3.Une image contenant texte, signe

Description générée automatiquement

**How WRAPI Example Middleware works**

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**DOCUMENT TRACKING**

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| --- | --- | --- | --- |
| Mises à jour | | | |
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| --- | --- | --- | --- |
| Mailing list | | | |
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***A*** *= Application,* ***O*** *= Observations,* ***I*** *= Information,* ***V****= Validation*

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# Project Dependencies

The project has the following dependencies:

* axios : to manager external API request
* body-parser: to manage POST requests contents
* cors: to manage CORS query
* dotenv: to manage variables environment parameters
* express: to manage REST requests
* fs: to manage local files
* https: to manage HTTPS communication
* js-base64: to manage authorization conversion
* prettier: to manage code source rules
* radioplayer-wrapi-sdk: to manage WRAPI communication

# Project environment configuration

Dotenv module need at root folder a .env file which will storing into process.env every variable it contains.

Those variables can be found in .env.example and are the following :

* HTTPS\_PRIVATE\_KEY: private key file name without it ‘.pem’ extension
* HTTPS\_CERTIFICATION: certification file name without it ‘.pem’ extension
* WRAPI\_KEY\_ID: WRAPI key ID sent to Radioplayer Partner
* CUSTOM\_CACHING: Boolean that enable/disable custom caching system
* ONAIR\_CACHING: Caching value in millis for on air request
* SCHEDULE\_CACHING: Caching value in millis for schedule request
* ONDEMAND\_CACHING: Caching value in millis for ondemand request
* STATIONS\_CACHING: Caching value in millis for stations request
* CATEGORIES\_CACHING: Caching value in millis for categories request
* RECOMMENDATIONS\_CACHING: Caching value in millis for recommendations request
* frApiUrl : French API URL
* frApiAuth : French API credential

# Error Handling

There are several levels of error handling within the application:

* Missing file detection (.env, https key or certification, WRAPI key)
* Missing configuration detection (in .env)
* Detection of malformed query (missing or bad shaped parameter)
* Loading in progress detection
* Internal error detection
* WRAPI error detection

# Request

This Middleware example is a RESTful API that responds to signed HTTPS requests.

These are all GET operations, except for the /recommendations endpoint that needs a POST request.

# Log Management

Logs are generated with it creation date

Pre-launch errors send a message explaining the problem in the console.

Operational errors send a message in the console and in an external "middleware\_error.txt" file to keep track of the event.

# Cache Management

A cache management configuration purpose to the application user is in the .env file.

These recommendations follow the "How to" "Caching" section of the "Developers Radioplayer” website, frequency updates:

* 24 hours for Stations information
* 12 hours for Program Schedule
* 12 hours for Ondemand
* 90 seconds for On Air
* 24 hours for Categories
* 20 minutes for Recommendations

In case of incorrect input, missing data or CUSTOM\_CACHING=false in the .env file then the system will apply by default the cacheExpireAt result of the request concerned.

# Managers

A DataManager singleton will manage data through multiple other managers. One by route (Categories, Ondemand, Recommendation, Stations).

All managers are in ‘./managers/’ folder.

# Routes

Middleware is built as modular and updatability design.  
All main roads are independent to ease code understanding.

These are:

* Categories (/categories)
* Ondemand (/ondemand)
* Recommendations (/recommendations)
* Stations (/stations)

You can find them in ‘./routes/’folder.

Except recommendations endpoint, other endpoints are GET requests.

# Request Parameters

Every endpoint can support request parameters you can found on WRAPI documentation: <https://developers.radioplayer.org/api-reference>.

Middleware server possess some ‘middleware’ query functions to manage query parameters like authentication security or country code redirection.

For example: For that last one, some country codes are automatically redirect to a specific one.  
If a request is sent with overseas France country code (312, 474, 638 or 254) then middleware will change this code to France (250) before querying WRAPI.

# Responses

Middleware responses are formed with the same structure as WRAPI.

These are composed of a "data" part where the data is stored and a "meta" part where descriptions of the query and the data are stored.

The Middleware's responses for non-cached data are those of the WRAPI itself.

## Error Code in Responses

The following error codes can be returned in the case of unsuccessful responses:

* All WRAPI error code
* 425: Server loading. Please retry later.
* 500: Server Internal error

# Stations Data Management

When application starts, WRAPI stations are loaded and stored in the cache.

This data is updated periodically through its associated cache management environment variable (STATIONS\_CACHING or cacheExpireAt of the query).

Once done, the application gives access to its endpoints starting by /stations.

Stations are sorted by their rpuid to optimize search.

When a stations/onair, stations/schedule or stations/ondemand query is performed for the first time the result is kept until its caching time is reached.

## OnAir

Data sorted by category (current or next).

Each category has its own caching time.

## OnDemand

Data sorted by category (pure or seriesId).

This category represent endpoint it come from, /stations/ondemand/ or /stations/ondemand/:seriesid.

Each category is store in a two-dimensional tab that represent page and size requested if data paginated.

Each combination has its own caching time.

## Schedule

Data stored in a two-dimensional tab that represent page and size requested if data paginated.

Each element has its own caching time.

If query has ‘from’ or ‘to’ filled, then the request is directly sent to WRAPI.

# OnDemand Data Management

Even if API-reference don’t mention it, /ondemand/ accept ‘page’ and ‘size’ parameters

Middleware store data in a two-dimensional tab that represent page and size requested if data paginated.

Each element has its own caching time.

If query has parameter filled other than ‘page’ or ‘size’ then the request is directly sent to WRAPI.

/ondemand/:odIds request is directly sent to WRAPI.

# Categories Data Management

Data sorted by country (ISO 3166 numeric country code) then by type (‘live’, ‘ondemand’).

Each type has its own caching time.

# Recommendations Data Management

Data sorted by query received to cache repetitives.

Warning: this endpoint is a POST.

Some countries generate special caching and response.  
The concerned countries are Andorra, Bulgaria, Croatia, Czech Rep, Estonia, France, Hungary, Iceland, Latvia, Lithuania, Malta, Netherlands, Portugal, Romania, Slovakia, Slovenia, Sweden.

For all these countries, query parameters won’t vary middleware responses.

France response is built with France API data and others from Stations cache.