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# **uniCMS storage.unical.it APIs handler**

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# INTRODUCTION

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This **uniCMS** app allows you to interface with the public [storage.unical.it](https://storage.unical.it) APIs making users to consume information in a graphically appealing format.

The ability to customize settings file parameters and the ease of building new templates make this handler perfect for developers wishing to make their uniCMS instance dynamic and powerful.



## INTRODUCTION

Using *uniCMS* for the realization of a web project in an *Italian university* represents an important design and communication challenge.

Being able to distribute a large amount of content in an organic and orderly way to a wide range of users (students who want to enroll, enrolled students, graduates, teachers, staff, local companies) requires the use of *modern technologies* capable of facilitating the non-redundant insertion and the immediate availability of information.

In this context, this app is an adequate solution for the management and the right graphical representation of the data coming from a specific API source.





## HOW IT WORKS

By exploiting the [uniCMS handlers](#) mechanism, this app generates a series of dynamic webpaths which, using the API resources assigned to each class, render the obtained results through a specific template.

Each template integrates a [Vue.js](#) component that takes care of invoking the passed resource and retrieving the data.



**SETUP**

To install *unicms\_unical\_storage\_handler* follow these easy steps:

```
pip install git+https://github.com/UniversitaDellaCalabria/unicms-unical-storage-handler.  
↪git
```

In your uniCMS settingslocal.py file, add app in your INSTALLED\_APPS

```
INSTALLED_APPS = [  
    ...  
    unicms_unical_storage_handler,  
]
```

and set new handler

```
# UNICAL STORAGE HANDLER  
if "unicms_unical_storage_handler" in INSTALLED_APPS:  
    from unicms_unical_storage_handler.settings import *  
  
    CMS_HANDLERS_PATHS.extend(CMS_STORAGE_HANDLERS_PATHS)  
    CMS_APP_REGEXP_URLPATHS.update(CMS_STORAGE_APP_REGEXP_URLPATHS)  
  
    # Set uniCMS websites pk list enabled to manage the new url  
    # if different from default [1]  
    ALLOWED_UNICMS_SITES = [2]  
# END UNICAL STORAGE HANDLER
```

Finally, collect new templates

```
./manage.py unicms_collect_templates
```



## SETTINGS

```
ALLOWED_UNICMS_SITES = [1]
```

```
CMS_STORAGE_BASE_PATH = 'storage'
CMS_STORAGE_CDS_VIEW_PREFIX_PATH = 'cds'
CMS_STORAGE_ACTIVITY_VIEW_PREFIX_PATH = 'activities'
CMS_STORAGE_TEACHER_VIEW_PREFIX_PATH = 'teachers'
CMS_STORAGE_ADDRESSBOOK_VIEW_PREFIX_PATH = 'addressbook'
CMS_STORAGE_STRUCTURE_VIEW_PREFIX_PATH = 'structures'
CMS_STORAGE_LABORATORY_VIEW_PREFIX_PATH = 'laboratories'
CMS_STORAGE_PUBLICATIONS_VIEW_PREFIX_PATH = 'publications'
```

```
CMS_STORAGE_BASE_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_STORAGE_
↳BASE_PATH}\\})(/)?$' # noqa
CMS_STORAGE_CDS_LIST_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_STORAGE_
↳BASE_PATH}\\}/(\\{CMS_STORAGE_CDS_VIEW_PREFIX_PATH}\\})(/)?$' # noqa
CMS_STORAGE_CDS_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_STORAGE_
↳BASE_PATH}\\}/(\\{CMS_STORAGE_CDS_VIEW_PREFIX_PATH}\\})/(?P<code>[a-z0-9\\-]*)()/)?$' # noqa
CMS_STORAGE_ACTIVITY_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_STORAGE_
↳BASE_PATH}\\}/(\\{CMS_STORAGE_CDS_VIEW_PREFIX_PATH}\\})/(?P<cidsid>[a-z0-9\\-]*)/(CMS_STORAGE_
↳ACTIVITY_VIEW_PREFIX_PATH)/(?P<code>[a-z0-9\\-]*)()/)?$' # noqa
CMS_STORAGE_TEACHER_LIST_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_
↳STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_TEACHER_VIEW_PREFIX_PATH}\\})()/)?$' # noqa
CMS_STORAGE_TEACHER_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_
↳STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_TEACHER_VIEW_PREFIX_PATH}\\})/(?P<code>[a-z0-9\\-]*)()/)?$
↳' # noqa
CMS_STORAGE_PUBLICATIONS_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(
↳{CMS_STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_TEACHER_VIEW_PREFIX_PATH}\\})/(?P<teacherid>[a-z0-
↳9\\-]*)/(CMS_STORAGE_PUBLICATIONS_VIEW_PREFIX_PATH)/(?P<code>[a-z0-9\\-]*)()/)?$' # noqa
CMS_STORAGE_ADDRESSBOOK_LIST_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_
↳STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_ADDRESSBOOK_VIEW_PREFIX_PATH}\\})(/)?$' # noqa
CMS_STORAGE_ADDRESSBOOK_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_
↳STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_ADDRESSBOOK_VIEW_PREFIX_PATH}\\})/(?P<code>[a-z0-9\\-
↳]*)()/)?$' # noqa
CMS_STORAGE_STRUCTURE_LIST_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(\\{CMS_
↳STORAGE_BASE_PATH}\\}/(\\{CMS_STORAGE_STRUCTURE_VIEW_PREFIX_PATH}\\})(/)?$' # noqa
```

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```

CMS_STORAGE_STRUCTURE_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(?P<code>[a-z0-9\\-]*)(/
→)?$' # noqa
CMS_STORAGE_LABORATORY_LIST_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(?P<code>[a-z0-9\\-]*)(/
→)?$' # noqa
CMS_STORAGE_LABORATORY_INFO_URL_VIEW_REGEX = f'^(?P<webpath>[\\a-zA-Z0-9\\.\\-\\_]*)(?P<code>[a-z0-9\\-]*)(/
→)?$' # noqa

```

Handlers list (used in settingslocal as shown in Setup guide).

```

CMS_STORAGE_HANDLERS_PATHS = [CMS_STORAGE_BASE_URL_VIEW_REGEX,
                                CMS_STORAGE_ACTIVITY_URL_VIEW_REGEX,
                                CMS_STORAGE_ADDRESSBOOK_LIST_URL_VIEW_REGEX,
                                CMS_STORAGE_ADDRESSBOOK_INFO_URL_VIEW_REGEX,
                                CMS_STORAGE_CDS_LIST_URL_VIEW_REGEX,
                                CMS_STORAGE_CDS_INFO_URL_VIEW_REGEX,
                                CMS_STORAGE_LABORATORY_LIST_URL_VIEW_REGEX,
                                CMS_STORAGE_LABORATORY_INFO_URL_VIEW_REGEX,
                                CMS_STORAGE_STRUCTURE_LIST_URL_VIEW_REGEX,
                                CMS_STORAGE_STRUCTURE_INFO_URL_VIEW_REGEX,
                                CMS_STORAGE_TEACHER_LIST_URL_VIEW_REGEX,
                                CMS_STORAGE_TEACHER_INFO_URL_VIEW_REGEX,
                                CMS_STORAGE_PUBLICATIONS_INFO_URL_VIEW_REGEX,
                                ]

```

Handlers dictionary (used in settingslocal as shown in Setup guide)

```

CMS_STORAGE_APP_REGEX_URLPATHS = {
    'unicms_unical_storage_handler.handlers.BaseStorageHandler' : CMS_STORAGE_BASE_URL_
→VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.CdSListViewHandler' : CMS_STORAGE_CDS_LIST_
→URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.CdSInfoViewHandler' : CMS_STORAGE_CDS_INFO_
→URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.ActivityViewHandler' : CMS_STORAGE_ACTIVITY_
→URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.TeacherListViewHandler' : CMS_STORAGE_
→TEACHER_LIST_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.TeacherInfoViewHandler' : CMS_STORAGE_
→TEACHER_INFO_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.AddressbookListViewHandler' : CMS_STORAGE_
→ADDRESSBOOK_LIST_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.AddressbookInfoViewHandler' : CMS_STORAGE_
→ADDRESSBOOK_INFO_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.StructureListViewHandler' : CMS_STORAGE_
→STRUCTURE_LIST_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.StructureInfoViewHandler' : CMS_STORAGE_
→STRUCTURE_INFO_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.LaboratoryListViewHandler' : CMS_STORAGE_
→LABORATORY_LIST_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.LaboratoryInfoViewHandler' : CMS_STORAGE_

```

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```

↪LABORATORY_INFO_URL_VIEW_REGEX,
    'unicms_unical_storage_handler.handlers.PublicationsInfoViewHandler': CMS_STORAGE_
↪PUBLICATIONS_INFO_URL_VIEW_REGEX,
}

```

API endpoints. These values can be overridden.

```

# cms_storage APIs (ref: https://storage.unical.it)
CMS_STORAGE_BASE_API = 'https://storage.portale.unical.it/api/ricerca/'

CMS_STORAGE_ACADEMICYEARS_API = f'{CMS_STORAGE_BASE_API}academicyears/'
CMS_STORAGE_ACTIVITY_API = f'{CMS_STORAGE_BASE_API}activities/'
CMS_STORAGE_ADDRESSBOOK_API = f'{CMS_STORAGE_BASE_API}addressbook/'
CMS_STORAGE_CDS_API = f'{CMS_STORAGE_BASE_API}cds/'
CMS_STORAGE_COMMUNITYTYPES_API = f'{CMS_STORAGE_BASE_API}publicationscommunitytypes/'
CMS_STORAGE_DEGREETYPES_API = f'{CMS_STORAGE_BASE_API}degreetypes/'
CMS_STORAGE_DEPARTMENTSFILTER_API = f'{CMS_STORAGE_BASE_API}departmentsfilter/'
CMS_STORAGE_ERC0LIST_API = f'{CMS_STORAGE_BASE_API}erc0list/'
CMS_STORAGE_ERC1LIST_API = f'{CMS_STORAGE_BASE_API}erc1list/'
CMS_STORAGE_LABORATORIESAREAS_API = f'{CMS_STORAGE_BASE_API}laboratoriesareas/'
CMS_STORAGE_LABORATORY_API = f'{CMS_STORAGE_BASE_API}laboratories/'
CMS_STORAGE_ROLES_API = f'{CMS_STORAGE_BASE_API}roles/'
CMS_STORAGE_STRUCTURE_API = f'{CMS_STORAGE_BASE_API}structures/'
CMS_STORAGE_STRUCTUREFILTER_API = f'{CMS_STORAGE_BASE_API}structuresfilter/'
CMS_STORAGE_STRUCTURETYPES_API = f'{CMS_STORAGE_BASE_API}structuretypes/'
CMS_STORAGE_TEACHER_API = f'{CMS_STORAGE_BASE_API}teachers/'

```

Labels for titles and breadcrumbs. These can be overridden.

```

CMS_STORAGE_ACTIVITIES_LABEL = _("Teachings")
CMS_STORAGE_ADDRESSBOOK_LABEL = _("Persons")
CMS_STORAGE_CDS_LIST_LABEL = _("Study courses")
CMS_STORAGE_LABORATORY_LABEL = _("Laboratories")
CMS_STORAGE_PUBLICATIONS_LABEL = _("Publications")
CMS_STORAGE_ROOT_LABEL = _("Data storage")
CMS_STORAGE_STRUCTURE_LABEL = _("Structures")
CMS_STORAGE_TEACHERS_LABEL = _("Teachers")

```

API filters to take only chosen data in templates. Each of these can be overridden in settings.

```

# show only these coursetypes (es: ['L','LM'])
ALLOWED_CDS_COURSETYPES = []

# allowed study courses languages
ALLOWED_CDS_LANGUAGES = ['ita', 'eng']

# API base filters
ALLOWED_CDS_JOINT_DEGREES = [
    {'COD': 'N', 'name': _("No")},
    {'COD': 'S', 'name': _("Joint title")},
    {'COD': 'D', 'name': _("Double title")}
]

```

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```

ALLOWED_ADDRESSBOOK_ROLES = []
ALLOWED_ADDRESSBOOK_STRUCTURE_ID = []

ALLOWED_STRUCTURE_TYPES = []
ALLOWED_COMMUNITY_TYPES = []

# fields to show templates
CDS_INFO_FIELDS = ['CdSGoals', 'CdSAccess', 'CdSAdmission',
                   'CdSProfiles', 'CdSFinalTest', 'CdSFinalTestMode',
                   'CdSSatisfactionSurvey']

# fields to hide in templates
ADDRESSBOOK_INFO_NOT_SHOW = ['ID', 'Name', 'Role',
                              'RoleDescription', 'StructureTypeCOD']
TEACHER_INFO_NOT_SHOW = ['TeacherID', 'TeacherDepartmentID',
                          'TeacherLastName', 'TeacherFirstName',
                          'TeacherRole', 'TeacherRoleDescription']

STRUCTURE_INFO_NOT_SHOW = ['StructureId', 'StructureFatherId']

LABORATORY_INFO_NOT_SHOW = ['LaboratoryId', 'CompletionReferentId',
                             'ScientificDirectorId', 'DepartmentReferentId',
                             'LaboratoryErc1Cod', 'LaboratoryErc0Cod',
                             'ResearchPersonnelID', 'TechPersonnelID',
                             'LaboratoryName', 'LaboratoryAcronym',
                             'LaboratoryScope', 'LaboratoryLogo',
                             'LaboratoryErc1', 'LaboratoryResearchPersonnel',
                             'LaboratoryTechPersonnel', 'LaboratoryOfferedServices',
                             'LaboratoryLocation', 'LaboratoryErc0Description',
                             'LaboratoryServicesScope', 'LaboratoryTeachingScope',
                             'LaboratoryResearchScope', 'LaboratoryActivities',
                             'CompletionReferentName', 'TechPersonnelRole']

PUBLICATIONS_INFO_NOT_SHOW = ['PublicationId', 'PublicationAbstract',
                               'PublicationTitle', 'PublicationCommunity',
                               'PublicationCollection', 'PublicationReferenceAuthor']

# if set, API will retrieve only structures with this parent and later
INITIAL_STRUCTURE_FATHER = ''

```

Almalaurea trasparenza link. This can be overridden.

```

# ALMALAUREA Link
ALMALAUREA_LINK = 'http://statistiche.almalaurea.it/universita/statistiche/trasparenza?
↳codicione='

```



## TEMPLATES

Templates are managed as atomic, inheritable and composable elements, which can also be used in uniCMS to create independent **blocks** to be inserted in its pages.

Every single template is a combination of *HTML*, *Django tags* and *Vue.js*. This approach is extremely flexible.

### 5.1 Bases

### 5.2 Blocks

All blocks templates accept the same context parameters.