

# Understanding the Kernel

## Folders

The kernel is composed of the base classes that are used by Cerbo.

It is composed of the following folders :

- classes
- datatypes
- modules

**classes** It contains all the base classes : Managing requests, modules, pages, translations, ...

**datatypes** The classes that define the base datatypes of the application : TextLine, XMLBlock, Date, Integer, ...

**modules** The basic complex actions of the application : login, logout, search engine, ...

## The way it works

1. The requested URI is parsed to extract :
  - real URI
  - parameters
  - language
  - the output format (none given, XML or JSON)
2. The URI is tested through the existing extensions and kernel.
  - In the kernel
  - In the extensions, following the call order in `application.ini`
3. If the module exists
  1. The module is loaded (`include` of the file)
  2. The class is called with :
    - `__construct()`
    - `submitted()`
    - `build()`
  3. Then we try to deliver the correct format by calling one of the dedicated methods : `toXML()`, `toJSON()`.

4. If no format is defined, we use *Twig* and the configured template to render the webpage.
4. If the module doesn't exists
  1. We load the page with the URI found by parsing the request.
  2. We render the content with the configured template using *Twig*.
5. If the module and the page doesn't exists
  - We load the **Error404** module from the kernel.