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# **Odoo development Documentation**

***Release master***

**IT-Projects LLC**

June 10, 2016



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- Ask new questions: <https://github.com/it-projects-llc/odoo-development/issues/new>
- Check open questions: <https://github.com/it-projects-llc/odoo-development/issues>
- Push your answers and improvements: <https://github.com/it-projects-llc/odoo-development>

Current content:



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### First steps

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- [Install odoo](#)
- take the course [Bulding a module](#)
- read the article [Source diving](#)
- [Configure git](#)
- read [Company rules](#) (*For IT-Projects LLC employees only*)
- Get tasks from your Guru!
- Fork repo, clone repo to you machine, make commits, push updates, create Pull Request





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## Module Development

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### 2.1 Docs and manifests

All files from this section ought to be fully <sup>0</sup> prepared **before** any other files in new module. It helps you to review requirements again before you start.

#### 2.1.1 README.rst

- *Guidelines*
  - *OCA's README*
- *HTML Description*
- *Usage instructions*
- *Changelog*
- *Tested on*

#### Guidelines

```

=====
Module Name
=====

Put some short introduction first.

Then add more detailed description, technical specifications, any other information that could be int

Credits
=====

Contributors
-----
* DEVELOPER_NAME <PERSON@it-projects.info>

Sponsors
-----
* `IT-Projects LLC <https://it-projects.info>`_

```

<sup>0</sup> The only exception could be made for “data” field in `__openerp__.py` file.

#### Further information

=====

HTML Description: `https://apps.odoo.com/apps/modules/VERSION/TECHNICAL_NAME/`

Usage instructions: ``<doc/index.rst>`_`

Changelog: ``<doc/changelog.rst>`_`

Tested on Odoo 8.0 ODOO\_COMMIT\_SHA\_TO\_BE\_UPDATED

### OCA's README

- <https://raw.githubusercontent.com/OCA/maintainer-tools/master/template/module/README.rst>

### HTML Description

Link to app store, e.g.

HTML Description: `https://apps.odoo.com/apps/modules/9.0/web_debranding/`

You have to prepare this link even if the module is not published yet, i.e. link returns 404 error.

### Usage instructions

- `doc/index.rst`

### Changelog

- `doc/changelog.rst`

### Tested on

Tested on Odoo 8.0 a40d48378d22309e53e6d38000d543de1d2f7a78

commit sha can be found as following

```
cd /path/to/odoo
git rev-parse HEAD
```

## 2.1.2 doc/index.rst

```
=====
Module name
=====

Installation
=====

Optional section for installation notes.
```

```

Usage
=====

Instruction how to check that module works. What shall user do and what would user get, e.g.
* Open menu ...
* Click ...

Uninstallation
=====

Optional section for uninstallation notes.

```

This description will be available at app store under *Documentation* tab. Example: [https://www.odoo.com/apps/modules/8.0/pos\\_multi\\_session/](https://www.odoo.com/apps/modules/8.0/pos_multi_session/)

### 2.1.3 \_\_openerp\_\_.py

- *Guidlines*
- *name*
- *summary*
- *category*
- *version*
  - *version in OCA*
- *author*
  - *author in OCA*
- *license*
- *external\_dependencies*

#### Guidlines

Use example below as template. What are important here:

- order of attributes
- quote characters (" , " " ")
- empty lines
- no description attribute
- price and currency attributes are commented-out if not used
- comma after last item in list (e.g. in ‘depends’ attribute)
- add new line symbol at the end of file (i.e. right after last }

```

# -*- coding: utf-8 -*-
{
    "name": "MODULE_NAME",
    "summary": "SHORT_DESCRIPTION_OF_THE_MODULE",
    "category": "SOME_CATEGORY",
    "images": [],
    "version": "1.0.0",

    "author": "IT-Projects LLC, DEVELOPER_NAME",

```

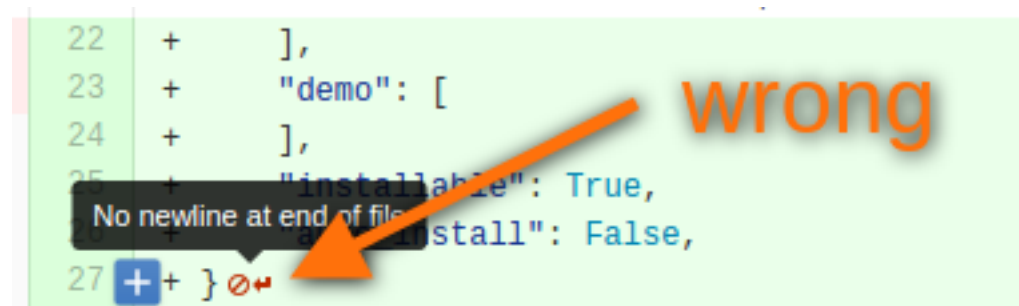
```

"website": "https://it-projects.info",
"license": "GPL-3",
#"price": 9.00,
#"currency": "EUR",

"depends": [
    "DEPENDENCY1",
    "DEPENDENCY2",
],
"external_dependencies": {"python": [], "bin": []},
"data": [
    "FILE1.xml",
    "FILE2.xml",
],
"qweb": [
    "static/src/xml/QWEBFILE1.xml",
],
"demo": [
    "demo/DEMOFILE1.xml",
],

"post_load": None,
"pre_init_hook": None,
"post_init_hook": None,
"installable": True,
"auto_install": False,
}

```



See also:

- OCA's template: [https://github.com/OCA/maintainer-tools/blob/master/template/module/\\_\\_openerp\\_\\_.py](https://github.com/OCA/maintainer-tools/blob/master/template/module/__openerp__.py)

## name

It must be non-technical name of the module

## summary

Short description of the module. E.g. you can describe here which problem is solved by the module. It could sound as a slogan.

## category

Categories from the list below are preferred.

- Accounting
- Discuss
- Document Management
- eCommerce
- Human Resources
- Industries
- Localization
- Manufacturing
- Marketing
- Point of Sale
- Productivity
- Project
- Purchases
- Sales
- Warehouse
- Website
- Extra Tools

## version

*Note: whenever you change version, you have to add a record in [changelog.rst](#)*

The *x.y.z* version numbers follow the semantics *breaking.feature.fix*:

- *x* increments when the data model or the views had significant changes. Data migration might be needed, or depending modules might be affected.
- *y* increments when non-breaking new features are added. A module upgrade will probably be needed.
- *z* increments when bugfixes were made. Usually a server restart is needed for the fixes to be made available.

On each version change a record in `doc/changelog.rst` should be added.

If a module ported to different odoo versions (e.g. 8 and 9) and some update is added only to one version (e.g. 9), then version is changed as in example below:

- init
  - [8.0] 1.0.0
  - [9.0] 1.0.0
- feature added to 8.0 and ported to 9.0
  - [8.0] 1.1.0
  - [9.0] 1.1.0
- feature added to 9.0 only and not going to be ported to 8.0:
  - [8.0] 1.1.0
  - [9.0] 1.2.0

- fix made in 9.0 only and not going to be ported to 8.0:
  - [8.0] 1.1.0
  - [9.0] 1.2.1
- fix made in 8.0 and ported to 9.0
  - [8.0] 1.2.2
  - [9.0] 1.2.2

i.e. two module branches cannot have same versions with a different meaning

### version in OCA

While [OCA](#) use [odoo version in module version](#) (e.g. 8.0.1.0.0), we specify odoo version in [README.rst](#) file and use three numbers in version (e.g. 1.0.0).

### author

Use company first and then developer(s):

```
"author": "IT-Projects LLC, Developer Name",
```

In the main, if module already exists and you make small updates/fixes, you should not add your name to authors.

### author in OCA

For OCA's repositories put company name first, then OCA. Developers are listed in README file:

```
"author": "IT-Projects LLC, Odoo Community Association (OCA)",
```

### license

IT-Projects LLC uses following licences:

- "GPL-3" for odoo 8.0 and below
- "LGPL-3" for odoo 9.0 and above

For OCA's repositories use "AGPL-3".

### external\_dependencies

Check if some python library exists:

```
"external_dependencies": {"python" : ["openid"]}
```

Check if some system application exists:

```
"external_dependencies": {"bin" : ["libreoffice"]}
```

## 2.1.4 doc/changelog.rst

### Template

Use this for new modules

```
Changelog
=====

`1.0.0`
-----

- Init version
```

### Guidlines

```
Changelog
=====

`2.0.0`
-----

- ADD: absolutely new way of ..

`1.2.0`
-----

- ADD: new interface for ..

`1.0.1`
-----

- FIX: issue about ...
- FIX: another issue about ...

`1.0.0`
-----

- Init version
```

## 2.1.5 icon.png

File icon.png must be located at `/static/description/icon.png`

### IT-Projects LLC

Icons for IT-Projects LLC modules:

**TODO**

- *SaaS*
- *Mail*
- *Pos*
- *Website*
- *Website\_Sale*

## SaaS



[Download](#)

## Mail



[Download](#)

## Pos



[Download](#)



## Website



[Download](#)

## Website\_Sale



[Download](#)

## 2.1.6 RST format

Don't forget to keep correct rst format.

- *Extra lines*
- *References to menu*
- *Fields*
- *Buttons*
- *Selections*
- *Titles and sections*

### Extra lines

Dont' forget about additional lines for correct formatting

### Raw RST

```
This and next sentences are joined together.  
To split sentences to paragraphs you must add add empty line.  
  
Splited sentence 1.
```

Splited sentence 2.

Lists below doesn't rendered correctly, because extra line is required:

- \* 1
- \* 2
- \* 3

The same for sublist:

- \* 1
  - \* 1.1
  - \* 1.2
  - \* 1.3
- \* 2

Correctly formatted lists:

- \* 1
- \* 2
- \* 3
- 
- \* 3.1
  - \* 3.2
  - \* 3.3
- \* 4

## Rendered RST

This and next sentences are joined together. To split sentences to paragraphs you must add add empty line.

Splited sentence 1.

Splited sentence 2.

Lists below doesn't rendered correctly, because extra line is required: \* 1 \* 2 \* 3

The same for sublist:

- 1 \* 1.1 \* 1.2 \* 1.3
- 2

Correctly formatted lists:

- 1
- 2
- 3
  - 3.1
  - 3.2
  - 3.3
- 4

## References to menu

Use double back-quotes with **spaced** slash for menus:

```
OK:
* Open menu ``Settings / Parameters / System Parameters``

BAD
* Open menu ``Settings/Parameters/System Parameters``
* Open menu "Settings / Parameters / System Parameters"
* Open menu 'Settings / Parameters / System Parameters'
* Open menu ``Settings \ Parameters \ System Parameters``
```

## Fields

Use bold format for fields:

```
* Set Name and Date values
```

## Buttons

Use square brackets in double back-quotes to name buttons. Keep letter cases the same as in UI.

```
OK:
* click ``[Save]``

Bad:
* click ``[save]``
```

## Selections

Use arrow symbol -> to specify value in selection and many2one fields:

```
* Choose ``Partner -> Administrator``
```

## Titles and sections

```
OK:
=====
Correctly formatted Title
=====

Correctly formatted section
=====

BAD:
=====
No spaces at the beggining and end of title
=====

=====
No space at the end of title
=====
```

```
=====
Incorrect number of signs in title
=====

=====
Incorrect number of signs in title
=====

Incorrect number of signs in section
=====

Incorrect number of signs in section
=====
```

## 2.2 Guidelines

Source:

- <https://www.odoo.com/documentation/8.0/reference/guidelines.html>

### 2.2.1 Comments

First of all, comments in the source are required if it's not obvious **why** are doing something.

Additionally, you can add comments about **what** are you doing, if it could be helpful.

## 2.3 Odoo Python

### 2.3.1 Python decoratos

#### Original article

<http://odoo-new-api-guide-line.readthedocs.org/en/latest/decorator.html>

#### @api.one

api.one is meant to be used when method is called only on one record. It makes sure, that there are no multiple records when calling method with api.one decorator. Let say you got record partner = res.partner(1,). It is only one record and there is method for example (in res.partner):

```
@api.one
def get_name(self):
    return self.name #self here means one record
```

calling it like this works:

```
partner.get_name()
```

But if there would be more records, like:

```
partners = res.partner(1, 2,)
```

calling it, would raise Warning, telling you that you can only call it on one record.

## @api.multi

something. For example:

```
@api.multi
def get_partner_names(self):
    names = []
    for rec in self:
        names.append(rec.name)
    return ', '.join(names)
```

And `api.model` is considered to be used when you need to do something with model itself and don't need to modify/check some exact model's record/records. For example there could be method that returns some meta info about model's structure or some helper methods, etc. Also in documentation it is said that this api is good to use when migrating from old api, because it “politely” converts code to new api. Also in my own experience, if you need method to return something, model decorator is good for it. `api.one` returns empty list, so it might lead to unexpected behavior when using `api.one` on method when it is supposed to return something.

## 2.3.2 Pure Python

### Compare two arrays

```
a = set(pos_config_obj.floor_ids.ids) b = set(rec.floor_ids.ids) diff = a.difference(b)
```

## 2.3.3 res.config.settings

Based on [https://github.com/odoo/odoo/blob/9.0/openerp/addons/base/res/res\\_config.py](https://github.com/odoo/odoo/blob/9.0/openerp/addons/base/res/res_config.py)

`res.config.settings` is a base configuration wizard for application settings. It provides support for setting default values, assigning groups to employee users, and installing modules. To make such a ‘settings’ wizard, define a model like:

```
class my_config_wizard(osv.osv_memory):
    _name = 'my.settings'
    _inherit = 'res.config.settings'
    _columns = {
        'default_foo': fields.type(..., default_model='my.model'),
        'group_bar': fields.boolean(..., group='base.group_user', implied_group='my.group'),
        'module_baz': fields.boolean(...),
        'other_field': fields.type(...),
    }
```

The method `execute` (*Apply* button) provides some support based on a naming convention:

- For a field like `default_XXX`, `execute` sets the (global) default value of the field `XXX` in the model named by `default_model` to the field's value.
- For a boolean field like `group_XXX`, `execute` adds/removes ‘`implied_group`’ to/from the implied groups of ‘`group`’, depending on the field's value. By default ‘`group`’ is the group Employee. Groups are given by their xml id. The attribute ‘`group`’ may contain several xml ids, separated by commas.
- For a boolean field like `module_XXX`, `execute` triggers the immediate installation of the module named `XXX` if the field has value `True`.
- For the other fields, the method `execute` invokes all methods with a name that starts with `set_`; such methods can be defined to implement the effect of those fields.

The method `default_get` retrieves values that reflect the current status of the fields like `default_XXX`, `group_XXX` and `module_XXX`. It also invokes all methods with a name that starts with `get_default_`; such methods can be defined to provide current values for other fields.

## Example

This for `website.config.settings` but it is similar to `res.config.settings`:

```
class website_config_settings(models.TransientModel):
    _inherit = 'website.config.settings'
    nobill_noship = fields_new_api.Boolean("Pickup and pay at store")
    #When you press Apply
    def set_nobill_noship(self, cr, uid, ids, context=None):
        config_parameters = self.pool.get("ir.config_parameter")
        for record in self.browse(cr, uid, ids, context=context):
            config_parameters.set_param(cr, uid, "website_sale_checkout_store.nobill_noship", record
    #When page loads
    def get_default_nobill_noship(self, cr, uid, ids, context=None):
        nobill_noship = self.pool.get("ir.config_parameter").get_param(cr, uid, "website_sale_checkout
        return {'nobill_noship': nobill_noship}
#website_sale_checkout_store - is your module
```

## 2.3.4 Web controllers

### Send values to web page

If you need to transmit on rendering page some vars, you need to put that vars in dictionary and place it as second argument:

```
@http.route(['/shop/checkout'], type='http', auth="public", website=True)
def checkout(self, **post):
    ...
    values['order'] = order
    return request.website.render("website_sale.checkout", values)
```

## 2.3.5 x2many values filling

To fill or manipulate one2many or many2many field with according values (records) you need to use special command as says below.

This format is a list of triplets executed sequentially, where each triplet is a command to execute on the set of records. Not all commands apply in all situations. Possible commands are:

- **(0, \_, values)** adds a new record created from the provided **value** dict.
- **(1, id, values)** updates an existing record of id **id** with the values in **values**. Can not be used in `~.create`.
- **(2, id, \_)** removes the record of id **id** from the set, then deletes it (from the database). Can not be used in `~.create`.
- **(3, id, \_)** removes the record of id **id** from the set, but does not delete it. Can not be used on `~openerp.fields.One2many`. Can not be used in `~.create`.
- **(4, id, \_)** adds an existing record of id **id** to the set. Can not be used on `~openerp.fields.One2many`.
- **(5, \_, \_)** removes all records from the set, equivalent to using the command **3** on every record explicitly. Can not be used on `~openerp.fields.One2many`. Can not be used in `~.create`.

- **(6, \_, ids)** replaces all existing records in the set by the **ids** list, equivalent to using the command **5** followed by a command **4** for each **id** in **ids**. Can not be used on *~openerp.fields.One2many*.

---

**Note:** Values marked as **\_** in the list above are ignored and can be anything, generally **0** or **False**.

---

Taken from <https://github.com/odoo/odoo/blob/9.0/openerp/models.py>

## 2.4 XML

### 2.4.1 Create record of model

Create new record:

```
<openerp>
  <data>
    <record id="demo_multi_session" model="pos.multi_session">
      <field name="name">multi session demo</field>
    </record>
  </data>
</openerp>
```

If model exist it will be modified. Record creating in module it declared. To change model created in another module add mule name before id:

```
<openerp>
  <data>
    <record id="point_of_sale.pos_config_main" model="pos.config">
      <field name="multi_session_id" ref="demo_multi_session"/>
    </record>
  </data>
</openerp>
```

### 2.4.2 Xpath

#### Add some attributes to node

Code:

```
<xpath expr="//some/xpath" position="attributes">
  <attribute name="some_field">
</xpath>
```

Qweb expression:

```
<attribute name="t-att-another_field">website.get_another_field_value()</attribute>
```

After rendering it becomes regular attribute:

```
<.... another_field="value" ...>
```

#### Important

Inside of

```
<xpath expr="//some/xpath" position="attributes">
    ...
</xpath>
```

you can put **only** `<attribute name=` and nothing more.

### 2.4.3 Basic stuff

#### Call method of some model and put result in variable

Code:

```
<t t-set="order" t-value="website.sale_get_order()" />
```

Here *website* means you use `website=True` in controller. TODO my be wrong.

#### Get value of some setting `ir.config_parameter` and put it in variable

Code:

```
<t t-set="foobar" t-value="website.env['ir.config_parameter'].get_param('my_module.foobar')"/>
```

#### Show value of variable

Code:

```
<p><t t-esc="foobar"/></p>
```

#### Use variable in condition

Code:

```
<label t-if="foobar">
    <p>foobar is true</p>
</label>
```

#### Get variable transmitted by `render()` in XML template

Code:

```
t-att-value="my_var"
```

`my_var` is element of ‘values’ dictionary (second argument of `render()`).

### 2.4.4 Inherit

#### Collisions and priority

If two or more xml templates inherit same parent template they can have same priorities. It may produce conflicts and unexpected behavior. What you need is just set priority explicitly in your template:



```

<template id="..." inherit_id="..." priority="8" ..>
    <xpath expr="..." position="...">
        ...
    </xpath>
</template>

<!-- or -->

<record id="..." model="ir.ui.view">
    ...
    <field name="inherit_id" ref="..." />
    <field name="priority" eval="8" />
    <field name="arch" type="xml">
        <xpath expr="..." position="...">
            ...
        </xpath>
    </field>
</record>

```

Less priority means prior execution.

Default priority is 16.

## 2.5 HTML

### 2.5.1 Active elements

#### Link-button that calls controller

Code:

```

<form action="/shop/checkout" name="myform" method="post">
    <a class="btn btn-primary a-submit">My button</a>
</form>

```

Here action="/shop/checkout" sets controller address. Class a-submit usually means do what in 'action' of form.

#### Submit with button

Code:

```

<form action="/my_page" name="myform" method="post">
    <button type="submit" class="btn btn-default">My button</button>
</form>

```

Wherein in controller in \*\*post will be available some values from source form, those like <input/>.

## 2.6 CSS

### 2.6.1 CSS tips and tricks

#### Add your css on template

Code:

```
<template id="my_module_frontend" name="my_module assets" inherit_id="website_sale.assets_frontend">
  <xpath expr="//link[@rel='stylesheet']" position="after">
    <link rel="stylesheet" href="/my_module/static/src/css/main.css"/>
  </xpath>
</template>
```

*website\_sale.assets\_frontend* is what you inherits.

## Hide fields

Hide all children (that have attribute bill='1') of oe\_website\_sale class owner (that have attribute bill\_enabled='0'):

```
.oe_website_sale[bill_enabled='0'] [bill='1'] {
    display:none;
}
```

## 2.7 YAML

### 2.7.1 Pure YAML

TODO

### 2.7.2 YAML in odoo

TODO

## 2.8 Javascript

### 2.8.1 Inheritance

TODO

### 2.8.2 POS screen widget subclassing and modifying

To create new screen widget (via the extend() method) or to modify existing screen widget (via the include() method) you need the target class. Usually you can get this class using following code:

```
odoo.define('module_name.file_name', function (require) {
    "use strict";

    var screens = require('point_of_sale.screens');

    screens.OrderWidget.include({
        ...
    });
});
```

But it is available only for widgets that are returned by main function in the file “point\_of\_sale/static/src/js/screens.js”.

**List of the screens:**

- ReceiptScreenWidget

- ActionButtonWidget
- define\_action\_button
- ScreenWidget
- PaymentScreenWidget
- OrderWidget
- NumpadWidget
- ProductScreenWidget
- ProductListWidget

In other cases you can get targeted screen widget class using following code:

```
odoo.define('module_name.file_name', function (require) {
    "use strict";

    var gui = require('point_of_sale.gui');

    gui.Gui.prototype.screen_classes.filter(function(el) { return el.name == 'clientlist'})[0].widget.in
    ...
});
```

## 2.9 Frontend

### 2.9.1 Web page

#### Common

Open a new project:

```
./odoo.py scaffold newpage addons
```

Add website as a dependency to newpage:

```
'depends': ['website']
```

then add the website=True flag on the controller, this sets up a few new variables on the request object and allows using the website layout in our template.

#### Creating pages

##### 1 way

Write the following code in controllers.py:

```
from openerp import http
class NewPage(http.Controller):
    @http.route('/new-page/', auth='public', website=True)
    def index(self, **kw):
        return http.request.render('newpage.index')
```

The new web page will appear by adding - /new-page/ http.request.render('newpage.index') - downloading a template for a new page

A pattern templates.xml

```
<openerp>
  <data>
    <templateid="index">
      <t t-call="website.layout">
        <t t-set="title">New page</t>
        <div class="oe_structure">
          <div class="container">
            <h1>My first web page</h1>
            <p>Hello, world!</p>
          </div>
        </div>
      </t>
    </template>
  </data>
</openerp>
```

`website.layout` means that the elements of pattern `website` are used.

After restarting the server while updating the module (in order to update the manifest and template) access <http://localhost:8069/new-page/>. You will see a new page with a title *'My first web page'* and with text *'Hello, world!'*

## 2 way

Write in pattern the following:

```
<template name="Services page" id="website.services" page="True">
  <t t-call="website.layout">
    <div id="wrap">
      <div class="container">
        <h1>Our Services</h1>
        <ul class="services">
          <li>Cloud Hosting</li>
          <li>Support</li>
          <li>Unlimited space</li>
        </ul>
      </div>
    </div>
  </t>
</template>
```

`page="True"` creates a page as follows below: <http://localhost:8069/page/services/>

If add in `view.xml`:

```
<record id="services_page_link" model="website.menu">
  <field name="name">Services</field>
  <field name="url">/page/services</field>
  <field name="parent_id" ref="website.main_menu" />
  <field name="sequence" type="int">99</field>
</record>
```

This code will add a link to the main menu.

## 2.10 Point of Sale (POS)

### 2.10.1 Add new field in the model of POS module

To add new field in POS modules necessary in models.js override PosModel in the parent models which we take from “point\_of\_sale.models”. For example:

```
var models = require('point_of_sale.models');
var _super_posmodel = models.PosModel.prototype;

models.PosModel = models.PosModel.extend({
  initialize: function (session, attributes) {
    // New code
    var partner_model = _.find(this.models, function (model) {
      return model.model === 'product.product';
    });
    partner_model.fields.push('qty_available');

    // Inheritance
    return _super_posmodel.initialize.call(this, session, attributes);
  },
});
```

### 2.10.2 JS access and inheritance

#### action\_button

Here you will find explanation of how to get/inherit action\_button POS objects.

For example we have definition in [this file](#):

```
odoo.define('pos_reprint.pos_reprint', function (require) {
  ...
  screens.define_action_button({
    'name': 'guests',
    'widget': TableGuestsButton,
    'condition': function()
```

This definition doesn’t return class ReprintButton. So, we cannot inherit it in a usual way.

In order to reach that object we need get instance of it using gui. Then we can inherit it

To make clear what this is like look up example where guests number button renderings:

```
this.gui.screen_instances['products'].action_buttons['guests'].renderElement();
```

While you can make call and even replace function with new one, you are not able to make inheritance via extend or include functions. It’s because we cannot reach Class and only get access to instance of that class.

This kind of approach make sense only for those widgets:

```
DiscountButton
ReprintButton
TableGuestsButton
SubmitOrderButton
OrderlineNoteButton
PrintBillButton
```

```
SplitbillButton  
set_fiscal_position_button
```

## 2.11 Access

### 2.11.1 Security tutorial

**Resources:**

- [http://odoo-docs.readthedocs.org/en/latest/04\\_security.html](http://odoo-docs.readthedocs.org/en/latest/04_security.html)
- <https://www.odoo.com/documentation/9.0/howtos/backend.html#security>
- <https://www.odoo.com/documentation/9.0/reference/security.html>

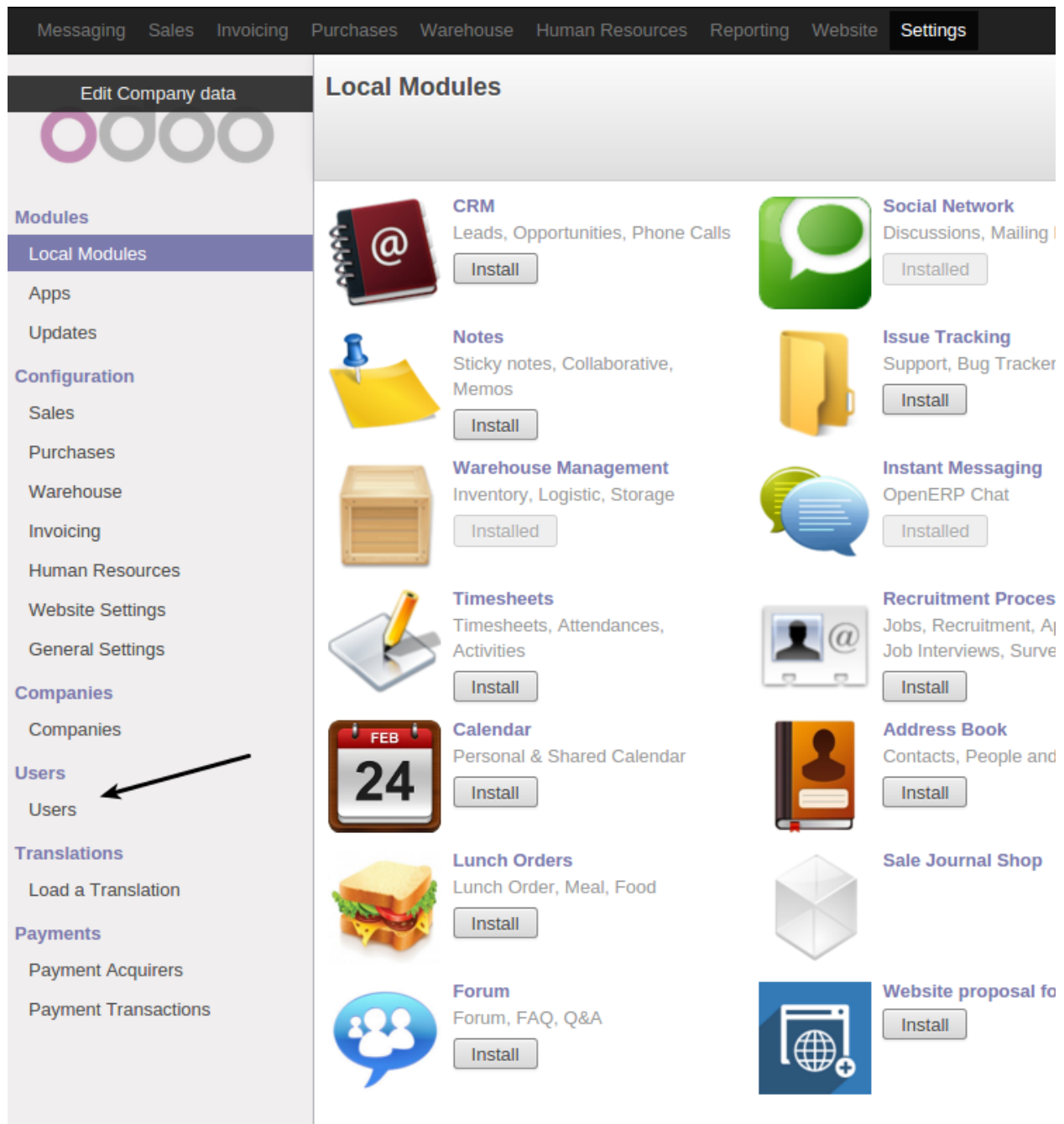
Odoo is very flexible on the subject of security. We can control what users can do and what they cannot on different levels. Also we can control independently each of the four basic operations: read, write, create, unlink. I.e. allow only read, allow only create, grant permission to create or delete only.

**On fields/menu level we can:**

- hide fields or menus for some users and show them for others
- make fields readonly for some users and make them editable for others
- show different variants to pick on the Selection fields for different users

On the fields level of security `res.users` and `res.groups` models are used. These models relate to each other as many2many. This means that a user can be a member of many groups and one group can be assigned to many users.

One example of how we can hide menu in regard to current user's groups is the following.



On the picture above in Settings / Users we can see only Users menu. We know that there should be Groups menu also. Let Us see in `./openerp/addons/base/res/res_users_view.xml` on the point of how menuitem can be hidden.

```
<record id="action_res_groups" model="ir.actions.act_window">
  <field name="name">Groups</field>
  <field name="type">ir.actions.act_window</field>
  <field name="res_model">res.groups</field>
  <field name="view_type">form</field>
  <field name="help">A group is a set of functional areas that will be assigned to the
    user in order to give them access and rights to specific applications and tasks in
    the system. You can create custom groups or edit the ones existing by default
```

```

    in order to customize the view of the menu that users will be able to see. Whether
    they can have a read, write, create and delete access right can be managed from here.
</field>
</record>
<menuitem action="action_res_groups" id="menu_action_res_groups" parent="base.menu_users"
groups="base.group_no_one"/>

```

The groups attribute in the menuitem element shows us that only the members of base.group\_no\_one group can see the Groups menu item. The base.group\_no\_one xmlid is defined in the ./openerp/addons/base/security/base\_security.xml as follows.

```

<record model="res.groups" id="group_erp_manager">
    <field name="name">Access Rights</field>
</record>
<record model="res.groups" id="group_system">
    <field name="name">Settings</field>
    <field name="implied_ids" eval="[(4, ref('group_erp_manager'))]" />
    <field name="users" eval="[(4, ref('base.user_root'))]" />
</record>

<record model="res.groups" id="group_user">
    <field name="name">Employee</field>
    <field name="users" eval="[(4, ref('base.user_root'))]" />
</record>

<record model="res.groups" id="group_multi_company">
    <field name="name">Multi Companies</field>
</record>

<record model="res.groups" id="group_multi_currency">
    <field name="name">Multi Currencies</field>
</record>

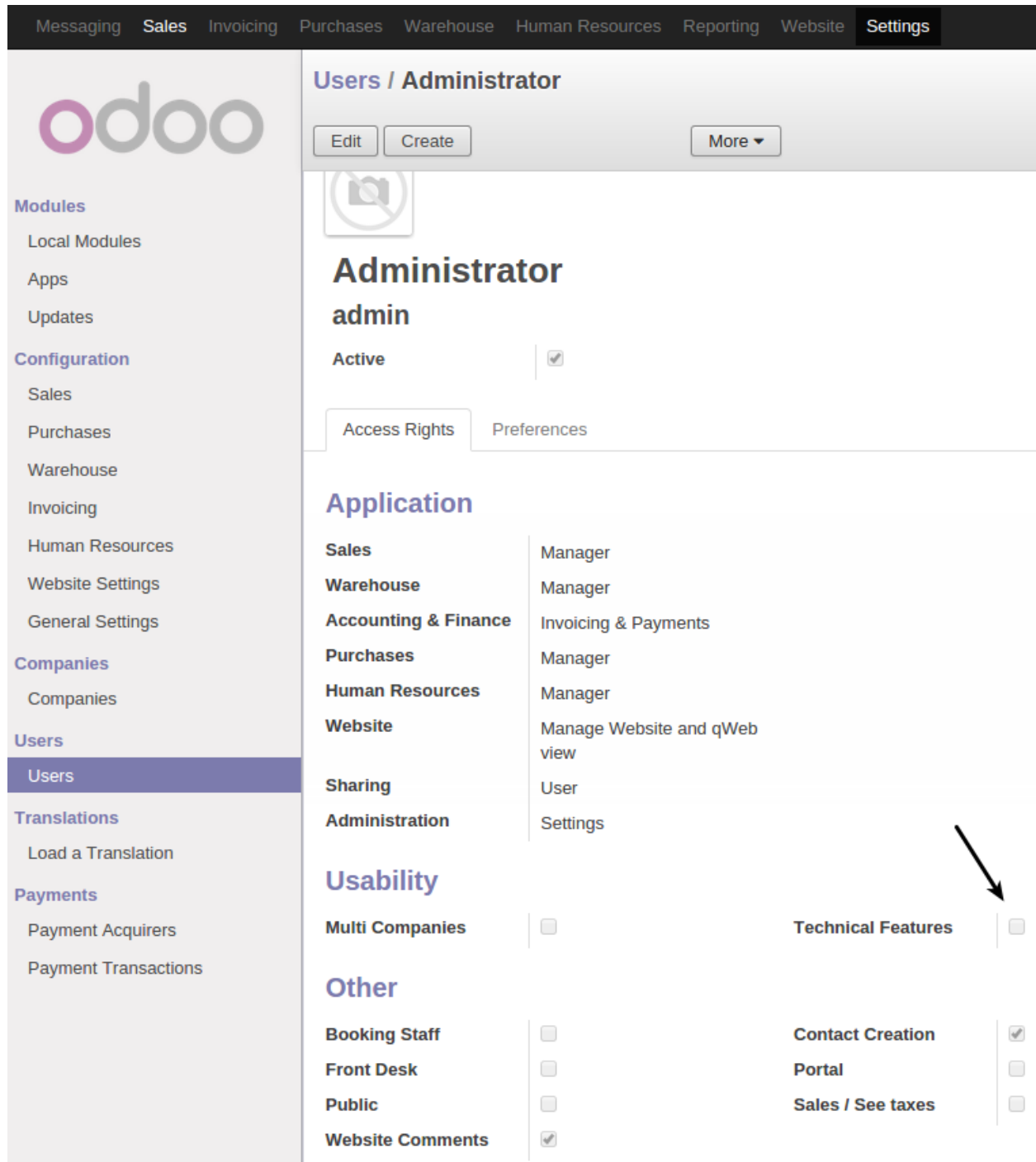
<record model="res.groups" id="group_no_one">
    <field name="name">Technical Features</field>
</record>

<record id="group_sale_salesman" model="res.groups">
    <field name="name">User</field>
</record>
<record id="group_sale_manager" model="res.groups">
    <field name="name">Manager</field>
    <field name="implied_ids" eval="[(4, ref('group_sale_salesman'))]" />
</record>

```

Here we can see the group\_no\_one along with the other base groups. Note that group\_no\_one has Technical Features name. Let us include our user in the Technical Features group. Since we have no access to the Groups menu item, the only way we can do it is from the Users menu item. See the picture below.





**Users / Administrator**

**Administrator**  
admin

Active ☒

Access Rights | Preferences

**Application**

Sales	Manager
Warehouse	Manager
Accounting & Finance	Invoicing & Payments
Purchases	Manager
Human Resources	Manager
Website	Manage Website and qWeb view
Sharing	User
Administration	Settings

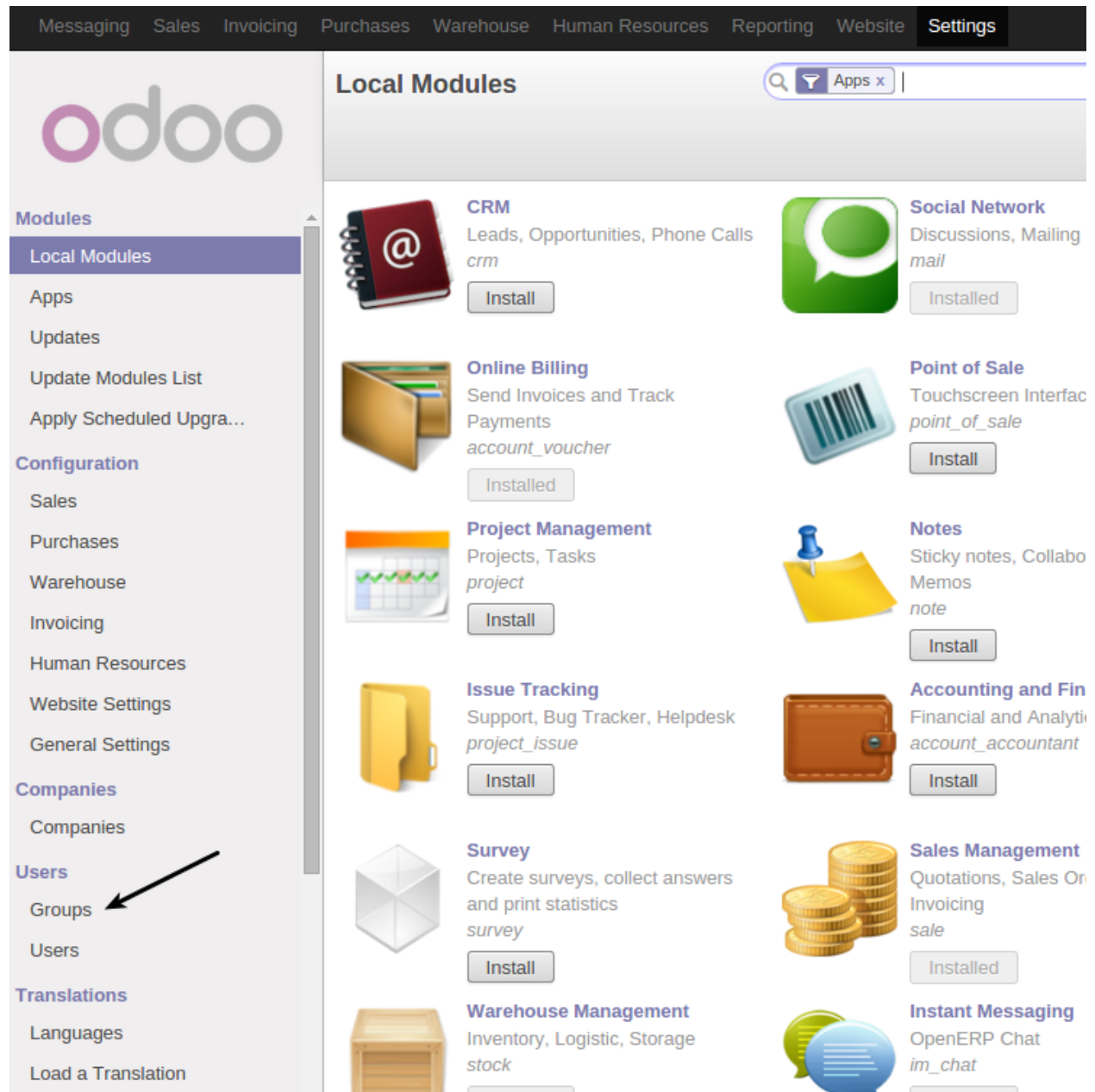
**Usability**

Multi Companies	<input type="checkbox"/>	Technical Features	<input type="checkbox"/>
-----------------	--------------------------	--------------------	--------------------------

**Other**

Booking Staff	<input type="checkbox"/>	Contact Creation	<input checked="" type="checkbox"/>
Front Desk	<input type="checkbox"/>	Portal	<input type="checkbox"/>
Public	<input type="checkbox"/>	Sales / See taxes	<input type="checkbox"/>
Website Comments	<input checked="" type="checkbox"/>		

Check the Technical Features box and reload odoo. Now we can see the Groups menu item!



From Settings / Users / Groups we can see a list of existing groups. Here we also can assign users for groups.

## Hide fields

In the `./openerp/addons/base/res/res_users_view.xml` we can see the `view_users_simple_form` view. Note here that the `company_id` field is visible only for members of the `base.group_multi_company_group`.

```
<!-- res.users -->
<record id="view_users_simple_form" model="ir.ui.view">
  <field name="name">res.users.simplified.form</field>
  <field name="model">res.users</field>
  <field name="priority">1</field>
```

```

<field name="arch" type="xml">
  <form string="Users">
    <sheet>
      <field name="id" invisible="1"/>
      <div class="oe_form_box_info oe_text_center" style="margin-bottom: 10px" attrs="{ 'invisible': [ ('id', '>', 0)] }"/>
        You are creating a new user. After saving, the user will receive an invite email
      </div>
      <field name="image" widget='image' class="oe_avatar oe_left" options='{ "preview_image": true }'/>
      <div class="oe_title">
        <label for="name" class="oe_edit_only"/>
        <h1><field name="name"/></h1>
        <field name="email" invisible="1"/>
        <label for="login" class="oe_edit_only" string="Email Address"/>
        <h2>
          <field name="login" on_change="on_change_login(login)"
            placeholder="email@yourcompany.com"/>
        </h2>
        <label for="company_id" class="oe_edit_only" groups="base.group_multi_company"/>
        <field name="company_id" context="{ 'user_preference': 0 }" groups="base.group_multi_company"/>
      </div>
      <group>
        <label for="groups_id" string="Access Rights"
          attrs="{ 'invisible': [ ('id', '>', 0)] }"/>
        <div attrs="{ 'invisible': [ ('id', '>', 0)] }">
          <field name="groups_id" readonly="1" widget="many2many_tags" style="display: inline-block; width: 100%; height: 20px; border: 1px solid #ccc; border-radius: 3px; vertical-align: middle; margin-bottom: 5px;"/>
        </div>
        <field name="phone"/>
        <field name="mobile"/>
        <field name="fax"/>
      </group>
    </sheet>
  </form>
</field>
</record>

```

Our current user is Administrator. By default he is not a member of the `base.group_multi_company` group. That is why the `company_id` isn't visible for him on the form.

Change My Preferences

**Administrator**

[Change password](#)

Language: English Timezone: Asia/Yekaterinburg

Default Sales Team:

**Email Preferences**

Receive Inbox Notifications by Email: ☒ Never ☐ All Messages

Email: admin@example.com

Signature: -- Administrator

Save or Cancel

### Model records:

- restrict access to specified subset of records in model

### Model:

- restrict access to all records of model

## 2.12 Hooks

## 2.13 Tests

### 2.13.1 Basic python tests

This tests runs with `--test-enable` key. You can create records and call module methods and do some assertions.

To make some tests do next steps:

- Create folder named `tests`
- Add `__init__.py` file
- Create file that name begins from `test_`
- Add test methods than names start from `test_`

Example (will result testing error):

```
from openerp.tests.common import TransactionCase
class test_message_count(TransactionCase):
    post_install = True
    def test_count(self):
        self.assertEqual(1, 0)
```

## 2.13.2 JS Testing

### Regular phantom JS tests

For automatic web tests odoo uses phantom\_js. You can test you module web mechanics behavior using phantom js.

What you need is:

- Install phantom. *sudo apt-get install phantomjs*
- Create folder named **tests**
- Add `__init__.py` file
- Create file that name begins from **test\_**
- Add test methods than names start from **test\_**

Example:

```
import openerp.tests

@openerp.tests.common.at_install(False)
@openerp.tests.common.post_install(True)
class TestUi(openerp.tests.HttpCase):
    def test_01_mail_sent(self):
        # wait till page loaded and then click and wait again
        code = """
            setTimeout(function () {
                $(".mail_sent").click();
                if (location.href.indexOf('channel_sent')!==-1) {
                    throw new Error('Already on channel_sent.');
```

You need to call phantom\_js and give to it arguments:

- Starting url
- JS code intended for execution
- Ready criteria. Some JS object that indicates preparedness of web page. In 9.0 it may be `odoo.define('mail_archives.archives' ...`

- User name

Use throw new Error('Error text'); for errors handling.

### JS phantom tests using Tours

It is possible to run js phantom tests using Tour as JS testing code. To run test automatically after installing module you will need:

- Install phantomjs if dont have yet
- Inject *JS Tour* file on web page
- Create test as described higher
- Call tour

Call tour example:

```
class TestUi(odoo.tests.HttpCase):
    def test_01_res_partner_mails_to_count(self):
        self.phantom_js('/', "openerp.Tour.run('mails_count_tour', 'test')", "openerp.Tour.tours.ma
```

Also odoo must be started with **-d**, **-test-enable** and without **db-filter**, **workers**. If assumes ti run test only on install or update use **-i** or **-u**. Werkzeug must be 0.11.5 or higher.

Look up js tour page for details.

### 2.13.3 Paypal testing

To test paypal payments you need to:

- Create developer account
- Add seller and buyer in developer sandbox
- Configure odoo
- Directly testing

#### Create developer account

Go to <https://developer.paypal.com/> and create new account.

#### Add seller and buyer

- Go to **Dashboard->Sand box->Accounts**. Create business (seller) and personal (buyer) accounts.
- Add some money to buyer (type amount in according field).
- Go to <http://sandbox.paypal.com> and login as seller. May be you will be forced to apply unconfirmed ssl certificate.
- Go to **Profile**.
- Copy *protected seller code*.

## Configure odoo

- Install **payment\_paypal** module
- Go to **Settings->Payments->Payments->Paypal**.
- Pres **Edit**.
- Enter here **Paypal Email ID** - it is *seller* account (like `seller@mail.ru`).
- Enter **Paypal Merchant ID** - paste *protected seller code*.

## Directly testing

Open web shop. Buy some goods and pay with paypal. When you will be redirected on paypal page use *buyer* login and password.

## 2.14 Debugging

### 2.14.1 Logs

There are several places where you can get logs.

It's better to activate developer (debug) mode in browser when you are looging for logs.

- *Error Message*
- *Terminal*
- *Console*
  - *boot.js*
- *Sources*
- *Network*
  - *How to see html request initiator*

### Error Message

It's a first place where you can see error message. But in most time, it doesn't contain enough information to resolve problem. Check other possbile ways to get log messages below.

### Terminal

It's a place where you run odoo.

Any errors related to python can be found here

### Console

It's a short term for browser's console. Click F12 in browser to open console.

It can contain error and warning about client part.

## boot.js

Example is here: [Failed modules](#)

## Sources

Allows you to check which client side files are loaded and which are not. To do this:

1. Turn on debug mode in the url.
2. Open Developer tools (F12), go to the Sources tab and reload page.
3. Open left panel (if it is not open yet) and search interested app.

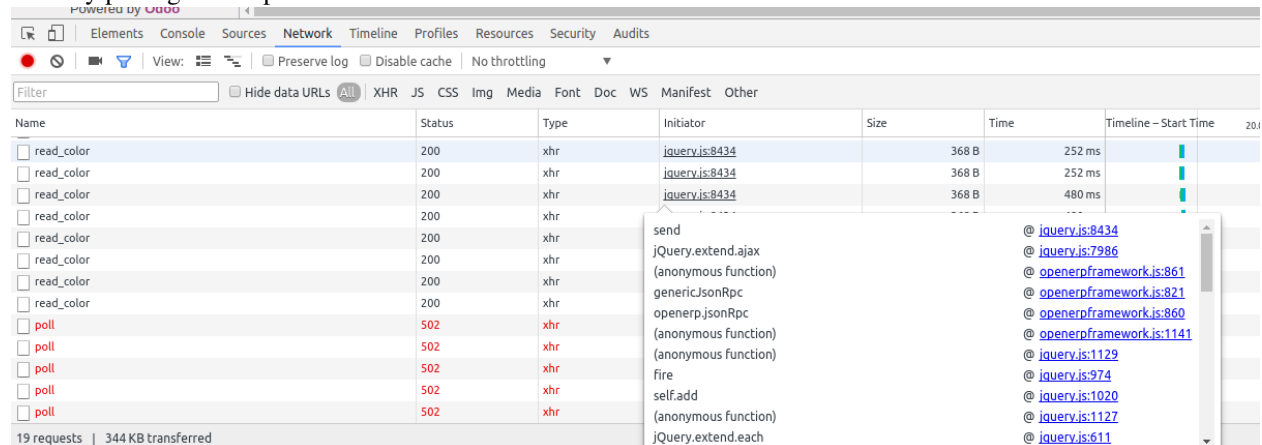
Example: [Missing dependencies error in console](#)

## Network

Sometime error are not printed neither in Terminal, nor in Console. Then you can try to find some logs at Network tab of browser's developer tool. To see original odoo js files i.e. not minimized versions, [swich odoo in debug mode](#) first.

### How to see html request initiator

Suppose we want to know which part of our script initiate the request. If it is javascript we could see full program stack by putting mouse pointer on the initiator column's element.



Name	Status	Type	Initiator	Size	Time	Timeline - Start Time
read_color	200	xhr	jQuery.js:8434	368 B	252 ms	
read_color	200	xhr	jQuery.js:8434	368 B	252 ms	
read_color	200	xhr	jQuery.js:8434	368 B	480 ms	
read_color	200	xhr				
read_color	200	xhr				
read_color	200	xhr				
read_color	200	xhr				
read_color	200	xhr				
poll	502	xhr	send			
poll	502	xhr	jQuery.extend.ajax			
poll	502	xhr	(anonymous function)			
poll	502	xhr	genericJsonRpc			
poll	502	xhr	openerp.jsonRpc			
poll	502	xhr	(anonymous function)			
poll	502	xhr	fire			
poll	502	xhr	self.add			
poll	502	xhr	(anonymous function)			
poll	502	xhr	jQuery.extend.each			

19 requests | 344 KB transferred

Call stack for @ jQuery.js:8434:

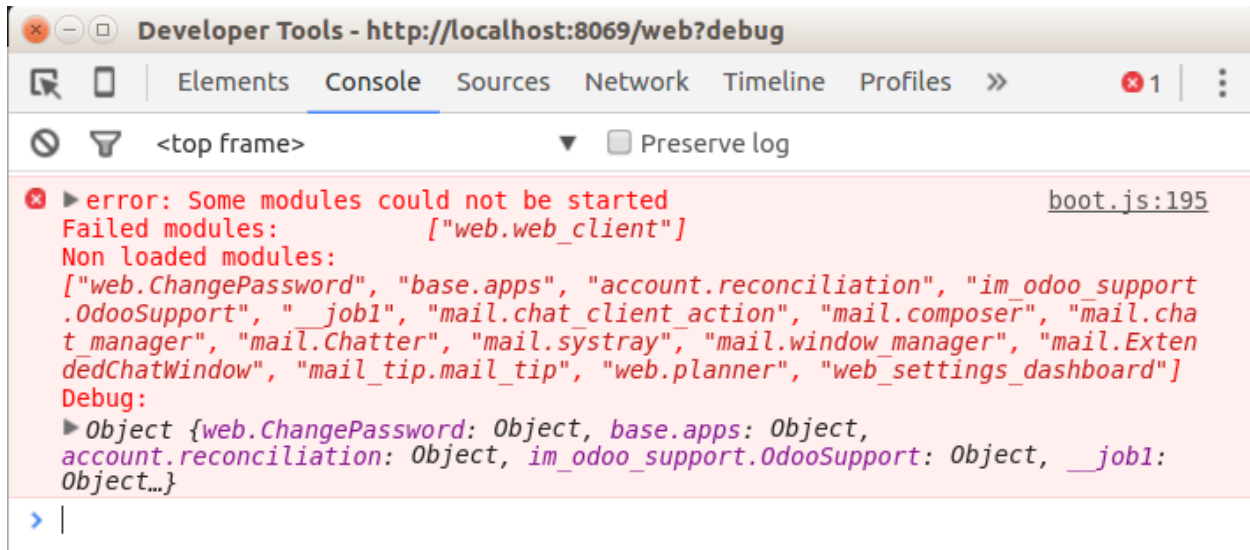
- @ jQuery.js:8434
- @ jQuery.js:7986
- @ openerpframework.js:861
- @ openerpframework.js:821
- @ openerpframework.js:860
- @ openerpframework.js:1141
- @ jQuery.js:1129
- @ jQuery.js:974
- @ jQuery.js:1020
- @ jQuery.js:1127
- @ jQuery.js:611

## 2.14.2 Typical errors

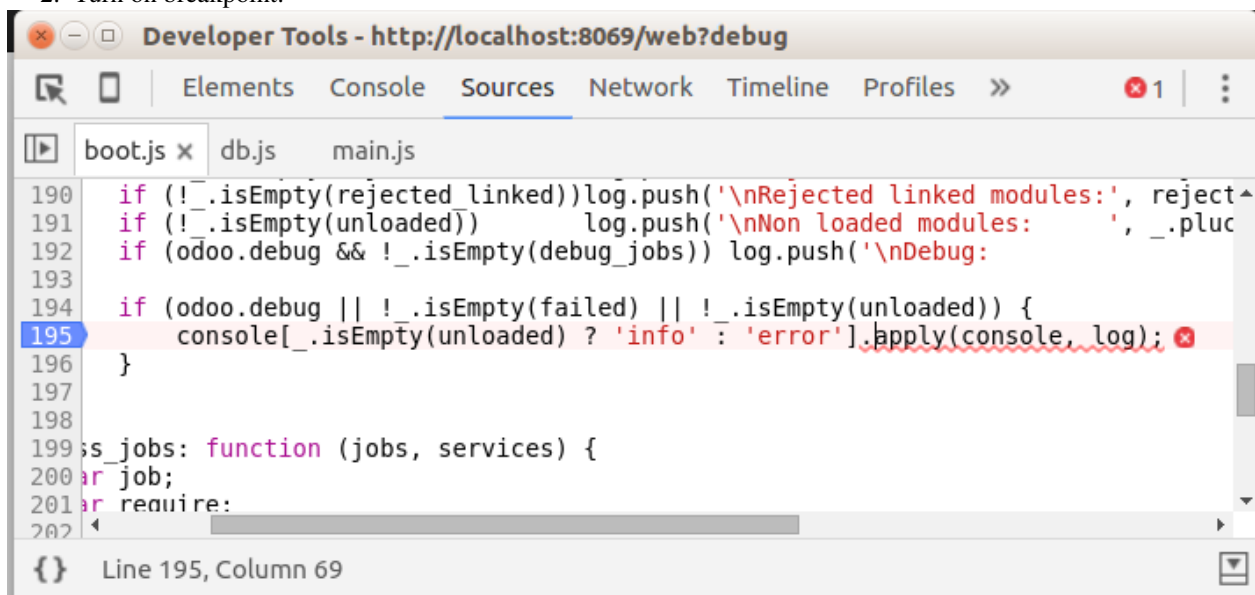
### Error: Failed modules

If into server console no errors but boot.js raise exception that find out reason error next steps:





1. Go to error line into boot.js.
2. Turn on breakpoint.



3. Rerun script (click F5)
4. When script stop on error line move to console.
5. Type command:

```
failed[0].error
```

6. To receive the output

The screenshot shows the Chrome Developer Tools Console with the 'Console' tab selected. The error message is: `TypeError: Cannot read property 'PosDB' of undefined`. The stack trace indicates the error occurred in `pos_pricelist_db` at `http://localhost:8069/pos_pricelist/static/src/js/db.js:20:26`. The console also shows the `failed[0]` object and the `failed[0].error` property.

```

> failed[0]
< ▶ Object {name: "web.web_client", deps: Array[1], error: TypeError: Cannot read
property 'PosDB' of undefined at pos pricelist db (http://localhost:8069/...}
> failed[0].error
< TypeError: Cannot read property 'PosDB' of undefined
    at pos_pricelist_db
    (http://localhost:8069/pos_pricelist/static/src/js/db.js:20:26)
    at openerp.pos_pricelist
    (http://localhost:8069/pos_pricelist/static/src/js/main.js:20:5)
    at start_modules
    (http://localhost:8069/web/static/src/js/compatibility.js:179:13)
    at OdooClass.WebClient.include.init
    (http://localhost:8069/web/static/src/js/compatibility.js:131:9)
    at OdooClass.init
    (http://localhost:8069/web/static/src/js/framework/class.js:122:38)
    at OdooClass.Class
    (http://localhost:8069/web/static/src/js/framework/class.js:106:33)
    at http://localhost:8069/web?debug:420:54
    at process_job (http://localhost:8069/web/static/src/js/boot.js:210:44)
    at Object.window.odoo.process_jobs
    (http://localhost:8069/web/static/src/js/boot.js:252:17)
    at Object.window.odoo.define
    (http://localhost:8069/web/static/src/js/boot.js:140:18)
> |

```

## Error: Missing dependencies

For example, sometimes during page load displayed the error type:

Missing dependencies: [...] Non loaded modules: [...]

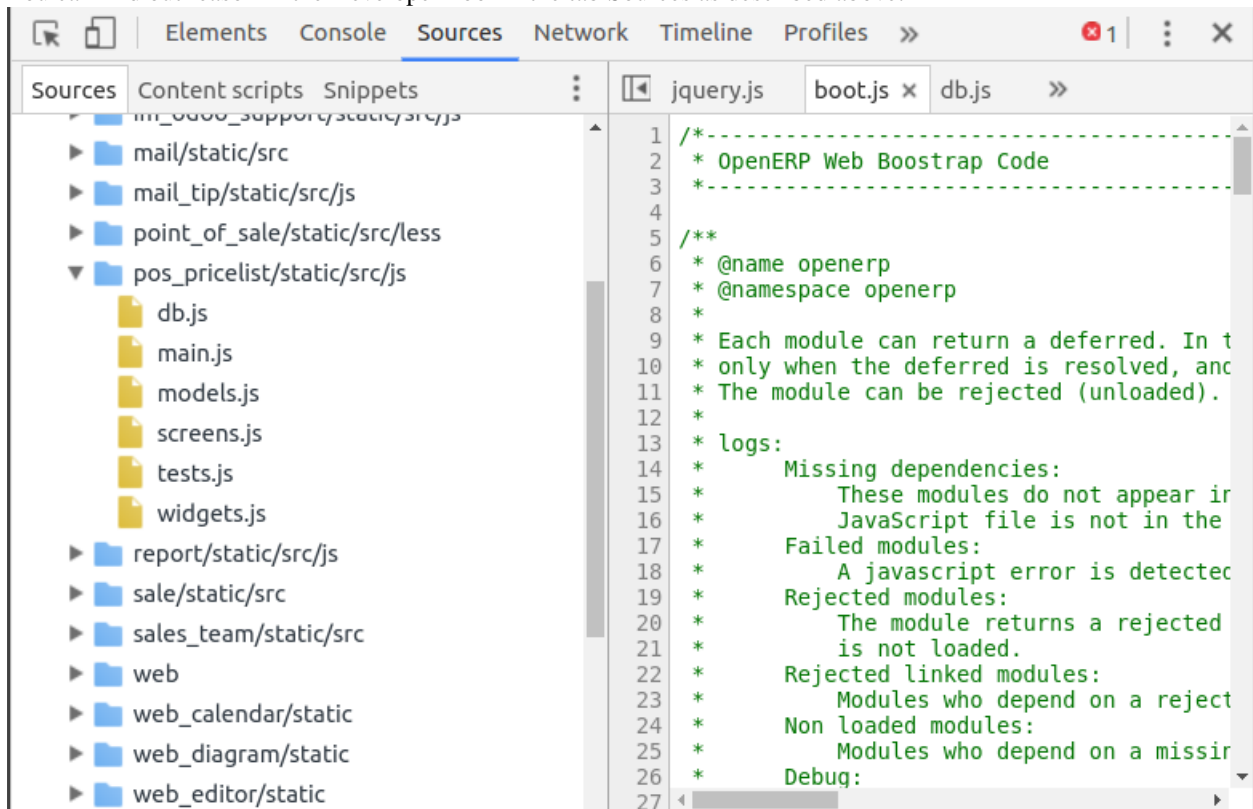
The screenshot shows the Chrome Developer Tools Console with the 'Console' tab selected. The warning message is: `warning: Some modules could not be started`. The console also shows the `Missing dependencies:` and `Non loaded modules:` lists. The `Debug:` section shows the `Object` structure for `pos_pricelist`.

```

⚠ warning: Some modules could not be started boot.js:195
Missing dependencies:
["point_of_sale.DB", "pos_pricelist.models_objects", "point_of_sale.gui",
"point_of_sale.BaseWidget", "point_of_sale.screens"]
Non loaded modules:
["pos_pricelist.DB", "pos_pricelist.models", "pos_pricelist.widgets",
"pos_pricelist.screens"]
Debug:
▶ Object {pos_pricelist.DB: Object, pos_pricelist.models: Object,
pos_pricelist.widgets: Object, pos_pricelist.screens: Object}
> |

```

You can find out reason in the Developer Tool in the tab Sources as described above.



Likely you can not find files included in the Missing dependencies list. Then you need to check they are included in the view (.xml) files.

### 2.14.3 QWeb

The javascript QWeb implementation provides a few debugging hooks:

**t-log** takes an expression parameter, evaluates the expression during rendering and logs its result with `console.log`:

```
<t t-set="foo" t-value="42"/>
<t t-log="foo"/>
```

will print 42 to the console

**t-debug** triggers a debugger breakpoint during template rendering:

```
<t t-if="a_test">
  <t t-debug="">
</t>
```

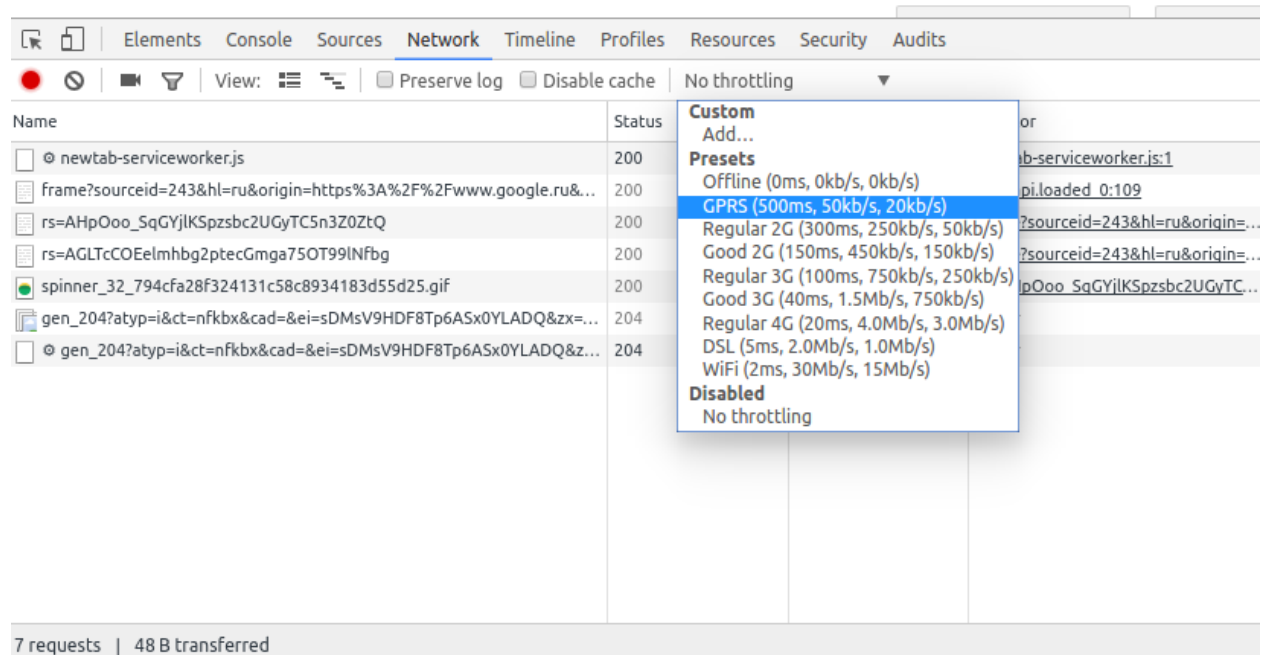
will stop execution if debugging is active (exact condition depend on the browser and its development tools)

**t-js** the node's body is javascript code executed during template rendering. Takes a `context` parameter, which is the name under which the rendering context will be available in the `t-js`'s body:

```
<t t-set="foo" t-value="42"/>
<t t-js="ctx">
  console.log("Foo is", ctx.foo);
</t>
```

Source

## 2.14.4 Emulation of slow internet connections in browser



## 2.15 Source Diving

Source Diving is a way to find answers to your questions.

### 2.15.1 Source Diving Cases

This section contains live examples of source diving.

Each case contains problem description and possible solutions. Use problems as exercises and solutions as manual.

#### Guidelines

Use template below for new cases

```

=====
CASE NAME
=====

Context
=====

What we have. E.g. some module, or out-of-box odoo version 8.0

* LINK1
* LINK2

Problem
    
```

```

=====

What we need to do. E.g. port module to 9.0

* LINK1
* LINK2

Solution
=====

:doc:`Possible solution <./answers/CASE_NAME>`

```

### 2.15.2 Overview: “Transformed the method”

Quite often when porting a module from 8.0 to 9.0 there is a situation, when 8.0 is a object, but there is no 9.0. And it is not clear - it is outdated and it was removed or it was renamed. In very advanced cases, an object can be renamed and changed almost beyond recognition.

To search you need to take several steps:

1. The default view that such an object exist, but it was renamed.
2. Look, what makes this object.
3. Search by name of methods that contains the given object, excluding common words (for example, init, start, destroy...).
4. If the result is not found that search by unique keywords which can be found by bringing the object.
5. If anything gave no results, then maybe the object is deleted as obsolete.

Case

Possible solution

### 2.15.3 Case: “Transformed the method”

#### Context

When porting module `mail_move_message` in the file `static/src/js/mail_move_message.js` there is a method `session.web.form.FormOpenPopup(this)`.

#### Problem

In 9.0 not found such object. What object would be the analogue of the object? What you need to do to find this object?

#### Solution

Possible solution

## 2.16 Other

### 2.16.1 Dynamic records

While XML allows you create only *static* records, there is a way to create record dynamically via python code. You need dynamic records, for example, to add support both for enterprise and community releases or to add some records to each company in database etc.

There several ways to execute code on installation:

- TODO
- TODO
- TODO

The problem with dynamic records is that odoo considers such records as ones, which were in xml files, but now deleted. It means that odoo will delete such dynamic records right after updating. There are two ways to resolve it.

#### noupdate=False

Simply add update=True to your `ir.model.data` record:

```
debt_account = registry['account.account'].create(cr, SUPERUSER_ID, {
    'name': 'Debt',
    'code': 'XDEBT',
    'user_type_id': registry.get('ir.model.data').get_object_reference(cr, SUPERUSER_ID, 'account',
    'company_id': company.id,
    'note': 'code "XDEBT" should not be modified as it is used to compute debt',
})
registry['ir.model.data'].create(cr, SUPERUSER_ID, {
    'name': 'debt_account_' + str(company.id),
    'model': 'account.account',
    'module': 'pos_debt_notebook',
    'res_id': debt_account,
    'noupdate': True, # If it's False, target record (res_id) will be removed while module update
})
```

#### noupdate=True

If for some reason you cannot use `noupdate=False`, you can use following trick.

Here is the example from `web_debranding` module. To create records in `ir.model.data` we use name `_web_debranding`. Then odoo will consider such records as belonging to another module (`_web_debranding`) and will not delete them. But it also means, that odoo will not delete them after uninstalling. For later case, we need to use `uninstall_hook`.

**Contents**

- *Dynamic records*
  - *noupdate=False*
  - *noupdate=True*
    - \* *python file*
    - \* *yaml file*
    - \* *\_\_openerp\_\_.py*
    - \* *\_\_init\_\_.py*

**python file**

```

from openerp import SUPERUSER_ID, models, tools, api

MODULE = '_web_debranding'

class view(models.Model):
    _inherit = 'ir.ui.view'

    def _create_debranding_views(self, cr, uid):

        self._create_view(cr, uid, 'menu_secondary', 'web.menu_secondary', ''
        <xpath expr="//div[@class='oe_footer']" position="replace">
            <div class="oe_footer"></div>
        </xpath>''')

    def _create_view(self, cr, uid, name, inherit_id, arch, nouupdate=False, type='qweb'):
        registry = self.pool
        view_id = registry['ir.model.data'].xmlid_to_res_id(cr, SUPERUSER_ID, "%s.%s" % (MODULE, name))
        if view_id:
            registry['ir.ui.view'].write(cr, SUPERUSER_ID, [view_id], {
                'arch': arch,
            })
            return view_id

        try:
            view_id = registry['ir.ui.view'].create(cr, SUPERUSER_ID, {
                'name': name,
                'type': type,
                'arch': arch,
                'inherit_id': registry['ir.model.data'].xmlid_to_res_id(cr, SUPERUSER_ID, inherit_id),
            })
        except:
            import traceback
            traceback.print_exc()
            return

        registry['ir.model.data'].create(cr, SUPERUSER_ID, {
            'name': name,
            'model': 'ir.ui.view',
            'module': MODULE,
            'res_id': view_id,
            'nouupdate': nouupdate,
        })
        return view_id

```

yaml file

```
-  
!python {model: ir.ui.view}: |  
    self._create_debranding_views(cr, uid)
```

\_\_openerp\_\_.py

```
'uninstall_hook': 'uninstall_hook',  
'data': [  
    'path/to/file.yml'  
]
```

\_\_init\_\_.py

```
from openerp import SUPERUSER_ID  
  
MODULE = '_web_debranding'  
def uninstall_hook(cr, registry):  
    registry['ir.model.data']._module_data_uninstall(cr, SUPERUSER_ID, [MODULE])
```

## 2.16.2 Odoo database

### Many to many

For every *many to many* field odoo creating new relations table for example *pos\_multi\_rel* with *\_rel* postfix.

## 2.16.3 Odoo way of shaman

What to do if something not work but should to

1. Refresh page
2. Update module
3. Check openerp file **depends**, **demo** and other important fields
4. Check odoo config you use to run odoo. Especially adons paths
5. Uninstall and install again modules in depends
6. Clean browser cache
7. Carefully check logs. Look up if needed files loaded or not. May be some errors.
8. Create new base and install all modules.



---

## User documentation

---

### 3.1 static/description/index.html

- *Image sizes*
- *Templates*
  - *Title*
  - *Text + Image*
  - *Image + Text*
  - *Text, Image*
  - *Contact us*
- *oe\_dark*

#### 3.1.1 Image sizes

- Image Sizes

#### 3.1.2 Templates

##### Title

```
<section class="oe_container">
  <div class="oe_row oe_spaced">
    <div class="oe_span12">
      <h2 class="oe_slogan">NAME</h2>
      <h3 class="oe_slogan">SUMMARY OR SLOGAN</h3>
    </div>
  </div>
</section>
```

##### Text + Image

```
<section class="oe_container">
  <div class="oe_row oe_spaced">
    <div class="oe_span6">
      <p class="oe_mt32">
```

```

        TEXT
    </p>
</div>
<div class="oe_span6">
    <div class="oe_row_img oe_centered">
        
    </div>
</div>
</div>
</section>

```

## Image + Text

TODO

## Text, Image

```

<section class="oe_container">
    <div class="oe_row oe_spaced">
        <div class="oe_span12">
            <p class="oe_mt32">
                TEXT
            </p>
        </div>
        <div class="oe_row_img oe_centered">
            
        </div>
    </div>
</section>

```

## Contact us

- Contact us block

### 3.1.3 oe\_dark

Use `oe_dark` class on every even section. Don't use `oe_dark` on the last section **Contact us**.

```

<section class="oe_container">
    <!--Title-->
</section>

<section class="oe_container oe_dark">
</section>

<section class="oe_container">
</section>

<section class="oe_container oe_dark">
</section>

<section class="oe_container">
</section>

```

```
<section class="oe_container">
    <!--Contact us block-->
</section>
```

## 3.2 Screenshots tools

- Nimbus Screen Screenshot: <http://nimbus.everhelper.me/screenshot.php>
- Shutter: <http://shutter-project.org/>

```
sudo add-apt-repository ppa:shutter/ppa
sudo apt-get update && sudo apt-get install shutter
```

## 3.3 Module description

### 3.3.1 Main screenshot

The main screenshot displayed only in Odoo Apps should be located in the `path_to_module/images/` directory and its size should not exceed 1500x1000 px. Next, in the `__openerp__.py` file you need make the relevant record:

```
'images': ['images/main-screenshot.png']
```

### 3.3.2 Icon and index.html

The module icon needs to be located at `path_to_module/static/description/` and it must be called `icon.png`. Also in this directory you need to create `index.html`, where will be contained necessary HTML tags, text description and screenshots (the recommended size is 752x352 px).

#### See also:

See the official template <https://github.com/odoo/odoo/blob/master/addons/crm/static/description/index.html>

It is important that `index.html` and screenshots it contains should be included at the same folder.

The result of the `index.html` and icon appearance can be checked by opening the module in “Local Modules” of your Odoo instance.

### 3.3.3 Summary

This is an overview of content that provides a reader with the overarching theme, but does not expand on specific details.

Summary should be included at `__openerp__.py` as `'summary':` `"""Summary text"""`. For example:

```
'summary': """Use multiple POS for handling orders"""
```

## 3.4 Contact us block

For every selling modules IT-Projects LLC adds following block at the end of module description

### 3.4.1 HTML

```
<section class="oe_container">
  <div class="oe_row oe_spaced">
    <div class="oe_span12">
      <h2>Need our service?</h2>
      <p class="oe_mt32">Contact us by <a href="mailto:it@it-projects.info">email</a> or fill o
      <ul>
        <li><a href="mailto:it@it-projects.info">it@it-projects.info <i class="fa fa-envelope
        <li><a href="https://www.it-projects.info/page/website.contactus " target="_blank">ht
      </ul>
    </div>
  </div>
</section>
```

### 3.4.2 README

Only for selling modules without html description.

```
Need our service?
-----

Contact us by `email <mailto:it@it-projects.info>`_ or fill out `request form <https://www.it-project

* it@it-projects.info
* https://www.it-projects.info/page/website.contactus
```

## 3.5 JS Tour

Used to demonstrate module capabilities step by step with popup windows. It may be launched automatically or manually.

### 3.5.1 Creating Tour

Tour is a simple JS file with some determined structure. Example:

```
{
  id: 'mails_count_tour',
  name: _t("Mails count Tour"),
  mode: 'test',
  path: '/web#id=3&model=res.partner',
  steps: [
    {
      title: _t("Mails count tutorial"),
      content: _t("Let's see how mails count work."),
      popover: { next: _t("Start Tutorial"), end: _t("Skip") },
    },
    {
      title: _t("New fields"),
      content: _t("Here is new fields with mails counters. Press one of it."),
      element: '.mails_to',
    },
  ],
}
```

```

        waitNot:    '.mails_to:visible',
        title:      _t("Send message from here"),
        placement:  'left',
        content:    _t("Now you can see corresponding mails. You can send mail to this partner ri
        element:    '.oe_mail_wall .oe_msg.oe_msg_composer_compact>div>.oe_compose_post',
    },
]
}

```

What you do here is describing steps that got to be proceeded by user or phantom (phantomjs).

In odoo 8 tour defines this way:

```

(function () {
'use strict';
var _t = openerp._t;
openerp.Tour.register({ ...

```

In odoo 9 tour defines that way:

```

odoo.define('account.tour_bank_statement_reconciliation', function(require) {
'use strict';
var core = require('web.core');
var Tour = require('web.Tour');
var _t = core._t;
Tour.register({ ...

```

Important details:

- **id** - need to call this tour
- **path** - from this path tour will be started in test mode

Next step occurs when **all** conditions are satisfied and popup window will appear near (chose position in *placement*) element specified in *element*. Element must contain css selector of corresponding node. Conditions may be:

- **waitFor** - this step will not start if *waitFor* node absent.
- **waitNot** - this step will not start if *waitNot* node exists.
- **wait** - just wait some amount of milliseconds before **next** step.
- **element** - similar to *waitFor*, but *element* must be visible
- **closed window** - if popup window have close button it must be closed before next step.

Opened popup window (from previous step) will close automatically and new window (next step) will be shown.

Inject JS Tour file on page:

```

<template id="res_partner_mails_count_assets_backend" name="res_partner_mails_count_assets_backend" >
    <xpath expr="." position="inside">
        <script src="/res_partner_mails_count/static/src/js/res_partner_mails_count_tour.js" type="text/javascript">
        </script>
    </xpath>
</template>

```

Some docs is here (begin from 10 slide): <http://www.slideshare.net/openobject/how-to-develop-automated-tests> Also checkout here: <https://github.com/odoo/odoo/blob/9.0/addons/web/static/src/js/tour.js>

You can launch tour by entering in browser address like this `mydatabase/web#/tutorial.mails_count_tour=true` where after tutorial. is id of your tour.

## 3.5.2 Automatic tour launch

To run tour after module installation do next steps.

- Create *ToDo*
- Create *Action*

ToDo is some queued web actions that may call *Action* like this:

```
<record id="base.open_menu" model="ir.actions.todo">
  <field name="action_id" ref="action_website_tutorial"/>
  <field name="state">open</field>
</record>
```

Action is like this:

```
<record id="res_partner_mails_count_tutorial" model="ir.actions.act_url">
  <field name="name">res_partner_mails_count Tutorial</field>
  <field name="url">/web#id=3&amp;model=res.partner&amp;/#tutorial_extra.mails_count_tour=true</field>
  <field name="target">self</field>
</record>
```

Here `tutorial_extra.**mails_count_tour**` is tour id.

Use eval to compute some python code if needed:

```
<field name="url" eval="'/web?debug=1&amp;res_partner_mails_count=tutorial#id='+str(ref('base.partner
```

## 3.6 Preview module on App Store

Browser's dev tools allows to preview Module in App Store before actual uploading.

- open <https://www.odoo.com/apps>
- click Inspect Element on some application
- change text and images
- Done! Now can decide do you need make changes or keep current images and text

- *Preview image*
  - *Base64*
  - *Nginx*

### 3.6.1 Preview image

While it's easy to change text, it's not obvious how to preview image.

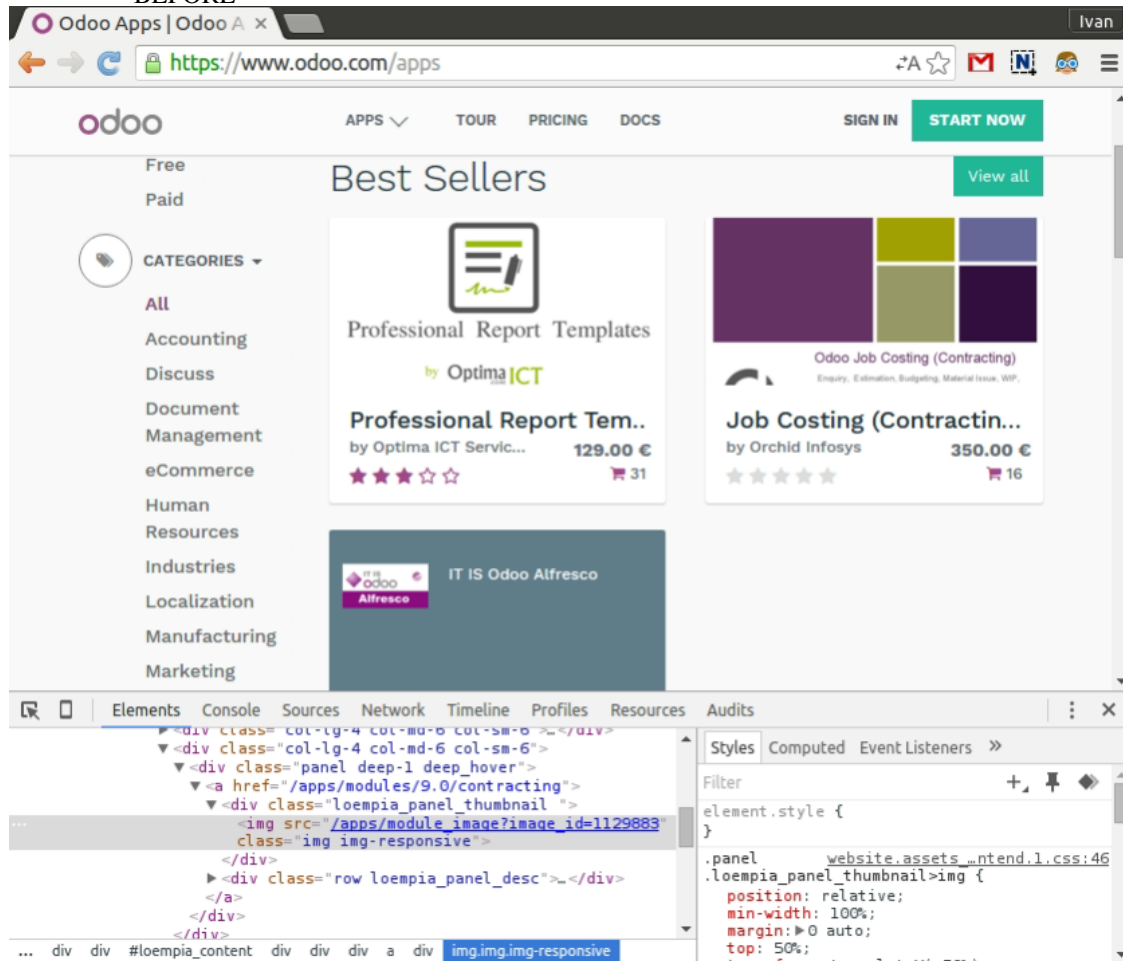
#### Base64

- google: [convert image to base64](#)
- convert image to base64 with a tool you choosed. It must be some long string started with `data:image/:`

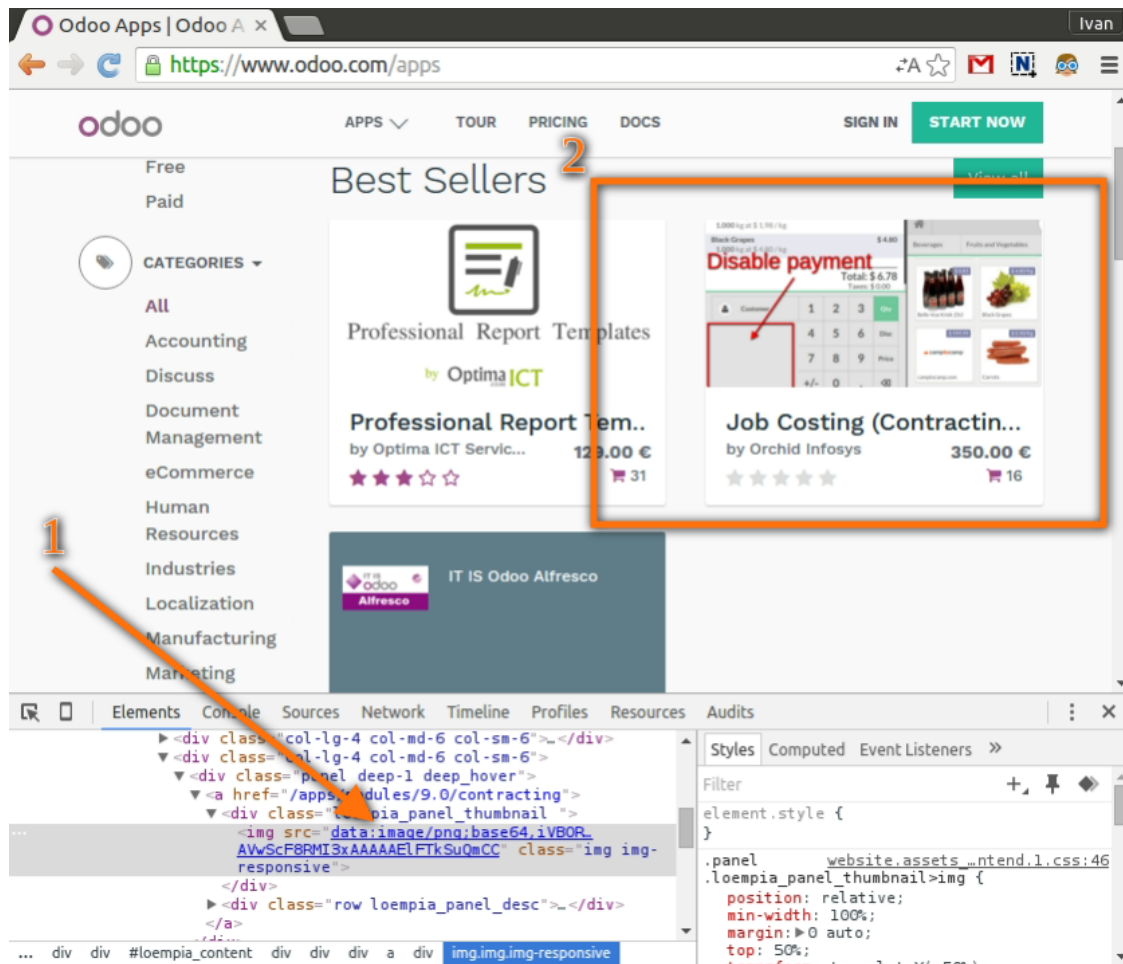
```
data:image/png;base64,iVBORw0KGgoAAAACF8RMI3xAAA.....AAElFTkSuQmCC
```

- paste this line to src attribute of image tag

– BEFORE



– AFTER



## Nginx

Configure your nginx and use local link in src attribute.:

```

```

You cannot use localhost due to security restrictions. So, you need to add some domain to /etc/hosts::

```
127.0.0.1 static.local
```

TODO instruction for nginx

## 3.7 Image sizes

See also

- Preview module on App Store
- Adjust chromium window size script



- `__openerp__.py` -> 'images'
- `description/index.html`

### 3.7.1 `__openerp__.py` -> 'images'

This images is displayed on application page ([example](#)) and in application list ([example](#))

Displayed size:

- app page:  
750 x 400
- app list:  
262,5 x 130

Recommended size (aspect) to fit both usage:

750 x 371

You can scale picture, saving proportion.

**Note:** Appearance in *app list* is more important, as there is less chance that user open *app page*, if small sized image in *app list* is not attractive enough.

### 3.7.2 `description/index.html`

All values assumed, that you put the code inside `.oe_container` and `.oe_row`, e.g.:

```
<section class="oe_container">
  <div class="oe_row oe_spaced">
    ...
    <div class="oe_demo oe_picture oe_screenshot">
      
    </div>
    ...
  </div>
</section>
```

`<div class="oe_demo oe_picture oe_screenshot">`

:: max-width: 761px; max-height: 400px;

`<div class="oe_demo oe_screenshot">`

:: max-width: 928px;



---

## Git and Github

---

### 4.1 Initial git & github configuration

#### 4.1.1 ssh keys

Configure github ssh keys: <https://help.github.com/articles/generating-ssh-keys/>

#### 4.1.2 github emails

*IT-Projects LLC employees only:*

- <https://github.com/settings/profile>
  - public email should be personal address ...@it-projects.info
- <https://github.com/settings/emails>
  - primary email should be personal address ...@it-projects.info
  - “Keep my email address private” should be turned off

#### 4.1.3 git email

- Configure email in git. Email must be the same as in github settings:

```
git config --global user.email "your_email@example.com"
```

#### 4.1.4 gitignore

- Configure global gitignore

Possible content for ~/.gitignore\_global:

```
*~  
*.pyc
```

## 4.2 Porting

If you add some feature to one branch and need to add it to another branch, then you have to make *port*.

See also:

- [Conflicts resolving](#)

### 4.2.1 Forward-port

It's the simplest case. You merge commits from older branch (e.g. 8.0) to newer branch (e.g. 9.0)

```
git checkout 9.0
git merge origin/8.0

# [Resolve conflicts if needed]

git push
```

After `git merge` you probably need to make some minor changes. In that case just add new commits to newer branch

```
git add ...
git commit -m "...."
git push
```

### 4.2.2 Back-port

If you need to port new feature from newer branch (e.g. 9.0) to older one (e.g. 8.0), then you have to make *back-port*.

The problem here is that newer branch has commits which should be applied for newer branch only. That is you cannot just make `git merge 9.0`, because it brings 9.0-only commits to 8.0 branch. Possible solutions here are:

#### **git cherry-pick**

Apply commits from newer branch (e.g. 9.0) to older branch (e.g. 8.0)

```
git checkout 8.0

git cherry-pick <commit-1>
# [Resolve conflicts if needed]

git cherry-pick <commit-2>
# [Resolve conflicts if needed]
# ...

git push
```

Also possible to pick the commit from any remote repository. Add this repository to your remotes. Do fetch from it. And then cherry-pick.

Then make forward-port

```
git fetch
git checkout 9.0
git merge origin/8.0
```

## 4.3 Conflict resolving

After making `git merge` or `git cherry-pick` there could be conflicts, because some commits try to make changes on the same line. So, you need to choose which change shall be use. It could be one variant, both variants or new variant.

What to do if you got conflicts:

- Check status

```
git status
```

- Resolve conflicts:
  - either edit files manually:
    - \* open file with conflicts
    - \* search for <<< or >>> and delete obsolete variant or make a mix of both variants.
  - or use following commands, if you are sure which version should be kept

```
git checkout --ours -- <file>
# or
git checkout --theirs -- <file>
```

- Mark files as resolved via `git add` command
- Done.

```
git push
```

### 4.3.1 Notes

- It's important, that on resolving conflict stage you should not make any updates inside conflicting lines. You can only choose which lines should be kept and which deleted. E.g. if you resolve conflicts due to porting some updatefeature from one odoo version (e.g. 8.0) to another (e.g. 9.0), then such changes some time must be tuned to make updatefeature work on target odoo version. But you have to make such tuning on a new commit only. Make mergingchery-picking commits be only about merging and chery-picking, make porting commits separately.
- If you don't have conflicts, you do not need to make commit after cherry-pick because it creates commit by its own.

## 4.4 Multi Pull Request

### 4.4.1 Find last merged point

To find last commit `upstream/8.0` and `upstream/9.0` were merged, use following commands

```
git fetch
git log upstream/8.0..upstream/9.0 --grep="Merge remote-tracking branch 'origin/8.0'" --merges -n 3

# you will get something like that:
# commit 5cb3652be72a05330c3988d270f3aef548511b29
# Merge: f1cd564 6cc2562
# Author: Ivan Yelizariev <yelizariev@it-projects.info>
```

```
# Date:   Sat Feb 27 16:00:42 2016 +0500
#
#       Merge remote-tracking branch 'origin/8.0' into 9.0-dev
#
# commit 14632a790aa01ee2a1ee9fe52152cf2fbfa86423
# Merge: 7a48b3a d66ba4f
# Author: Ivan Yelizariev <yelizariev@it-projects.info>
# Date:   Thu Feb 25 11:31:43 2016 +0500
#
#       Merge remote-tracking branch 'origin/8.0' into 9.0-dev
#
# commit 6981c245afdccc39b2b49585f8205a784161f9c6
# Merge: 22081ed 6eb9f8d
# Author: Ivan Yelizariev <yelizariev@it-projects.info>
# Date:   Fri Feb 19 19:14:15 2016 +0500
#
#       Merge remote-tracking branch 'origin/8.0' into 9.0-dev

# take one commit sha from the list and check that it's in origin/9.0.

git branch -r --contains 5cb3652be72a05330c3988d270f3aef548511b29

# possible output:
# upstream/9.0
# origin/9.0-dev

# if there is not upstream/9.0 in output,
# then commit has not been merged yet and you cannot use it
# for branch 9.0 use this commit sha 5cb3652be72a05330c3988d270f3aef548511b29
# for branch 8.0 need find which of two commits in ``Merge:`` line contains "upstream/8.0"

git branch -r --contains f1cd564
git branch -r --contains 6cc2562

# Use commit sha to create new branches:

git checkout -b '9.0-new_branch_name' 5cb3652be72a05330c3988d270f3aef548511b29
git checkout -b '8.0-new_branch_name' 6cc2562
```

## 4.5 Cancel lame commit

Imagine you make lame commit. Now to repair things do next:

1. git reset HEAD~1 --soft
2. git status

You will see: Your branch is behind 'origin/8.0' by 1 commit, and can be fast-forwarded. (use "git pull" to update your local branch)

3. git add // Add here changed (fixed) files
4. git diff --cached //make sure everything is ok.
5. git status

You will see: Your branch is behind 'origin/8.0' by 1 commit, and can be fast-forwarded. (use "git pull" to update your local branch)

6. `git commit -m'I fixed my mistakes'`

7. `git status`

You will see: Your branch and 'origin/8.0' have diverged, and have 1 and 1 different commit each, respectively. (use "git pull" to merge the remote branch into yours)

Now finally force is with you:

8. `git push origin 8.0 -f`

## 4.6 Pull request from console

Yes it possible! Try this manual: <https://github.com/github/hub> Than in console:

```
alias git=hub
```

And pull request:

```
git pull-request upstream 9.0
```

Necessary to add some header for pull request. Save it. If everything is ok you will get link to your pull request.

## 4.7 Check remote bundings

Check current branch:

```
git branch -vv
```

Local branch must be bind to origin. If its no do next:

```
git push -u origin 9.0-pos_ms
```

## 4.8 Files relocation

This article based on <http://gbayer.com/development/moving-files-from-one-git-repository-to-another-preserving-history/>

**Goal:**

- Move directory 1 from Git repository A to Git repository B.

**Constraints:**

- Git repository A contains other directories that we don't want to move.
- We'd like to preserve the Git commit history for the directory we are moving.

```
$ cd ~
$ git clone https://github.com/yelizariev/addons-yelizariev.git
$ cd addons-yelizariev
```

We have the `group_menu_no_access` module that we are about to move from `addons-yelizariiev` to the `access-addons` repo.

```
addons-yelizariiev$ git remote rm origin
addons-yelizariiev$ git filter-branch --subdirectory-filter group_menu_no_access -- --all
addons-yelizariiev$ mkdir group_menu_no_access
addons-yelizariiev$ mv * group_menu_no_access/
addons-yelizariiev$ git add .
addons-yelizariiev$ git commit -m '[MOV] group_menu_no_access: ready to move'

$ cd ../access-addons-8/
access-addons-8$ git remote add repo-addons-yelizariiev-branch ../addons-yelizariiev
access-addons-8$ git pull repo-addons-yelizariiev-branch 8.0
access-addons-8$ git push origin 8.0
```

Create pull request from your origin to upstream on github in your fork of <https://github.com/yelizariiev/access-addons.git>. There must be the [MOV] commits along with the `group_menu_no_access` module related commits that was created earlier in the `addons-yelizariiev` repo.

After some time of typing the same commands to move several modules, I decided to make simple bash script. Here it is

```
#!/bin/bash

source_repo=$PWD
echo $source_repo

if [ -n "$1" ]
then
    module=$1
    echo $module
else
    echo "Must be module name"
    exit $E_WRONGARGS
fi

if [ -n "$2" ]
then
    dest_repo=$2
    echo $dest_repo
else
    echo "Must be dest_repo"
    exit $E_WRONGARGS
fi

if [ -n "$3" ]
then
    branch=$3
    echo $branch
else
    echo "Must be branch specified"
    exit $E_WRONGARGS
fi

cp -r $source_repo ../$module
cd ../$module
git remote rm origin
git filter-branch --subdirectory-filter $module -- --all
```



```
mkdir $module
mv * $module
git add .
git commit -m "[MOV] module -- $module"
cd $dest_repo
git remote add repo_moved_module $source_repo/../../$module
git pull repo_moved_module $branch --no-edit
git remote rm repo_moved_module
rm -rf $source_repo/../../$module
```

In order to use it you should make the `movemodule.sh` file in your home directory and put all lines above there and make this file executable.

```
$ cd ~
$ chmod +x movemodule.sh
```

If you have installed git from official ubuntu 14.04 deb repository then you should first update it. You can update git using this instruction [Update git](#)

To do the moving of `group_menu_no_access` from `addons-yelizariiev` to `access-addons` with the `movemodule.sh` take the following steps.

```
$ cd ~
$ git clone https://github.com/yelizariiev/addons-yelizariiev.git
$ cd addons-yelizariiev
```

This part is the same as moving without the script. But then I type only one command instead of ten in case of fully manual approach.

```
addons-yelizariiev$ ../movemodule.sh group_menu_no_access ../access-addons 8.0
```

I assume here that the `addons-yelizariiev` directory would be placed in your home directory along with the `access-addons` directory. Be sure that you are on the 8.0 branches in both of your `addons-yelizariiev` and `access-addons`.

## 4.9 Commit comment prefix

Based on: <https://www.odoo.com/documentation/8.0/reference/guidelines.html>

- **[ORIG]** for copy-pasted code
- **[DOC]** for documentation. Don't use any other tags when you improve, fix, refactor documentation
- **[PORT]** for porting
- **[IMP]** for improvements
- **[FIX]** for bug fixes
- **[REF]** for refactoring
- **[ADD]** for adding new resources (new modules or files).
- **[REM]** for removing of resources
- **[REL]** for releases

### 4.9.1 Forbidden

Don't use tags below

- [WIP], [DEV] – instead of noting that work in progress make message as if your work is already done.

## 4.10 Git stash

- book: <https://git-scm.com/book/no-nb/v1/Git-Tools-Stashing>
- man: <https://git-scm.com/docs/git-stash>

## 4.11 Update Git

Ubuntu 14.04 official deb repository has 1.9 version of Git. It is too old and have to be updated.

<http://askubuntu.com/questions/579589/upgrade-git-version-on-ubuntu-14-04>

```
sudo apt-get remove git
sudo add-apt-repository ppa:git-core/ppa
sudo apt-get update
sudo apt-get install git
git --version
```

## 5.1 Models

Section helps in understanding built-in models

### 5.1.1 ir.config\_parameter

#### XML operations

##### Create new setting

Code:

```
<record id="myid" model="ir.config_parameter">
  <field name="key">mymodule.mykey</field>
  <field name="value">True</value>
</record>
```

Use this approach only to manipulate keys you created. It's not recommended to change others modules this way. For example such like this:

```
<record model="ir.config_parameter" id="website.google_app_key">
```

Search addons for *model="ir.config\_parameter"* for more examples.

Such record usually used with `<data noupdate="1">`.

#### Change existing setting

Code:

```
<function model="ir.config_parameter" name="set_param" eval="('auth_signup.allow_uninvited', True)" />
```

Prons:

- works if you are not sure whether key already used or not

Cons:

- record is not deleted on uninstalling

### 5.1.2 res.users

TODO

### 5.1.3 res.groups

TODO

### 5.1.4 ir.model.access

TODO

### 5.1.5 ir.rule

TODO

### 5.1.6 product.template

The stores have products that differ from some other only a one or few properties. Such goods it makes no sense to separate as individual products. They are join in a group of similar goods, which are called **template**.

**shop:** product pages use product.template (when order is created, then [product.product](#) is used).

### 5.1.7 product.product

The product, unlike the [template](#), it is a separate product that can be calculated, set the price, to assign a discount.

product.product is used:

- sale.order
- stock
- pos

### 5.1.8 ir.actions.todo

The model is used for executing actions (records in the “ir.actions.act\_window” model). The model allows to set conditions and sequence of appearance of wizards. Also you can specify a regular interface window but only as last action. Code:

```
<record id="sce.initial_setup" model="ir.actions.todo">
  <field name="action_id" ref="action_initial_setup"/>
  <field name="state">open</field>
  <field name="sequence">1</field>
  <field name="type">automatic</field>
</record>
```

The startup type can be one of the following:

- manual: Launched manually.

- automatic: Runs whenever the system is reconfigured. The launch takes place either after install/upgrade any module or after calling the “execute” method in the “res.config” model.
- once: After having been launched manually, it sets automatically to Done.

### 5.1.9 bus.bus

#### Bus

Bus is a module for instant notifications via longpolling. Add it to dependencies list:

```
'depends': ['bus']
```

---

**Note:** Mail module in odoo 9.0 is already depended on module bus.

---

#### What is longpolling

- [About longpolling](#)
- [How to enable Longpolling in odoo](#)

#### How to implement longpolling

- *Scheme of work*
- *Channel identifier*
- *Listened channels*
- *Binding notification event*
- *Start polling*
- *Sending notification*
- *Handling notifications*

#### Scheme of work

- Specify channels that current client is listening
- Bind notification event to your handler
- Start polling
- Send notification to some channel via python code

#### Channel identifier

Channel identifier - is a way to distinguish one channel from another. In the main, channel contains dbname, some string and some id.

Added via js identifiers can be string only.

```
var channel = JSON.stringify([dbname, 'model.name', uid]);
```

Added via python identifiers can be a string or any data structure.

```
# tuple
channel = (request.db, 'model.name', request.uid)
# or a string
channel = '["%s", "%s", "%s"]' % (request.db, 'model.name', request.uid)
```

**Warning:** JSON.stringify in js and json.dumps in python could give a different result.

## Listened channels

You can add channels in two ways: either on the server side via `_poll` function in bus controller or in js file using the method `bus.add_channel()`.

With controllers:

```
# In odoo 8.0:
import openerp.addons.bus.bus.Controller as BusController

# In odoo 9.0:
import openerp.addons.bus.controllers.main.BusController

class Controller(BusController):
    def _poll(self, dbname, channels, last, options):
        if request.session.uid:
            registry, cr, uid, context = request.registry, request.cr, request.session.uid, request.context
            new_channel = (request.db, 'module.name', request.uid)
            channels.append(new_channel)
        return super(Controller, self)._poll(dbname, channels, last, options)
```

In the js file:

```
// 8.0
var bus = openerp.bus.bus;
// 9.0+
var bus = require('bus.bus').bus;

var channel = JSON.stringify([dbname, 'model.name', uid]);
bus.add_channel(new_channel);
```

## Binding notification event

In js file:

```
bus.on("notification", this, this.on_notification);
```

## Start polling

In js file:

```
bus.start_polling();
```

---

**Note:** You don't need to call `bus.start_polling()`; if it was already started by other module.

---

When polling starts, request `/longpolling/poll` is sent, so you can find and check it via Network tool in your browser

### Sending notification

You can send notification only through a python. If you need to do it through the client send a signal to server in a usual way first (e.g. via [controllers](#)).

```
self.env['bus.bus'].sendmany([(channel1, message1), (channel2, message2), ...])
# or
self.env['bus.bus'].sendone(channel, message)
```

### Handling notifications

```
on_notification: function (notifications) {
    // Old versions passes single notification item here. Convert it to the latest format.
    if (typeof notification[0][0] === 'string') {
        notification = [notification]
    }
    for (var i = 0; i < notification.length; i++) {
        var channel = notification[i][0];
        var message = notification[i][1];

        // proceed a message as you need
        // ...
    }
},
```

### Examples

#### pos\_multi\_session:

- add channel (python)
- bind event
- send notification

#### chess:

- add channel (js)
- bind event
- send notification

#### mail\_move\_message:

- add channel (python)
- bind event
- send notification

## 5.2 How to use Odoo

### 5.2.1 How to create database

#### From UI

To create new database open `/web/database/manager`

#### 8.0-

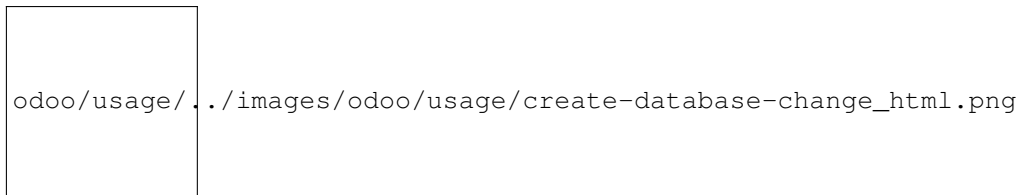
**Database with dots** Early version of odoo doesn't allow to create databases with dots. You can remove this restriction in two ways:

1. Updates sources:

```
cd path/to/odoo
sed -i 's/matches="[^\"]*"//g' addons/web/static/src/xml/base.xml
```

2. update html code via *Inspect Element* tool

You must remove the matches field value.



#### From terminal

#### 9.0+

To create new database simple add `-d` parameter when you run odoo, e.g.:

```
./openerp-server -d database1
```

– will create new database with name `database1`

### 5.2.2 How to install/update module

There are several ways to install/update module

- *From App store (install)*
  - 8.0
  - 9.0+
- *From App store (update)*
  - 8.0
  - 9.0+
- *From zip archive*
- *From addons path on server*



## From App store (install)

### 8.0

- navigate to Settings / Modules / Apps
- remove Featured [x] filter
- search module you need
- click [Install]

### 9.0+

- [activate developer mode](#).
- navigate to Apps menu
- click on second Apps menu in left side bar
- remove Featured [x] filter
- search module you need
- click [Install]

## From App store (update)

### 8.0

- navigate to Settings / Modules / Updates

### 9.0+

- navigate to Apps menu
- click Updates menu in left side bar

## From zip archive

TODO

## From addons path on server

TODO

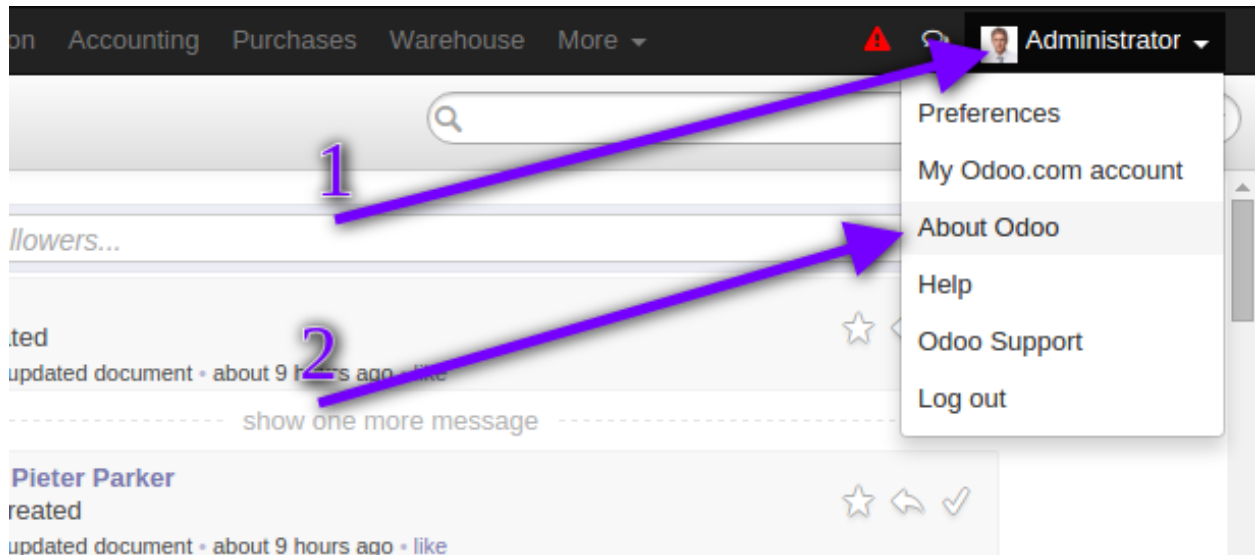
## 5.2.3 How to activate developer mode

To activate developer mode, you need to add debug parameter to your url, e.g.:

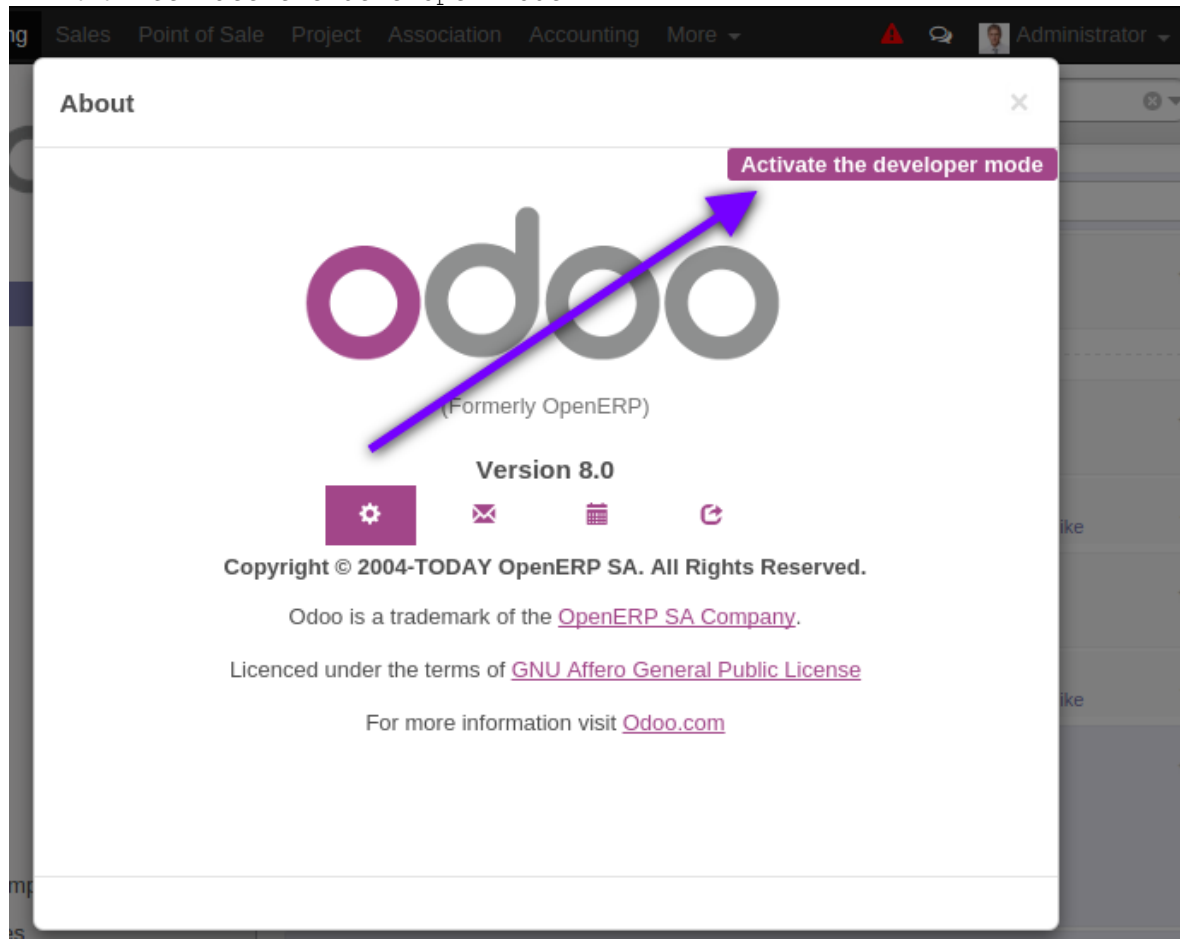
```
localhost:8069/web?debug=1
```

Also, you can use UI to do it

- click button at top right-hand corner <User Name> -> About Odoo



- click Activate the developer mode



---

## Odoo administration

---

Official docs: \* <https://www.odoo.com/documentation/8.0/setup/install.html> \*  
<https://www.odoo.com/documentation/8.0/setup/deploy.html>

### 6.1 Odoo installation

#### Contents

- *Odoo installation*
  - *Local installation*
    - \* *nginx\_odoo.conf*
  - *Production installation*

#### 6.1.1 Local installation

```
sudo apt-get update
sudo apt-get install git python-pip htop moreutils tree nginx gimp wmctrl postgresql-server-dev-all
sudo apt-get upgrade

##### Github
# configure ssh keys: https://help.github.com/articles/generating-ssh-keys/

##### Odoo
# download odoo from git:
cd /some/dir/
git clone https://github.com/odoo/odoo.git

# install dependencies:
wget http://nightly.odoo.com/9.0/nightly/deb/odoo_9.0.latest_all.deb
sudo dpkg -i odoo_9.0.latest_all.deb # shows errors -- just ignore them and execute next command:
sudo apt-get -f install
sudo apt-get remove odoo

# install wkhtmltox
cd /usr/local/src
lsb_release -a
uname -i
# check version of your OS and download appropriate package
```

```
# http://wkhtmltopdf.org/downloads.html
# e.g.
apt-get install xfonts-base xfonts-75dpi
apt-get -f install
wget http://download.gna.org/wkhtmltopdf/0.12/0.12.2.1/wkhtmltox-0.12.2.1_linux-trusty-amd64.deb
dpkg -i wkhtmltox-*.deb

# requirements.txt
cd /path/to/odoo
sudo pip install -r requirements.txt
sudo pip install watchdog

# fix error with jpeg (if you get it)
# uninstall PIL
sudo pip uninstall PIL
# install libjpeg-dev with apt
sudo apt-get install libjpeg-dev
# reinstall pillow
pip install -I pillow
# (from here https://github.com/odoo/odoo/issues/612 )

# fix issue with lessc
# install Less CSS via nodejs according to this instruction:
# https://www.odoo.com/documentation/8.0/setup/install.html

# create postgres user:
sudo su - postgres -c "createuser -s $USER"

# Create new config file if you don't have it yet:
cd /path/to/odoo
./openerp-server --save

# then edit it, e.g. via emacs
emacs -nw ~/.openerp_serverrc
# set dbfilter = ^%h$
# set workers = 2 # to make longpolling\bus\im work

# create different versions of conf file:
cp ~/.openerp_serverrc ~/.openerp_serverrc-9
cp ~/.openerp_serverrc ~/.openerp_serverrc-8

##### /etc/hosts
# /etc/hosts must contains domains you use, e.g:
sudo bash -c "echo '127.0.0.1 8_0-project1.local' >> /etc/hosts"
sudo bash -c "echo '127.0.0.1 8_0-project2.local' >> /etc/hosts"
sudo bash -c "echo '127.0.0.1 9_0-project1.local' >> /etc/hosts"

##### nginx
# put nginx_odoo.conf to /etc/nginx/sites-enabled/
# delete default configuration:
cd /etc/nginx/sites-enabled/
rm default
# restart nginx
sudo /etc/init.d/nginx restart

##### run Odoo
cd /path/to/odoo
```

```
git checkout somebranch-or-revision
git tag 8_0-honduras.local
# everytime run odoo this way:
git checkout 8_0-client1.local && ./odoo.py --config=/path/to/.openerp_serverrc-8
# or
git checkout 8_0-project1.local && ./odoo.py --config=/path/to/.openerp_serverrc-8 --auto-reload
# or
git checkout 9_0-project1.local && ./odoo.py --config=/path/to/.openerp_serverrc-9 --dev
# etc.
# then open database you need, e.g. (type http:// explicitly, because browser could understand it as
# http://8_0-client1.local/
# (database name should be 8_0-client1.local )
```

### nginx\_odoo.conf

```
server {
    listen 80 default_server;
    server_name .local;

    proxy_buffers 16 64k;
    proxy_buffer_size 128k;
    proxy_set_header Host $host;
    proxy_set_header X-Real-IP $remote_addr;
    proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
    proxy_set_header X-Forwarded-Proto $scheme;
    #proxy_redirect http:// https://;
    proxy_read_timeout 600s;
    client_max_body_size 100m;

    location /longpolling {
        proxy_pass http://127.0.0.1:8072;
    }

    location / {
        proxy_pass http://127.0.0.1:8069;
    }
}
```

## 6.1.2 Production installation

- <https://github.com/yelizariev/install-odoo>

## 6.2 Longpolling

Longpolling is a way to deliver instant notification to web client (e.g. in chats).

To activate longpolling:

- install gevent and psycogreen

```
python -c "import gevent" || sudo pip install gevent
python -c "import psycogreen" || sudo pip install psycogreen
```

- set non-zero value for `workers` parameter

- configure nginx

```
location /longpolling {
    proxy_pass http://127.0.0.1:8072;
}
location / {
    proxy_pass http://127.0.0.1:8069;
}
```

- if you install odoo 9.0 via deb package, then you have to restore openerp-gevent file (see [#10207](#)):

```
cd /usr/bin/
wget https://raw.githubusercontent.com/odoo/odoo/9.0/openerp-gevent
chmod +x openerp-gevent
```

[Read more about longpolling](#)

## 6.3 About longpolling

### What is HTTP Long Polling?

Web applications were originally developed around a client/server model, where the Web client is always the initiator of transactions, requesting data from the server. Thus, there was no mechanism for the server to independently send, or push, data to the client without the client first making a request.

### In a Nutshell: HTTP Long Polling

To overcome this deficiency, Web app developers can implement a technique called HTTP long polling, where the client polls the server requesting new information. The server holds the request open until new data is available. Once available, the server responds and sends the new information. When the client receives the new information, it immediately sends another request, and the operation is repeated. This effectively emulates a server push feature.

Thus, each data packet means new connection which will remain open until the server sends the information.

In practice the connection usually reinstalls once per 20-30 seconds to get rid of possible problems (mistakes) , e.g. problems connected with HTTP-proxy.

In contradiction to usual polling, such notice appears faster.

Delay = connection installing + data transfer

### Advantages of longpolling

- The loading to the server is reduced unlike usual polling
- Reduced traffic
- Supporting in all modern browsers

Thus, longpolling helps the client to receive data as soon as they appear in the server in contrast to periodic, which send requests according to interval specified.

## 6.4 --workers

Non-zero values for `--workers` activates Multiprocessing.

Multiprocessing increases stability, makes somewhat better use of computing resources and can be better monitored and resource-restricted.

- Number of workers should be based on the number of cores in the machine (possibly with some room for cron workers depending on how much cron work is predicted)
- Worker limits can be configured based on the hardware configuration to avoid resources exhaustion

**Warning:** multiprocessing mode currently isn't available on Windows

### 6.4.1 Longpolling

Hidden feature of Multiprocessing is automatic run gevent process for longpolling support.

Longpolling is an extra process, i.e. if you have `--workers=2` then you will get 2 worker processes and 1 gevent process

## 6.5 --addons-path

### 6.5.1 Duplicate addons

If you have two folder with the same module and you have reason to add both folders to `addons_path`, then first found version of the module will be used. That is folder in the begging of `addons_path` list has more priority.





## 7.1 Emacs

Install emacs 24.4+ <http://askubuntu.com/questions/437255/how-to-install-emacs-24-4-on-ubuntu>

- Open Emacs
- Press Alt-x package-list-packages
- install packages: click i and then x
- some packages require dependencies, that have to be installed via terminal \* flymake \* loccur \* flymake-css \* flymake-jslint \* flymake-python-pyflakes

```
sudo pip install flake8
```

- magit
- js3-mode

## 7.2 Spacemacs

### 7.2.1 Requirements

- emacs version 24 or newer.

### 7.2.2 Installation

Install spacemacs from github <https://github.com/syl20bnr/spacemacs>

### 7.2.3 Documentation

<http://spacemacs.org/doc/DOCUMENTATION.html>

### 7.2.4 Layers for Odoo development

Use the following layers:

- auto-completion
- better-defaults
- emacs-lisp
- git
- syntax-checking
- version-control
- python
- eyebrowse
- sql
- python
- semantic

Syntax-checking in python uses pylint package ([http://liuluheng.github.io/wiki/public\\_html/Python/flycheck-pylint-emacs-with-python.html](http://liuluheng.github.io/wiki/public_html/Python/flycheck-pylint-emacs-with-python.html)). Install it by

```
sudo pip install pylint
```

## 7.3 PyCharm

### 7.3.1 Remote access with pgAdmin to Odoo postgre database on Ubuntu

**This is for PgAdmin integration, but same method working with PyCharm.**

STEP #1 – get pgAdmin Install pgAdmin from [pgadmin.org](http://pgadmin.org)

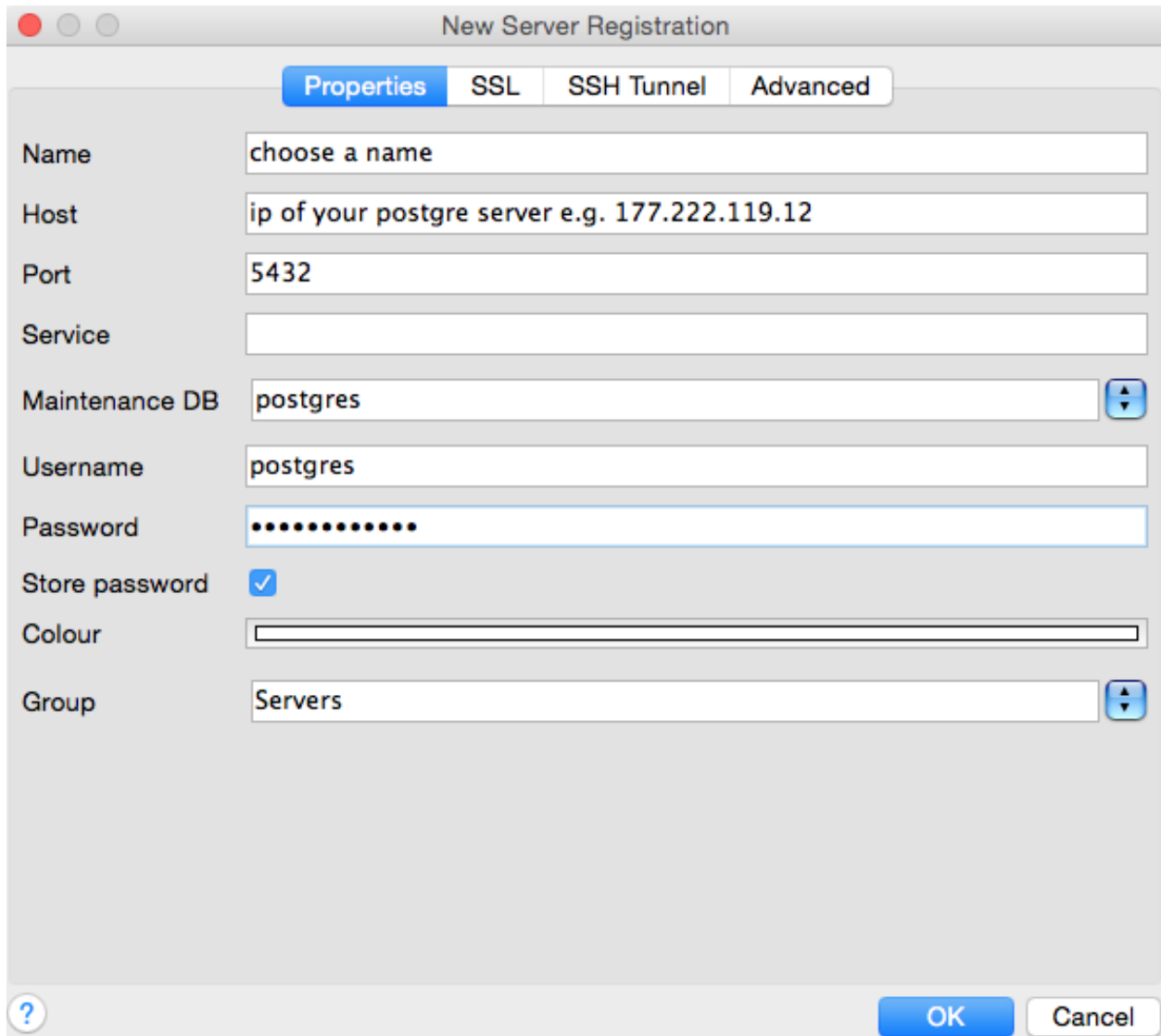
STEP #2 – allow postgre server remote connections from everywhere Open `etc/postgresql/9.x/main/pg_hba.conf` and add following line: `host all all all md5`

STEP #3 – let the postgre server listen to everyone Open `etc/postgresql/9.x/main/postgresql.conf` and change following line: `listen_addresses = '*'`

STEP #4 – give the user “postgres” a password Start the psql terminal: `sudo -u postgres psql` Give a password: `ALTER USER postgres PASSWORD 'yourpassword';` Leave the psql terminal: `q`

STEP #5 Restart postgre server by executing this terminal command: `sudo /etc/init.d/postgresql restart`

STEP #6 Start pgAdmin and add a connection to a server like this:



The image shows a 'New Server Registration' dialog box with a tabbed interface. The 'Properties' tab is selected. The fields are as follows:

Field	Value
Name	choose a name
Host	ip of your postgre server e.g. 177.222.119.12
Port	5432
Service	
Maintenance DB	postgres
Username	postgres
Password	.....
Store password	<input checked="" type="checkbox"/>
Colour	
Group	Servers

At the bottom right are 'OK' and 'Cancel' buttons. A help icon (?) is at the bottom left.

You are ready!

Original:

<http://odoo.guide/remote-access-with-pgadmin-to-odoo-postgre-database-on-ubuntu/>



## 8.1 RST format

### 8.1.1 Document Title / Subtitle

The title of the whole document is distinct from section titles and may be formatted somewhat differently (e.g. the HTML writer by default shows it as a centered heading).

To indicate the document title in reStructuredText, use a unique adornment style at the beginning of the document. To indicate the document subtitle, use another unique adornment style immediately after the document title. For example:

```
=====
Document Title
=====
-----
Subtitle
-----

Section Title
=====
...

```

Note that “Document Title” and “Section Title” above both use equals signs, but are distinct and unrelated styles. The text of overline-and-underlined titles (but not underlined-only) may be inset for aesthetics.

### Sections

- # with overline, for parts
- \* with overline, for chapters
- =, for sections
- -, for subsections
- ^, for subsubsections
- ”, for paragraphs

## Code block

Enter double colon (::) and then empty line and then at least one space and finally you can enter your code.

Also you can use `inplace code reference` by using “ ”.

### 8.1.2 Selection

- **`**bold**`**
- *`*italic*`*
- ```code```

### 8.1.3 Lists

- \* - not numerated
- #. - numerated
- 1,2,3, ... - numerated

### 8.1.4 Links

- internal link:

```
:doc:`Link Text<../relative/path/to/article>`
```

- external link:

```
`Link Text <https://google.com/>`_
```

### 8.1.5 More documentations

- <http://docutils.sourceforge.net/docs/user/rst/quickref.html>

## 8.2 Adjust chromium window size script

You can make screenshot with size exactly you need.

Open chromium. Do not expand window (or in wount work). Run this command:

```
wmctrl -a chromium -e 1,0,0,760,480
```

Last two arguments is width and height. Consider to add chromium window borders to your screenshot size. In my case it 10px to width and 80px to height. Likely you got same. So for 750 x 400 it be 760 x 480.

---

## Indices and tables

---

- `genindex`
- `modindex`
- `search`