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# GrimoireLab viz DIY Session

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Kibana management interface

GrimoireLab standard panels, panels at GitHub

Standard visualizations in Kibana

Building our own viz

Building our own panels

Contributing to the Panels repository

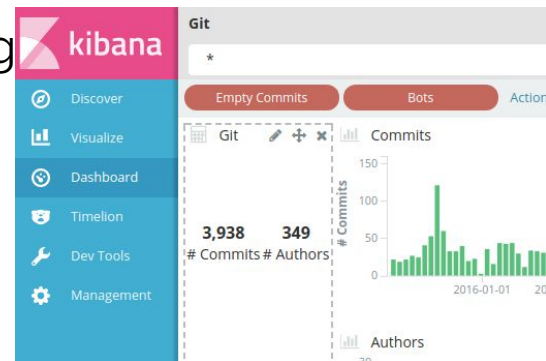
# Kibana Management Interface

Same data with interface for editing

Edit and create viz

Tweak searches

Build your own panels



The screenshot shows the 'Create New Visualization' dialog in Kibana. The sidebar is visible on the left. The dialog title is 'Visualize / Step / 1 Create New Visualization'. It lists three visualization types:

- Area chart**: Great for stacked timelines in which the total of all series is more important than the individual series. Great for assessing the relative change of unrelated data points as the chart gauge effect on the series above it.
- Data table**: The data table provides a detailed breakdown, in tabular form, of the data available from many other charts by clicking the grey bar at the top of the chart.
- Line chart**: Often the best chart for high density time series. Great for connecting between points can be misleading.

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Discover => List indexes, create searches

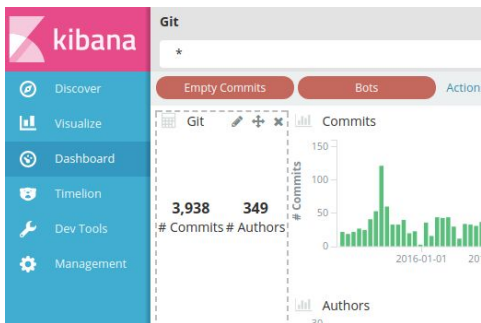
Visualize => List and create new ones

Dashboard => List and create new ones

Timelion => Useful for timeseries

Dev Tools => Query ElasticSearch

Management => Manage your indexes, formats, settings



# GrimoireLab Standard Panels

**Bitergia analytics**

SrimolreLab02

- Discover
- Visualize
- Dashboard
- Timelion
- Dev Tools
- Management

Dashboard

Q Search... + 1-15 of 15 < >

<input type="checkbox"/> Name	Description
<input type="checkbox"/> About	
<input type="checkbox"/> Affiliations	
<input type="checkbox"/> Data Status	
<input type="checkbox"/> Git	
<input type="checkbox"/> Git Demographics	
<input type="checkbox"/> GitHub Backlog	
<input type="checkbox"/> GitHub Issues	
<input type="checkbox"/> GitHub Issues Backlog	
<input type="checkbox"/> GitHub Issues Timing	
<input type="checkbox"/> GitHub Pull Requests	
<input type="checkbox"/> GitHub Pull Requests Backlog	
<input type="checkbox"/> GitHub Pull Requests Timing	
<input type="checkbox"/> Last Month Contributors	
<input type="checkbox"/> MailingLists	
<input type="checkbox"/> Overview	

1-15 of 15 < >



The screenshot shows the GitHub repository page for 'grimoirelab/panels'. At the top, there are navigation links for 'Code', 'Issues' (5), 'Pull requests' (0), 'Projects' (0), 'Wiki', 'Insights', and 'Settings'. Below this, the current branch is 'master' and the selected directory is 'panels/json'. A list of commits is displayed, with the most recent commit by 'alpgarcia and acs' dated Jan 31, 2018. The commit history table is as follows:

File	Commit Message	Date
..		
about.json	Update About section	Aug 18, 2017
affiliations.json	Remove \"highlightAll\":true string to downgrade panels to 5.1.1	Aug 18, 2017
apache.json	Migrate Apache panel to Kibana 5	Oct 23, 2017
askbot.json	Add organizations widgets and refurbish L&F	Oct 16, 2017
bugzilla.json	[panels] Update index pattern in Bugzilla panel	Dec 1, 2017
bugzilla_backlog.json	[panels] Fix Bugzilla Backlog with correct fields	Dec 1, 2017
confluence.json	Remove \"highlightAll\":true string to downgrade panels to 5.1.1	Aug 18, 2017
data_status.json	Remove index patterns	Oct 26, 2017

github.com/grimoirelab/panels  
Migrating to CHAOSS!





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Direct relationship between indexes and panels

A panel needs a set of fields

An index is defined by a mapping

The Panels repository uses a CSV schema to be tech-agnostic

[github.com/grimoirelab/panels](https://github.com/grimoirelab/panels)  
Migrating to CHAOSS!

grimoirelab / panels

Unwatch 9 Star 7 Fork 12

Code Issues 5 Pull requests 0 Projects 0 Wiki Insights Settings

Branch: master panels / schema / Create new file Upload files Find file History

dicortazar Add Crates CSV schema definition Latest commit 563a2bf Dec 18, 2017

..		
README.md	Add CSV files as the data model schema	Oct 3, 2017
affiliations.csv	Fix header row	Nov 14, 2017
askbot.csv	Fix header row	Nov 14, 2017
bugzilla.csv	Fix header row	Nov 14, 2017
confluence.csv	Fix header row	Nov 14, 2017
crates.csv	Add Crates CSV schema definition	Dec 18, 2017
discourse.csv	Fix header row	Nov 14, 2017
dockerhub.csv	Fix header row	Nov 14, 2017
functest.csv	Fix header row	Nov 14, 2017
gerrit.csv	Fix header row	Nov 14, 2017

github.com/grimoirelab/panels  
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24 Existing schemas

54 Existing standard panels

A panel may have information coming from 1 or more schemas

[github.com/grimoirelab/panels](https://github.com/grimoirelab/panels)  
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How to contribute?

Create your own indexes and define that schema

Create a new panel based on existing indexes/schemas

Share that with the community!

[github.com/grimoirelab/panels](https://github.com/grimoirelab/panels)  
Migrating to CHAOSS!

# Indexes

Indexes are the SQL databases

This is a big matrix of information with:

- A JSON document per row

- With multiple columns (fields) with a type (string, number, etc)

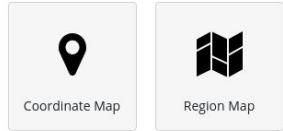
# Standard visualizations



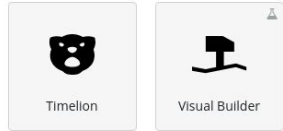
Data



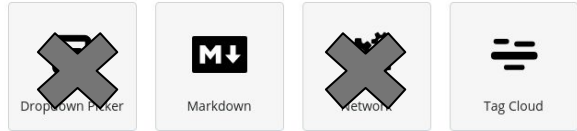
Maps



Time Series



Other





/diy

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Two main areas in the widgets

Buckets

Metrics



Kibiter/  
GrimoireLab  
Visualizations

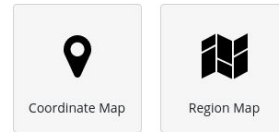
# /visualizations



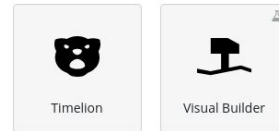
## Data



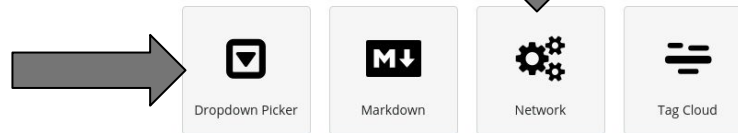
## Maps



## Time Series



## Other



Timelion

Timelion is an app for Kibana

Widgets in Kibana have a limitation:

They only accept info from one index

Timelion is focused on timeseries

/timelion

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Specification of index and timefield

You can use by default parameters

logstash-\*

@timestamp

Or change those (Mng->Adv.Sett.->timelion)



/timelion

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Everything starts with `.es(*)`

Functions start with `."`

Specify our index:

```
.es(index=git_opnfv, timefield=author_date)
```



/timelion

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Add a new Timelion chart with the Add option

Multiple charts allow to have the hover-over cursor mirrored in all of them





## Data Sources:

ElasticSearch: `.es()`

Graphite: `.graphite()`

Quandl: `.quandl()`

World Bank: `.worldbank_indicators()` and  
`.worldbank()`

<https://github.com/elastic/timelion/blob/master/FUNCTIONS.md>

## Functions:

```
.abs(), .cusum(), .derivative(), .log(),  
.max(), .min(), .movingaverage(),  
.subtract(), .sum(), .trend(),  
  
etc...
```

<https://github.com/elastic/timelion/blob/master/FUNCTIONS.md>

Example:

Population of Spain and France:

```
.worldbank_indicators('ES').worldbank_indicators('FR')
```

Soft. dev. Analytics example:

Evolution of commits:

```
.es(timefield='grimoire_creation_date', index=git)
```

Cumulative:

```
.es(timefield='grimoire_creation_date',  
index=git).cusum()
```

Soft. dev. Analytics example:

Evolution of commits and unique authors

```
.es(timefield='grimoire_creation_date', index=git,  
metric='cardinality:author_name').label('unique authors')  
.es(timefield='grimoire_creation_date',  
index=git).label('commits')
```

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Soft. dev. Analytics example:

Looking for trend changes

Moving averages:

```
.es(timefield='grimoire_creation_date',  
index=git)
```

```
.es(timefield='grimoire_creation_date',  
index=git).movingaverage(window=3,  
position=center)
```

```
.es(timefield='grimoire_creation_date',  
index=git).movingaverage(window=15)
```

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