

Open APIs  
for Open  
Minds

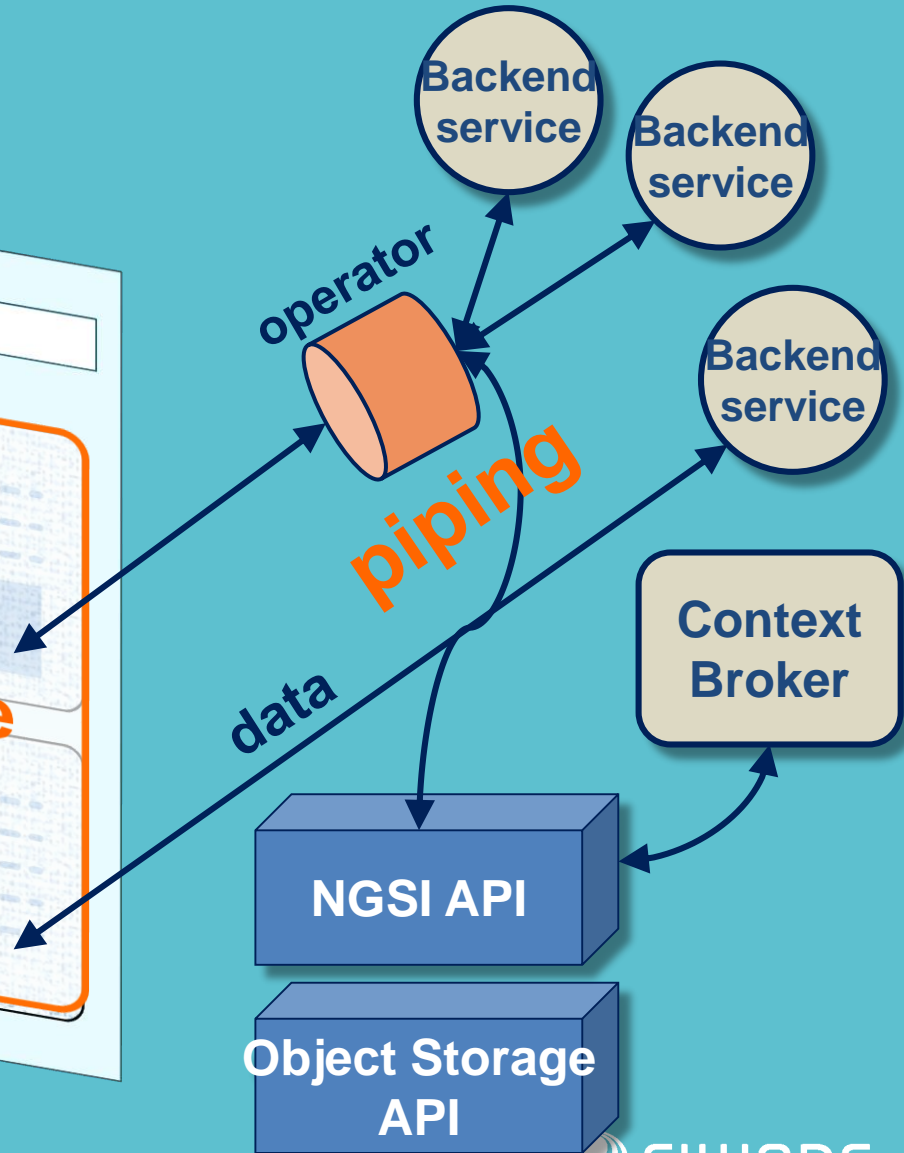
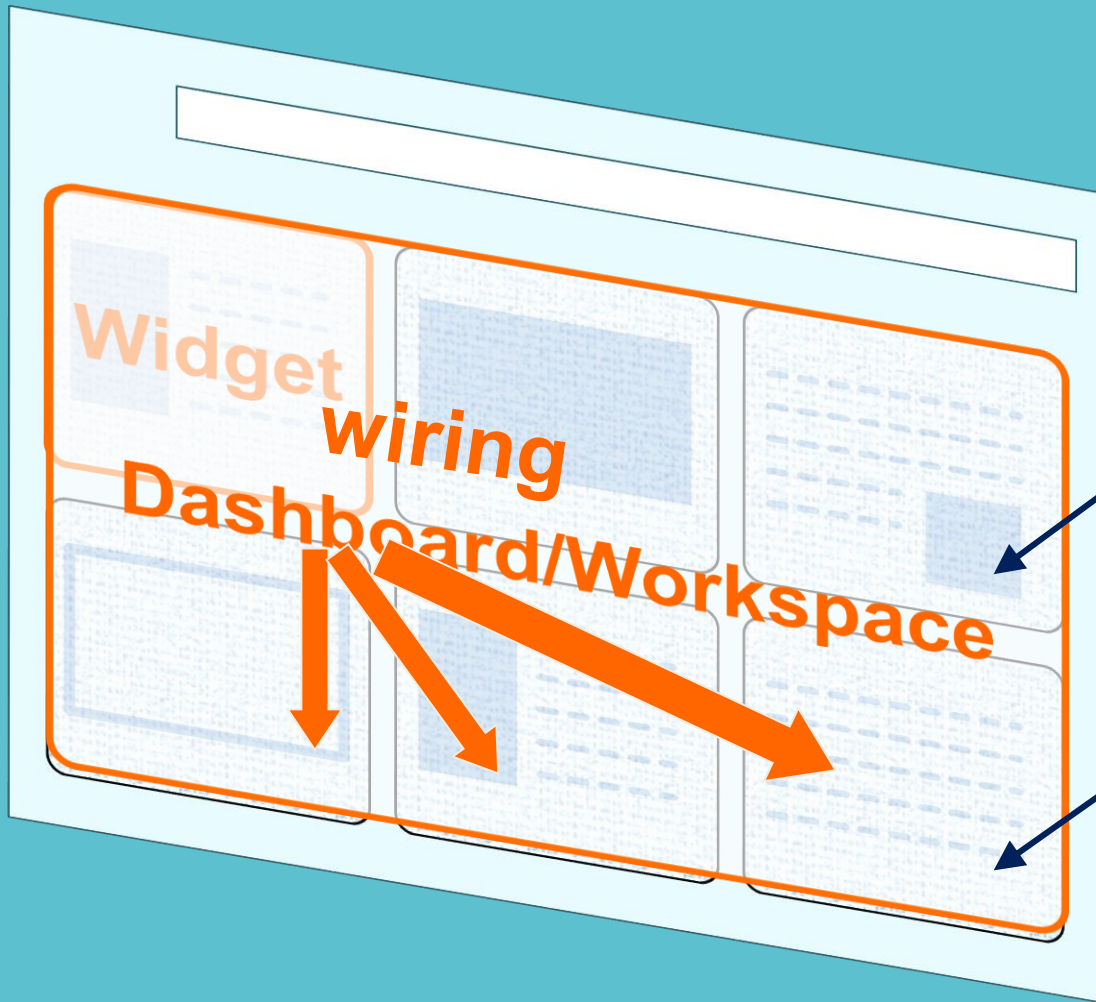
# Building application dashboards using WireCloud

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# What is WireCloud?



# Perspectives

- From the **developer** perspective:
  - Use web technologies for easily developing mashable web components (widgets & operators)
  - Integrate web mashups with backend services (e.g. support for pub/sub, “connectors” to a number of FIWARE GEs, etc.)
- From the **user** perspective:
  - Develop application mashups: integrate heterogeneous data, application logic, and UI web components to create value added instant applications.
    - Without the need of programming skills (e.g. end users, infomediaries, etc.)
    - Fostering the reuse and shareability of widgets, mashups, etc.

# Configurable dashboards... and much more

- Wiring
  - Wiring and support for channel creation
- HTTP proxy
  - Cross-origin HTTP requests
- Integration with other GEs
  - APIs: Context Broker, Object Storage
  - Components for Orion, Kurento, CKAN, Cosmos...
  - System: Business API Ecosystem, Authentication using IdM
- Shared dashboards
  - Including for public dashboards (allowing anonymous users)
- Embedded dashboards
  - Integrate dashboards in any website

# Orion: Markers updated in realtime

alvaro-arranz-garcia / NGSI map example

Santander buses

Map Satellite

id: [http://datos.santander.es/api/datos/control\\_flotas\\_posiciones/4](http://datos.santander.es/api/datos/control_flotas_posiciones/4) ✕  
type: device  
position: 43.4613124327,-3.83560267768  
line: 1  
TimeInstant: 2016-03-14T14:00:41.370Z  
index: 1  
service: 2209B  
status: 3  
vehicle: 74  
TimeInstantModified: 2016-03-14T22:57:41.077Z  
speed: 4.355999946594238

Google

Map data ©2016 Google, Inst. Geogr. Nacional | Terms of Use | Report a map error

Tab ↖

Powered by WC

# Orion: Markers updated in realtime (Wiring)

The screenshot shows a web browser window with the URL <https://mashup.lab.fiware.org/alvaro-arranz-garcia/NGSI%20map%20example#view=wiring>. The browser's address bar and navigation icons are visible. The page header includes the FIWARE Lab logo and navigation links: Cloud, Store, Mashup, Data, Account, and HelpInfo. The user profile 'aarranz Arranz García' is shown in the top right.

The main content area displays a wiring diagram for the 'alvaro-arranz-garcia / NGSI map example / wiring' Mashup. The diagram consists of three widgets connected in a sequence:

- NGSI source** (Provide entity)
- NGSI Entity To PoI** (Entity, PoI)
- Santander buses** (Expanded to show a list of data fields and actions)

The 'Santander buses' widget is expanded to show a list of data fields and their corresponding actions:

Santander buses	
Address	Route Description
Coordinates	URL Route Map
Route	Address
Route Step	UTM Coordinates
Insert/Update PoI	Decimal Coordin...
Delete PoI	PoI selected
Insert/Update C...	PoI visibility cha...
Select PoI	Change Viewport

At the bottom right of the Mashup interface, there are three status indicators: **2 Connections**, **2 Operators**, and **1 Widgets**.

# Orion: administration panel (1/3)

The screenshot displays the Orion administration panel interface. At the top, there is a navigation bar with the FIWARE Lab logo and menu items: Cloud, Store, Mashup, Data, Account, and Help&Info. The user profile 'aarranz Arranz García' is visible in the top right. The main content area is divided into three sections:

- Available types:** A table listing various equipment types with their attributes and actions.
- Entity List:** A table showing a list of equipment entities with their IDs, types, and actions.
- Available subscriptions:** A table listing active subscriptions with their IDs, descriptions, statuses, and expiration dates.

Each table includes a 'Page: X/Y' indicator at the bottom. The interface also features a 'Tab' button and a 'Powered by WC' logo in the bottom right corner.

Type	Attributes	Actions
sevilla::equipment	position, urn:name, urn:Type	[Book] [Play]
sevilla:fountain	hola, value, Name, Duration, OcurranceTime, Certainty, Cost, power, longitude, ...	[Book] [Play]
sevilla:water	volume, TimeInstant	[Book] [Play]

Id	Type	Actions
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play] [Add]

Id	Description	Status	Expires	Actions
553614511860a3f429e3fd80		active	2035-01-06T09:11:45...	[Edit] [Delete]
553617f61860a3f429e3fd85		active	2035-01-06T09:27:18...	[Edit] [Delete]

# Orion: administration panel (2/3)

The screenshot displays the Orion administration panel interface. At the top, the browser address bar shows the URL `https://mashup.lab.fiware.org/alvaro-arranz-garcia/orion-admin#view=workspace`. The navigation bar includes the FIWARE Lab logo and menu items: Cloud, Store, Mashup, Data, Account, and Help/Info. The user profile 'aarranz Arranz García' is visible in the top right.

The main content area is titled 'alvaro-arranz-garcia / orion-admin' and contains several panels:

- Available types:** A table listing types and their attributes:

Type	Attributes
sevilla::equipment	position, urn:name, urn:Type
sevilla:fountain	hola, value, Name, Dur...
sevilla:water	volume, TimeInstant
- Available subscriptions:** A table listing subscriptions:

Id	Description
553614511860a3f429e3fd80	
553617f61860a3f429e3fd85	
- Map Viewer:** A map showing equipment locations in Sevilla. A tooltip for a specific location provides details:

```
id: sevilla::equipment::12
type: sevilla::equipment
position: 37.410306,-5.924347
urn:Type: Biblioteca
urn:name: Biblioteca Parque Alcosa
```
- Entity List:** A table listing entities with columns for Id, Type, and Actions:

Id	Type	Actions
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]
sevilla::equip...	sevilla::equip...	[Edit] [Delete] [Play]

At the bottom right, there are icons for adding a new entity, a refresh icon, and a 'Powered by WC' logo.



# Orion: administration panel (3/3)

The screenshot displays the Orion administration interface. At the top, the browser address bar shows the URL `https://mashup.lab.fiware.org/alvaro-arranz-garcia/orion-admin#view=workspace`. The navigation menu includes 'FIWARE Lab', 'Cloud', 'Store', 'Mashup', 'Data', 'Account', and 'Help&Info'. The user profile 'aarranz Arranz García' is visible in the top right.

The main content area is titled 'alvaro-arranz-garcia / orion-admin'. It features two primary sections:

- Available types:** A table listing various entity types and their attributes.
- Available subscriptions:** A table listing subscription IDs and descriptions.

A 'New Entity' dialog box is open in the foreground, showing a form for creating a new entity. The form contains the following fields:

- id:** `newentity`
- type:** `mytype`
- otherattr:** `value`

The background interface also shows an 'Entity List' table with columns for 'Id', 'Type', and 'Actions'. The 'Actions' column contains icons for edit, delete, and refresh.

# Orion: Admin your own Orion instance

The screenshot displays the Orion Admin web interface. The browser address bar shows the URL `https://mashup.lab.fiware.org/alvaro-arranz-garcia/orion-admin#view=workspace`. The main navigation bar includes 'FIWARE Lab', 'Cloud', 'Store', 'Mashup', 'Data', 'Account', and 'Help/Info'. The user profile 'aarranz Arranz Garcia' is visible in the top right.

Two modal dialogs are open:

- Select a mashup template:** A search bar contains 'orion admin'. A result for 'Orion Admin' (CoNWeT) is shown with a checkmark. The description reads: 'Browse and administrate an orion context broker server'. A 'Close' button is at the bottom right.
- Settings:** Contains three input fields: 'NGSI server URL', 'NGSI tenant/service', and 'NGSI scope'. At the bottom are buttons for 'Set Defaults', 'Save', and 'Cancel'.

The background interface shows sections for 'Available types' and 'Available subscriptions'.

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# CKAN: PoI Example

The screenshot displays a web browser window with the following elements:

- Browser Tab:** alvaro-arranz-garcia/CKAN Val x
- Address Bar:** <https://mashup.lab.fiware.org/alvaro-arranz-garcia/CKAN%20Valencia%20with%20cameras#view=workspace>
- Navigation Bar:** FIWARE Lab | Cloud | Store | Mashup | Data | Account | HelpInfo | Álvaro Arranz García
- Breadcrumb:** alvaro-arranz-garcia / CKAN Valencia with cameras
- Address Input:** Búsqueda  Send
- Map Viewer:** A Google Map of Valencia with numerous camera icons. A popup window shows details for a specific camera:

```
tipo: 4
idcamara: 1103
url_trafico: http://camaras.valencia.es/trafico/itinerarios/camarasola.asp?idcamara=01103
angulo: 304
_id: 38
WKT: POINT (-0.383273828425677 39.457449349578184)
```
- Web Browser:** A window titled "Valencia" showing the "AJUNTAMENT DE VALENCIA" website. It features a live camera feed titled "PASO ELEVADO DE PERIS Y VALERO dirección PERIS Y VALERO (13:13)". Below the feed are buttons for "actualizar" and "cerrar".
- Footer:** Tab ^, +, ↗, Powered by WC

# CKAN: PoI Example wiring

address input

CKAN Source

CKAN Source

CKAN Source

**Map Viewer**

Address	Route Description
Coordinates	URL Route Map
Route	Address
Route Step	UTM Coordinates
Insert/Update PoI	Decimal Coordin...
Delete PoI	PoI selected
Insert/Update C...	PoI visibility cha...
Select PoI	Change Viewport

Filter POI data

Web Browser

**Behaviour:** Display Cameras

4 Connections 3 Operators 2 Widgets

# Sharing preferences

The screenshot shows a web browser window with the URL `https://mashup.lab.fiware.org/alvaro-arranz-garcia/CKAN%20Valencia%20with%20cameras#view=workspace&tab=Tab`. The page displays a dashboard for 'alvaro-arranz-garcia' with a map viewer and an address input field. A 'Sharing settings' dialog is open, showing the following options:

- Visibility options:**
  - Public**: Anyone on the Internet can find and access this dashboard.
  - Private**: Shared with specific people and organizations.
- Users and groups with access:**
  - Input field: Add a person or an organization
  - List of users:
    - Álvaro Arranz García (You)** alvaro-arranz-garcia Owner x

At the bottom of the dialog are 'Save' and 'Cancel' buttons. The background dashboard includes a search bar, a map viewer, and a list of data items with details like 'tipo: 4', 'idcamara: 1103', and 'url\_trafico: http://camaras.valencia.es/trafico/itinerario'. The footer of the dashboard reads '2016 © FIWARE. The use of FIWARE Lab services is subject to the acceptance of the Terms and Conditions, Privacy Policy and Cookies Policy.'

# CKAN: WireCloud views

The screenshot shows a web browser window displaying a CKAN dataset page. The browser's address bar shows the URL: <https://data.lab.fiware.org/dataset/valencia-traffictrans-camaras/resource/dde9a5ae-4b21-47b0-ac71-c297c386acbe>. The page title is "Valencia: Tráfico y Transporte: Cámaras de tráfico".

The main content area features a "CSV" heading and a "Manage" button. Below this, the URL is repeated, followed by a section titled "From the dataset abstract" which contains the text: "Cámaras de tráfico existentes en la ciudad de Valencia. Esta obra está bajo una Licencia Creative Commons Atribución 4.0 Internacional (http://creativecommons.org/licenses/by/4.0/deed.es)...". The source is listed as "Valencia: Tráfico y Transportes: Cámaras de tráfico".

Navigation tabs include "Dashboard" and "Data Explorer". An "Embed" button is also visible.

The WireCloud view is composed of several widgets:

- address input:** A search box with the text "Búsqueda" and "Text to send..." and a "Send" button.
- Map Viewer:** A map showing the location of traffic cameras in Valencia. A popup window displays details for a specific camera: "tipo: 4", "idcamara: 709", "url\_trafico: http://camaras.valencia.es/trafico/itinerarios/camarasola.asp?idcamara=00709", "angulo: 166", and "\_id: 68".
- Web Browser:** A widget displaying the Valencia city website (www.valencia.es). The page content includes the text "Cámaras actualizándose automáticamente - Actualizadas en negrita" and "JÁTIVA - RUZAFÁ dirección GUILLEM DE CASTRO (18:52)".

# CKAN: WireCloud views (Wizard)

**What's a view?**  
A view is a representation of the data held against a resource

**Add view** ← All views View view

**\* Title:** Simple WireCloud View

**Description:** simple chart  
You can use [Markdown formatting](#) here

**Filters:** [Add Filter](#)

**Dashboard:** ckan |

- alvaro-arranz-garcia/CKAN browsing
- miguel-8/CKAN Browsing
- alvaro-arranz-garcia/CKAN Amsterdam
- miguel-jimenez/ckan at civity
- aitor/CKAN Source
- imunoz/ckan graph
- alvaro-arranz-garcia/CKAN Wirecloud View**
- alvaro-arranz-garcia/CKAN Valencia with cameras Example displaying CKAN data in a map


# CKAN: WireCloud views (Wizard)

Dashboard: eg. myuser/dashboard

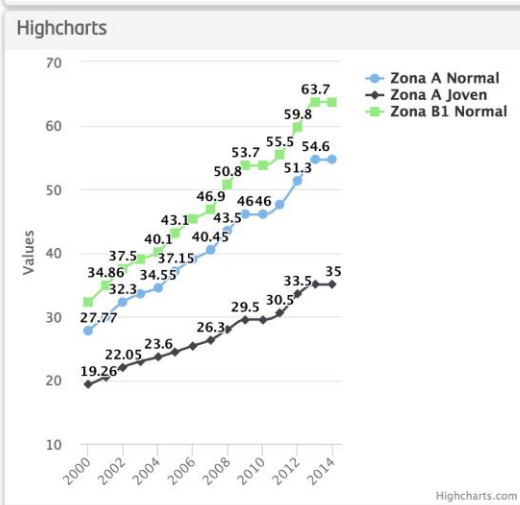
Create a new dashboard

CKAN Graph creator

1. Chart 2. Data 3. Configuration



Highcharts

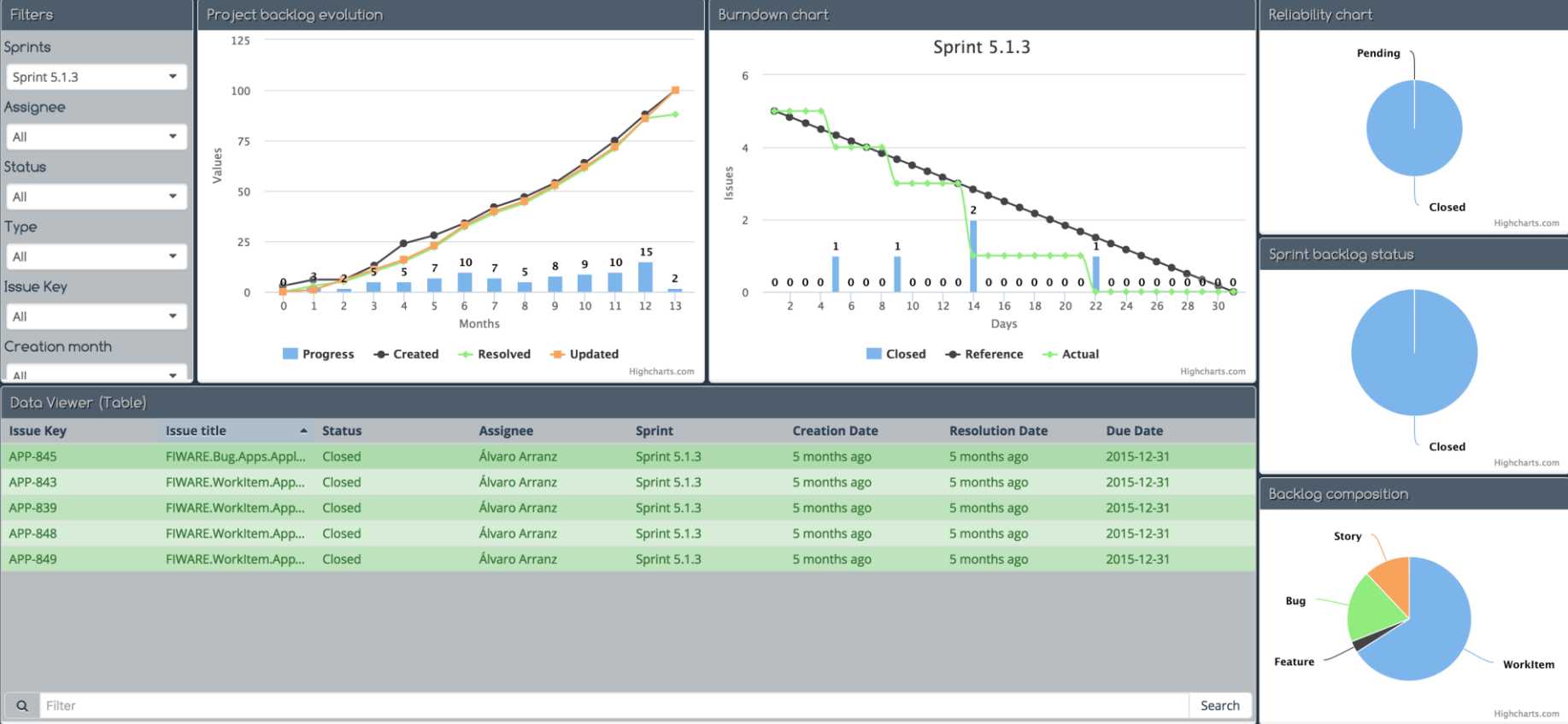


Year	Zona A Normal	Zona A Joven	Zona B1 Normal
2000	27.77	19.26	34.86
2001	32.3	22.05	37.5
2002	34.55	23.6	40.1
2003	37.15	26.3	43.1
2004	40.45	29.5	46.9
2005	43.5	30.5	50.8
2006	46.46	33.5	53.7
2007	51.3	35	55.5
2008	54.6		59.8
2009	63.7		

Highcharts.com



# Agile dashboards



# Kurento: videocalls, crowd detection, etc

The image displays a FIWARE Mashup workspace titled "jaime-1 / KurentoDemo1". The interface is divided into several panels:

- Map Viewer:** A Google Map showing a location in Barcelona. A pop-up window for "Hunter William" displays his phone number: +1 (875) 546-2040.
- Text-based Field:** A search bar with the text "ter" and a search icon.
- Technician Profile:** A profile for "Hunter William" with details: Gender: male, E-mail: hunterwilliam@parleynet.com, Phone: +1 (875) 546-2040, Functions: eu, non, velit, cillum, Company: PARLEYNET.
- List of Technicians:** A list containing "Terrell Mendoza" and "Hunter William" (highlighted).
- One2One Video Call:** A live video feed of a man with a beard and a dark hoodie.
- Kurento Crowd Detector:** A video feed of a city street at night with a white polygon overlaid on the ground, indicating a detected crowd. The timestamp is "2015-12-25 05:55:16".
- Humidity:** Two circular gauges showing humidity levels of 50 and 49.

At the bottom, there is a footer with the text: "2015 © FIWARE. The use of FIWARE Lab services is subject to the acceptance of the Terms and Conditions, Personal Data Protection Policy and Cookies Policy".

# Others: FIDASH (Open Stack - Cloud)

The screenshot displays the FIDASH cloud management interface. At the top, the user is logged in as Miguel Jiménez. The main content area is divided into several panels:

- List Images:** A table showing available images. The 'MiWi-POI server' image is highlighted, showing it is active, public, and created on March 9, 2015.
- Detail Image:** A detailed view of the 'MiWi-POI server' image, including its ID, visibility, size, checksum, and region.
- List Flavors:** A table showing different instance flavors, such as 'm1.tiny', 'm1.small', 'm1.medium', 'm1.large', and 'm1.large.ephemeral', with their respective RAM, VCPUs, and disk sizes.
- List Volumes:** A table showing storage volumes. The 'neyvol' volume is highlighted, showing it is available in the nova zone with a size of 1 GiB.
- Detail Volume:** A detailed view of the 'neyvol' volume, including its ID, attachment status, and description.
- List Instances:** A table showing running instances. The 'FIDASH 0.9' instance is highlighted, showing it is active and running in the Spain2 region.
- Detail Instance:** A detailed view of the 'FIDASH 0.9' instance, including its owner, ID, image, task, flavor, and creation/update dates.

# How to get WireCloud?

- Using the global instance at FIWARE Lab:
  - <https://mashup.lab.fiware.org>
- FIWARE Lab:
  - Image: wirecloud-image-RX.Y
  - Blueprint: Wirecloud
- Docker:
  - <https://hub.docker.com/r/fiware/wirecloud/>
  - `docker run -d -p 80:80 --name wirecloud fiware/wirecloud:latest`

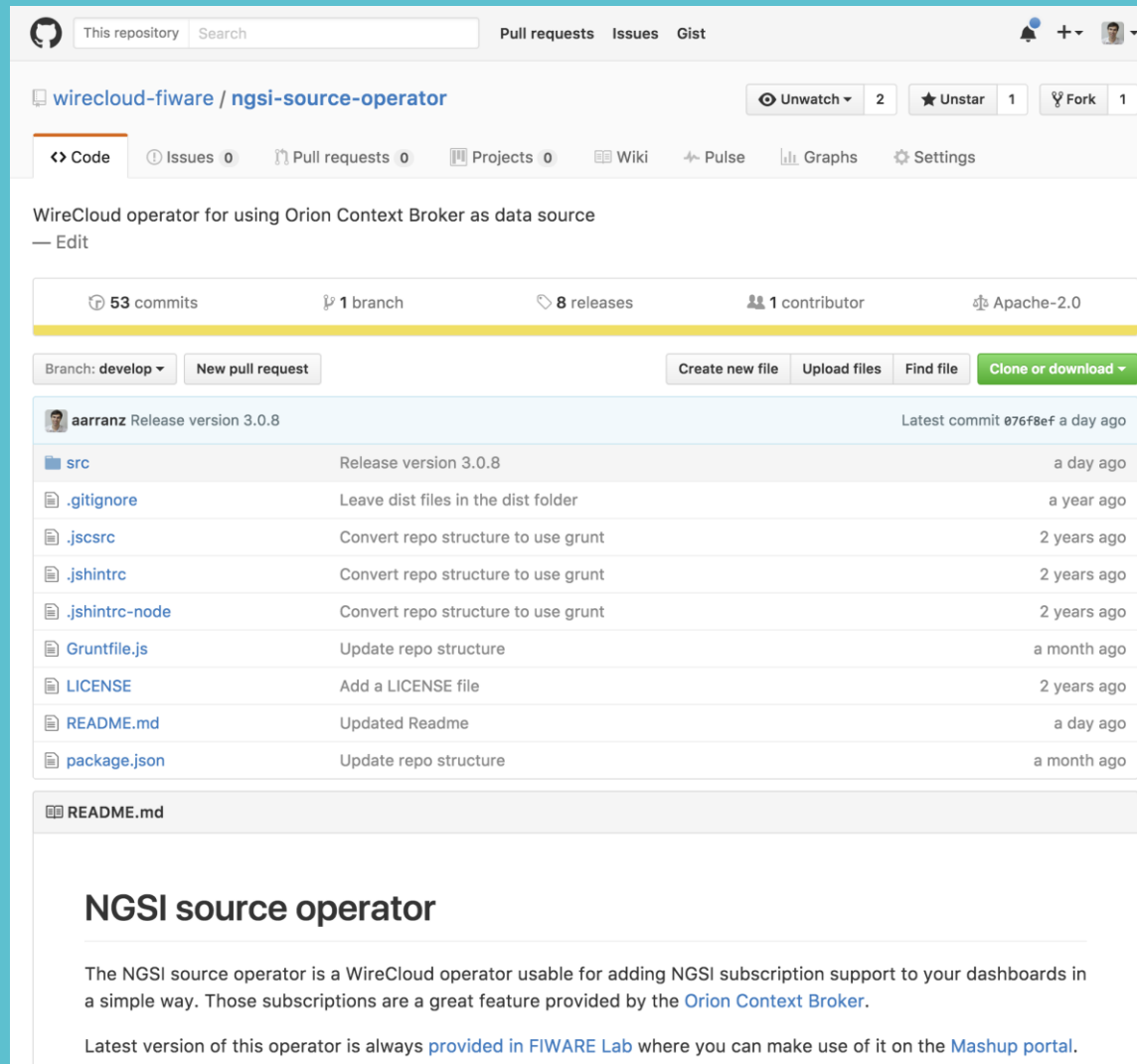




**#Community**

# Community

- Not only WireCloud is on Github, also the official components are.
- This means that components have a issue tracker associated.



The screenshot shows the GitHub repository page for 'wirecloud-fiware/ngsi-source-operator'. The repository is described as 'WireCloud operator for using Orion Context Broker as data source'. It has 53 commits, 1 branch, 8 releases, and 1 contributor. The repository is licensed under Apache-2.0. The current branch is 'develop'. The repository contains several files, including 'src', '.gitignore', '.jscsrc', '.jshintrc', '.jshintrc-node', 'Gruntfile.js', 'LICENSE', 'README.md', and 'package.json'. The README.md file is expanded, showing the title 'NGSI source operator' and a description: 'The NGSI source operator is a WireCloud operator usable for adding NGSI subscription support to your dashboards in a simple way. Those subscriptions are a great feature provided by the Orion Context Broker.' The latest version of this operator is always provided in FIWARE Lab where you can make use of it on the Mashup portal.

# Community

The screenshot shows the FIWARE Lab Mashup interface. At the top, there is a navigation bar with the FIWARE Lab logo and links for Cloud, Store, Mashup, Data, Account, and Help/Info. Below this is a breadcrumb trail: My Resources / NGSI source. The main content area is divided into two columns. The left column features a card for the NGSI source, including a version selector (v3.0.8), tabs for Main Info, Documentation, and Change Log, and a description. The right column contains a sidebar with a vendor logo (CoNWeT), a 5-star rating, and icons for home, fork, and issue tracker. Below the sidebar, there are sections for Description, References (Orion Context Broker info), Tags, Detailed data (Internal ID, Author(s), Contributor(s), Size), and Advanced operations. At the bottom, there is a footer with copyright information and a link to the Terms and Conditions.

FIWARE Lab Cloud Store Mashup Data Account Help/Info

My Resources / NGSI source

v3.0.8 Main Info Documentation Change Log

**Description**

This operator allows you to use any Orion Context Broker server notifications about changes on the entities of interest.

**References**

- Orion Context Broker info

**Tags**

**Detailed data**

**Internal ID**  
CoNWeT/ngsi-source/3.0.8

**Author(s)**  
Álvaro Arranz García

**Contributor(s)**  
N/A

**Size**  
28.28 KiB

**Advanced operations**

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# Community

The screenshot shows a web browser window displaying the FIWARE Store. The address bar shows the URL <https://store.lab.fiware.org/#/offering?catalogueId=51>. The page header includes the FIWARE Lab logo and navigation links for Cloud, Store, Mashup, Data, Account, and Help&Info. A 'Sign in' link is also present. On the left, a 'Search by catalog' sidebar lists categories: All, NGSI CKAN Query, Agile Dashboards, Summit Demo, Wirecloud Components, and Wirecloud Starter Kits. The main content area is titled 'Wirecloud Starter Kits' and includes a sub-header 'a month ago' and a description: 'This catalog contains different packs of widgets, operators, and already built mashups in order to help you starting working with it'. Below this, there are three product cards: 'Kurento Starter Kit' (v1.1, 10 days ago, 2 bundled, Free), 'Charts Starter Kit' (v1.1, 3 days ago, 4 bundled, Free), and 'Orion StarterKit' (v1.3, 8 hours ago, 6 bundled, Free). A 'Filters' button is located on the right side of the product grid.



# More info

- <https://catalogue.fiware.org/enablers/application-mashup-wirecloud>
- Installation, administration & reference documentation is available on Read The Docs:
  - <https://wirecloud.readthedocs.io/>
- FIWARE Academy:
  - <https://edu.fiware.org/course/view.php?id=53>
- Do you want to develop new WireCloud components?
  - **Wednesday 14th 12:45-13:30:** “Advanced development and publishing of dashboards using WireCloud”
- StackOverflow Support:
  - Ask your questions using the “fiware-wirecloud” and “fiware” tags
  - Look for existing questions at <http://stackoverflow.com/questions/tagged/fiware-wirecloud>

| Thank you!

<http://fiware.org>

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