# 

# Use case: Plant Nursery

# Mixin Features

- Communication and organization
- Customer satisfaction and UTM
- Portal/Website integration



— Classy Cool Dev



Thanks Classy Cool Dev!

# But what is a mixin?

- Extracts transversal features
- AbstractModel: no table
- Through inheritance

e.g. messaging, customer satisfaction request, ...

```
class MailThread(models.AbstractModel):
   name = 'mail.thread'
    description = 'Mail Thread Mixin'
    message ids = fields.One2many('mail.message', 'Messages')
   message follower ids = fields.One2many('mail.followers', 'Followers')
   def message post(self, body):
       # do stuff
   def message subscribe(self, partners):
       # do stuff
```

Fields: copy definition

```
class MailThread(models.AbstractModel):
    _name = 'mail.thread'

message_ids = fields.One2many(...)
message_follower_ids = fields.One2many(...)
```

```
class Plant(models.Model):
    _inherit = ['mail.thread']

    name = fields.Char('Plant Name')

class Order(models.Model):
    _inherit = ['mail.thread']

    name = fields.Char('Reference')
```

Fields: copy definition

```
class Plant(models.Model):
                                                                  inherit = ['mail.thread']
                                                                  name = fields.Char('Plant Name')
class MailThread(models.AbstractModel):
                                                                  message ids = fields.One2many(...)
    _name = 'mail.thread'
                                                                  message follower_ids = fields.One2many(...)
   message_ids = fields.One2many(...)
   message_follower_ids = fields.One2many(...)
                                                              class Order(models.Model):
                                                                  inherit = ['mail.thread']
                                                                  name = fields.Char('Reference')
                                                                  message_ids = fields.One2many(...)
                                                                  message_follower_ids = fields.One2many(...)
```

Methods: super() + customize-> business-specific behavior

```
class MailThread(models.AbstractModel):
    _name = 'mail.thread'

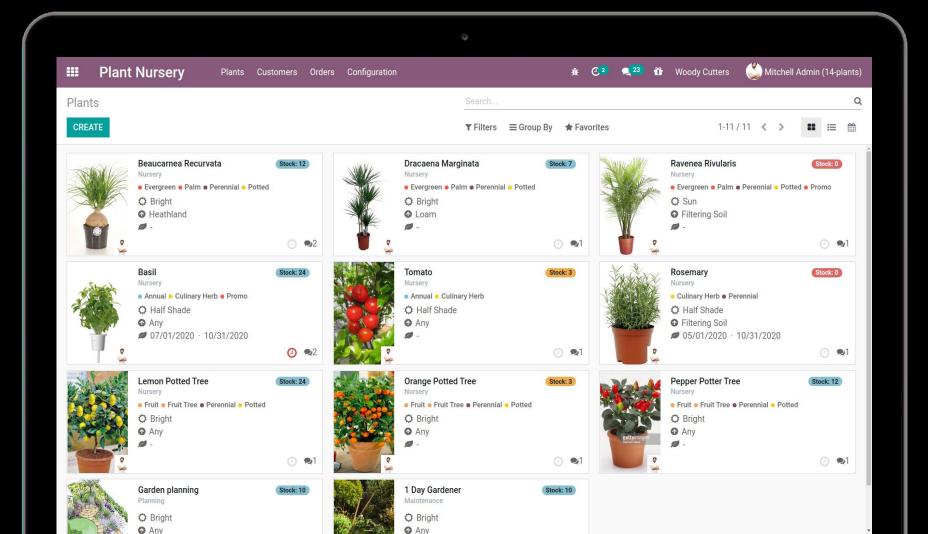
message_ids = fields.One2many(...)
message_follower_ids = fields.One2many(...)

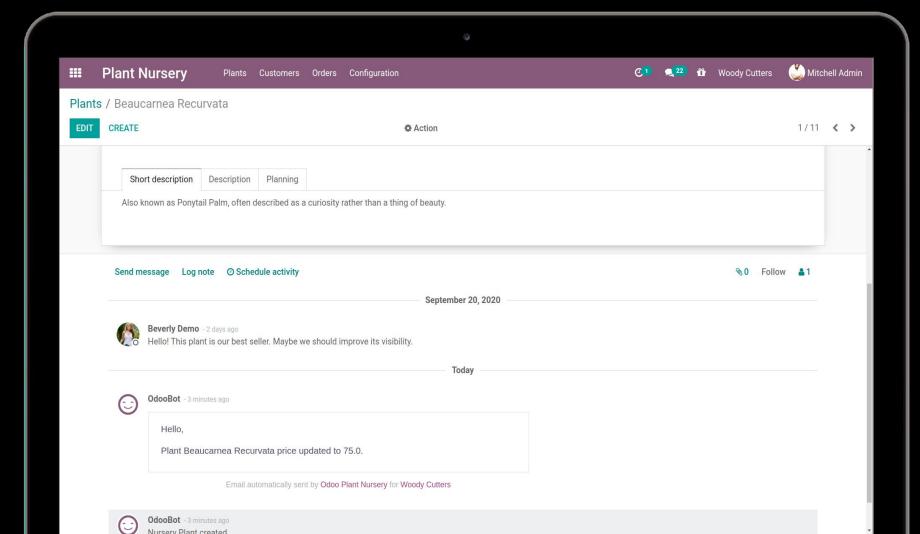
def message_post(self, body):
    # do stuff
    return message
```

```
class Plant(models.Model):
    _inherit = ['mail.thread']
    name = fields.Char('Plant Name')
    def say hello(self):
        self.message post('Hello')
    def message_post(self, body):
        if self.message ids: ...
        self.message follower ids.write({})
        return super()
```

Inherit class itself -> all childs

```
class MyOwnMailThread(models.AbstractModel):
   name = 'mail.thread'
   inherit = 'mail.thread'
   message my own = fields.Integer(...)
    def message send email(self):
        return
    def message post(self, body):
       # do more stuff
        self.message send email()
        return super()
```





#### **Mail Thread**

- Messaging + auto link emails
- How to
  - inherit mail.thread
  - use oe\_chatter container
    - -> v14: no widget use to
    - define

Have fun!

```
'name': Plant Nursery,
    'depends': ['mail'],
class Plant(models.Model):
    _name = 'nursery.plant'
    _description = 'Plant'
    _inherit = ['mail.thread']
<div class="oe chatter">
    <field name="message follower ids"/>
    <field name="message ids"
        options="{'post refresh':
            'recipients'}"/>
</div>
```

### Discuss: messages

Send message Log note

Today



Brett Starkaxe - 3 minutes ago 🏠

Bender! Ship! Stop bickering or I'm going to come back there and change your opinions manually! you or let you go. We're also Santa Claus!

I've got to find a way to escape the horrible ravages of youth. Suddenly, I'm going to the bathroom checks. Now 'I" have to pay "them'! WINDMILLS DO NOT WORK THAT WAY! GOOD NIGHT! read more



Woody Cutters, Administrator - 5 minutes ago ☑ ☆

Hello Brett,

I hope this Apple Tree suits you. Of all the friends I've had... you're the first. Is the Space Pope repti in an infinite loop, and he's an idiot! Well, that's love for you.

```
class Message(models.Model):
    _name = 'mail.message'

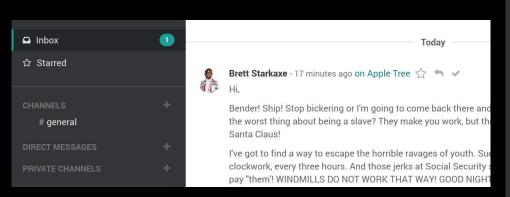
model = fields.Char(...)
    res_id = fields.Integer(...)

notified_partner_ids = fields.Many2Many(...)
```

```
class Plant(models.Model):
    _inherit = ['mail.thread']

# coming from mail.thread inheritance
message_ids = fields.One2many(...)
```

#### Discuss: messages



```
class MailThread(models.AbstractModel):
    _name = 'mail.thread'
   message ids = fields.One2many(...)
    def message post(self, subject, body, **kw):
        message = self.env['mail.message'].create({
            'model': self.model,
            'res id': self.res id
        self._notify_thread(message)
    def notify thread(self, message):
        recipients = self._compute_recipients()
        recipients. notify by inbox()
        recipients. notify by email()
```

#### Discuss: followers

```
class MailThread(models.AbstractModel):
    name = 'mail.thread'
    message_follower_ids = fields.One2many(...)
    def message_subscribe(self, partners, channels):
        # add followers and listeners
        Follower.create(partners)
class Plant(models.Model):
    name = 'nursery.plant'
    inherit = ['mail.thread']
    def message subscribe(self, partners, channels):
        super()
```

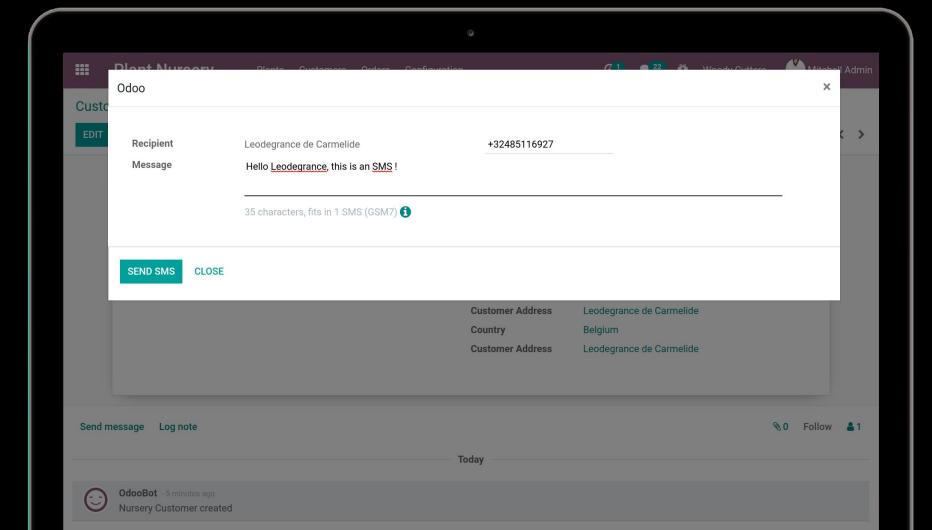
# Mailgateway

- Route incoming emails
- Ensure thread detection
- Application specific behavior on

new thread or thread update

# Mailgateway

```
class MailThread(models.AbstractModel):
   name = 'mail.thread'
    def message_process(self, email):
       # process email values
    def message_route(self, message):
        # heuristics when incoming email detected
class Plant(models.Model):
   _name = 'nursery.plant'
   inherit = ['mail.thread']
    def message new(self, message):
       # do sthg when creating from email
        super()
    def message_update(self, message):
       # do sthg when incoming email on existing document
        super()
```



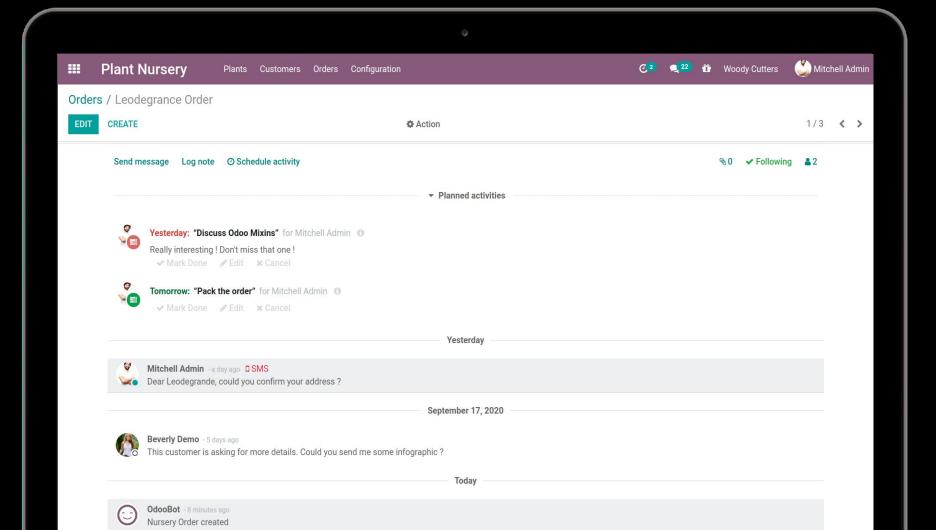
#### Discuss: SMS

- SMS sending
- Integrated in Discuss
  - -> phone widget
- How to use
  - inherit mail.thread
  - phone widget
    - -> enable\_sms

```
'name': Plant Nursery,
    'depends': ['mail', 'sms'],
class Plant(models.Model):
    name = 'nursery.plant'
    _description = 'Plant'
    inherit = ['mail.thread']
<field name="mobile"
    widget="phone"
    options="{'enable sms': True}"
</>>
```

#### Discuss: SMS

```
class MailThread(models.AbstractModel):
    name = 'mail.thread'
    def message post sms(self, body, **kw):
        recipients = self. compute sms recipients()
        self. notify by sms(recipients)
class Customer(models.Model):
    _name = 'nursery.customer
    inherit = ['mail.thread']
    def _sms_get_number_fields(self):
        return ['mobile']
    def _sms_get_partner_fields(self):
        return ['partner id']
```



# Mail Activity

- Document activities management
- Discuss integration
- How to use:
  - inherit mail.activity.mixin
  - oe\_chatter container

```
'name': Plant Nursery,
    'depends': ['mail'],
class Plant(models.Model):
   _name = 'nursery.plant'
   _description = 'Plant'
   _inherit = ['mail.thread', 'mail.activity.mixin']
<div class="oe chatter">
   <field name="message ids"/>
   <field name="activity ids"/>
</div>
```

#### **Mail Activity**

- List view
  - -> list\_activity
- Kanban view
  - -> kanban\_activity

```
<tree string="Plants">
    <field name="activity ids"
        widget="list activity"/>
</tree>
<kanban string="Plants">
    <templates>
        <field name="activity ids"
            widget="kanban activity"/>
    </templates>
</kanban>
```

# **Mail Activity**

```
class Plant(models.Model):
    name = 'nursery.plant'
    description = 'Plant'
    inherit = ['mail.thread',
'mail.activity.mixin']
    # coming from mail.activity inheritance
    activity ids = fields.One2many('mail.activity')
    activity state = fields.Selection([
        ('overdue', 'Overdue'),
        ('today', 'Today'),
        ('planned', 'Planned')])
```

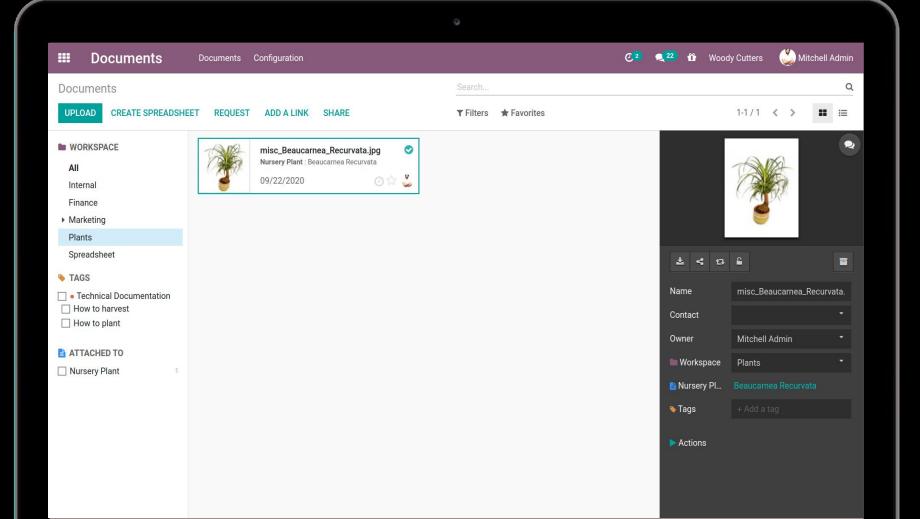
#### Automation

- Automatic activity scheduling or closing
- Specify a responsible on a given business flow

```
class MailActivityMixin(models.AbstractModel):
    name = 'mail.activity.mixin'
    def activity schedule(self, type, date):
        # Schedule an activity
    def activity feedback(self, feedback):
        # Set activities as done
    def activity unlink(self):
        # Delete activities
class Order(models.Model):
    _name = 'nursery.order'
    inherit = ['mail.thread',
                'mail.activity.mixin']
    def create(self, vals):
        res = super()
        res.activity schedule()
```

# **Activity automation**

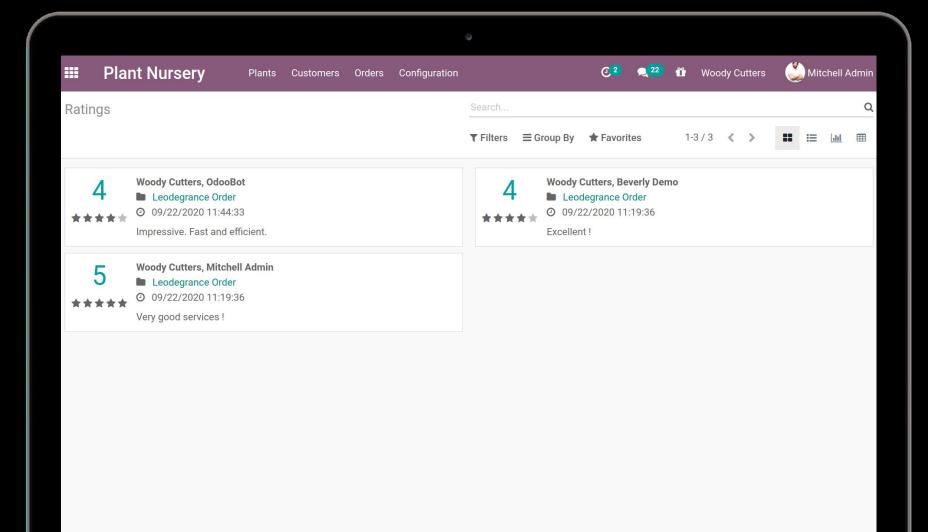
```
class Order(models.Model):
    name = 'nursery.order'
    inherit = ['mail.thread', 'mail.activity.mixin']
    def create(self, vals):
        doc = super(Order, self).create(vals)
        # schedule pack activity
        return doc.activity schedule(
            'mail.mail activity data todo',
            user id=doc.user id.id,
            date deadline=fields.Date.today() + relativedelta(days=1),
            summary= ('Pack the order'))
    def action confirm(self):
        # close pending activities
        self.activity feedback(['mail.mail activity data todo'])
        return self.write({'state': 'open'})
```



#### Documents

- Documents integration
- How to use:
  - inherit documents.mixin
  - specify folder, tags and owner
  - Upload!

```
'name': Plant Nursery,
    'depends': ['documents'],
class Plant(models.Model):
   name = 'nursery.plant'
   description = 'Plant'
   inherit = ['mail.thread', 'documents.mixin']
    def _get_document_folder(self):
       return ref('plant folder')
   def _get_document_tags(self):
       return ref('plant tag')
    def _get_document_tags(self):
       return self.user_id
```



### Rating

- Add ratings on any class
- Request rating via email/route
- Analyze your ratings

```
'name': Plant Nursery,
    'depends': ['rating']
class Order(models.Model):
   name = 'nursery.order'
   description = 'Order'
   _inherit = ['mail.thread', 'rating.mixin']
class RatingMixin(models.AbstractModel):
   name = 'rating.mixin'
    rating ids = fields.One2many('rating.rating')
    rating_last_value = fields.Float(...)
    rating last feedback = fields.Text(...)
    rating_count = fields.Integer(...)
```

#### Operator

 Rated partner: person to rate rating\_get\_rated\_partner\_id

 Default: responsible user\_id.partner\_id

```
class RatingMixin(models.Model):
    _name = 'rating.mixin'

def rating_get_rated_partner_id(self):
    if hasattr(self, 'user_id') and self.user_id:
        return self.user_id.partner_id
    return self.env['res.partner']
```

#### Customer

 Customer: person that rates rating\_get\_partner\_id

default: partner\_id

Need to override

```
class Customer(models.Model):
    name = 'nursery.customer'
    partner_id = fields.Many2one('res.partner')
class RatingMixin(models.Model):
    name = 'rating.mixin'
    def rating_get_partner_id(self):
        if self.partner id:
            return self.partner_id
        return self.env['res.partner']
class Order(models.Model):
    name = 'nursery.order'
    def rating get partner id(self):
        if self.customer id.partner id:
            return self.customer id.partner id
        return self.env['res.partner']
```

# Rating: summary

 Operator -> person (partner) to rate rating\_get\_rated\_partner\_id

Customer -> person (partner) that rates
 rating\_get\_rated\_partner\_id

# Rating request

Customer secure access: unique access token

```
rating_get_access_token()
```

-> provided by mixin

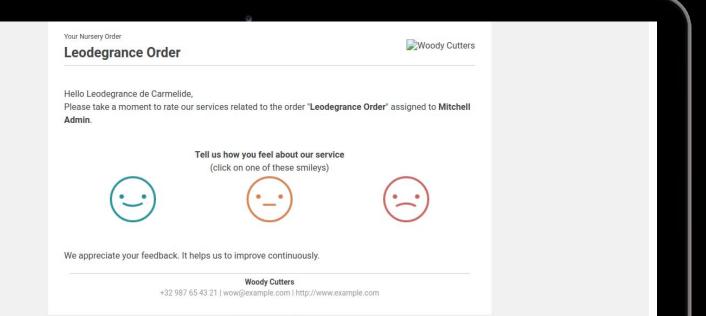
Routes defined with mixin

```
/rate/<token>/<score>
```

/rate/<token>/<score>/submit\_feedback

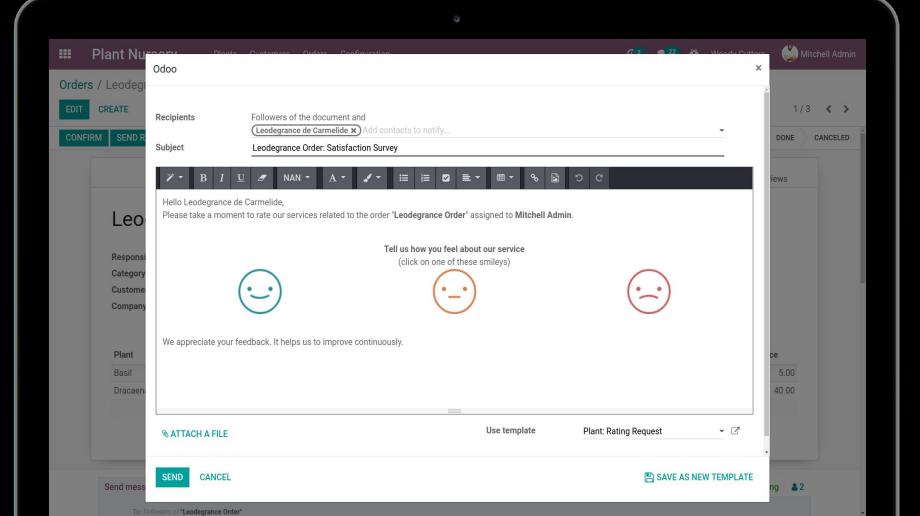
# Rating request

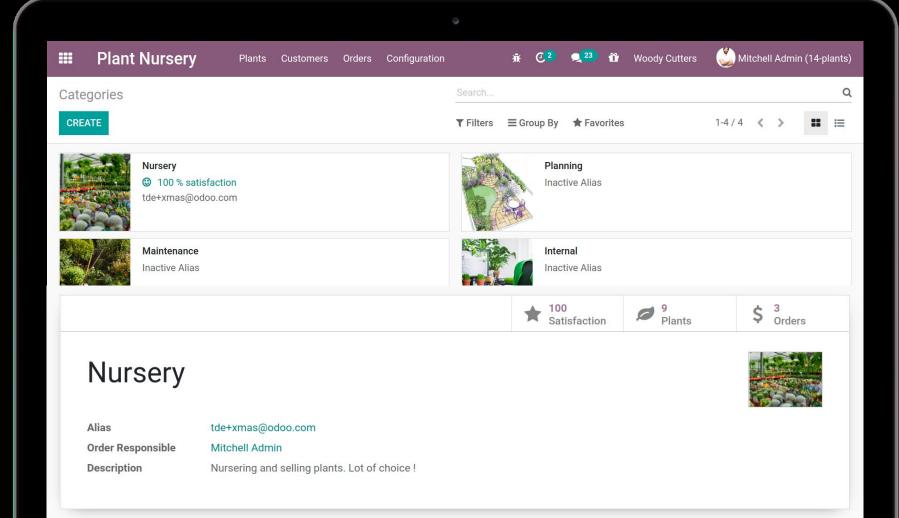
- Send requests through email action
- Define an Email Template



# Rating request

```
<record id="mail template plant order rating" model="mail.template">
   <field name="name">Plant: Rating Request</field>
   <field name="email from">${(object.rating get rated partner id().email or '') | safe}</field>
   <field name="subject">${object.name}: Service Rating Request</field>
   <field name="model id" ref="plant nursery.model nursery order"/>
   <field name="partner to" >${object.rating get partner id().id}</field>
   <field name="auto delete" eval="True"/>
   <field name="body html" type="html">
       <div>
           % set access token = object.rating get access token()
           <!-- Insert Beautiful Email Stuff -->
           <a href="/rate/${access token}/5"><img src="satisfied.png"/></a>
                   <a href="/rate/${access token}/3"><img src="not satisfied.png"/></a>
                   <a href="/rate/${access token}/1"><img src="highly not satisfied.png"/></a>
               <!-- Insert Ending Beautiful Email Stuff -->
       </div>
   </field>
</record>
```

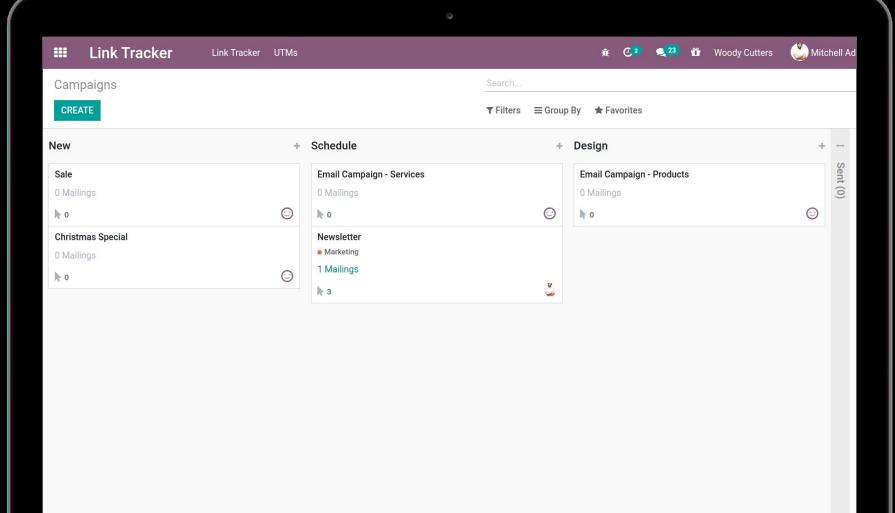




# Parent rating

- Container of document ratings
  - task -> project
  - ticket -> team
  - plant order -> category
- Get statistics per category

```
'name': Plant Nursery,
    'depends': ['rating']
class Category(models.Model):
    name = 'nursery.plant.category'
    _description = 'Service Category'
    inherit = ['mail.thread'
                'rating.parent.mixin']
class RatingParentMixin(models.AbstractModel):
   name = 'rating.parent.mixin'
    rating ids = fields.One2many('rating.rating')
    rating percentage satisfaction =
        fields.Float(...)
```



#### UTM

- Track incoming visitors
- Add fields

campaign

source

medium

Simple to extend

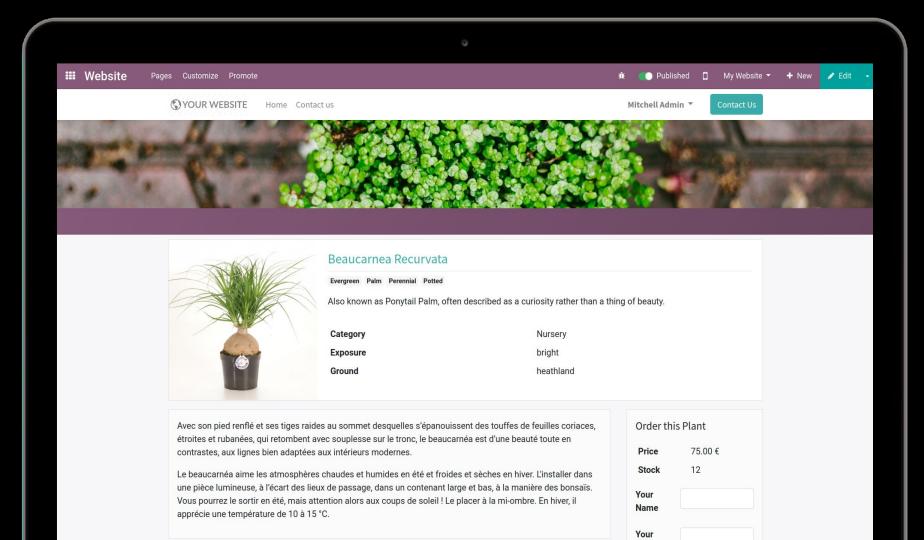
```
'name': Plant Nursery,
    'depends': ['utm'],
class Plant(models.Model):
   _name = 'nursery.plant'
   description = 'Plant'
   _inherit = ['utm.mixin']
class UtmMixin(models.AbstractModel):
   name = 'utm.mixin'
   campaign id = fields.Many2one('utm.campaign')
    source id = fields.Many2one('utm.source')
   medium id = fields.Many2one('utm.medium')
```

## UTM

- URL parsing
- Automatic UTM creation / update

http://127.0.0.1:8069/plants?utm\_campaign=sale&utm\_medium=facebook&utm\_source=facebook\_ad

Campaign	Sale
Source	Facebook
Medium	Facebook Ads



## Publish

- Controls frontend visibility
- Adds fields
  - o is\_published
  - can\_publish
  - website\_url

```
'name': Plant Nursery,
    'depends': ['website'],
class WebsitePublishedMixin(models.AbstractModel):
    name = "website.published.mixin"
    is published = fields.Boolean('Published')
    can publish = fields.Boolean(
        compute=' compute can publish')
   website_url = fields.Char(
        compute=' compute website url')
class Plant(models.Model):
    name = 'nursery.plant'
    description = 'Plant'
   _inherit = ['website.published.mixin']
```

## **Publish**

- can\_publish
  - -> publisher groups
- website\_url
  - -> plant route URL

```
from odoo.addons.http routing.models.ir http import slug
class Plant(models.Model):
   name = 'nursery.plant'
   description = 'Plant'
    _inherit = ['website.published.mixin']
    can publish = fields.Boolean(
        compute=' compute can publish')
   website url = fields.Char(
        compute=' compute website url')
    def _compute_can_publish(self):
        for plant in self:
            plant.can publish = user.has group(
                'website.group website publisher')
    def _compute_website_url(self):
        for plant in self:
            record.website url = '/plants/%s' % slug(plant)
```

#### Routes

- Public route
- Access rights & route
  - management still up to you!
  - -> carefully craft your ACLs!

```
@route('/plants/plant/<model("nursery.plant"):plant>',
    type='http', auth="public", website=True)
def plant(self, plant, **post):
    return request.render(
        "plant nursery.portal plant page",
        values)
<record model="ir.rule" id="ir rule nursery plant public">
    <field name="name">
        Nursery Plant: public: published only
    </field>
    <field name="model_id" ref="model_nursery_plant"/>
    <field name="domain force">
        [('website published', '=', True)]
    </field>
    <field name="groups"</pre>
        eval="[(4, ref('base.group public')),
               (4, ref('base.group portal'))]"/>
</record>
```

# Publish action

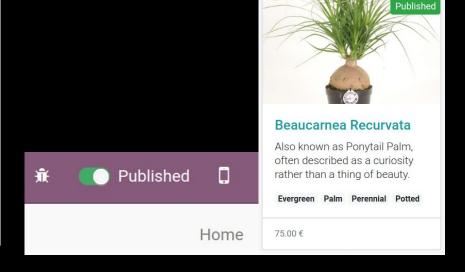
- Controls visibility of documents
- Backend: use redirect widget
  - redirect to website URL

<field name="is\_published"
 widget="website\_redirect\_button"/>



## Publish action

- Controls visibility of documents
- Frontend widget:
  - automatic editor support
  - publish widget: action to execute



#### Multi Website

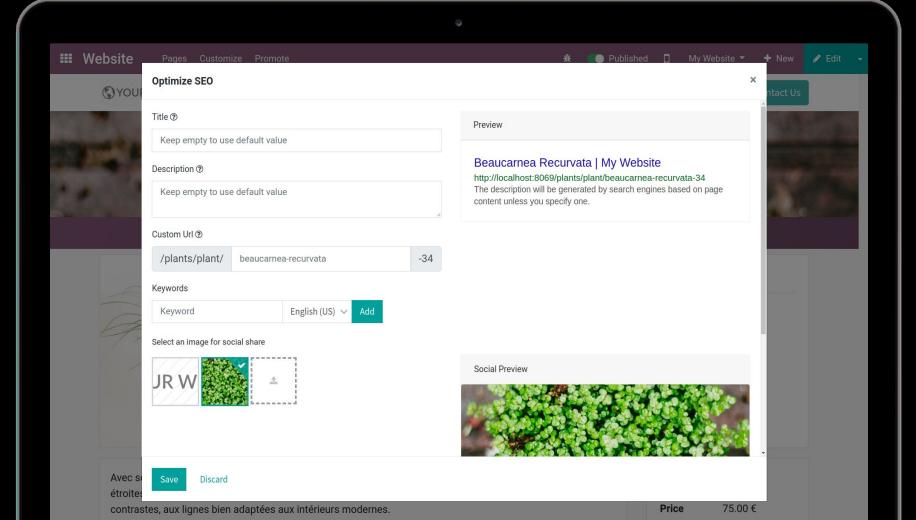
- Restrict to a specific website
- website\_id field
- can\_access\_from\_current\_we bsite
  - -> to be used in routes

```
'name': Plant Nursery,
    'depends': ['website'],
class Plant(models.Model):
    name = 'nursery.plant'
    description = 'Plant'
    inherit = ['website.multi.mixin']
class WebsiteMultiMixin(models.AbstractModel):
    name = 'website.multi.mixin'
    website_id = fields.Many2one('website')
    def can access from current website(self):
        # Specify if record can be accessed
        return record.website id.id in
            (False, request.website.id)
```

## Multi Publish

- Publish document on a specific website
- Compute website\_published
- Add \_compute\_website\_published
   based on
  - current website
  - is\_published flag

```
'name': Plant Nursery,
    'depends': ['website'],
class Plant(models.Model):
   name = 'nursery.plant'
   _description = 'Plant'
   inherit = ['website.published.multi.mixin']
class WebsitePublishedMultiMixin(models.AbstractModel):
   name = 'website.published.multi.mixin'
   website published = fields.Boolean(
        compute=' compute website published')
   def compute website published(self):
        # Specify if the record is published on this website
```



#### **SEO**

- 'Optimize' SE rankings
- Add fields
  - Page title
  - Keywords
  - Description
  - Og image

```
'name': Plant Nursery,
    'depends': ['website'],
class Plant(models.Model):
   _name = 'nursery.plant'
   description = 'Plant'
   inherit = ['website.seo.metadata']
class SeoMetadata(models.AbstractModel):
   name = 'website.seo.metadata'
   website meta title = fields.Char('')
   website meta description = fields.Text('')
   website meta keywords = fields.Char('')
   website_meta_og_img = fields.Char('')
```

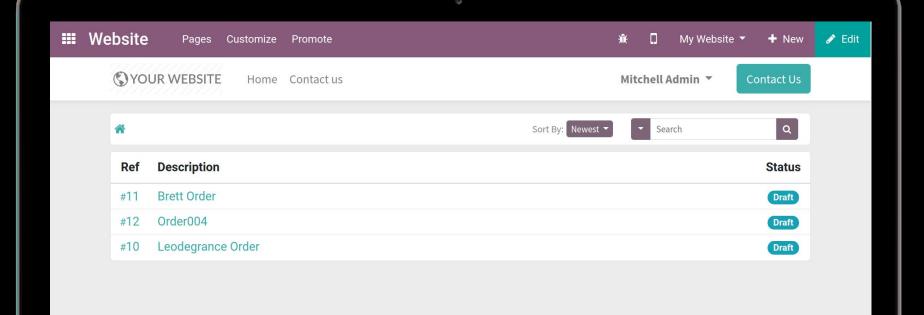
# SEO: promote

- main\_object magic in website
- Website promote button
- Set SEO metadata

```
@route('/plants/plant/<model("nursery.plant"):plant>
',
    type='http', auth="public", website=True)
def plant(self, plant, **post):
    values = {
        'main_object': plant,
        'plant': plant,
        'search': post.get('search', ''),
    }
    return request.render("portal_plant_page",
values)
```

```
₩ebsite Pages Customize Promote

Optimize SEO
```

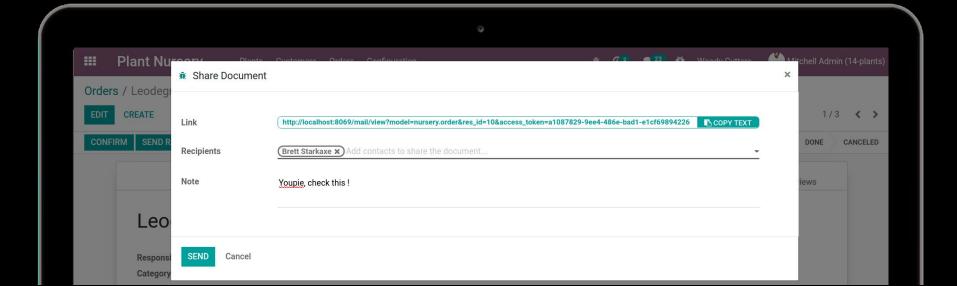


## **Portal**

 Document- and App- specific portal url <u>computation</u>

```
{
    'name': Plant Nursery,
    'depends': ['portal'],
}

class Plant(models.Model):
    _name = 'nursery.plant'
    _description = 'Plant'
    _inherit = ['portal.mixin']
```



### **Portal**

- Generic URL computation
  - /mail/view controller
  - access\_token
  - partner\_id
  - integration with auth\_signup

```
class PortalMixin(models.AbstractModel):
    name = "portal.mixin"
    access url = fields.Char(
        compute=' compute access url')
    access token = fields.Char('Security Token')
    access warning = fields.Text(
        compute=" compute access warning")
    def _compute access warning(self):
        # Set a warning if record can't be shared
        access warning = ''
    def _compute_access_url(self):
        # Set the portal specific URL
        record.access url = '#'
    def _get_share_url(self):
        # Set the generic share URL
        return '/mail/view?model='+record. name+'&
            res id='+record.id+'&
            access token='+record.access token
```

#### Portal in your App

- Public route
- Access rights & route management still up to you!
  - -> carefully craft your ACLs!

```
@route('/my/order/<model("nursery.plant"):plant>',
    type='http', auth="public", website=True)
def my orders(self, page, search, **post):
    return request.render(
        "plant nursery.portal nursery order",
        values)
<record model="ir.rule" id="ir rule nursery order portal">
    <field name="name">
        Nursery Plant: portal: my orders
    </field>
    <field name="model id" ref="model nursery order"/>
    <field name="domain force">
        [('customer id.partner_id', '=', user.partner_id.id)]
    </field>
    <field name="groups"</pre>
        eval="[(4, ref('base.group portal'))]"/>
</record>
```

### Portal in your App

Portal URL computation routes

Share button

```
class Plant(models.Model):
    name = 'nursery.plant'
    inherit = ['portal.mixin']
    def compute access warning(self):
        # Set a warning if record can't be shared
        record.access_warning = 'Error !'
            if record.category id.internal
    def compute access url(self):
        # Set the portal specific URL
        record.access url = '/my/order/%s' % record.id
<header>
    <button name="%(portal.portal share action)d"</pre>
            string="Share" type="action"
            class="oe highlight oe read only"/>
</header>
```



— Classy Cool Dev

## **Custom Tracking**

- Track plant price change
  - -> tracking attribute from
  - mail.thread
  - -> specific subtype
- Link to an email template

```
<record id="plant price template" model="mail.template">
   <field name="body">...</field>
</record>
<record id="plant price" model="mail.message.subtype">
     <field name="name">Price Updated</field>
     <field name="res model">nursery.plant</field>
</record>
class Plant(models.Model):
    name = 'nursery.plant'
   inherit = ['mail.thread']
    price = fields.Float('Price', tracking=2)
   def _track_subtype(self, values):
       res = super()
       if 'price' in values:
           return self.env.ref(plant price)
       return super()
   def track template(self, values):
       res = super()
       if 'price' in values:
           res['price'] = (
               'plant price template',
               options)
       return res
```

#### Even more

- A lot of other mixins exist in Odoo
- Look in the doc / code
- Play with them!

```
# use country-based formatting for addresses
inherit = [format.address.mixin']
# use image tools and resizing
inherit = [image.mixin']
# use advanced gateway / phone tools
_inherit = ['mail.alias.mixin']
_inherit = ['mail.thread.phone']
_inherit = ['mail.thread.blacklist']
# use QWeb / Jinja rendering tools
inherit = ['mail.render.mixin']
# use calendar-based time computation
_inherit = [resource.mixin']
# use editable sequence numbers
inherit = ['sequence.mixin']
```

# Thank You

https://github.com/tivisse/odooplants