

# ZABBIX 2023

## Conference

### LATIN AMERICA



# Monitorando de tudo um pouco utilizando Zabbix e APIs

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- DevOps e Especialista em Monitoramento na JLCP
- +10 anos atuando com TI e a 3 anos como consultor
- CKA | AZ-104 | AZ-500 | ZCP | ZCS
- Ciclista, trilheiro e corredor de rua nas horas vagas.
- Contatos: @bernardolankheet



# Salomão Santos

- Especialista em Monitoramento na JLCP
- Datadog Fundamentals | ZCP | ZCS
- Contatos: @salomaosantos



# Acessando Laboratorio

# Acesse o latoratorio

- Aguarde a inicialização do Laboratório;
- Cerca de 5min para inicialização;
- **"Acessar o Frontend do Zabbix"**



**Zabbix Conference 2023: Monitorando  
de tudo um pouco utilizando Zabbix e API**

## WORKSHOP

Aguarde enquanto o deploy do ambiente é finalizado.

Poderá levar alguns minutos ate o deploy completo.

Frontend funciona apenas em HTTP e **não** em HTTPS.  
Aguarde ate a conclusao do deploy.

[Acessar o Frontend do Zabbix.](#)

Login: Admin Senha: zabbix

START

<https://killercoda.com/bernardolankheet>

# Afinal o que é API?



# API (Application Programming Interface)

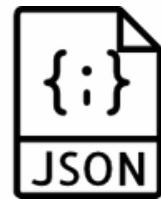
- Conjunto de regras e protocolos que permite a comunicação e interação entre diferentes software, sistemas ou plataformas.
- São métodos e formatos de dados que podem ser utilizados para acessar e manipular recursos de um determinado serviço ou aplicação.



## Exemplos de APIs:

- **API do Google Maps:** Acessar e incorporar mapas, rotas e informações geográficas em seus aplicativos.
- **API do Facebook:** Integrem funcionalidades do Facebook em seus aplicativos, como login com Facebook, compartilhamento de conteúdo e acesso a informações de usuários.
- **API do YouTube:** Acessar e gerenciar vídeos, canais e informações relacionadas ao YouTube.
- **API do Amazon Web Services (AWS):** Gerenciar recursos e serviços cloud, como armazenamento, computação, banco de dados e serviços de inteligência artificial, e etc..

e JSON?



## Exemplos de APIs:

### JavaScript Object Notation

- formato de dados leve e legível por humanos;
- conjunto de chave e valor ou arrays;
- utilizado para trocar e armazenar informações estruturadas entre sistemas;
- inspirado pela sintaxe de objetos do JavaScript;
- amplamente adotado em diferentes tipos de ambientes;
- utilizado em comunicações entre cliente e servidor para troca de informações.

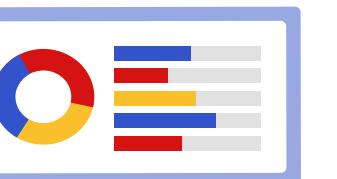
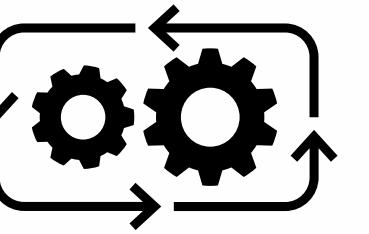
```
{  
    "nome": "Bernardo",  
    "idade": 34,  
    "estado": Espírito-Santo ,  
    "interesses": ["esportes", "música", "viagens"]  
}
```

Não é segredo...  
API do Zabbix



## Exemplos de APIs:

- Automação de Tarefas rotineiras;
- Integração com outros sistemas;
- Extração de dados e análise avançada;
- Integração com ferramentas de automação;



**[http://DNS\\_IP/api\\_jsonrpc.php](http://DNS_IP/api_jsonrpc.php)**

*ou*

**[http://DNS\\_IP/zabbix/api\\_jsonrpc.php](http://DNS_IP/zabbix/api_jsonrpc.php)**



# Como podemos utilizar o Zabbix?

## Recursos que podem ser utilizados:

- Web monitoring (Zabbix 2.0);
- Script Itens (Zabbix 6.2);
- HTTP Agent (Zabbix 4.0);
- Dependente Item (Zabbix 3.4);
- Host prototype (Zabbix 2.4);
- External Checks (Zabbix 2.0);
- Zabbix Traps (Zabbix 1.8);
- Preprocessing JsonPath e Javascript (Zabbix 3.4 e 5.0)

# Consumindo dados de estatísticas sobre COVID-19

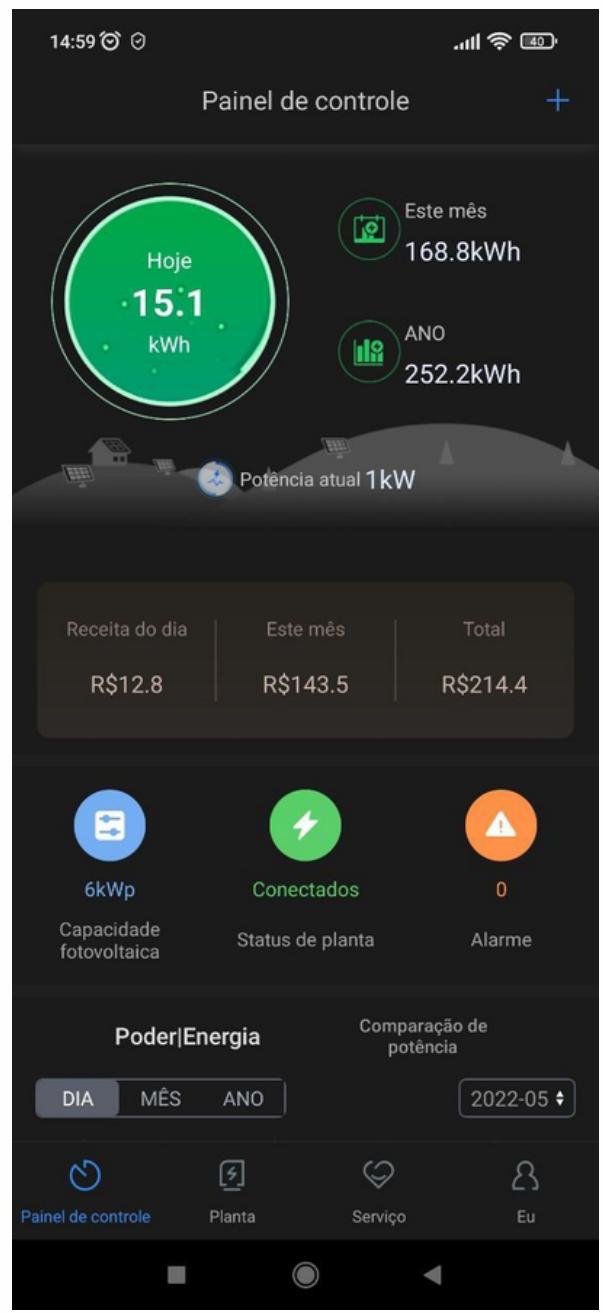
"Andorra - (#ISO3)" - Cases <i>discovery cases[Andorra]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:26	752
"Andorra - (#ISO3)" - TodayCases <i>discovery todaycases[Andorra]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:29	0
<b>Cases "Angola" (2 items)</b>						
"Angola - (#ISO3)" - Cases <i>discovery cases[Angola]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:27	43
"Angola - (#ISO3)" - TodayCases <i>discovery todaycases[Angola]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:22	0
<b>Cases "Anguilla" (2 items)</b>						
"Anguilla - (#ISO3)" - Cases <i>discovery cases[Anguilla]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:30	3
"Anguilla - (#ISO3)" - TodayCases <i>discovery todaycases[Anguilla]</i>	1m	90d	365d	HTTP agent	2020-05-09 11:04:40	0

Powered by Zabbix 5.4.1 (Build 19292) (2020-05-09 11:04:40)

# Consumindo dados de dispositivos Mobile

TAS-Coletor-Android-18174522502851	DBM do dispositivo no SSID CORP_MOBILE abaixo do padrao esperado (-53 dBm < 65.6)	11s
TAS-Coletor-Android-18174522502577	DBM do dispositivo no SSID CORP_MOBILE abaixo do padrao esperado (-61 dBm < 65.6)	
PROBLEM	TAS-Coletor-Android-18174522502769	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502851	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502577	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502658	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502745	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502720	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-19002522501710	Dispositivo conectado SSID diferente do corporativo (CORP_MOBILE >< WIFI_LOJA)
PROBLEM	TAS-Coletor-Android-18174522502851	Versao do sistema operacional Android diferente da utilizada no momento (8.1.0 >< 8.0.0)
PROBLEM	TAS-Coletor-Android-18174522502577	Versao do sistema operacional Android diferente da utilizada no momento (8.1.0 >< 8.0.0)
PROBLEM	TAS-Coletor-Android-18174522502658	Versao do sistema operacional Android diferente da utilizada no momento (8.1.0 >< 8.0.0)
PROBLEM	TAS-Coletor-Android-18174522502745	Versao do sistema operacional Android diferente da utilizada no momento (8.1.0 >< 8.0.0)

# Consumindo dados de geração de Energia Solar



<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change
<input type="checkbox"/> Inversor_Growatt	currentEnergy	10m 9s	15.8 kWh	+0.1 kWh
<input type="checkbox"/> Inversor_Growatt	currentPower	10m 9s	0 kWh	
<input type="checkbox"/> Inversor_Growatt	plantMoneyText	10m 9s	215 R\$	+0.1 R\$
<input type="checkbox"/> Inversor_Growatt	Today.Money	10m 9s	13.4 R\$	+0.1 R\$
<input type="checkbox"/> Inversor_Growatt	todayEnergySum	10m 9s	15.8 kWh	+0.1 kWh
<input type="checkbox"/> Inversor_Growatt	totalEnergy	10m 9s	252.9 kWh	+0.1 kWh

Name ▲	Last check	Last value	Change	Tags
Openweathermap: Get data				component: raw
Openweathermap: Get data collection errors	1m 22s			component: application component: errors
[Colatina, BR]: Atmospheric pressure	0	101.6 KPa		component: environment country: BR location: Colatina
[Colatina, BR]: Cloudiness	0	96 %		component: environment country: BR location: Colatina
[Colatina, BR]: Data				component: raw country: BR location: Colatina
[Colatina, BR]: Humidity	0	79 %		component: environment country: BR location: Colatina
[Colatina, BR]: Rain volume for the last one hour	0	0 m		component: environment country: BR location: Colatina
[Colatina, BR]: Short weather status	0	overcast clouds		component: environment country: BR location: Colatina
[Colatina, BR]: Snow volume for the last one hour	0	0 m		component: environment country: BR location: Colatina
[Colatina, BR]: Temperature	0	17.23 C		component: environment country: BR location: Colatina
[Colatina, BR]: Visibility	0	10 Km		component: environment country: BR location: Colatina
[Colatina, BR]: Wind direction	0	W (263 deg)		component: environment country: BR location: Colatina
[Colatina, BR]: Wind speed	0	1.06 meter/sec		component: environment country: BR location: Colatina

# Metricas de Negócio/Ecommerce

<input type="checkbox"/> Host	Name ▲	Last check	Last value	Change	Tags
<input type="checkbox"/>	3-Samsung Universe 9	Discount Percentage	34s	15.46 %	<b>PRODUCT: INFO</b>
<input checked="" type="checkbox"/>	3-Samsung Universe 9	Item Info Raw			<b>App: Raw</b>
<input type="checkbox"/>	3-Samsung Universe 9	Price	34s	1249	<b>PRODUCT: INFO</b>
<input type="checkbox"/>	3-Samsung Universe 9	Rating	34s	4.09	<b>PRODUCT: INFO</b>
<input type="checkbox"/>	3-Samsung Universe 9	Stock	34s	36	<b>PRODUCT: INFO</b>

<input type="checkbox"/> Name ▲	Items	Triggers	Graphs	Discovery	Web	Interface
<input type="checkbox"/> Discovery Products: 1-iPhone 9	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 2-iPhone X	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 3-Samsung Universe 9	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 4-OPPOF19	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 5-Huawei P30	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 6-MacBook Pro	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 7-Samsung Galaxy Book	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 8-Microsoft Surface Laptop 4	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 9-Infinix INBOOK	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 10-HP Pavilion 15-DK1056WM	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 11-perfume Oil	Items 5	Triggers	Graphs	Discovery	Web	
<input type="checkbox"/> Discovery Products: 12-Brown Perfume	Items 5	Triggers	Graphs	Discovery	Web	

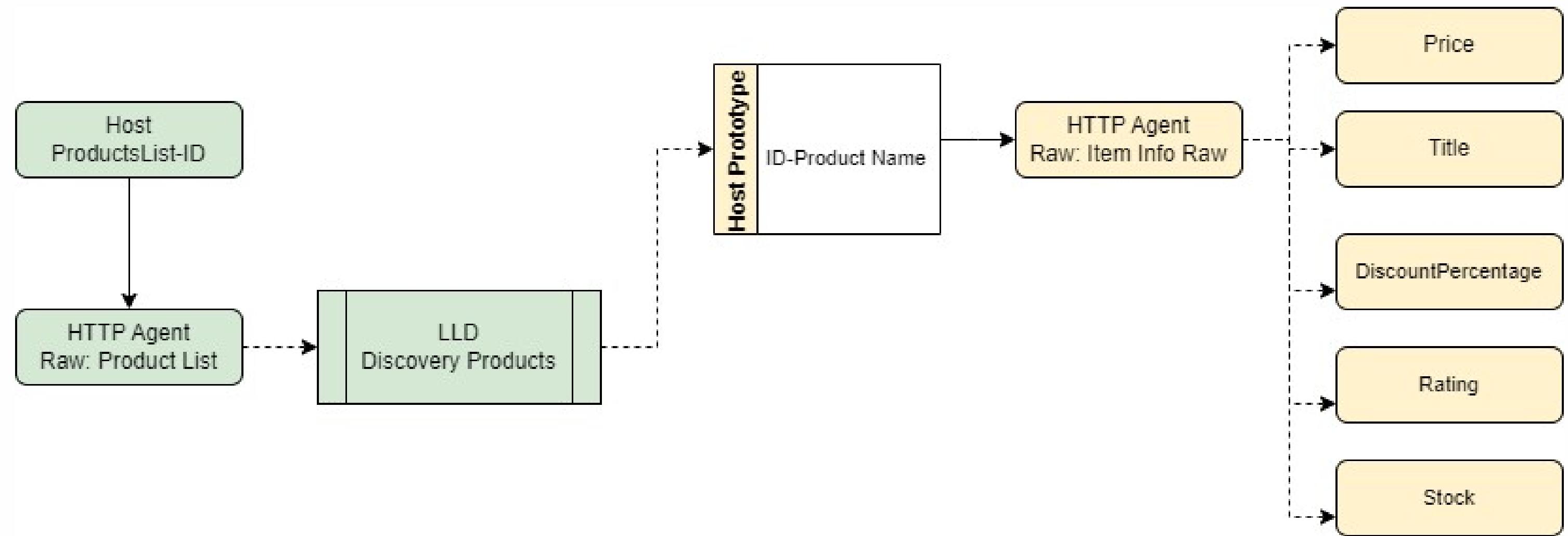


# Workshop

## Consumir metricas de Produtos em Ecommerce

- API de teste
- Descoberta dos produtos;
- Consumir métricas dos produtos:
  - Valor;
  - Descontos;
  - Avaliação;
  - Produtos em Estoque.

**<https://dummyjson.com/products>**



### Legenda

Template Zabbix Conference 2023 Workshop - ID
Template Zabbix Conference 2023 Workshop - Product
→ Item
-----> Dependent item/LLD

# Resultados

<input type="checkbox"/> Name ▲	Hosts	Items	Triggers	Graphs	Dashboards	Discovery	Web	L
<a href="#">Template Zabbix Conference 2023 Workshop - ID</a>	Hosts 1	Items 1	Triggers	Graphs	Dashboards	Discovery 1	Web	
<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Hosts 30	Items 5	Triggers	Graphs	Dashboards	Discovery	Web	

All hosts / ProductsList-ID Enabled Items 1 Triggers Graphs Discovery rules 1 Web scenarios

Item Tags 1 Preprocessing

Parent items Template Zabbix Conference 2023 Workshop - ID

\* Name Raw: Product List

Type HTTP agent

\* Key products.raw

Type of information Text

\* URL <https://dummyjson.com/products> Parse

Query fields

Name	Value
Add	

Request type GET

\* Timeout 5s

Request body type Raw data JSON data XML data

Request body

Headers

Name	Value
Add	

Required status codes 200

Host Tags 1 Macros 3 Inventory Encryption

\* Host name

Visible name

Templates	Name	Action
	Template Zabbix Conference 2023 Workshop - Product	<a href="#">Unlink</a>
	<input type="text" value="type here to search"/>	<a href="#">Select</a>

\* Groups  [Select](#)

Group prototypes  [Remove](#)

[Add](#)

Interfaces

Create enabled

Discover

[Update](#) [Clone](#) [Delete](#) [Cancel](#)

\* Name

Type

\* Key

Type of information

\* URL

Query fields

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

Request type

\* Timeout

Request body type

Request body

Headers

Name	Value
<input type="text" value="name"/>	<input type="text" value="value"/> <input type="button" value="Remove"/>

Required status codes

Follow redirects

<input type="checkbox"/> Name ▲	Items	Triggers	Graphs	Discovery	Web	Interface	Proxy	Templates	Status	Availability	Agent encryption	Info	Tags
<a href="#">Discovery Products: 1-iPhone 9</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: smartpho...
<a href="#">Discovery Products: 2-iPhone X</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: smartpho...
<a href="#">Discovery Products: 3-Samsung Universe 9</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: smartpho...
<a href="#">Discovery Products: 4-OPPOF19</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: smartpho...
<a href="#">Discovery Products: 5-Huawei P30</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: smartpho...
<a href="#">Discovery Products: 6-MacBook Pro</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: laptops
<a href="#">Discovery Products: 7-Samsung Galaxy Book</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: laptops
<a href="#">Discovery Products: 8-Microsoft Surface Laptop 4</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: laptops
<a href="#">Discovery Products: 9-Infinix INBOOK</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: laptops
<a href="#">Discovery Products: 10-HP Pavilion 15-DK1056WM</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: laptops
<a href="#">Discovery Products: 11-perfume Oil</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: fragrances
<a href="#">Discovery Products: 12-Brown Perfume</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: fragrances
<a href="#">Discovery Products: 13-Fog Scent Xpresso Perfume</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: fragrances
<a href="#">Discovery Products: 14-Non-Alcoholic Concentrated Perfume Oil</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: fragrances
<a href="#">Discovery Products: 15-Eau De Perfume Spray</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: fragrances
<a href="#">Discovery Products: 16-Hyaluronic Acid Serum</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: skincare
<a href="#">Discovery Products: 17-Tree Oil 30ml</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: skincare
<a href="#">Discovery Products: 18-Oil Free Moisturizer 100ml</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: skincare
<a href="#">Discovery Products: 19-Skin Beauty Serum.</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: skincare
<a href="#">Discovery Products: 20-Freckle Treatment Cream- 15gm</a>	Items 5	Triggers	Graphs	Discovery	Web			<a href="#">Template Zabbix Conference 2023 Workshop - Product</a>	Enabled		None		PRODUCT: skincare

<input type="checkbox"/> Host	Name ▲	Interval	History	Trends	Type	Last check	Last value	Change	Tags
<input type="checkbox"/> 2-iPhone X	Discount Percentage discountPercentage.[2]		90d	365d	Dependent i...	35s	17.94 %		PRODUCT: INFO
<input type="checkbox"/> 1-iPhone 9	Discount Percentage discountPercentage.[1]		90d	365d	Dependent i...	37s	12.96 %		PRODUCT: INFO
<input checked="" type="checkbox"/> 2-iPhone X	Item Info Raw raw.[2]	1m	0d		HTTP agent				App: Raw
<input checked="" type="checkbox"/> 1-iPhone 9	Item Info Raw raw.[1]	1m	0d		HTTP agent				App: Raw
<input type="checkbox"/> 1-iPhone 9	Price price.[1]		90d	365d	Dependent i...	37s	549		PRODUCT: INFO
<input type="checkbox"/> 2-iPhone X	Price price.[2]		90d	365d	Dependent i...	35s	899		PRODUCT: INFO
<input type="checkbox"/> 2-iPhone X	Rating rating.[2]		90d	365d	Dependent i...	35s	4.44		PRODUCT: INFO
<input type="checkbox"/> 1-iPhone 9	Rating rating.[1]		90d	365d	Dependent i...	37s	4.69		PRODUCT: INFO
<input type="checkbox"/> 1-iPhone 9	Stock stock.[1]		90d	365d	Dependent i...	37s	94		PRODUCT: INFO
<input type="checkbox"/> 2-iPhone X	Stock stock.[2]		90d	365d	Dependent i...	35s	34		PRODUCT: INFO

Vamos para o laboratorio!!!

# Templates

<https://github.com/bernardolankheet/presentations>

# Perguntas?