

Lecture 9.HTTP Headers In API with Express And Node

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☑ What are HTTP Headers?

HTTP headers are key-value pairs sent between the **client and server** to convey **metadata** about the request or response.

Headers help control how data is **interpreted, cached, secured, and processed**.

☑ Types of HTTP Headers

1. **General Headers** – Apply to both request & response (rarely used now)
2. **Request Headers** – Sent by the client to the server
3. **Response Headers** – Sent by the server to the client
4. **Entity Headers** – Describe the body/content being sent

◇ 1. Request Headers

Used to give server additional info like client type, accepted formats, auth, etc.

Example:

```
http
Copy code
GET /api HTTP/1.1
Host: example.com
User-Agent: Mozilla/5.0
Accept: application/json
Authorization: Bearer <token>
```

Express Code:

```
js
Copy code
app.get('/api', (req, res) => {
  console.log(req.headers['user-agent']); // Logs client's browser info
  const token = req.headers['authorization']; // Get token from header
  res.send('Headers logged');
});
```

◇ 2. Response Headers

Used by the server to send metadata back to the client.

Example:

```
http
Copy code
HTTP/1.1 200 OK
Content-Type: application/json
Cache-Control: no-cache
Set-Cookie: sessionId=abc123
```

Express Code:

```
js
Copy code
app.get('/api', (req, res) => {
  res.set('Content-Type', 'application/json');
  res.set('Cache-Control', 'no-cache');
```

```
res.send({ message: 'Headers set!' });
});
```

◇ 3. Custom Headers

You can define your own headers using X- prefix or modern names.

Example:

```
js
Copy code
res.set('X-Powered-By', 'Krishan API');
```

◇ 4. Common Header Examples

Header Type	Header Key	Use Case
Request Header	Authorization	Token-based auth
Request Header	Content-Type	Format being sent (e.g., application/json)
Response Header	Set-Cookie	Store cookies on client
Response Header	Access-Control-Allow-Origin	CORS policy
Response Header	Cache-Control	Caching rules
Both	Content-Length	Size of content
Request Header	User-Agent	Info about client browser/device

Bonus: Sending & Receiving Headers

Set response header:

```
js
Copy code
res.set('X-App-Version', '1.0.0');
```

Read request header:

```
js
Copy code
const contentType = req.headers['content-type'];
```

Quick Tips

- Use `.set()` or `.header()` to send headers in Express.
- Use `req.headers` to access incoming headers.
- Header keys are **case-insensitive**.
- Headers help with **auth**, **CORS**, **caching**, **cookies**, etc.