API Routes in Next.js

1. Creating API Routes:

- In Next.js, you can create API routes by adding files to the pages/api directory.
- Each file in this directory maps to a corresponding endpoint.
- For example, pages/api/hello.js would create an API route at /api/hello.
- API routes are serverless functions that can handle requests and return responses.

Example:

javascript Copy code

```javascript
// pages/api/hello.js
export default function handler(req, res) {
  res.status(200).json({ message: 'Hello, World!' });
}
```

2. Handling Requests and Responses:

- The handler function in an API route receives two arguments: req (request) and res (response).
- You can use these objects to handle incoming requests and send responses.

Common Methods:

- req.method: To check the HTTP method (GET, POST, etc.).
- req.body: To access the request body (useful for POST requests).
- req.query: To access query parameters.
- res.status(code): To set the HTTP status code.
- res.json(data): To send a JSON response.

Example: Handling Different Request Methods:

javascript Copy code

```javascript
// pages/api/user.js
export default function handler(req, res) {
  if (req.method === 'GET') {
    // Handle GET request
    res.status(200).json({ name: 'John Doe' });
  } else if (req.method === 'POST') {
    // Handle POST request
    const { name } = req.body;
    res.status(200).json({ message: `User ${name} created!` });
  } else {
    res.setHeader('Allow', ['GET', 'POST']);
    res.status(405).end(`Method ${req.method} Not Allowed`);
  }
}
```

3. Integrating with External APIs:

- You can make requests to external APIs within your API routes using tools like fetch, axios, etc.
- This is useful for server-side data fetching or acting as a proxy for external services.

Example: Fetching Data from an External API:

Use Cases:

- **Creating API Endpoints:** Easily create backend endpoints without setting up a separate server.
- **Handling Form Submissions:** Process form data sent from the frontend.
- **Proxying Requests:** Make requests to external APIs and pass data back to the frontend.