# Documentation

# 🎬 YouTube Downloader API — Usage Guide

## Base URL

```
http://127.0.0.1:5000
```

## 1. POST /verification

### Description

Verifies whether a given YouTube URL is valid and retrieves video metadata.

### Request

```
{
  "url": "https://www.youtube.com/watch?v=dQw4w9WgXcQ"
}
```

### Responses

### ✅ 200 OK

```
{
  "title": "Example Video Title",
  "channel": "Channel Name",
  "duration": "3:45",
  "views": "123456",
  "thumbnail": "https://i.ytimg.com/vi/dQw4w9WgXcQ/hqdefault.jpg"
}
```

### ❌ 400 Bad Request

- When `url` is missing:

```
{ "error": "Please provide a URL" }
```

- When the URL is invalid:

```
{ "error": "URL is not valid" }
```

## ⚠️ 500 Internal Server Error

- When metadata could not be fetched:

```
{ "error": "Failed to fetch video data: <error_message>" }
```

## Example CURL

```
curl -X POST http://127.0.0.1:5000/verification \
  -H "Content-Type: application/json" \
  -d '{"url": "https://www.youtube.com/watch?v=dQw4w9WgXcQ"}'
```

---

# 2. POST /downloads

## Description

Downloads the requested YouTube video or audio file and sends it back as an attachment.

## Request

```
{
  "url": "https://www.youtube.com/watch?v=dQw4w9WgXcQ",
  "format": "mp3"
}
```

## Responses

## ✅ 200 OK

- Returns the requested file for download.
- Content-Type:
    - `audio/mpeg` → for MP3
    - `video/mp4` → for MP4
```

Example response headers:

```
Content-Disposition: attachment; filename="video_title.mp3"
Content-Type: audio/mpeg
```

## ❌ 400 Bad Request

- When JSON body is missing:

```
{ "error": "No JSON data provided" }
```

- When `url` or `format` is missing:

```
{ "error": "Please provide both 'url' and 'format'" }
```

## ⚠️ 500 Internal Server Error

- When download fails or file is missing:

```
{ "error": "Download failed or file missing" }
```

- When file unexpectedly doesn't exist:

```
{ "error": "File /path/to/file does not exist" }
```

## Example CURL

```
curl -X POST http://127.0.0.1:5000/downloads \
  -H "Content-Type: application/json" \
  -d '{"url": "https://www.youtube.com/watch?v=dQw4w9WgXcQ", "format": "mp3"}' \
  -o downloaded_audio.mp3
```

## Supported Formats

| Format | Description | MIME Type |
| --- | --- | --- |
| mp3 | Audio only | audio/mpeg |
| mp4 | Video + audio | video/mp4 |

# Summary

| Endpoint | Method | Purpose | Successful Response |
|---|---|---|---|
| `/verification` | POST | Check if a YouTube URL is valid and get metadata | JSON with video info |
| `/downloads` | POST | Download YouTube video or audio | File (MP3 or MP4) |