An In-depth Journey into Odoo's ORM

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Introduction

Implementation requirements

- Be correct
- Be secure:
  - access rights
  - against external attacks, sql injections
- Be effient:
  - scalable algorithm
  - few and efficient SQL queries: the cost in term of time of every SQL query is huge compared to the cost of simple computation in python code

Key data structures

- Registry
- Record cache
- Fields to write
- Fields to compute
- Field triggers

Registry

What?

A place where every model name is associated to a python class

```python
class Registry(Mapping):
    """ Model registry for a particular database.

    The registry is essentially a mapping between
        model names and model classes.
    There is one registry instance per database.

    """
    ...
```

- Goal: map **model_name** to **model_class**
- **model_class** should reflect model definitions
- **browse()** returns an instance of **model_class**
- holds metadata

```python
# Model definitions
class Foo0(models.Mode):
    _name = 'foo'
    ...
class Foo1(models.Model):
    _inherit = 'foo'
    ...
class Foo2(models.Model):
    _inherit = 'foo'
    ...
```

```python
class foo(Foo2, Foo1, Foo0, Base):
    _name = 'foo'
    ...
```