

# OVN proto-manual

## How to start an OVN

### Under construction...

If you can't wait, contact [Tibi](#)

**NOTE:** This doc may be outdated. Please use [Tibi's fork](#), as the owner, Keli Yes, has been inactive within the Sensorica / OVN community or network

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## Other links

[Sensorica's Collaborative Entrepreneurship Course](#)

[Readme OVN manual](#)

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## What is an OVN?

OVN stands for [open value network](#). It is an organizational model adapted for **open collaboration**, **swarm-type projects** or crowd-based processes. OVNs are stigmergic environments and try to maximize the expression of collective intelligence. Its model is an assembly of governance, methodologies of work, and tools (IT infrastructure and others), with prescriptions about a work culture. One instantiation of the OVN model is [www.sensorica.co](http://www.sensorica.co). See more on the [OVN wiki](#). See also [types of OVNs](#).

### What an OVN isn't

- A traditional legal form, such as a coop, an inc, a nonprofit, etc.
- An open community
- An intentional community

## Why create an OVN?

An organization type is a vehicle for action, it allows you to do something with others. Before you choose this organizational model please sit down and consider a few questions.

- Why would you create an OVN instead of another type of organization?
- How to know if the OVN model is the right vehicle for you, to reach your goals?
- What does the OVN model provide that other models don't?
- What should be in place to create an OVN?
- **Add others...**

There are many reasons why you would choose the OVN model for your organisation.

- ❖ **Reduce your dependency on the financial system to launch a project**

- The OVN model is tuned for **crowdsourcing**: in every process, agents can contribute with any type of resources that are needed. We find here the pattern of the so-called *sharing economy*; sharing resources and excess capacity in the context of a collaboration, project or joint-venture. In other words, the OVN model is designed to do more with less (money), thus avoiding trips to the bank.
- ❖ **Accelerate innovation and tackle very complex problems** that require transdisciplinary collaboration
  - The OVN model prescribes a *transparent* and *open* network-type organization (where *transparent* means access to information and *open* means access to participation). An example of such a transparent and open network model is Wikipedia, where people who edit pages do not need permission to do so. The vast knowledge domain covered by Wikipedia is the living proof of the ability of OVNs to deal with complexity.
- ❖ **Build synergy, complementarity and compatibility among a large and diverse base of stakeholders** (protocols, standards, ...)
  - OVNs are designed as highly collaborative organizations. Competition is pushed towards the use of scarce resources, and it is eliminated among agents who collaborate within projects to achieve the best outcome. If there is a disagreement the project can fork, the development splits into two parallel branches, which can continue to influence each other and can even merge in the future. A byproduct of alignment of goals among different collaborating entities, which can be stakeholders of the project, leads to synergy, complementarity and compatibility. For example, open source projects are big unifiers. The Internet is the best example.
- ❖ **Increase diffusion and/or adoption rate of deliverables**
  - There are many reasons why the diffusion and/or adoption rate of deliverables are/is increased. These reasons are related to the process, as well as to properties that the deliverables of OVNs acquire. First, the process is transparent. Like with open source development, people get to know what is being created, they build expectations. Since the process is also open, people can even participate in different ways, which means that more feedback is injected into the process. But the time the deliverable is ready for launch, people know about it. Since some future users have contributed to the process, the deliverable has a better chance to fit people's needs. Moreover, these deliverables have a lower cost of ownership (purchasing, maintenance, etc) than commodity products created by traditional organizations.
- ❖ **Distribute influence or formal power among contributors**, avoid enclosure or monopolization
  - OVNs are [nondominiums](#) and thus they cannot be captured or hijacked. Moreover, their deliverables or products cannot be alienated. OVNs are organizations that guarantee peer governance of their deliverables or products.
- ❖ **Add others...**

# Your Vision, Mission and Positioning

[Open document.](#)

## Map your value system

[Open document.](#)

## Information and feedback

To be continued...

## Structure

Let the structure be mainly emergent. Sensorica took a minimalist approach to structure, i.e. put structure in place only in response to a problem. The minimalist approach is risky and can come with a high emotional cost on the network, because some problems develop into conflicts. You can always remix other OVNs' governance if the [value system](#) is similar.

## Infrastructure, Governance, Methodologies

At the fundamental level, organizations are a bunch of individuals trying to do something together. As the number of individuals increases and their activities become more complex, groups develop different types of problems, which require different types of solutions. We see elements of infrastructure, governance and methodologies as tools that respond to different types of organizational problems. These three levels are interlocked into a tight system that is compatible with the Open Value Network model.

### **Illustration**

A number of people get together to develop a new technology. Their work becomes complex and people lose track of activities. Their effectiveness as an organization is diminished. This is an organizational problem.

The solution touches all three levels of Infrastructure, Governance and Methodologies. The group decides to create a wiki (an IT tool, part of infrastructure) where they can document their work. A wiki is a collaborative documentation tool, which is coherent with collaborative work methodologies. The group adopts open source development methodologies where documentation is part of the work process. In order to make the process even more efficient, the group might also adopt a project management tool. They use it to plan their work, create tasks, and set priorities. They can gain more efficiency if they tie the wiki, where the content that results from their work activities is deposited, to the project management tool, and make documentation tasks part of the planning. Thus the work methodology is well integrated with the tools that the group adopts. But, people usually don't like to document. So the group might consider some rules that incentivise documentation or penalize those who don't document. For example, the rule can say that if the work is not documented in a way that everyone can find, understand, revise and contribute to, the work contribution is not taken into consideration. If different types of benefits are attached to the group's activity, the rule can tie documentation to access to benefits. This shows how infrastructure, work methodologies and governance interact.

## Infrastructure

Infrastructure is needed in order to allow a group of people to get things done. At the most basic level, infrastructure is a collection of tools.

The *open value network infrastructure* (OVNi) is documented on the OVN wiki [here](#). The most important OVNi modules are:

- *network resource planning and contribution accounting system* [NRP-CAS](#)
- *content management system* (CMS)
- *communication systems*
- *coordination systems*
- *feedback systems*

The [NRP-CAS](#) is a software application that assists with resource management, project and task management, accounting, including accounting of contributions, and redistribution of benefits. It is a tool that supports crowd-based economic processes, thus it also integrates crowdfunding and crowdsourcing. The NRP is a successor of the [enterprise resource planning \(ERP\)](#) system used by medium and large classical companies, designed for networks.

*We'll also discuss the governance and normative system, and legal framework.*

## Creating and implementing infrastructure

As a group grows in complexity it develops problems or becomes dysfunctional. At this moment, the group feels the need for tools, people propose some tools and implement them for the group, new tools develop new work habits, it gets messy because tools aren't well integrated, at

some point the group stops and restructures its infrastructure, and the cycle restarts. This is never ending in the lifetime of the organization.

It is difficult to propose infrastructure to a formed group, in absence of a problem, because lay people don't always understand IT infrastructure and its future consequences on the organization and adoption will be poor. People do understand the need of a new tool when a problem arises, if someone can provide it and make the link. Then they see the value, even if the tool proposed is only a prototype, and only loosely connected with the other tools. Once a tool gets recognized by people and is adopted, people develop new habits, and the group can restructure everything around. In short, tools are introduced as prototypes, incrementally, as a response to problems, in context. Only if a tool gets adopted and its use results in new work habits the group should spend energy integrating it into the main infrastructure.

When it comes to tools, there are usually 3 categories of roles: user, planner and admin. The user is almost anyone. Being a **user** requires only knowledge about how the tool is used in a specific context. The focus at the user level is on getting the work done. The next level is the **planner**. People in this role understand what the tool can do and they can configure the tool. This role requires knowledge about what the tool can do, in general. Planners teach users how to use the tool, choose and configure tools for specific tasks, schedule work and implement methodologies with the tool, etc. The third level is the **admin**. These people understand how the tool is built. They maintain the tool, teach planners about what's possible to do with the tool, about new features, and take feedback from users and planners to improve the tool.

[NOTE: copy this text also in the part of this doc where we talk about the NRP, replace tool by NRP]

## Self-organizing mechanisms

These mechanisms help the OVN become more efficient, in context, while allowing it to remain adaptive. They also reduce the burden on governance.

### Incentive system

The [benefit redistribution algorithm](#) is an important part of the OVN's incentive system. The design of the [benefit redistribution algorithm](#) and the Governance Document will determine how efficient and effective resources can flow into a [process/project](#), and the development time. It can also affect quality, for example, if important skills are not properly incentivised.

### Contribution accounting

The contribution accounting system records contributions to [processes/project](#). It also shows OVN affiliates how much other affiliates contribute to a [process/project](#). Those who contribute a lot might gain more influence, thus it plays a structuring role.



See a possible representation of the contribution accounting system in Sensorica for the [Greens for Good venture](#).

## The role system

A role is a set of activities. Examples of roles are: administration, facilitation, animation, R&D. Roles are emergent in an OVN. \*\*\* link to list of roles

It is important to identify the most important activities required for your value system in order to seed the NRP-CAS. They are used by the NRP-CAS to log [contributions](#). As time goes by, new activities can be introduced into the system.

The role system is structuring because it tells **network affiliates** what other affiliates are doing in the context of a project, thus, newcomers can rapidly identify experts. See a possible representation of the Role system in Sensorica for the [Greens for Good venture](#).

The role system is used by the NRP-CAS to signal needs to OVN affiliates. In other words, every time a new task is created in the system, those who have already successfully performed the task in the past receive an email notification.

The role system can also be used by the Resource management system to grant use access. See [Physical resources governance page on the OVN wiki](#).

See the [Role system](#) of the OVN.

## Role weighing

Adjust the relative weight of roles

**Proposed procedure:** present a matrix of roles and ask all members to weight them relative to each other, based on a *reference role*. Take the average and show it to the entire group. Discuss the result and decide if we can reiterate the experience based on lessons learned.

## The reputation system

The reputation system is structuring because it tells network affiliates how well other affiliates perform their tasks in the context of a project. An individual with a high reputation score can gain more influence in a project.

In order to make reputation operational in the socio-economic space we need to link it to the incentive system, i.e. the contribution accounting system.

Reputation also affects benefits through the [benefit redistribution algorithm](#), thus providing a very efficient self-exclusion for those who lose their reputation, because the cost to benefit ratio becomes attractive.

Access to tasks can also be modulated/prioritized by reputation, thus ensuring that those who create higher value gain first access.

Commitment to a task (see [Project and Task management](#) section) is a dimension of reputation. This adds more determinism into the value system, since OVN affiliates will try to keep their reputation score up by delivering on time, with the expected quality.

NOTE: although reputation is already a parameter in the NRP-VAS, SENSORICA hasn't implemented a reputation system yet.

The [Reputation system](#) of the OVN.

### Dimensions of reputation

**Commitment** is a dimension of reputation. Our experience shows that not keeping a commitment is a major problem in collaborative projects. One way to go around this problem, in systems based on voluntary involvement and in absence of power relations, is to link this dimension of reputation to the [benefit redistribution algorithm](#). In other words, if there is a pattern of not keeping self-imposed commitments, other affiliates are allowed to diminish the reputation/commitment score of the person.

Commitment can be defined by dimensions of *time* (deliver x at some date) and *quality* (deliver x at some date with y quality level, or responding to all requirements).

Other reputation dimensions that have been singled out in our experience with SENSORICA are **related to the collaborative atmosphere**. People can be rude, conflictual, not respecting rules,

## Governance and normative system

Start with these links

- [OVN governance](#)
- [Sensorica governance page](#)
- [Fluid p2p governance](#)
- [OVN Governance Canvas](#)

There are 3 levels of governance.

- *network-of-networks* - mainly interoperability with other OVN's
- *network* - mainly about network operations and shared assets
- *project* - mainly about project operations

Access to governance can be provided to OVN affiliates through the [Governance equation](#).

NOTE: Sensorica hasn't implemented a governance equation yet.

Norms are not yet formal rules. They are more or less explicit or documented. [Fluid p2p governance](#) describes an emergent and distributed normative system.

## Legal aspects

Legal structure - see [Sensorica's legal structure](#). See the [wiki page on legal structure](#).

# Roles, Relations and Rules

Tibi wants to put something here...

# Create spaces

## Content management

Content management systems define a virtual environment. Its characteristics drive behavior and organizational structure.

Example: if capturing and posting information requires special technical skills (a website difficult to edit) a class of content keepers will emerge and the rest of participants will be dependent on them. Moreover, it will create a community where people are not empowered relative to content generation.

### Main characteristics

- **access** (about openness) - not just a password, but also ability to act by reducing the barriers (technical and others) to content creation and maintenance.
- **transparency** - easy to find, understand, place in context
- **flow** - shareable content across different projects/networks/communities

# Project and task management

See the [OVN wiki page on Planing](#).

# Determinism in processes

Having processes being carried out in a coherent manner (coherent with resources available, time constraints, etc.) and a deterministic manner (predictable in all outcomes). e.g.. Customer orders product, needs to be delivered at a date (with all the specified requirements).

This depends on the scale and type/nature of the process.

## Scale

- swarming type of project, large scale, possible global (translational), has a long tail structure, relies on stigmergy
- small scale process, small group, local or not.

Large scale (swarm-type) processes operating in **long tail mode** must have a fair amount of redundancy, meaning that for every task there are more than one available resource (can be individuals who can work on them, or material resources, or other). The greater the redundancy the higher the probability that the task will be carried out. In this regime the load on governance is very low. This is how Wikipedia operates; at every moment there is someone in the world who can correct a page from vandalism.

Small scale projects don't have redundancy and tasks are shared across a small number of agents. This means that some processes are effectively monopolized by some individuals. If there is disagreement on how to do the task, how well, when to be delivered, the community needs to apply coercive measures, since there are no other individuals that can be allocated to the task. This generates the need for power relations (others accept or it is allowed that someone can force someone else to do things in a given way) or heavy governance systems (the group decides to coerce someone to do something).

See Tibi's presentation: [no boss no chaos](#).

# Design of benefit redistribution algorithm

Create a (visual) tool for open and collaborative design of benefit redistribution algorithms.

How people see contributions and how to link them to benefits. How do we design economic games that make projects sustainable?

Design a methodology that goes with this tool.

Design the UX/UI for this tool.

Benefit redistribution algorithms are culture dependent and context dependent.  
We need tools to structure the design process, and to help build consensus.

## Example from SENSORICA

Use this space to design the [benefit redistribution algorithm](#).

## Text from Guerilla Translations

[See text](#) that describes an incentive system and governance system proposed within the Guerilla Translations OVN.

# Problems to be aware of

## Navigation - Legibility of p2p networks

p2p networks share a very important problem: newcomers don't know where and how to engage, because the space is not legible.

This might be more about signaling/signalization than putting in place rigid structures. Networks are inherently emergent, they continuously morph into something else. Therefore, orientation is not defined by the structure itself, which is dynamic. The signaling needs to follow the evolution.

Some solutions

- structure projects (tells people what's cooking, why they should get involved)
  - How to create signaling that follows the continuous morphing of the environment?
  - What are the basic necessary signals?
    - Enter
    - Exit (and perhaps exclusion?)
    - Forking
    - Direction (goal)
    - Related to activity (what to do, when, why)
    - Related to resources (where they are, who has access [is there priority seating?] how to use them)
    - How to queue up (what are the cultural norms?)
- define tasks (allows people to find and understand what to do NOW)
- put in place a Role system (tells others who is doing what)
  - Who maintains order? (is there a police system?) How are conflicts resolved?
  - Who does maintenance cleaning?
  - Who makes sure the trains don't crash?
  - Who collects the money? (and how can it be trusted?)
  - create a role of "integrator" (find a better name) who guides newcomers
  - facilitation, coordination, curating, scribing. (These roles need continuity)
- **add more...**

## What else can go wrong?

First, networks are constantly renewing themselves. There is a constant flow of affiliates. One way to see the OVN is as an attractor - presents some mechanisms of **accumulation**.



Quitting the network and forking of activity as well as forking of the network itself is natural, don't fight it, work with it.

## Possible failure points

- the system is not transparent enough - people don't know who is doing what, how much and how well. This poses a lot of problems:
  - some are overworked (other don't know that),
  - governance imbalances (people who have contributed a lot are not are sometimes not allowed to take lead, responsibility, voluntary subordination doesn't happen),
  - Incentives are lacking (acknowledgment, being valued for the work done)
- lack of proper documentation (linked to transparency)
- culture:
  - people understanding that they can take initiative,
  - working in an open way - broadcast problems and needs along successes, in order to crowdsource problem solving
  - self-critical/self-reflective and allow constructive criticism

## Tools

- Google: easy access.
- Share content across networks & allowing communities with different cultures to co-create at a scalable level.
- Presentable.
- A fractal structure that allows flow and ability for the network to evolve into something else.
- Something to look at: <https://slack.com/>
  - Perhaps Drupal/CivCRM's parent, child and "cousin" sites with a shared database and many levels of permissions, and open source nature can fit the OVN need.

See [Tibi's article on open network evolution stages and problems](#).

## Capacity building

Is an activity that is not directed towards a goal

Network weaving.

Reinforcing connections through passionate and empathic relations.

This work is not documented and has no deliverables.



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# NRP installation and configuration

This is about installing a new instance of an NRP and configuring it for a new OVN.  
For questions, ask [Bob](#) and [Chris Troutner](#), and [David A Hand](#). Coordinate with [Tibi](#).

See also Bob and Lynn's [manual for configuring the NRP](#).

## Choices

Which version of the NRP to install?

Currently, the Sensorica NRP lives on OpalStack. Log in to SSH as the shell user:

<https://help.opalstack.com/article/14/ssh-access>

NOTE: The NRP requires some legacy libraries and a new installation might not work on another hosting service. In fact, it is very hard to make it work on another service than OpenStack. We strongly recommend using the same service if you want to install and play with the NRP.

### Branches of the NRP

- [the original](#), which Sensorica is using now
- [the Freedom Coop fork](#), integrates Faircoin [has been upgraded to more recent versions, but probably none of the process stuff is tested, they don't use that]
- [the GoPacifia fork](#) of the Freedom Coop fork [probably dead]
- [django rea](#)
  - [the https://github.com/django-rea/rea-app](https://github.com/django-rea/rea-app) project which aims to radically remake the NRP software, first with a new UI, and then with a decentralized back end:
    - Multi-platform UI application for OVN (Open Value Network) & REA (Resource / Event / Agent) backends- including Sensorica NRP, FreedomCoop OCP, GoPacifia DEEP & django-rea project.
- [Chris Troutner's fork](#) of the Sensorica version eventually
- [Bob and Lynn fork of the Freedom Coop fork](#) - not under development

## Installation

Ask Tibi for the last conversation during the Matrioshka NRP installation, search [Tibi] email for "NRP-VAS for Matrioshka project".

## Chris's instructions for installing the NRP

[Open the source](#)

NOTE: make sure you're installing the NRP version you want, from the list above.

### How to Install the Value Network Accounting Software

The [Value Network Accounting](#) software is an implementation of Network Resource Accounting (NRP) software, used to track expenses and labor used in an open value network (OVN) like [Sensorica](#). There is [a slide deck of tutorials](#) showing how to use the software. I've found that the best way to digest the tutorials is to install my own local copy of the software in order to play with it. The instructions below are adapted from the [original installation instructions](#) in the GitHub repository.

The instructions below are for installing the Value Network Accounting software on a Windows machine running a Linux Virtual Machine (VM) using VirtualBox. I was using the Windows 8.1 64-bit OS and using VirtualBox v5.0.10. I installed Ubuntu 14.04.03 Desktop 64-bit on the Linux VM. Your mileage may vary.

Note: Even though I was using a 64 bit OS on my Lenovo laptop, VirtualBox would only allow me to install a 32 bit operating system. It turns out that Lenovo laptops (and other computers) need to Intel Virtualization Technology turned on in their BIOS to allow the installation of a 64 bit VM, as per [this discussion thread](#) and [this blog post](#).

- Here is [the download page for VirtualBox](#)
- Here is [the download page for Ubuntu 14.04.03 LTS 64-bit Desktop](#)

I'm assuming the reader has the technical competence to install VirtualBox and the Ubuntu OS onto it. If you run into problems, use Google. There is a lot of good documentation that is very easy to find on all the intricacies of the installation process. From here, I will assume that you are looking at your Ubuntu VM desktop. In terms of VM resources, I set up the VM with a 12GB hard drive, 1024MB of RAM, and 2 processors.

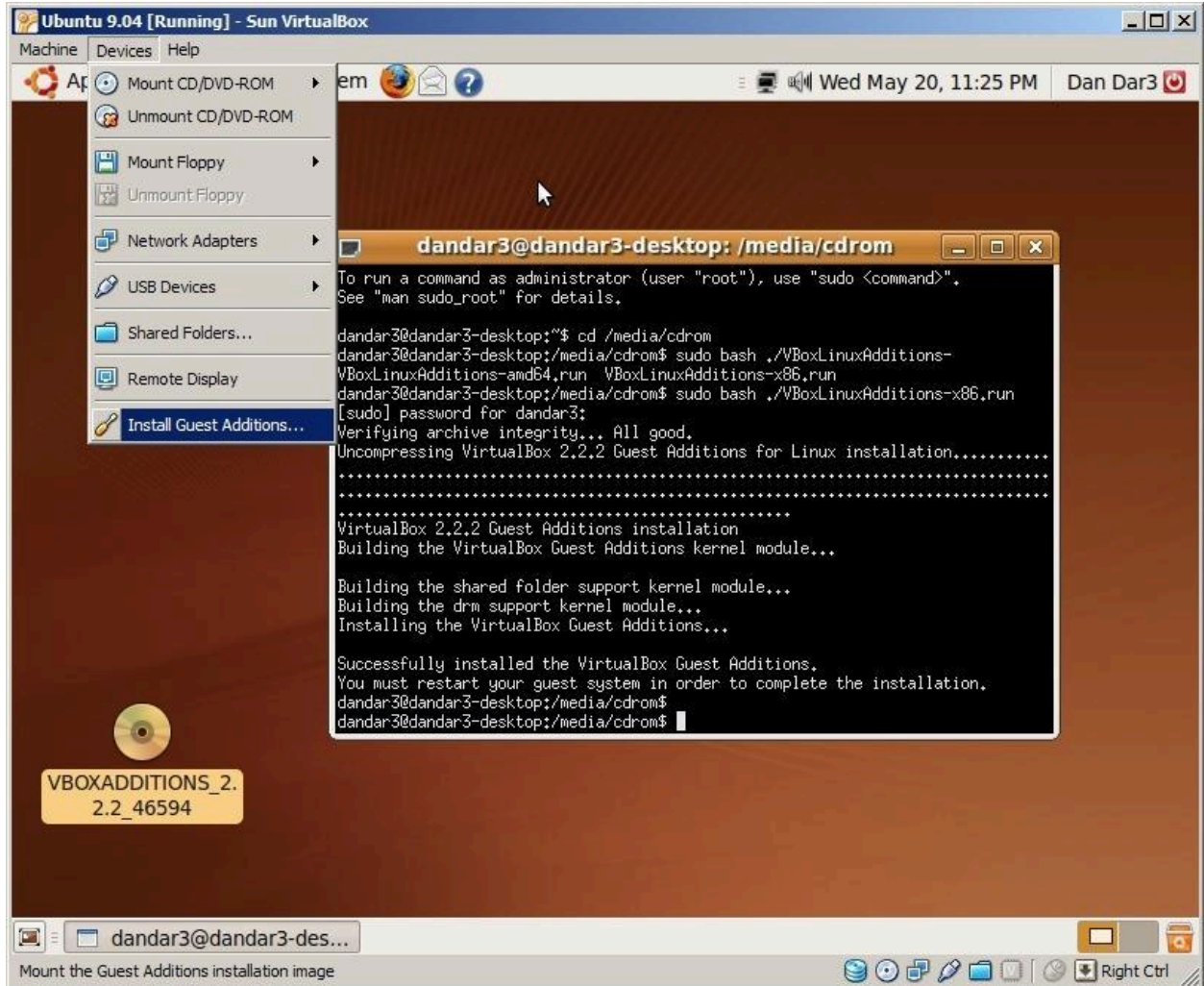
### Steps to Install Value Network Accounting

#### Environment Setup

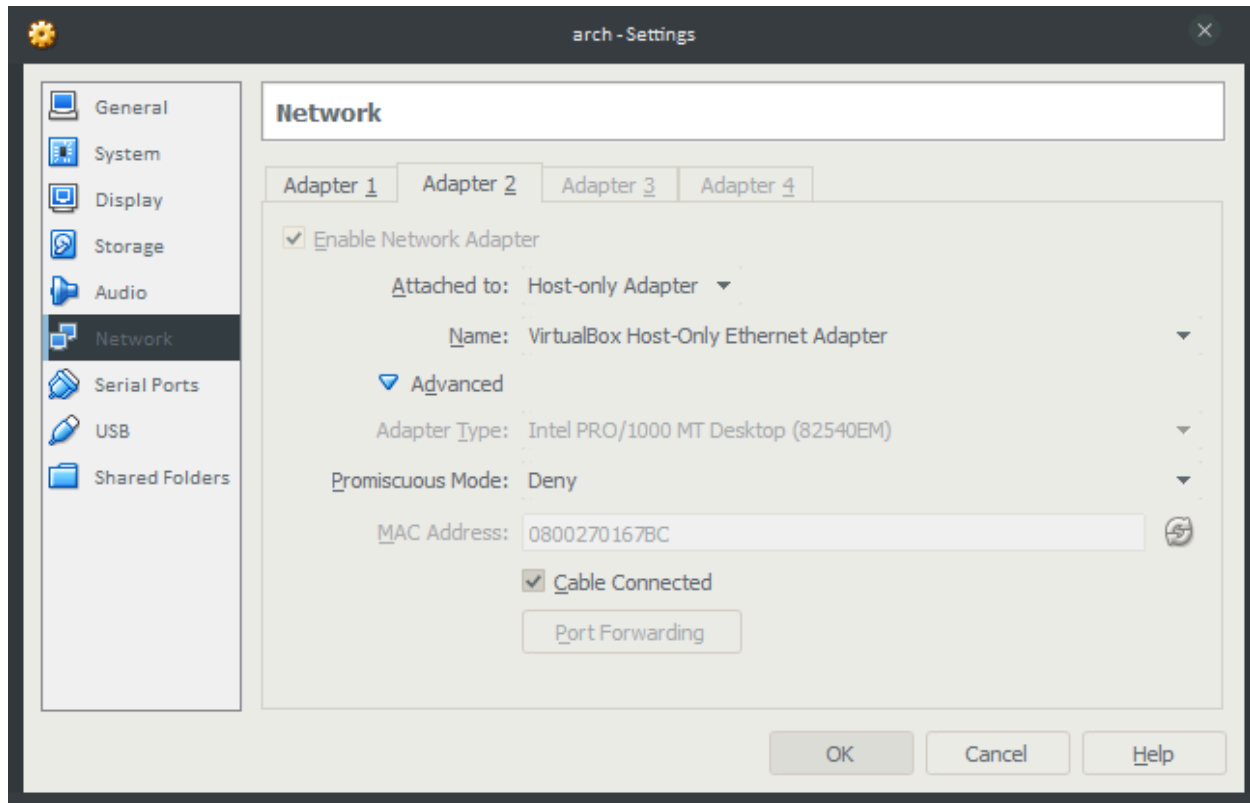
There are a few helpful pieces of software we should install in the environment before installing the valuenet software. This will make use and development of the valuenet software a lot easier. It's a great idea to create a 'Base' snapshot of your VM when you're done with the section.

1. Start by opening up a Terminal window. If you're brand new to Ubuntu, click on the Ubuntu icon in the upper left corner and type in Terminal, then hit enter. Text you should type into the terminal window are marked in italics below. You can also use **CTRL + ALT + T**

2. When editing a text file, my preference is to use the **nano** text editor in the terminal. To open a file, enter nano textfile.txt in the terminal window. To exit the text editor hit CTRL + X and answer y or n to whether you want to save the changes.
3. Start by installing the Guest Additions CD. This will fix your screen if it's tiny and allow you to add and remove network cards. See the screenshot below. The CD should autoinstall a bunch of good stuff.
4. After the Guest Additions finish installing, shut down the VM. With the VM shut down, install a Host-Only Adapter in the Virtualbox Manager. See the second screenshot below. You should also check out [this tutorial on installing SSH on a Linux VM](#), which is where I'm going with this.
5. Boot up the VM and Install the SSH server. [I used this tutorial](#), which worked well for me. By getting the SSH server running, you can connect to your VM with [PuTTY](#) (or some other SSH terminal client) and work in your native Windows environment instead of switching back and forth between Windows and the Desktop.
6. From the Terminal window inside the VM or using PuTTY, run the following two commands:
  - a. sudo apt-get update
  - b. sudo apt-get upgrade
7. Your environment is now setup! This is an awesome time to take a snapshot of your VM in VirtualBox Manager.



Screenshot of installing the VirtualBox Guest Additions CD



Installing a Host-Only Adapter in VirtualBox Manager

Installing the Value Network Accounting Software

NOTE: The [original instructions](#) pointed out that Python 2.7+, but not Python 3+ is required. This may be an issue in the future.

1. Install python setup tools:
  - a. `sudo apt-get install python-setuptools`
2. Install Pip:
  - a. `sudo easy_install pip`
3. Install virtualenv:
  - a. `sudo pip install virtualenv`
4. Install virtualenvwrapper:
  - a. `sudo pip install virtualenvwrapper`
  - b. `export WORKON_HOME=~/.Envs`
  - c. `mkdir -p $WORKON_HOME`
  - d. `source /usr/local/bin/virtualenvwrapper.sh`
5. Git should be installed, but just in case, run:
  - a. `sudo apt-get install git`
6. Install PILlow (python image library). I found [this discussion thread](#) helpful.
  - a. `sudo apt-get install libjpeg-dev`
  - b. `sudo apt-get install libtiff-dev`

- c. `sudo apt-get install libfreetype6-dev`
  - d. `wget`  
`http://downloads.sourceforge.net/project/openjpeg.mirror/2.0.1/openjpeg-2.0.1.tar.gz`
  - e. `tar xzvf openjpeg-2.0.1.tar.gz`
  - f. `cd openjpeg-2.0.1/`
  - g. `sudo apt-get install cmake`
  - h. `cmake .`
  - i. `sudo make install`
  - j. `pip install pillow`
7. Create a virtual environment:
    - a. `cd`
    - b. `mkvirtualenv vn --system-site-packages`
    - c. `workon vn`
    - d. `Cdvirtualenv`
  8. Clone the valuenet repository inside your virtual environment:
    - a. `git clone https://github.com/valnet/valuenetwork.git`
    - b. `cd valuenetwork`
  9. Install the requirements:
    - a. `pip install -r requirements.txt`
  10. Install easy-thumbnails:
    - a. `pip install --no-deps easy_thumbnails`
  11. Create and initialize the SQLite database
    - a. `./manage.py syncdb`
    - b. `./manage.py migrate`
  12. Install some starter facets and patterns:
    - a. `./manage.py loaddata ./fixtures/starters.json`
    - b. `./manage.py loaddata ./fixtures/help.json`
  13. Run the tests to verify everything installed correctly:
    - a. `./manage.py test valueaccounting`
  14. Create a local settings file and add the following line to it:
    - a. `nano valuenetwork/local_settings.py`
    - b. `STATIC_URL = "/static/"`
    - c. Cntl+X to exit, hit y to save.
  15. Start the Django server:
    - a. `./manage.py runserver`

That should hopefully get the Django server running without any issues. You can then connect to the valuenet front end by opening a browser in the Ubuntu desktop and connecting to `http://127.0.0.1:8000`.



## Running the Software After Reboot

Upon rebooting the VM, here are the commands you'll need to get the Django server and NRP software running again:

```
export WORKON_HOME=~/.Envs
source /usr/local/bin/virtualenvwrapper.sh
workon vn
cdvirtualenv
cd valuenetwork
./manage.py runserver
```

By default, Django only binds to the localhost address of 127.0.0.1. If you want to serve pages to your windows host box, then start the server with this command:

```
./manage.py runserver 0.0.0.0:8000
```

That will start the server and allow you to access the page from the windows box by pointing a browser at the VMs IP address. For instance, something like <http://192.168.56.101:8000>. So that completes the tutorial! Be sure to add comments below with your experiences, areas you got stuck on, and suggestions to others.

## Tibi's notes on configuration

[from installation for Matrioshka]

So as I am going through the process, I could remix your tutorial presentations <http://nrp.matrioshka.io/accounting/tutorials/> to make them more useful. So there is an order of things here, that is missing in the tutorials. I think we need a step-by-step minded tutorial, in order to reduce the time it takes for someone to set up an NRP for a specific organization. I discovered how to do it because I was familiar with all these things. But I doubt that someone with absolutely no experience with the NRP would be able to do it without your help.

See also Bob and Lynn's [manual for configuring the NRP](#).

## Create Users from Admin

Contributors: [Tibi](#), [Emily McGill](#), [Chris Troutner](#), ...  
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Value Network administration << back to operational section

Welcome, valnet. Change password / Log out

Home > Auth > Users

### Select user to change

Search: [ ] Search

Action: [ ] Go 0 of 4 selected

Username	E-mail address	First name	Last name	Staff status
Charles	Charles.patrick.eubanks@gmail.com	Charles		⊖
Tibi	tiberius.brastaviceanu@gmail.com	Tiberius	Brastaviceanu	⊖
Tim	tim.introduction@gmail.com	Tim		⊖
valnet	sqykly@gmail.com			⊕

4 users

Filter

- By staff status
  - All
  - Yes
  - No
- By superuser status
  - All
  - Yes
  - No
- By active
  - All
  - Yes
  - No

For providing admin access make sure you check the Staff status button

verdup.valnet.webfactional.com/admin/auth/user/2/

Password: **algorithm:** pbkdf2\_sha256 **iterations:** 10000 **salt:** d9EmBp\*\*\*\*\* **hash:** /yd0uB\*\*\*\*\*  
Raw passwords are not stored, so there is no way to see this user's password, but you can change the password using [this form](#).

#### Personal info

First name:

Last name:

E-mail address:

#### Permissions

Active  
Designates whether this user should be treated as active. Unselect this instead of deleting accounts.

Staff status  
Designates whether the user can log into this admin site.

Superuser status  
Designates that this user has all permissions without explicitly assigning them.

Groups:

The groups this user belongs to. A user will get all permissions granted to each of his/her group. Hold down "Control", or "Command" on a Mac, to select more than one.

Specific permissions for this user. Hold down "Control", or "Command" on a Mac, to select more than one.

User permissions:

Create users from Accounts

The screenshot shows the 'Value Network administration' interface. At the top, there is a navigation bar with the URL 'verdun.valnet.webfactional.com/admin/' and a breadcrumb trail 'Value Network administration << back to operational section'. Below this is a section titled 'Site administration' which contains several categories of administrative tasks, each with 'Add' and 'Change' buttons:

- Account**
  - Account deletions: +Add, Change
  - Accounts: +Add, Change
  - Email addresses: +Add, Change
  - Signup codes: +Add, Change
- Auth**
  - Groups: +Add, Change
  - Users: +Add, Change
- Notification**
  - Notice queue batches: +Add, Change
  - Notice settings: +Add, Change

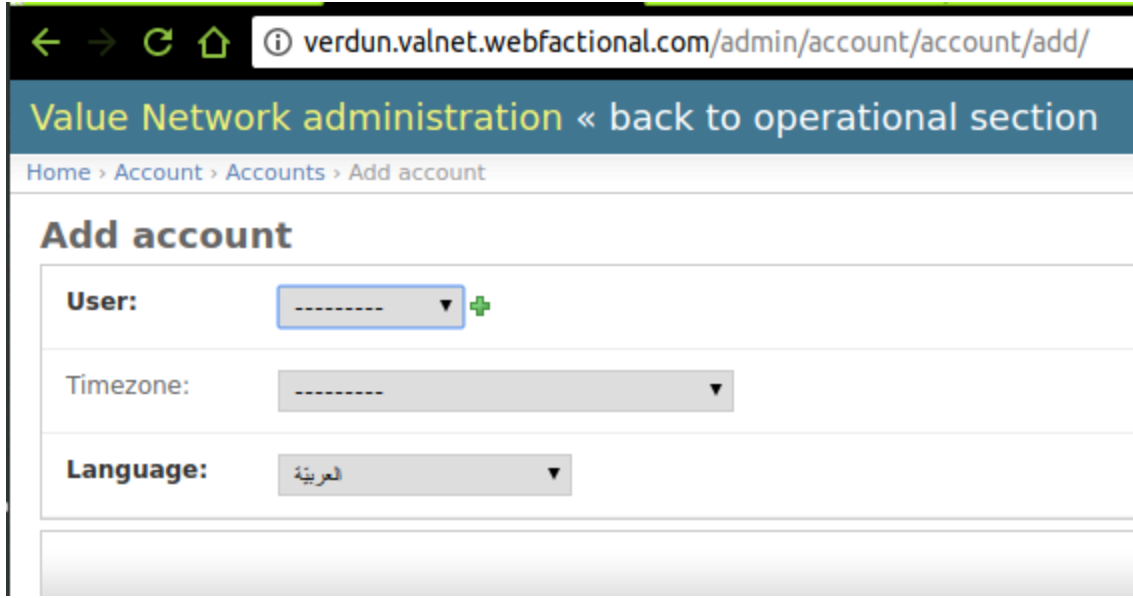
On the right side, there is a 'Recent Actions' panel titled 'My Actions' which lists recent activities:

- +Tibi (Economic agent)
- Tibi (User)
- davidh\_test (Account)
- Charles (Account)
- Tim (Account)
- Tibi (Account)

This is how the Accounts page looks like

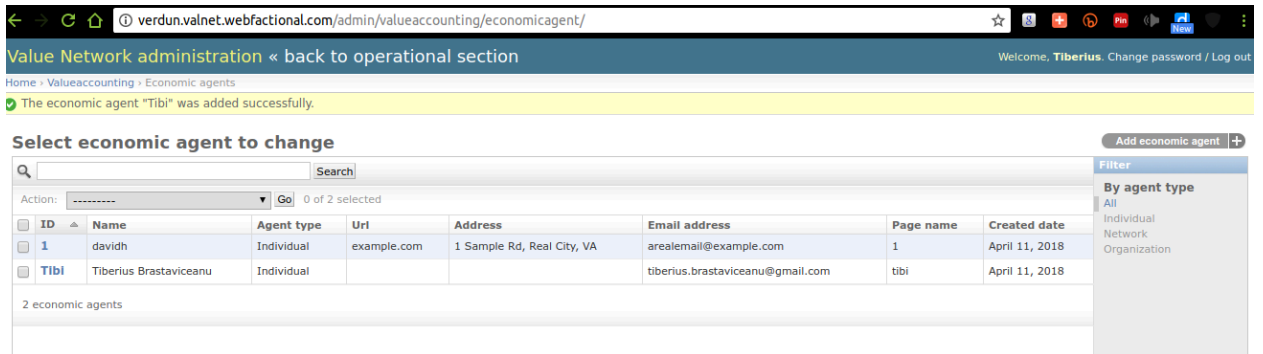
The screenshot shows the 'Select account to change' page in the Value Network administration interface. The URL is 'verdun.valnet.webfactional.com/admin/account/account/'. The page includes a breadcrumb trail 'Home > Account > Accounts' and a welcome message 'Welcome, Tiberius. Change password / Log out'. The main content area is titled 'Select account to change' and features a table of accounts with checkboxes for selection. The table lists the following accounts: Account, davidh\_test, Charles, Tim, Tibi, and valnet. Below the table, it indicates '5 accounts'. There is an 'Action:' dropdown menu and a 'Go' button. An 'Add account +' button is located in the top right corner of the table area.

You add new account and in there you can create a new User, using the + button.



## Create Economic Agents

From Admin, go to Economic Agents and add new. Make sure you associate the proper User to this **Economic agent**. NOTE: Only Economic agents can operate on the UI. Without creating Economic agents you'll not have access to buttons to create Resource Types, or Recipes, or add new Agents, ...



NOTE: make sure you adjust access rights (what every type of user can do in the NRP) from the beginning, because it will be harder later to go change that for everyone. Be mindful of what people can damage if not experienced and allow progressive access to do more and more things as people gain experience with the NRP. Create category of users.

## Create Units

Before anything else, because creating Resource Types requires entering Units.

There is a hardcoded list of units like time, weight, length, value, ... the idea is to create units like Time/hour or Time/minutes.

Value Network administration << back to operational section

Home > Valueaccounting > Units

### Select unit to change

Action:  Go 0 of 8 selected

<input type="checkbox"/>	Unit
<input type="checkbox"/>	Canadian Dollars
<input type="checkbox"/>	Hours
<input type="checkbox"/>	Kilogram
<input type="checkbox"/>	Meter
<input type="checkbox"/>	Minute
<input type="checkbox"/>	Percentage
<input type="checkbox"/>	US dollars
<input type="checkbox"/>	Verdun coins

8 units

## Create Event Types

You find the page to create and configure event types in Admin. It looks like this (Sensorica example).

Value Network administration << back to operational section

Home > Valueaccounting > Event types

Welcome, Tiberiu

### Select event type to change

Action:  Go 0 of 21 selected

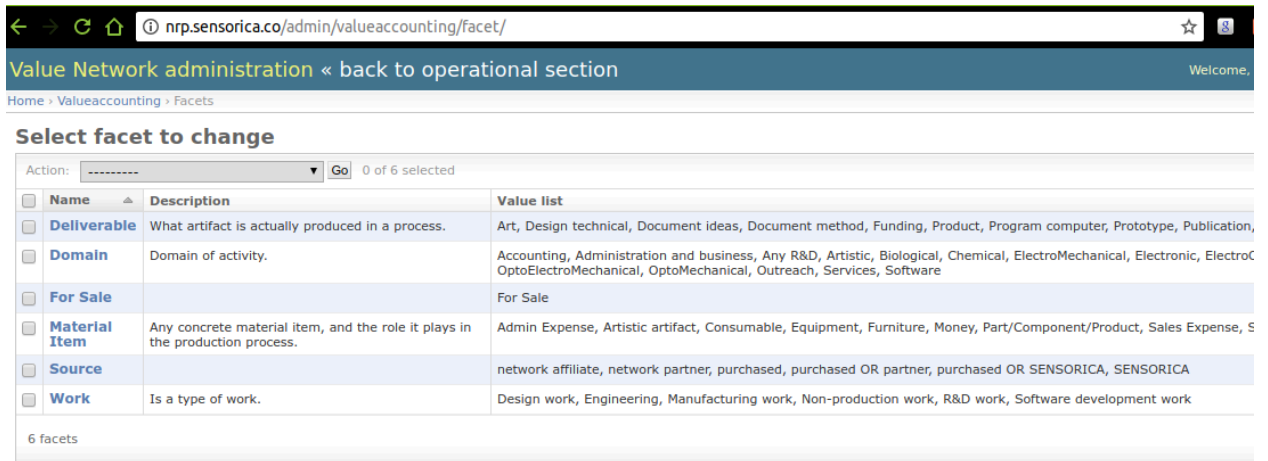
<input type="checkbox"/>	Name	Label	Inverse label	Related to	Relationship	Resource effect	Unit type
<input type="checkbox"/>	Adjust Quantity	adjusts	adjusted	agent	adjust	adjust	quantity
<input type="checkbox"/>	Change	changes	changed	process	output	change	quantity
<input type="checkbox"/>	Citation	cites	cited by	process	citation	no effect	(None)
<input type="checkbox"/>	Resource Consumption	consumes	consumed by	process	consume	decrease	quantity
<input type="checkbox"/>	Create Changeable	creates changeable	changeable created	process	output	create to change	quantity
<input type="checkbox"/>	Damage	damages	damaged by	agent	output	decrease	value
<input type="checkbox"/>	Cash Disbursement	disburses cash	disbursed by	distribution	disburses cash	decrease	value
<input type="checkbox"/>	Distribution	distributes	distributed by	distribution	distribution	increase	value
<input type="checkbox"/>	Failed quantity	fails		process	output	failure	quantity
<input type="checkbox"/>	Give	gives	given by	process	input	decrease	quantity
<input type="checkbox"/>	Make Available	makes available	made available by	agent	input	increase	quantity
<input type="checkbox"/>	Payout	pays out	paid by	agent	input	decrease	value

Note that EventTypes are hardcoded. See the [NRP code](#).

## Create Facets

As I added more structure and moved towards planning, I discovered that I needed to **create Facets** first. I copied those from SENSORICA NRP. Once I created Facets I was able to create Process Patterns, which requires Facets.

Here's an example from Sensorica



The screenshot shows a web browser window with the URL `nrp.sensorica.co/admin/valueaccounting/facet/`. The page title is "Value Network administration << back to operational section" and it includes a "Welcome," message. The breadcrumb trail is "Home > Valueaccounting > Facets".

### Select facet to change

Action:   0 of 6 selected

<input type="checkbox"/>	Name	Description	Value list
<input type="checkbox"/>	Deliverable	What artifact is actually produced in a process.	Art, Design technical, Document ideas, Document method, Funding, Product, Program computer, Prototype, Publication,
<input type="checkbox"/>	Domain	Domain of activity.	Accounting, Administration and business, Any R&D, Artistic, Biological, Chemical, ElectroMechanical, Electronic, ElectroC OptoElectroMechanical, OptoMechanical, Outreach, Services, Software
<input type="checkbox"/>	For Sale		For Sale
<input type="checkbox"/>	Material Item	Any concrete material item, and the role it plays in the production process.	Admin Expense, Artistic artifact, Consumable, Equipment, Furniture, Money, Part/Component/Product, Sales Expense, S
<input type="checkbox"/>	Source		network affiliate, network partner, purchased, purchased OR partner, purchased OR SENSORICA, SENSORICA
<input type="checkbox"/>	Work	Is a type of work.	Design work, Engineering, Manufacturing work, Non-production work, R&D work, Software development work

6 facets

This is how the config page looks like

Value Network administration << back to operational section

Home > Valueaccounting > Facets > Work

### Change facet

Name:

Description:

Value	Description
Work: Design work <input type="text" value="Design work"/>	Producing a 3D design, or an electronic design, or an optics/photronics design. The output of this work is a design file. This can be a CAD file, a drawing, etc. The link to the file MUST be given.
Work: Engineering <input type="text" value="Engineering"/>	Producing a physical prototype using a design and knowledge developed by R&D. The output of this activity is a physical object.

This will create filters for resource types. If you go to the Inventory page you'll see this being populated on the right side of the page.

example.com Organization Demand Supply **Inventory** Distribution My Work All Work valNet Show Help

Inventory [{{ t\\_res\\_type|title }}s](#) [Locations](#)

#### Filter the List

- All
- Deliverable**
  - Art
  - Computer program
  - Document ideas
  - Document method
  - Publication
- Domain**
  - Accounting
  - Administration and business
  - Artistic
  - Outreach
  - Services
  - Software
- Material Item**
  - Admin Expense
  - Artistic artifact
  - Consumable
  - Equipment




After that, I was able to adjust facet values for *Resource types* in order to have them show up in lists in processes. This is when you **create Resource types**.

They will end up on the Inventory/resource type page

Verdun NRP Organization Demand Supply **Inventory** Distribution My Work All Work Tibi [Show Help](#)

Resource Types [Resource Type Lists](#)

[Create New Resource Type](#)

- **Juicer**  
  
Resource class: Testing  
**Material Item: Equipment**  
*Used to remove all beneficial fiber from fruits. The hand-powered version is a lot less expensive.*
- **Lemon**  
  
Resource class: Testing  
**Material Item: Consumable**  
*A sour fruit that grows on a tree. Good source of vitamin C and tooth decay.*
- **Lemonade**  
  
Resource class: Testing

**Filter the List**

- All
- Deliverable**
  - Art
  - Computer program
  - Document Ideas
  - Document method
  - Publication
- Domain**
  - Accounting
  - Administration and business
  - Artistic
  - Outreach
  - Services
  - Software
- Material Item**
  - Admin Expense
  - Artistic artifact
  - Consumable
  - Equipment
  - Furniture
  - Money
  - Sales Expense
  - Service
  - Space

## Create Resource Types

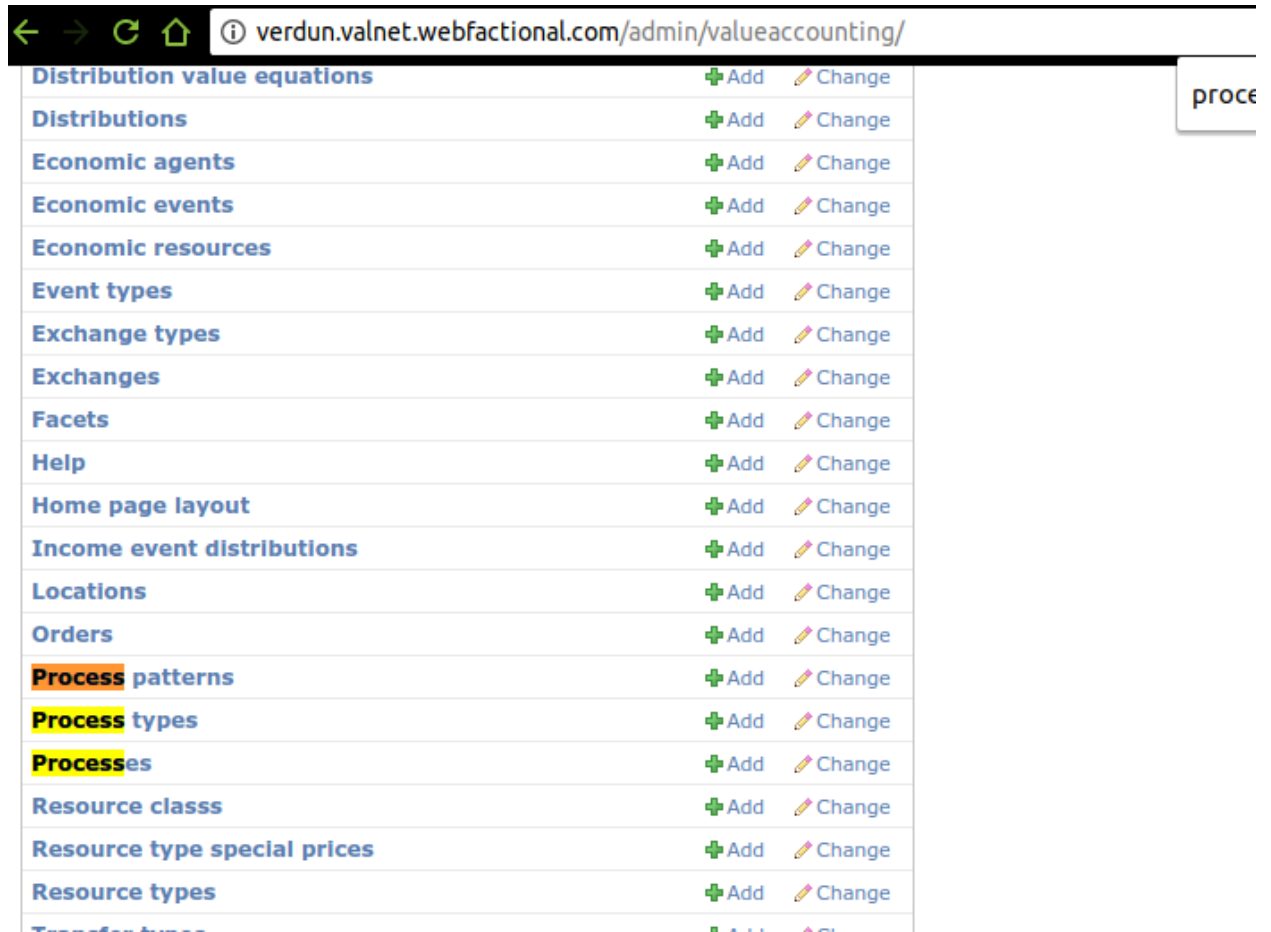
At this point, use the UI to create Resource types. If you have the proper credentials, you'll see the **Create New Resource type** button.

As you create new resource types, you need to set their facet values, in order to have them appear in your lists. So This is why Facets need to be defined before, see Above.

## Create Process patterns

In Admin you go to Process patterns. Process patterns form a logging page. There, you define what goes on the page, such as consumption of consumables, use of equipment, time contributions, etc. Some are very important, like Benefit distribution for example.





The screenshot shows a web browser interface with a navigation bar at the top containing back, forward, refresh, and home icons, followed by the address bar showing the URL 'verdun.valnet.webfactional.com/admin/valueaccounting/'. Below the navigation bar is a table listing various administrative menu items. Each item has a green plus icon for 'Add' and a yellow pencil icon for 'Change'. The items are: Distribution value equations, Distributions, Economic agents, Economic events, Economic resources, Event types, Exchange types, Exchanges, Facets, Help, Home page layout, Income event distributions, Locations, Orders, Process patterns, Process types, Processes, Resource class, Resource type special prices, and Resource types. The items 'Process patterns', 'Process types', and 'Processes' are highlighted with orange, yellow, and yellow backgrounds respectively. A search box with the text 'proce' is visible on the right side of the page.

Item	Add	Change
Distribution value equations	+ Add	✎ Change
Distributions	+ Add	✎ Change
Economic agents	+ Add	✎ Change
Economic events	+ Add	✎ Change
Economic resources	+ Add	✎ Change
Event types	+ Add	✎ Change
Exchange types	+ Add	✎ Change
Exchanges	+ Add	✎ Change
Facets	+ Add	✎ Change
Help	+ Add	✎ Change
Home page layout	+ Add	✎ Change
Income event distributions	+ Add	✎ Change
Locations	+ Add	✎ Change
Orders	+ Add	✎ Change
<b>Process patterns</b>	+ Add	✎ Change
<b>Process types</b>	+ Add	✎ Change
<b>Processes</b>	+ Add	✎ Change
Resource class	+ Add	✎ Change
Resource type special prices	+ Add	✎ Change
Resource types	+ Add	✎ Change

See an example in Sensorica's NRP

← → ↻ 🏠 ⓘ nrp.sensorica.co/admin/valueaccounting/processpattern/

Value Network administration « back to operational section

Home > Valueaccounting > Process patterns

### Select process pattern to change

Action: ----- ▾ Go 0 of 36 selected

<input type="checkbox"/> Name ▲	Use case list
<input type="checkbox"/> 3D Printer Use	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Academic Research	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Benefits Distribution	Distribution
<input type="checkbox"/> Cash Contribution	Incoming Exchange
<input type="checkbox"/> Change	Workflow Recipes/Logging
<input type="checkbox"/> Create Changeable	Workflow Recipes/Logging
<input type="checkbox"/> Create conditions for project	Workflow Recipes/Logging
<input type="checkbox"/> Create service	Workflow Recipes/Logging
<input type="checkbox"/> Customer orders	Customer Orders
<input type="checkbox"/> Documentation	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Electronics R&D	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Event organizing	Workflow Recipes/Logging
<input type="checkbox"/> Expense Contribution	Incoming Exchange
<input type="checkbox"/> Fiscal sponsorship	Outgoing Exchange
<input type="checkbox"/> Funding initiative	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Game Community Dev	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Game Development	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Game Device Development	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Generic R&D	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> Give course	Workflow Recipes/Logging, R&D/Manufacturing Recipe

## Create Exchange types

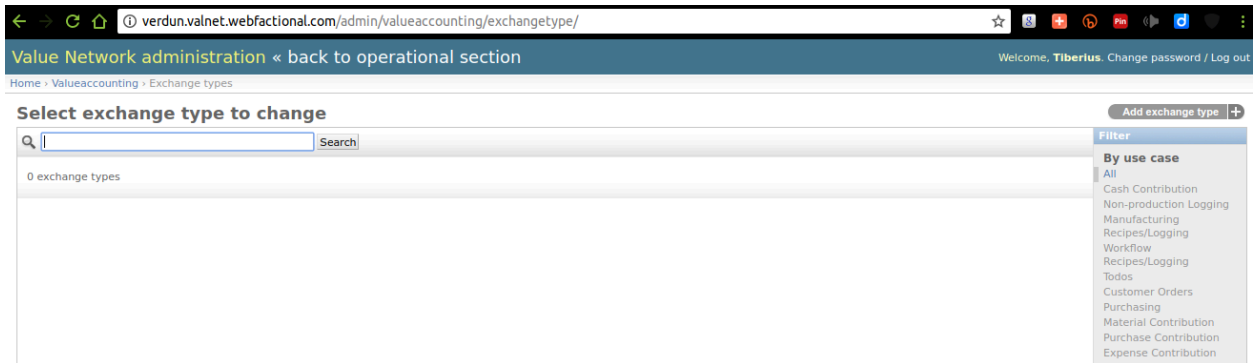
You need them before, to set **Transfer Types**.

You create them from Admin, like in the SENSORICA NRP.

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They end up here



Create Transfer Types  
See example from Sensorica NRP

nrp.sensorica.co/admin/valueaccounting/transfertype/

Value Network administration « back to operational section

Home > Valueaccounting > Transfer types

### Select transfer type to change

Action: [dropdown] Go 0 of 25 selected

<input type="checkbox"/>	Name	Sequence	Exchange type
<input type="checkbox"/>	Maintenance Fee	1	3D Printer Use exchange type
<input type="checkbox"/>	Pay back loan	1	Loan Repayment exchange type
<input type="checkbox"/>	Rent	1	Rent exchange type
<input type="checkbox"/>	Use of Sensorica resources	1	Maintenance Fee
<input type="checkbox"/>	Use of the lab	1	Tech Shop Access exchange type
<input type="checkbox"/>	Monthly Fablab Membership	1	FabLab Membership exchange type
<input type="checkbox"/>	Delliverable	1	Fiscal Sponsorship exchange type
<input type="checkbox"/>	Expense	1	Expense exchange type
<input type="checkbox"/>	Receipt	1	Purchase exchange type
<input type="checkbox"/>	Loan	1	Loan exchange type
<input type="checkbox"/>	Donation	1	Donation exchange type
<input type="checkbox"/>	Resource Contribution	1	Material Contribution exchange type
<input type="checkbox"/>	Cash Contribution	1	Cash Contribution exchange type
<input type="checkbox"/>	Shipment	1	Sale exchange type
<input type="checkbox"/>	Paid Service Package	2	3D Printer Use exchange type
<input type="checkbox"/>	Rent payment	2	Rent exchange type
<input type="checkbox"/>	Pay maintenance	2	Maintenance Fee
<input type="checkbox"/>	Tech shop payment	2	Tech Shop Access exchange type
<input type="checkbox"/>	Membership Fee	2	FabLab Membership exchange type
<input type="checkbox"/>	Sponsorship	2	Fiscal Sponsorship exchange type
<input type="checkbox"/>	Pay Expense	2	Expense exchange type

You do them from the Admin, here, **Transfer Type**.

nrp.sensorica.co/admin/	
Distribution value equations	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Distributions	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Economic agents	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Economic events	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Economic resources	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Event types	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Exchange types	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Exchanges	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Facets	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Help	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Home page layout	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Income event distributions	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Locations	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Orders	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Process patterns	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Process types	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Processes	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Resource class	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Resource type special prices	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Resource types	<a href="#">+ Add</a> <a href="#">✎ Change</a>
<b>Transfer types</b>	<a href="#">+ Add</a> <a href="#">✎ Change</a>
<b>Transfers</b>	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Units	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Use case event types	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Use cases	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Value equation buckets	<a href="#">+ Add</a> <a href="#">✎ Change</a>
Value equations	<a href="#">+ Add</a> <a href="#">✎ Change</a>

transfe

You need to properly set the parameters of these Transfer Types...

## Value Network administration « back to operational section

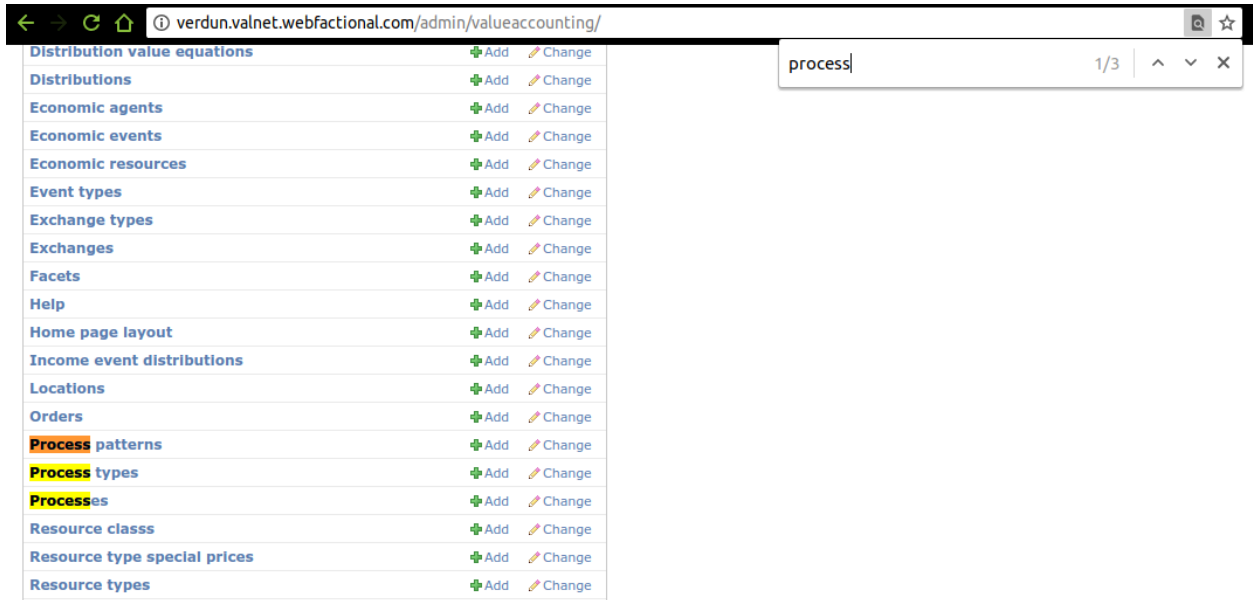
Home > Valueaccounting > Transfer types > Pay Purchase

### Change transfer type

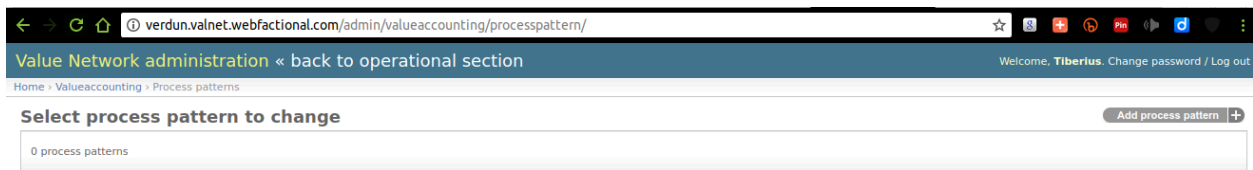
<b>Name:</b>	<input type="text" value="Pay Purchase"/>
<b>Sequence:</b>	<input type="text" value="3"/>
<b>Exchange type:</b>	<input type="text" value="Purchase exchange type"/> ▼ +
<b>Description:</b>	<div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;">Log made payment for the resource acquired.</div>
<input checked="" type="checkbox"/> Is contribution	
<input type="checkbox"/> Is to distribute	
<input checked="" type="checkbox"/> Is reciprocal	
<input type="checkbox"/> Can create resource	
<input checked="" type="checkbox"/> Is currency	
<input type="checkbox"/> Give agent is context	
<input type="checkbox"/> Receive agent is context	

## Create process patterns

You do that from Admin, here.



They will end up here



There are some important process patterns that will be used in Recipes, like Change, Create changeable, .

## Set Exchanges

...

## Set Process patterns

...

## Set User cases from admin

Use cases are predefined! They are linked to the UI and their names and identifiers are hard coded. [Here's the list](#) (copied below). Same for EventType, UseCaseEventType.

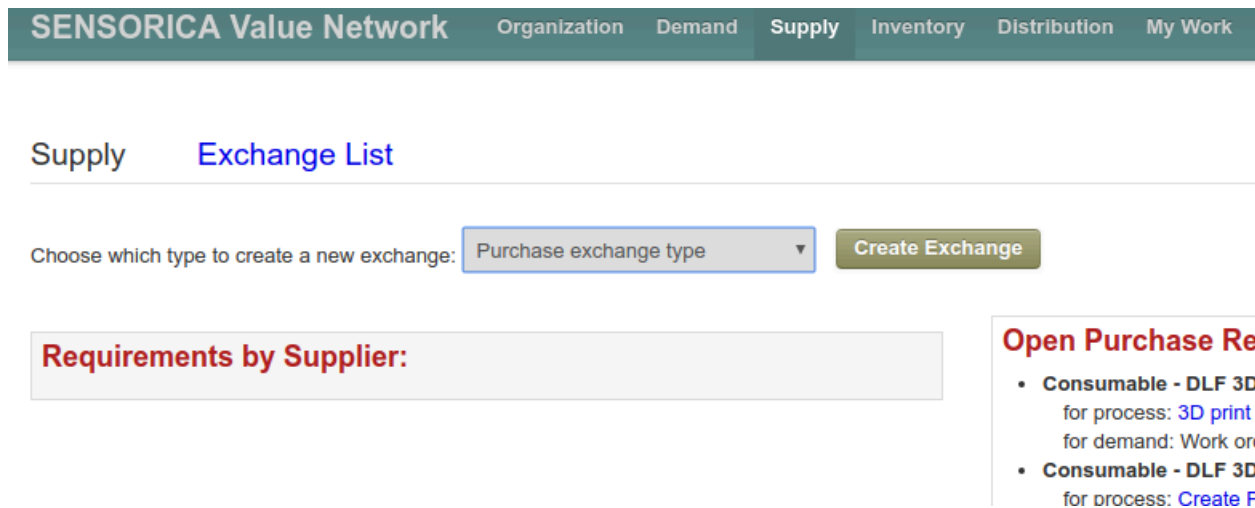
- `UseCase.create('cash_contr', _('Cash Contribution'), True)`
- `UseCase.create('non_prod', _('Non-production Logging'), True)`
- `UseCase.create('rand', _('Manufacturing Recipes/Logging'))`

- `UseCase.create('recipe', _('Workflow Recipes/Logging'))`
- `UseCase.create('todo', _('Todos'), True)`
- `UseCase.create('cust_orders', _('Customer Orders'))`
- `UseCase.create('purchasing', _('Purchasing'))`
- `UseCase.create('res_contr', _('Material Contribution'))`
- `UseCase.create('purch_contr', _('Purchase Contribution'))`
- `UseCase.create('exp_contr', _('Expense Contribution'), True)`
- `UseCase.create('sale', _('Sale'))`
- `UseCase.create('distribution', _('Distribution'), True)`
- `UseCase.create('val_equation', _('Value Equation'), True)`
- `UseCase.create('payout', _('Payout'), True)`
- `UseCase.create('transfer', _('Transfer'))`
- `UseCase.create('available', _('Make Available'), True)`
- `UseCase.create('intrnl_xfer', _('Internal Exchange'))`
- `UseCase.create('supply_xfer', _('Incoming Exchange'))`
- `UseCase.create('demand_xfer', _('Outgoing Exchange'))`
- `print "created use cases"`

## Figuring out how to set up Supply

See [tutorial about supply](#)

Using the UI, you find Supply as a main tab. Creating a Supply event requires creating an *Exchange*, by choosing an *Exchange Type* from a dropdown list.



SENSORICA Value Network Organization Demand Supply Inventory Distribution My Work

Supply Exchange List

Choose which type to create a new exchange: Purchase exchange type Create Exchange

**Requirements by Supplier:**

**Open Purchase Re**

- Consumable - DLF 3D for process: 3D print for demand: Work on
- Consumable - DLF 3D for process: Create F

So setting this up requires setting up *Exchange Types*. You do that from Admin, like in the screenshot below, with the example of a Purchase Exchange Type. See other types of exchange in that list below, that you might need in your context.



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Value Network administration < back to operational section

Home > Valueaccounting > Exchange types

### Select exchange type to change

Search

Action: [dropdown] Go 0 of 14 selected

<input type="checkbox"/>	Name
<input type="checkbox"/>	3D Printer Use exchange type
<input type="checkbox"/>	Cash Contribution exchange type
<input type="checkbox"/>	Donation exchange type
<input type="checkbox"/>	Expense exchange type
<input type="checkbox"/>	FabLab Membership exchange type
<input type="checkbox"/>	Fiscal Sponsorship exchange type
<input type="checkbox"/>	Loan exchange type
<input type="checkbox"/>	Loan Repayment exchange type
<input type="checkbox"/>	Maintenance Fee
<input type="checkbox"/>	Material Contribution exchange type
<input type="checkbox"/>	<b>Purchase exchange type</b>
<input type="checkbox"/>	Rent exchange type
<input type="checkbox"/>	Sale exchange type
<input type="checkbox"/>	Tech Shop Access exchange type

14 exchange types

Once you create the Exchange, the following page will look like this (Sensorica case)

SENSORICA Value Network Organization Demand Supply Inventory Distribution My Work All Work tibi

Show Help

### New Purchase exchange type

Total transfer value: 0 Total reciprocal transfer value: 0

Context: Building SENSORICA

Date: 2019-06-01

Link to receipt(s):

Comments: comment here...

Save changes

**Transfers**

- Receipt Total:
- Additional Expenses Total:

**Reciprocal Transfers**

- Pay Purchase Total:

**Work**

You need to set up the left side, the *exchange* information. The *transfer* information is situated on the right, see more explanation in [Bob and Lyn's presentation](#). The side (right side) only activates after you hit the *Save changes* button. The page should turn like this (Sensorica case).

The screenshot shows the 'SENSORICA Value Network' interface. At the top, there is a navigation bar with links for Organization, Demand, Supply, Inventory, Distribution, My Work, and All Work. The user's name 'tibi' is visible in the top right corner, along with a 'Show Help' link. The main heading is 'Purchase exchange type starting 2019-06-01'. Below this, there are two summary boxes: 'Total transfer value: 0' and 'Total reciprocal transfer value: 0'. The left side of the form contains several input fields: 'Context' (a dropdown menu showing 'Building SENSORICA'), 'Date' (a text box with '2019-06-01'), 'Link to receipt(s)' (a text box), and 'Comments' (a text area with 'comment here...'). A 'Save changes' button is located at the bottom left. The right side of the form is a summary of 'Transfers' and 'Reciprocal Transfers'. It includes sections for 'Receipt', 'Additional Expenses', 'Reciprocal Transfers', and 'Work'. Each section has a 'New Commitment' and 'New Transfer' button, and a 'Total: 0' indicator. The 'Work' section has a 'Log a work event' button.

In this example, *transfers* are: *Receipt*, *Additional Expenses*, *Pay Purchase* and *Work*. These are **Transfer Types**, which you need to set up prior to setting up Supply, see section above.

Like everything else, whatever you see on a page is governed by **Patterns**. So you need to have a pattern for every Supply case you have. In this example of Purchase, the **Process Pattern** is found in Admin The Page looks like this. Purchase, in this example, is low in the list, it doesn't appear in the picture.

## Value Network administration « back to operational section

[Home](#) » [Valueaccounting](#) » [Process patterns](#)

### Select process pattern to change

Action: <input type="text" value="-----"/> <input type="button" value="Go"/> 0 of 34 selected	
<input type="checkbox"/> Name	Use case list
<input type="checkbox"/> <b>3D Printer Use</b>	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> <b>Academic Research</b>	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> <b>Benefits Distribution</b>	Distribution
<input type="checkbox"/> <b>Cash Contribution</b>	Incoming Exchange
<input type="checkbox"/> <b>Change</b>	Workflow Recipes/Logging
<input type="checkbox"/> <b>Create Changeable</b>	Workflow Recipes/Logging
<input type="checkbox"/> <b>Create conditions for project</b>	Workflow Recipes/Logging
<input type="checkbox"/> <b>Create service</b>	Workflow Recipes/Logging
<input type="checkbox"/> <b>Customer orders</b>	Customer Orders
<input type="checkbox"/> <b>Documentation</b>	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> <b>Electronics R&amp;D</b>	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/> <b>Event organizing</b>	Workflow Recipes/Logging
<input type="checkbox"/> <b>Expense Contribution</b>	Incoming Exchange
<input type="checkbox"/> <b>Fiscal sponsorship</b>	Outgoing Exchange
<input type="checkbox"/> <b>Funding Initiative</b>	R&D/Manufacturing Recipes/Logging

The page to edit a **Process Pattern** looks like this. Note that you need to create **Event Types** before, as well as **Facet Values**. See sections above.

## Value Network administration « back to operational section

Home > Valueaccounting > Process patterns > Purchase Contribution

### Change process pattern

**Name:**

Pattern facet values	
Event type	Facet value
Purchase Contribution: Material Item: Money	
<input type="text" value="Give"/>	<input type="text" value="Material Item: Money"/>
Purchase Contribution: Material Item: Admin Expense	
<input type="text" value="Receive"/>	<input type="text" value="Material Item: Admin Expense"/>
Purchase Contribution: Material Item: Equipment	
<input type="text" value="Receive"/>	<input type="text" value="Material Item: Equipment"/>
Purchase Contribution: Material Item: Part/Component/Product	
<input type="text" value="Receive"/>	<input type="text" value="Material Item: Part/Component/Product"/>
Purchase Contribution: Material Item: Sales Expense	
<input type="text" value="Receive"/>	<input type="text" value="Material Item: Sales Expense"/>
Purchase Contribution: Material Item: Service	
<input type="text" value="Receive"/>	<input type="text" value="Material Item: Service"/>

But Patterns depend on **Use cases**, which you set in Admin here.

## Value Network administration « back to operational section

Home > Valueaccounting > Use cases

### Select use case to change

Action:   0 of 12 selected

<input type="checkbox"/>	Use case
<input type="checkbox"/>	Outgoing Exchange
<input type="checkbox"/>	Incoming Exchange
<input type="checkbox"/>	Internal Exchange
<input type="checkbox"/>	Make Available
<input type="checkbox"/>	Payout
<input type="checkbox"/>	Value Equation
<input type="checkbox"/>	Distribution
<input type="checkbox"/>	Customer Orders
<input type="checkbox"/>	Todos
<input type="checkbox"/>	Workflow Recipes/Logging
<input type="checkbox"/>	R&D/Manufacturing Recipes/Logging
<input type="checkbox"/>	Non-production Logging

12 use cases

Purchasing, in this example, relates to Incoming Exchanges, which are set up like this.

## Value Network administration « back to operational section

[Home](#) > [Valueaccounting](#) > [Use cases](#) > Incoming Exchange

### Change use case

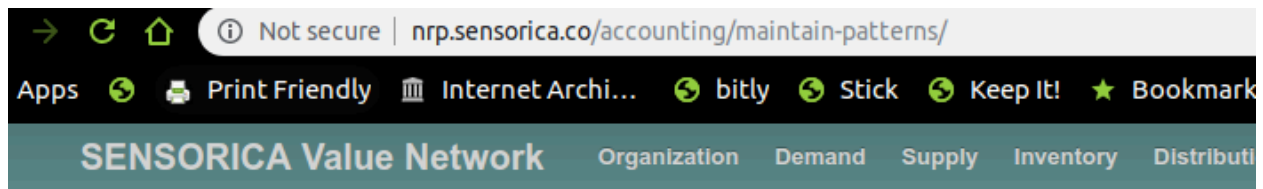
Identifier:

Name:

Restrict\_to\_one\_pattern

✖ Delete

On the UI, you can tween Patterns here



Maintain Process Patterns [Change Resource Type Facets](#)

Select Use Case:

Selecting a Usecase, brings all the Patterns relevant to it. For example, selecting Incoming Exchanges you should get Purchase Contributions. If you click on Purchase Contributions, you open a page where you can tweak it, playing with Pattern Facets.

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Maintain Process Patterns [Change Resource Type Facets](#)

Select Use Case:

Patterns for this Use Case:

- Cash Contribution
- Expense Contribution
- Material Contribution
- Purchase Contribution

You get there from your user menu, see *Patterns* on the right side of the pic below.

Maintain Process Patterns [Change Resource Type Facets](#)

Select Use Case:

- Settings
- NRP Tutorials
- Admin
- Patterns**
- Exchange Types
- Miscellaneous pages
- Log out

In the end, you can configure your Exchange Types from this page

Exchange Type with Pattern: **Purchase exchange type** [Exchange Types](#) [Change Resource Type Facets](#)

**Exchange Type**

Name:

Use case:

Description:

**Transfer Types for this Exchange Type**

- (1) Transfer Type: **Receipt**    
*It is the actual good or service received and creates resources*
- (2) Transfer Type: **Additional Expenses**    
*Additional costs, most likely billed/paid separately, as shipping, use tax*
- (3) Reciprocal Transfer Type: **Pay Purchase**    
*Log made payment for the resource acquired.*

- Settings
- NRP Tutorials
- Admin
- Patterns
- Exchange Types**
- Miscellaneous pages
- Log out

**Pattern for this exchange type**

**Receipt** Selections you will see in forms:

Pattern Facets:

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