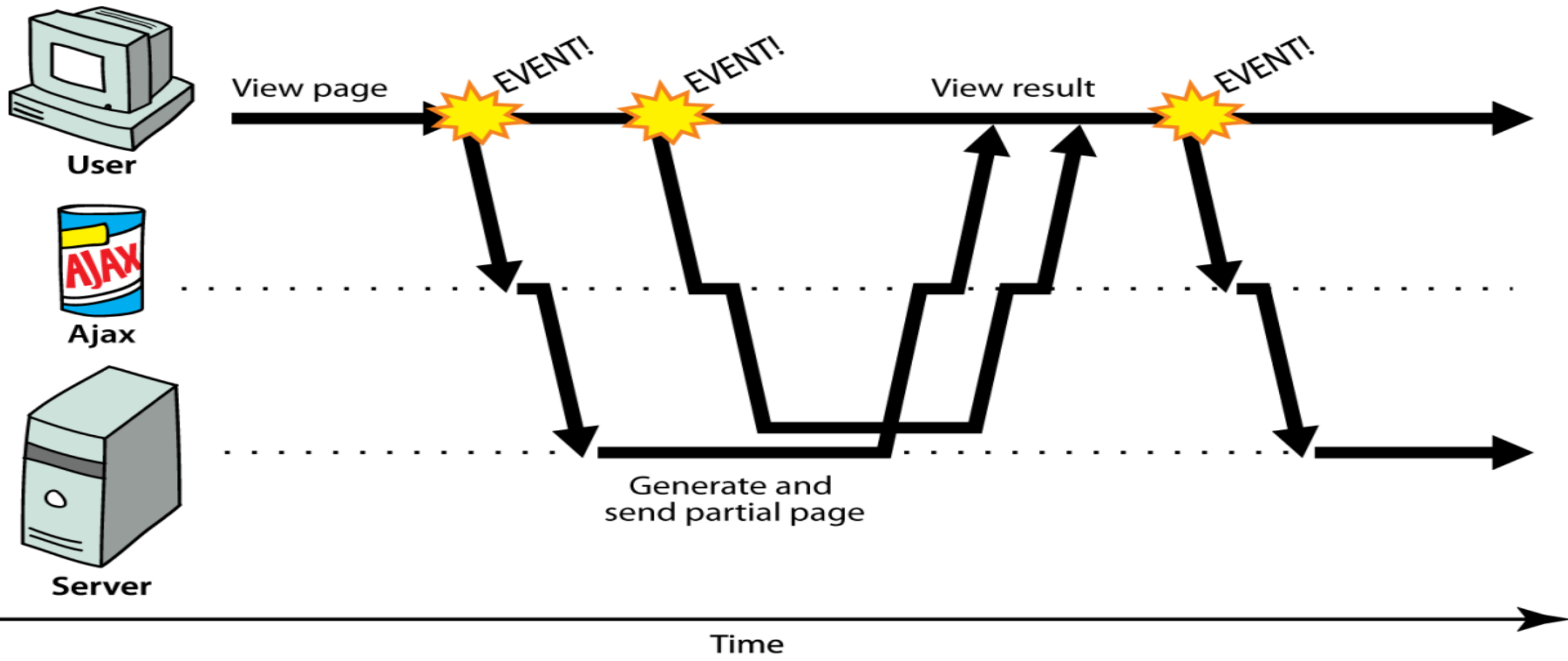| HTTP Method	Purpose	Data Sending	Caching Behavior
GET	Retrieve data from the server	Data is sent as **query parameters** in the URL	Often **cached** by browsers
POST	Create a new resource	Data is sent in the **request body**	**Not cached** by browsers
PUT	Replace an existing resource	Data is sent in the **request body**	**Not cached**
PATCH	Partially update an existing resource	Data is sent in the **request body** (only changed fields)	**Not cached**
DELETE	Remove a resource from the server	Generally, no data is sent (may include headers)	Not cached

https://usmanlive.com/wp-json/api/stories/3613

```
{
    "id": "3613",
    "title": "Mock Story 1",
    "content": "Lorem ipsum …."
}
```

AJAX
Synchronosu Web Call (Wait)

Asynchronous (No Wait)

View page   EVENT!   EVENT!   View result   EVENT!

User

Ajax

Server

Generate and
send partial page

Time

Ajax in JQuery

```
$.get( "ajax/test.html", function( data ) {
  $( ".result" ).html( data );
  alert( "Load was performed." );
});
$.post( "ajax/test.html", postdata, function( data ) {
  $( ".result" ).html( data );
});
```

$.ajax

```
$.ajax({
    method: 'post',
    url: 'example.com/abc',
    data: {
        user_name:name,
    },
    success: function (response) {
        $('#success__para').html("You data will be saved");
    }
});
```

Code for Jquery CRUD

Source Code

https://github.com/mua22/stories-jquery-crud

Page Out Put

https://ajaxcrud.usmanlive.com/

API

https://usmanlive.com/fake-stories-restful-api/

Story CRUD Operations

Title:

new story

Content:

New Story Content

Create

Mock Story 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit.

Edit   Delete

---

he is a student

Edit   Delete

---

https://usmanlive.com/wp-json/api/stories/3582

```
{
        id: "3582",
        title: "Mock Story 1",
        content: "Lorem ipsum dolor sit amet,
                  consectetur adipiscing elit."
}
```

Empty Div populated by server data later

```
<div id="storiesList"></div>
```

Loading Data From Server

```
function displayStories() {
  $.ajax({
    url: "https://usmanlive.com/wp-json/api/stories",
    method: "GET",
    dataType: "json",
    success: handleResponse,
    error: function (error) {
      console.error("Error fetching stories:", error);
    },
  });
}
```

Response Arrived Call Back

```javascript
function handleResponse(data) {
  var storiesList = $("#storiesList");
  storiesList.empty();

  $.each(data, function (index, story) {
    storiesList.append(
      `Prepare your markup here`
    );
  });
}
```

A Single Record's Generated HTML

```html
<div class="mb-3">
    <h3>Mock Story 1</h3>
    <div>Lorem ipsum dolor sit amet, consectetur adipiscing elit.</div>
    <div>
      <button class="btn btn-info btn-sm mr-2 btn-edit" data-id="3582">Edit</button>
      <button class="btn btn-danger btn-sm mr-2 btn-del" data-id="3582">
        Delete
      </button>
    </div>
 </div>
```

Update a Record

```javascript
$.ajax({
    url: "https://usmanlive.com/wp-json/api/stories/" + storyId,
    method: "PUT",

    data: { title, content },
    success: function () {
      displayStories(); // Refresh the list
    },
});
```

Add A record

```
$.ajax({
        url: "https://usmanlive.com/wp-json/api/stories",
        method: "POST",
        data: { title, content },
        success: function () {
          displayStories(); // Refresh the list
        },
});
```

Delete A Record

```javascript
$.ajax({
    url: "https://usmanlive.com/wp-json/api/stories/" + storyId,
    method: "DELETE",
    success: function () {
      displayStories(); // Refresh the list after deleting a story
    },
    error: function (error) {
      console.error("Error deleting story:", error);
    },
  });
```

Fake APIs

https://jsonplaceholder.typicode.com/

https://reqres.in/

https://fakestoreapi.com/

https://gorest.co.in/

https://thedogapi.com/

https://fake.rest/