



POWER

API implementation

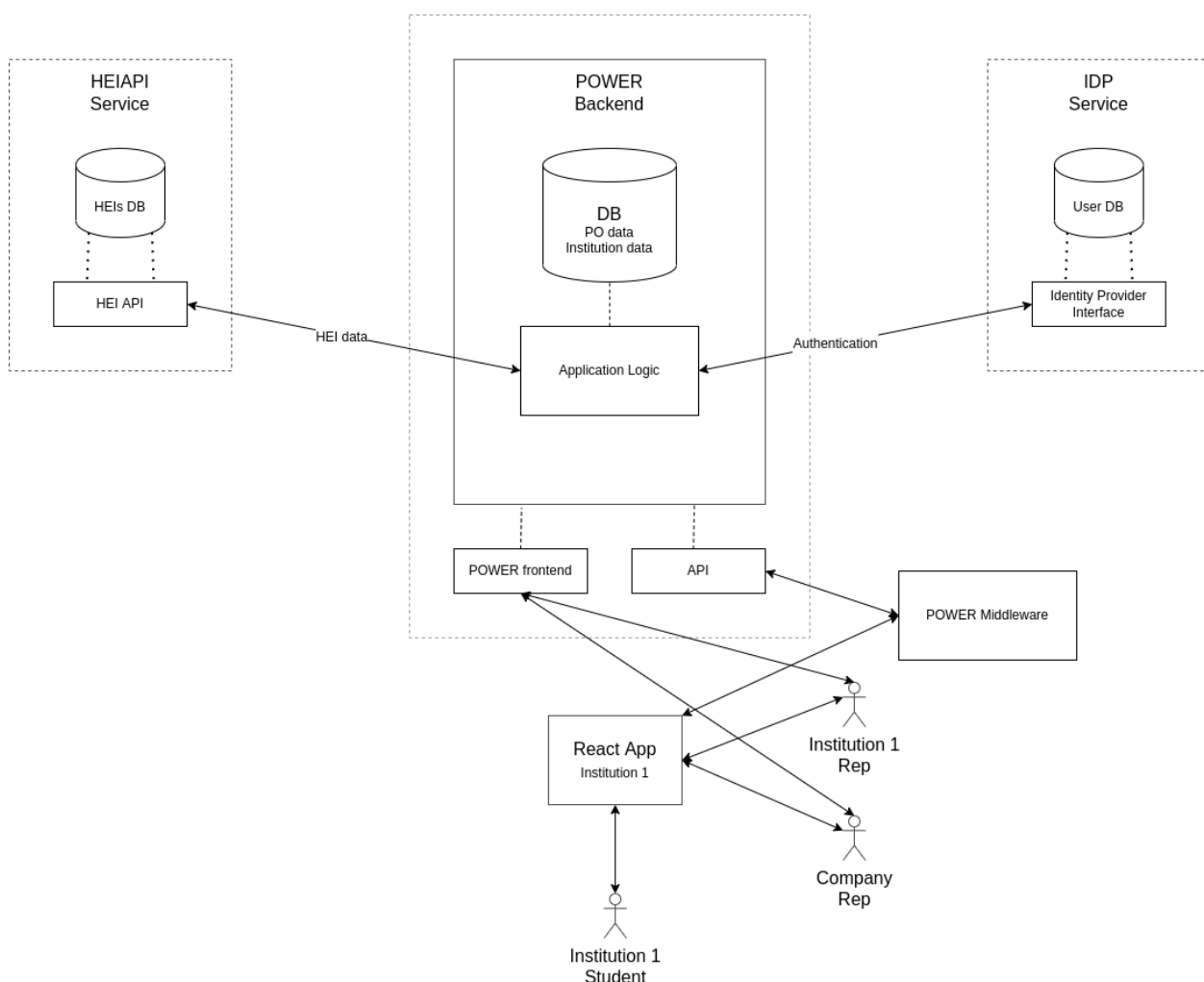


POWER project - WP2 - API implementation information

This document explains and describes the API solution implemented as part of the POWER project's Work Package 2. See more information about the other ICT tools as project deliverables in the [Development plan document](#).

Network diagram

In order to understand the architecture of the project and the API implementation, please refer to the network diagram below.



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In the following chapter, we are going to describe two components of the architecture, the middleware and the APIs, which are part of the POWER backend.

Overview of components

For an overview of the whole architecture and its components illustrated on the network diagram, refer to the [development documentation](#).

Goal of the API

The main goal of an API is to make data accessible for other software solutions in a format that is processable and thereby guarantee easy usage in other applications. This makes the Placement Opportunities posted through the POWER platform reusable for other software.

The POWER APIs

The POWER backend stores the Placement Opportunities posted by companies and reviewed by Institution representatives. The POWER API exposes this data for other applications. One example of these applications is the “React App” shown on the network diagram, that is one of the deliverables of the POWER project.

Communication between the POWER backend API and the POWER middleware instances

As shown on the network diagram, the API that is part of the POWER backend, does not connect directly to the application(s) fetching the placement opportunity data. There is a middleware solution that enhances security and forwards requests to the POWER backend and returns responses to the software application that made the original request. Because applications don't directly connect to the POWER backends API, we are going to describe the middleware endpoints in this document, but first explain how authentication and authorization works in this architecture.

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Authentication

Authentication is the act of proving an assertion, such as the identity of a computer system user. The POWER backend API uses API keys (tokens) to authenticate the middleware instance and with that the application, connecting to it. Each middleware instance stores one API key that belongs to an API user created in the POWER backend. These API keys are not stored in the custom applications (like the React App) fetching the data, so they stay hidden from the end users. When a request is made by the React App (or any other other application) to the middleware, it adds the API key to the request as a request header, fetches the placement opportunity data from the POWER API and returns the response to the original application. See details in the endpoint descriptions.

Authorization

Authorization is the function of specifying access rights/privileges to resources to an authenticated user. It happens on the POWER backend API. As mentioned above, the middleware and the applications need to have an API user in order to access the POWER APIs. These are created when an Institution registers to the POWER platform. Each API user stores which Institution it is affiliated with and the POWER backend decides which placement opportunities are visible for the specific API user, therefore to the middleware and the application calling the middleware.

Conditions of having an API user

For an Institution to be able to get an API user, it has to be present in the HEI API, an API maintained by the EUF to store up to date Higher Education Institution Information. It is not a deliverable of this project, but is used to fetch Institution related data necessary to use the POWER platform. Institutions not present in the HEI API, can be added by EUF personnel. The Institution has to have a SCHAC code (essentially a domain name it owns) to be registered in the HEI API.



API Endpoints

In order to understand the structure of the endpoints, there's an important piece of information to be pointed out about the placement opportunities.

The POWER logic distinguishes between two types of opportunities. There are public opportunities and targeted opportunities.

- Public opportunities are visible to all Institutions and their students, regardless of which country they're in or which API user is connecting to the platform.
- Targeted opportunities are directed at a specific Institution (or it's students to be exact) and are only visible to the API users affiliated with that specific Institution

Placement opportunities are served on two different endpoints, depending on their availability (public or targeted).

The third endpoint is serving the data of one specific placement opportunity and takes the id as a parameter.

Public opportunities endpoint (on middleware)

Exposes all public opportunities, meaning, they are not directed at a specific Institution, but are available to all. Only vacant and public positions are shown here.

Request details

URI: <https://slim.power.uni-foundation.eu/power-middleware/rest/public-pos>

Method: GET

Params: None

Example request (using curl)

```
curl --location --request GET 'https://slim.power.uni-foundation.eu/power-middleware/rest/public-pos'
```



Response body example:

```
[
  {
    "nid": "33",
    "field_company_name": "European Company Ltd.",
    "field_company_website": "https://eucompany.eu",
    "field_contact_first_name": "Emma",
    "field_contact_last_name": "Petite",
    "field_contact_email": "emma.petite@eucompany.eu",
    "field_contact_phone_no": "+33 6 12 34 56 78",
    "field_job_country": "FR",
    "field_job_city": "Paris",
    "field_job_application_deadline": "2022-09-30",
    "field_job_category": "Business and Finance",
    "field_job_title": "Accountant trainee",
    "field_job_duration": "6 month",
    "field_job_description": "<p>Trainee accountant job for a multinational, multicultural company.</p>\n",
    "field_job_commitment": "Full time",
    "field_job_compensation": "Full compensation",
    "field_target_picker": "Public",
    "field_target_institution": "",
    "field_job_responsibilities": "<ul><li>Work alongside senior accountants to keep company finances transparent</li>\n<li>Create reports for Project Managers</li>\n</ul>",
    "field_applicant_required_skills": "<ul><li>Great communication skills</li>\n<li>Great assessment and problem solving skills</li>\n<li>Bachelor's degree in Finance or Accounting</li>\n</ul>",
    "field_how_to_apply": "<p>Send CV and cover letter to emma.petite@eucompany.eu.</p>\n",
    "field_placement_status": "Vacant"
  }
]
```

View of the same placement opportunity on the POWER platform for reference:

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European Company Ltd.: Accountant trainee

[View](#) [Review](#)

Company name	European Company Ltd.
Company website	https://eucompany.eu
First name	Emma
Last name	Petite
Contact email	emma.petite@eucompany.eu
Contact phone no.	+33 6 12 34 56 78
Pick visibility	public
Job category	Business and Finance
Job title	Accountant trainee
Application deadline	2022-09-30
Country	France
City	Paris
Job duration (in months)	6
Expandable	No
Job description	Trainee accountant job for a multinational, multicultural company.
Responsibilities	<ul style="list-style-type: none"> • Work alongside senior accountants to keep company finances transparent • Create reports for Project Managers
Commitment	Full time
Compensation	Full financial compensation
Required skills	<ul style="list-style-type: none"> • Great communication skills • Great assessment and problem solving skills • Bachelor's degree in Finance or Accounting
How to apply	Send CV and cover letter to emma.petite@eucompany.eu .
Review status	Accepted
Placement status	Vacant
Email confirmed	Yes

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Institution POs endpoint (on middleware)

Exposes all opportunities directed to an institution. According to the API users SCHAC code stored in the backend database, this endpoint dynamically sets the filtering of the placement opportunities so only the ones belonging to the requesting Institution are visible.

Request details

URI: <https://slim.power.uni-foundation.eu/power-middleware/rest/institution-pos>

Method: GET

Params: None

Example request

```
curl --location --request GET 'https://slim.power.uni-foundation.eu/power-middleware/rest/institution-pos'
```

Response body example

```
[  
  {  
    "nid": "32",  
    "field_company_name": "European Company Ltd.",  
    "field_company_website": "https://eucompany.eu",  
    "field_contact_first_name": "Johann",  
    "field_contact_last_name": "Müller",  
    "field_contact_email": "johann.muller@eucompany.eu",  
    "field_contact_phone_no": "+49 1512 3456789",  
    "field_job_country": "DE",  
    "field_job_city": "München",  
    "field_job_application_deadline": "2022-09-30",  
    "field_job_category": "Education and Training",  
    "field_job_title": "Coach Trainee",  
    "field_job_duration": "6 month",  
    "field_job_description": "<p>Coaching of Company personnel in Assertive communication, negotiation</p>\n",  
    "field_job_commitment": "Full time",  
    "field_job_compensation": "Limited compensation",
```

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```

"field_target_picker": "One Institution",
"field_target_institution": "Eotvos Lorand Tudomanyegyetem",
"field_job_responsibilities": "
<ul>
<li>Visit trainings held by senior coaches</li>
<li>Learn coaching methods</li>
<li>Eventually organize trainings individually</li>
</ul>",
"field_applicant_required_skills": "
<ul>
<li>Great communication skills</li>
<li>Fluent in English and German</li>
<li>Structured problem solver</li>
<li>Bachelor's degree in Psychology</li>
</ul>",
"field_how_to_apply": "
<p>Send your CV and cover letter to johann.muller@eucompany.eu</p>",
"field_placement_status": "Vacant"
}
]

```

Single opportunity endpoint

Exposes a single placement opportunity by its nid value. Access check is performed before the response, to prevent unauthorized access.

Request details

URI: <https://slim.power.uni-foundation.eu/power-middleware/rest/po/{nid}>

Method: GET

Params: nid

Example request

```
curl --location --request GET 'https://slim.power.uni-foundation.eu/power-middleware/rest/po/32'
```

Response body example

Response body structure is the same as in the previous cases (content depends if the opportunity is public or targeted)



View of the same placement opportunity on the POWER platform for reference:

POWER project / 46 / Table	
European Company Ltd.: Coach Trainee	
View	Review
Company name	European Company Ltd.
Company website	https://eucompany.eu
First name	Johann
Last name	Müller
Contact email	johann.muller@eucompany.eu
Contact phone no.	+49 1512 3456789
Pick visibility	To this Institution
Pick institution	Eotvos Lorand Tudomanyegyetem
Job category	Education and Training
Job title	Coach Trainee
Application deadline	2022-09-30
Country	Germany
City	München
Job duration (in months)	6
Expandable	No
Job description	Coaching of Company personnel in Assertive communication, negotiation
Responsibilities	<ul style="list-style-type: none"> • Visit trainings held by senior coaches • Learn coaching methods • Eventually organize trainings individually
Commitment	Full time
Compensation	Limited financial compensation
Required skills	<ul style="list-style-type: none"> • Great communication skills • Fluent in English and German • Structured problem solver • Bachelor's degree in Psychology
How to apply	Send your CV and cover letter to johann.muller@eucompany.eu
Review status	Accepted
Placement status	Vacant
Email confirmed	No

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Response data types / formats by property

- nid: integer
- field_company_name: string
- field_company_website: string (URL)
- field_contact_first_name: (string)
- field_contact_last_name: (string)
- field_contact_email: string (email format)
- field_contact_phone_no: string (phone number format)
- field_job_country: string (country [ISO 3166-1 alpha-2](#) code)
- field_job_city: string
- field_job_application_deadline: date
- field_job_category: string
- field_job_title: string
- field_job_duration: string
- field_job_description: string (HTML markup format)
- field_job_commitment: string
- field_job_compensation: string
- field_target_picker: string
- field_target_institution:string (Institution name from the HEI API)
- field_job_responsibilities: string (HTML markup format)
- field_how_to_apply: string (HTML markup format)
- field_placement_status: string