

# API Error Handling

For the API we want to create a more detailed error model. The error message should be machine- and human-readable, therefore we use json format as response language.

One example could be:

```
{
  instance: "http://127.0.0.1:5000/api/0.1/entity/157",
  title: "Forbidden",
  status: 403,
  detail: "You don't have the permission to access the requested resource. Please authenticate with the server, either through login via the user interface or token based authentication.",
  help: "https://redmine.craws.net/projects/uni/wiki/API_Authentication",
  timestamp: "Fri, 29 May 2020 10:13:22 GMT",
}
```

As a RFC draft for API error messages states (<https://tools.ietf.org/html/draft-nottingham-http-problem-07>):

- "title" (string) - A short, human-readable summary of the problem type. It SHOULD NOT change from occurrence to occurrence of the problem, except for purposes of localisation.
- "status" (number) - The HTTP status code ([RFC2616], Section 6) generated by the origin server for this occurrence of the problem.
- "detail" (string) - An human readable explanation specific to this occurrence of the problem.
- "instance" (string) - An absolute URI that identifies the specific occurrence of the problem. It may or may not yield further information if dereferenced.
- "timestamp" (string) - The system timestamp
- "help" (string) - URI to a help site or the manual site

## Used Error Codes

Following error codes will be caught by the API error handler:

Code	Description	Detail	Error Message
400	Bad Request	Client sent an invalid request — such as lacking required request body or parameter	The request is invalid. The body or parameters are wrong.
401	Unauthorized	Client failed to authenticate with the server	You failed to authenticate with the server.
403	Forbidden	Client authenticated but does not have permission to access the requested resource	You don't have the permission to access the requested resource. Please authenticate with the server, either through login via the user interface or token based authentication.
404	Not Found	The requested resource does not exist	Something went wrong! Maybe only digits are allowed. Please check the URL.
404a	Not Found	The requested resource does not exist	The requested entity doesn't exist. Try another ID.
404b	Not Found	The requested resource does not exist	The syntax is incorrect. Only digits are allowed. For further usage, please confer the help page.
404c	Not Found	The requested resource does	The syntax is incorrect. Valid

		not exist	codes are: actor, event, place, source, reference and object. For further usage, please confer the help page.
404d	Not Found	The requested resource does not exist	The syntax is incorrect. These class code is not supported. For the classes please confer the model.
404e	Not Found	The requested resource does not exist	The syntax is incorrect. Only integers between 1 and 100 are allowed.
404f	Not Found	The requested resource does not exist	The syntax is incorrect. Only valid operators are allowed.
405	Invalid Method	The method is not available	The method used is not supported. Right now only GET is allowed.

## Reference Links

- <https://nordicapis.com/best-practices-api-error-handling/>
- <https://tools.ietf.org/html/rfc7807>
- <https://tools.ietf.org/html/draft-nottingham-http-problem-07>
- <https://flask.palletsprojects.com/en/1.1.x/patterns/apierrors/>

## To Do:

- Refactor Error Codes?