DOMOSCIO API

User guide

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1. OVERVIEW

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GETTING STARTED

- The Domoscio API embeds all logic and calculations to provide customized learning plans for each user, usable with any LMS or device.
- The API is designed in a RESTful way. You're able to granularize your content, send and retrive user data with simple JSON requests.
- Please refer to our API Full documentation (*1.2 Create account*) to know how to get your login credentials so as to be ready to use the solution.

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CONSTRUCT URL

- Once your instance is up, you get an INSTANCE_ID and an API TOKEN. Use this combination to work with our solution, by constructing your requests as follows :

```
http://adaptive-engine.domoscio.com/v2/instances/(INSTANCE_ID)/users?token=(API_TOKEN)
```

API URL
(later in this doc : « HOST_URL »)

Your instance id

Content requested

Your API Token

Note : You can also pass these credentials in a request header

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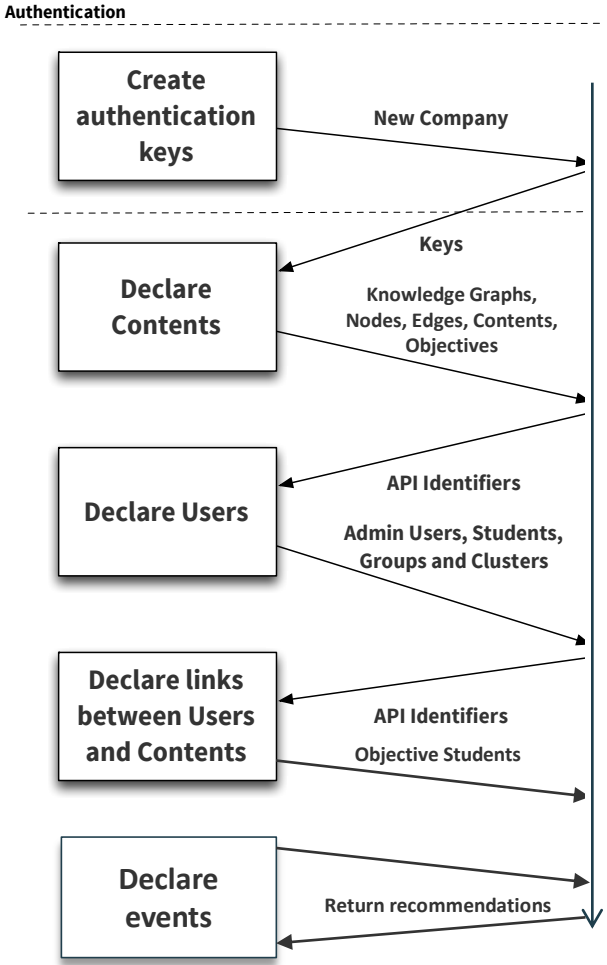
Set Up Process



2. SET UP YOUR KNOWLEDGE STRUCTURE

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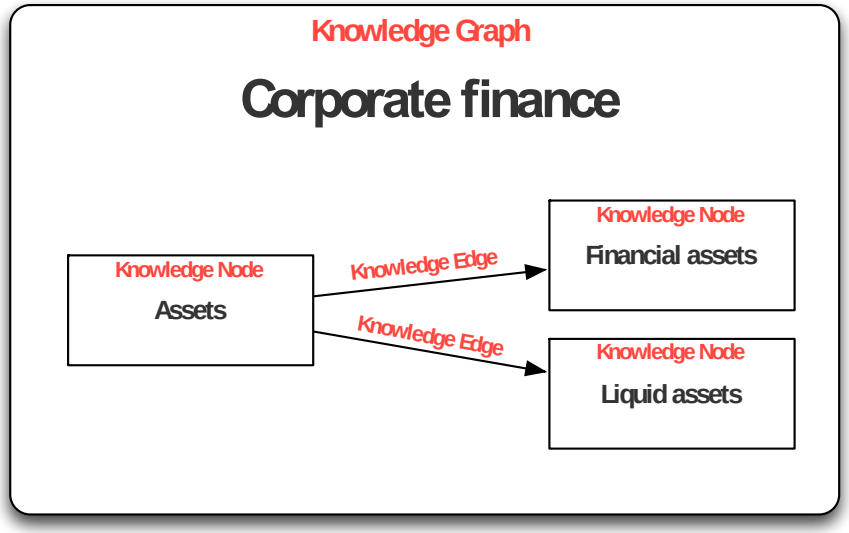
CONTENT

- Course content is ordered this way :



- **Knowledge Graph** : High level item gathering the whole course
- **Knowledge Node** : A unit in your structure : a skill to master, a notion to retain
- **Knowledge Edge** : Relation between nodes.

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KNOWLEDGE GRAPH

- First, create a knowledge graph which will gather all course units:

```
Method : POST
URL : HOST_URL/instances/{instance_id}/knowledge_graphs
```

- Json input example:

```
{
    name: « Course title »,
    uid: « c1 » (Optional)
}
```

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KNOWLEDGE NODE

- Then, create a Knowledge Node for every unit of your content (Notion to memorize, Skills, etc.):

```
Method : POST
URL : HOST_URL/instances/{instance_id}/knowledge_nodes
```

- Json input example:

```
{
    name: « Chapter 1 »,
    knowledge_graph_id: « 1 »,
    uid: « kn1 » (Optional)
}
```

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TIPS

- You can fetch all knowledge nodes for a given knowledge graph:

```
Method : GET
URL : HOST_URL/instances/{instance_id}/knowledge_graphs/{kg_id}/knowledge_nodes
```

- You can get Knowledge Graphs or Knowledge Nodes by their id or uid :

```
Method : GET
URL : HOST_URL/instances/{instance_id}/knowledge_graphs/{kg_id} || {kg_uid}
```

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KNOWLEDGE EDGE

- Finally, order your content by parenting knowledge nodes

```
Method : POST
URL : HOST_URL/instances/{instance_id}/knowledge_edges
```

- Json input example:

```
{
    knowledge_graph_id: « 1 »,
    source_node_id: « 3 »,
    destination_node_id: « 12 »
}
```

The source knowledge node is the easiest notion. To understand the destination knowledge node, one has to understand the source knowledge node. It illustrates a prerequisite relation.

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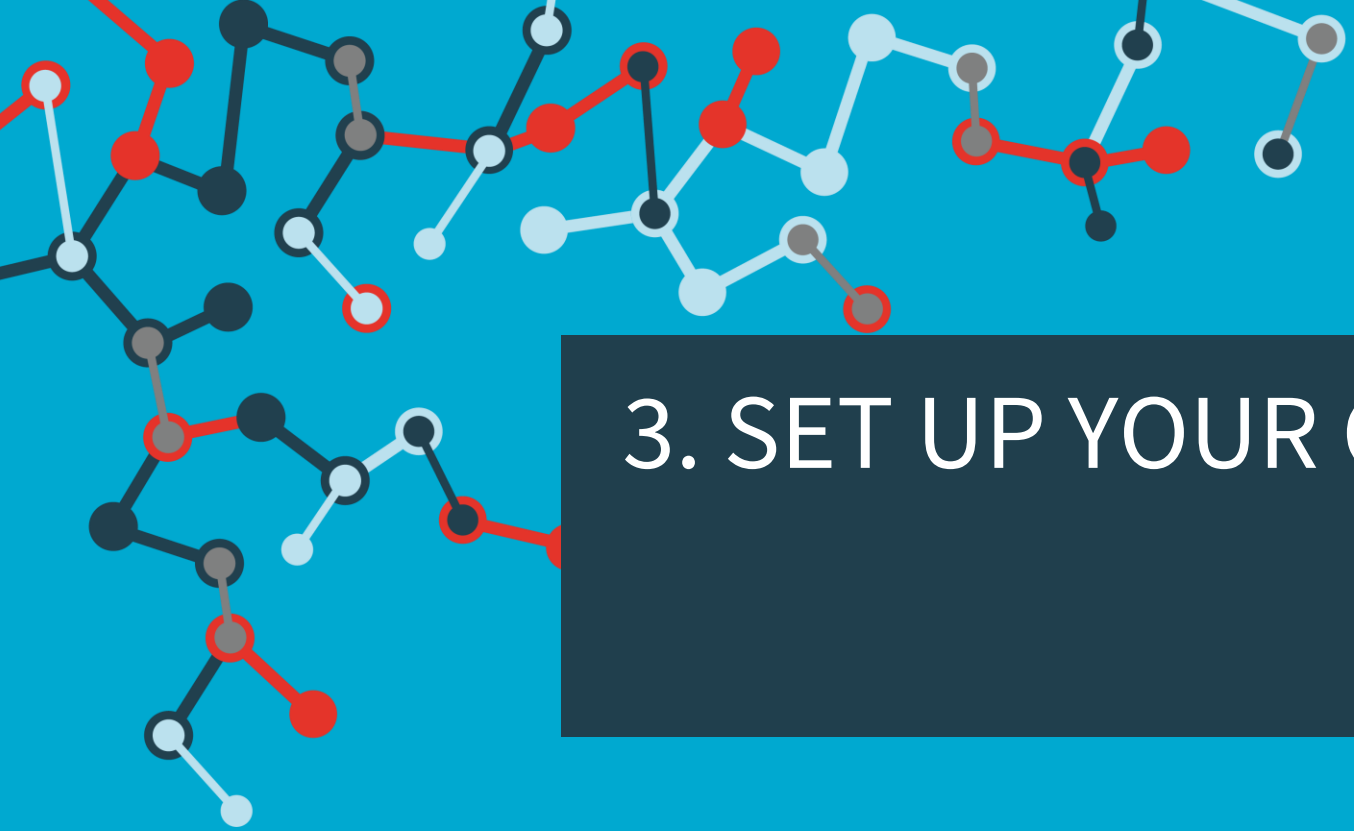

3. SET UP YOUR CONTENT

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CONTENT

- First, create a content which will represent a Learning Object such as an exercise, a lesson, etc. :

```
Method : POST
URL : HOST_URL/instances/{instance_id}/contents
```

- Json input example:

```
{
     type: « Evaluation »,
     *name: « My new content »,
     *uid: « ABCDEFG »,
     *format: nil,
     *content_url: nil
}
```

The type « Evaluation » indicates if it is a question. Else, it is a content of « Learning » type.

*optional params

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CONTENT AND KNOWLEDGE NODE LINK

- To link a content to a specific KnowledgeNode, you can use the KnowledgeNodeContent objects as such:

```
Method : POST
URL : HOST_URL/instances/{instance_id}/knowledge_node_contents
```

- Json input example:

```
{
    content_id: 42,
    knowledge_node_id: 98
}
```

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DECLARE OBJECTIVES

- Objectives are the goals students should reach. Declare them as described below :

```
Method : POST
URL : HOST_URL/instances/{instance_id}/objectives
```

Objectives are mandatory even for consolidation algorithm

```
{
    "name": "Learning the Universe",
    "objects": {"knowledge_nodes": [51]},
    "target_only": true
}
```

Array of ids. Accepted items are Knowledge Nodes and Tags

target_only is a important parameter if you are using consolidation and you don't want the engine to do processing on pre-requisites

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3. INVOLVING STUDENTS

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STUDENT

- First, register your students by creating their profile :

```
Method : POST
URL : HOST_URL/instances/{instance_id}/students
```

```
{
    uid: « 1 » (Optional)
}
```

OBJECTIVE STUDENT

- Then, create an objective student which will initiate all computations for the specified student and objective

```
Method : POST
URL : HOST_URL/instances/{instance_id}/objective_students
```

```
{
    student_id: 1,
    objective_id: 1,
    memorize: true,
    deadline: 2017-11-15,
    adaptive: false
}
```

Student id

Objective id

Specify if the knowledges must be consolidated after learning

The date for which the knowledge must be known

Specify if the objective has an adaptive learning phase

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TIPS

- You can fetch all knowledge nodes students for a given student

```
Method : GET
URL : HOST_URL/instances/{instance_id}/students/{student_id}/knowledge_nodes_students
```

- A knowledge node student contains the next revision date for the given notion. Use it to send reminders to the student

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4. SOLUTION AT WORK

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GET RECOMMENDATIONS

- You can fetch all recommendation for a given Objective & Student

```
Method : GET
URL:HOST_URL/instances/{instance_id}/recommendation_utils/fetch_best_content_recommendation
```

- With these params :
  - student_id (or student_uid)
  - objective_id
  - number : set a desired recommendations count

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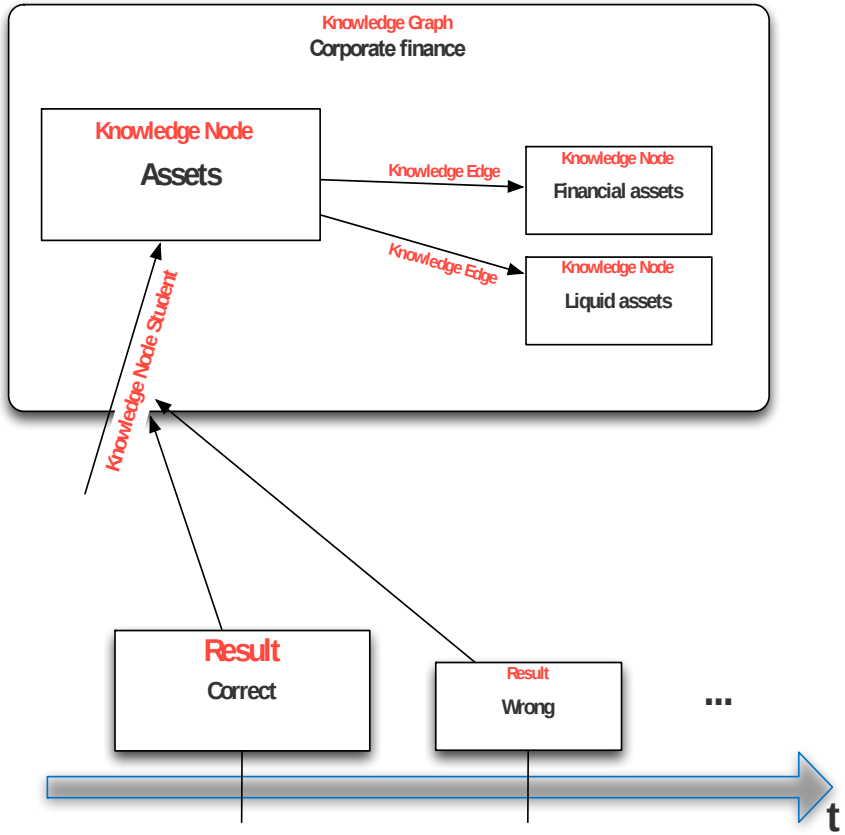
EVENTS

- Every user activity for each content is stored as an EVENT

  - **EventRead** : a student consults a learning content
  - **EventResult** : a student answers a test and is given a score
  - **EventReview** : a student answers to a consolidation activity



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DECLARING AN EVENT

- Send all useful data about what student accomplished on the platform :

```
Method : POST
URL : HOST_URL/instances/{instance_id}/events
```

```
{
      student_id: 3,
      content_id: 4,
      standard: « score »,
      event_type: « EventResult »,
      payload: « 100 »,
      return_recommendation: false
}
```

Student id (or uid)
Content id (or uid)
Tells the format of the payload (« score » for a score, « xApi » for such payload)
Type of the event (specified above)
The result parsed by the API
Set to true if next recommendations wanted

REVIEWS LIST

- To get a question list related to the contents to review, use this method

```
Method : GET
URL :
HOST_URL/instances/{instance_id}/review_utils/fetch_pending_reviews_questions_per_student?student_uid={student_uid}
```

- Here's the response :

```
[
  {
      « knowledge_node_id » : 36,
      « content_id » : 73,
       « content_uid »: « my_test »
  },
  …
]
```

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