



Policy Management with Open Policy Agent (OPA) and Rego

Ruslan Korniichuk | 26.10.2024

01

Introduction

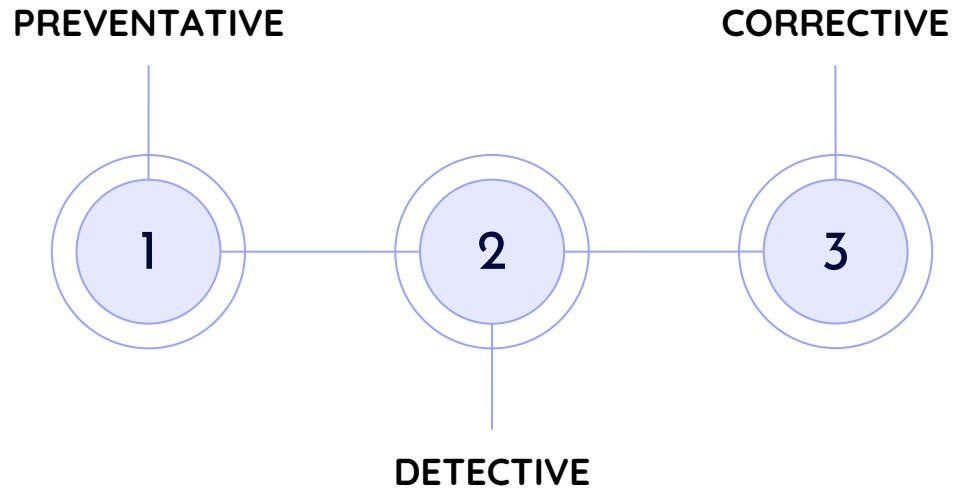
Open Policy Agent (OPA)

Open Policy Agent (OPA) is a popular open-source general purpose policy engine that allows to define, manage, and enforce policies.

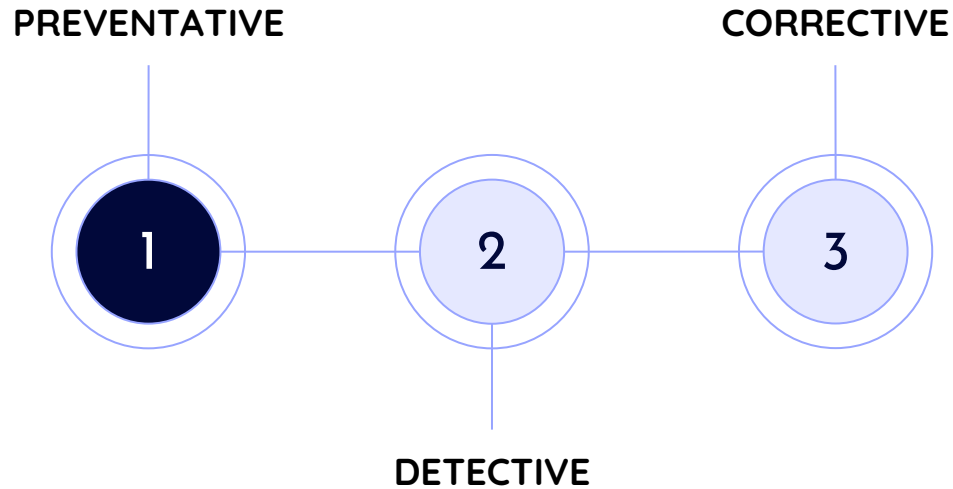
Statements:

- It is a service responsibility to enforce a decision.
- It is OPA responsibility to decide.
- Rego is a policy language.
- OPA can utilize random external data in JSON.

Preventative, detective and corrective controls

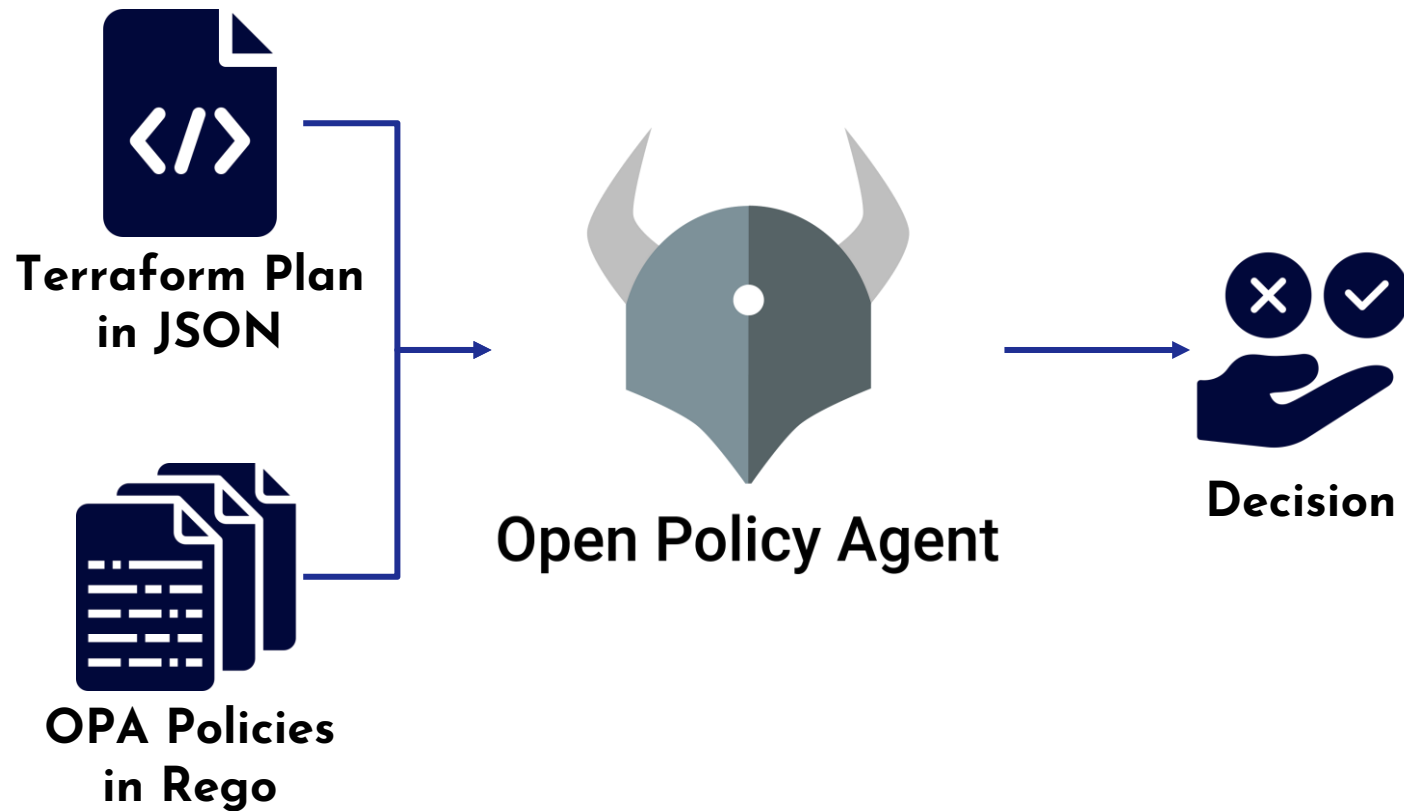


Preventative, detective and corrective controls

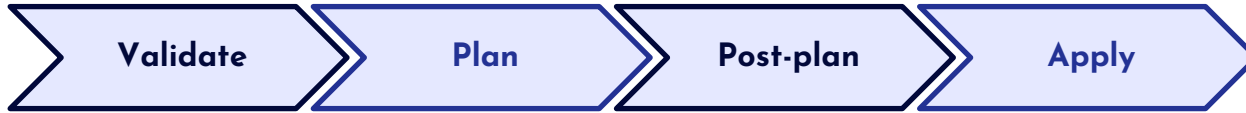


OPA use cases

- Cloud security and compliance
- Enforcing data access control policies
- Authorization for Kubernetes, containers, and service mesh



GitLab CI/CD Pipeline



- Validate Terraform files
- Check Terraform files format
- Validate Rego files
- Check Rego files format
- Create Terraform Plan
- Executes OPA against Terraform Plan
- Apply Terraform Plan



```
1 package play
2
3 import rego.v1
4
5 # Welcome to the Rego playground! Rego (pronounced "ray-go") is OPA's policy language.
6 #
7 # Try it out:
8 #
9 #   1. Click Evaluate. Note: 'hello' is 'true'
10 #   2. Change "world" to "hello" in the INPUT panel. Click Evaluate. Note: 'hello' is 'false'
11 #   3. Change "world" to "hello" on line 25 in the editor. Click Evaluate. Note: 'hello' is 'true'
12 #
13 # Features:
14 #
15 #   Examples  browse a collection of example policies
16 #   Coverage  view the policy statements that were executed
17 #   Evaluate   execute the policy with INPUT and DATA
18 #   Publish   share your playground and experiment with local deployment
19 #   INPUT     edit the JSON value your policy sees under the 'input' global variable
20 #   (resize) DATA edit the JSON value your policy sees under the 'data' global variable
21 #   OUTPUT    view the result of policy execution
22
23 default hello := false
24
25 hello if input.message == "world"
26
```

INPUT

```
1 {
2   "message": "world"
3 }
```

DATA

OUTPUT

```
1
```

LINT

No linter violations

Courses

[Infrastructure Policy](#)[Policy as Code](#)

Policy as Code

OPA by Example

★★★★★ (8)

42 Lessons

Free

 | ACADEMY**OPA by
Example**

Policy as Code

OPA Policy Authoring

★★★★★ (98)

42 Lessons

Free

 | ACADEMY**OPA Policy
Authoring**

Policy as Code, Infrastructure Policy

OPA for K8s Admission Control

★★★★★ (1)

29 Lessons

Free

 | ACADEMY**OPA for K8s
Admission
Control**

02

Live demo

opa-linux-autumn-2024 Public

📌 Pin

👁 Unwatch 1 ▾

🔗 Fork 0 ▾

☆ Star 0 ▾

🔗 main ▾

🔗 1 Branch

🏷 Tags

🔍 Go to file t

Add file ▾

<> Code ▾

⚙

korniichuk Initial commit	e661394 · now	🕒 2 Commits
📁 policies	Initial commit	now
📄 .gitignore	Initial commit	now
📄 .gitlab-ci.yml	Initial commit	now
📄 LICENSE	Initial commit	8 minutes ago
📄 main.tf	Initial commit	now

📖 README

🔗 Unlicense license

Add a README

Help people interested in this repository understand your project by adding a README.

About

⚙

- Policy Management with Open Policy Agent (OPA) and Rego
- 🔗 Unlicense license
 - 📈 Activity
 - ☆ 0 stars
 - 👁 1 watching
 - 🔗 0 forks

Releases

No releases published

[Create a new release](#)

Packages

No packages published

[Publish your first package](#)

Languages



RUSLAN KORNIICHUK

Software and Platform Engineer in Poland



Hire me

Solid experience of 9+ years in IT. Former Software Engineer and Architect at Fortune 500 companies. Core areas: Cloud Computing, and Software Engineering. Especially interested in Platform Engineering. Click the button above to hire me.



DONATE TO UKRAINE ARMY FUNDRAISER

Select the destination of your assistance

ARMY ASSISTANCE

SUPPORT THE FUND

All funds raised to help the army will be spent exclusively on purchases for the Armed Forces of Ukraine and other components of the Defense Forces.

Payment method

PAYMENT BY CARD

SWIFT TRANSFERS

CRYPTOCURRENCY

Regularity

ONE TIME

SUBSCRIPTION EVEN BETTER

Payment currency

UAH, ₴

USD, \$

EUR, €

Amount of donation*

€ 10

Email*

name@surname.com

☐ I consent to the processing of my email address to receive email newsletters (twice a month), invitations and receipts.

PAY

 Payment secured

tinyurl.com/LINUXPL



03

Q&A session
