

Policy Management with OPA and Rego

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A lecture selected by a Program Council
consisting of recognized leaders in the IT
and Data Science field.

Warsaw,
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OFFICIAL LECTURE OF THE WARSAW IT DAYS

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.

VIDEO

Watch an Introduction to Sentinel with Armon Dadgar →

Sentinel

Policy as code framework for HashiCorp Enterprise Products.

Try Sentinel

Explore Docs

What is Sentinel

Sentinel is an embeddable policy as code framework to enable fine-grained, logic-based policy decisions that can be extended to source external information to make decisions.



Policy as code

Treat policy like an application — version control.



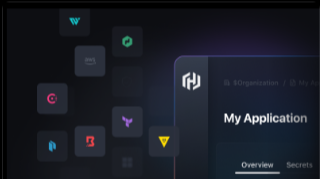
Fine-grained, condition-based policy

Reject actions on any available input rather than



Embedded

Sentinel is embedded to enable policy



Welcome to HashiCorp, an IBM Company

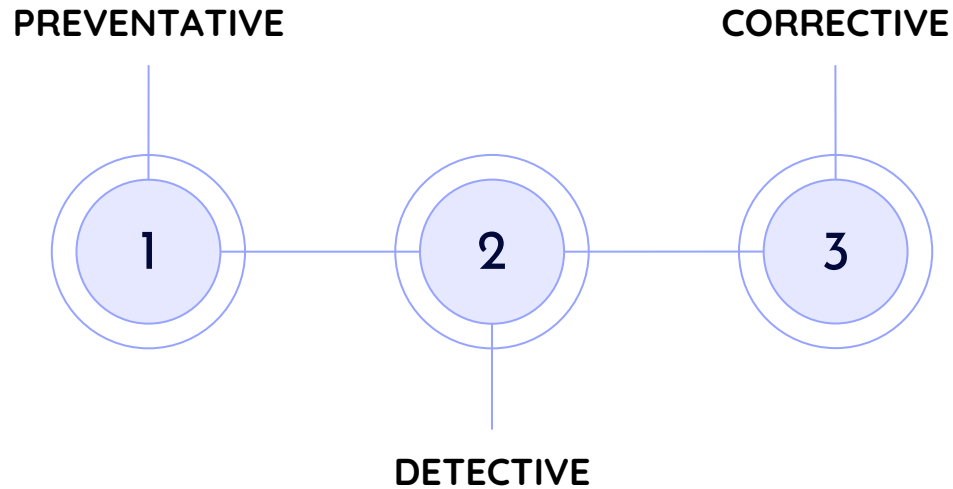
How can we help you today?

- Book time with us
- Try HashiCorp Cloud Platform
- Learn about The Infrastructure Cloud
- Get support

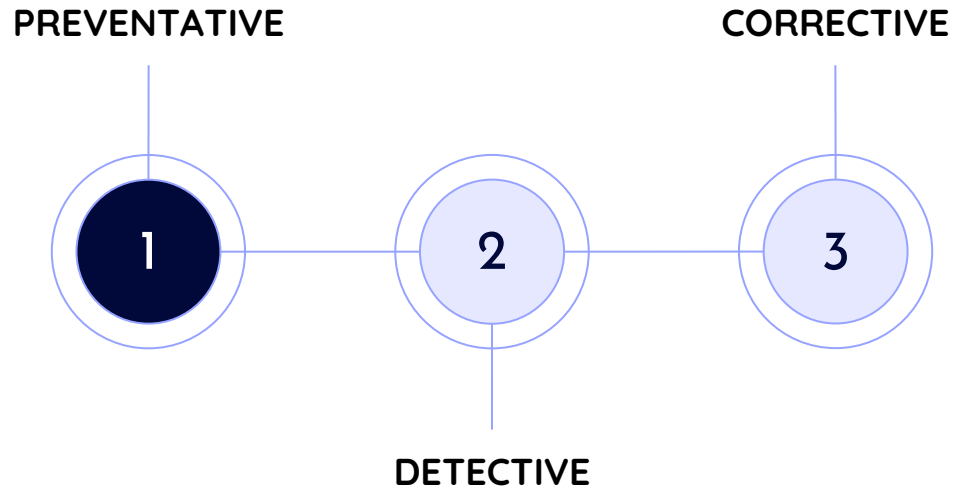
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Preventative, detective and corrective controls

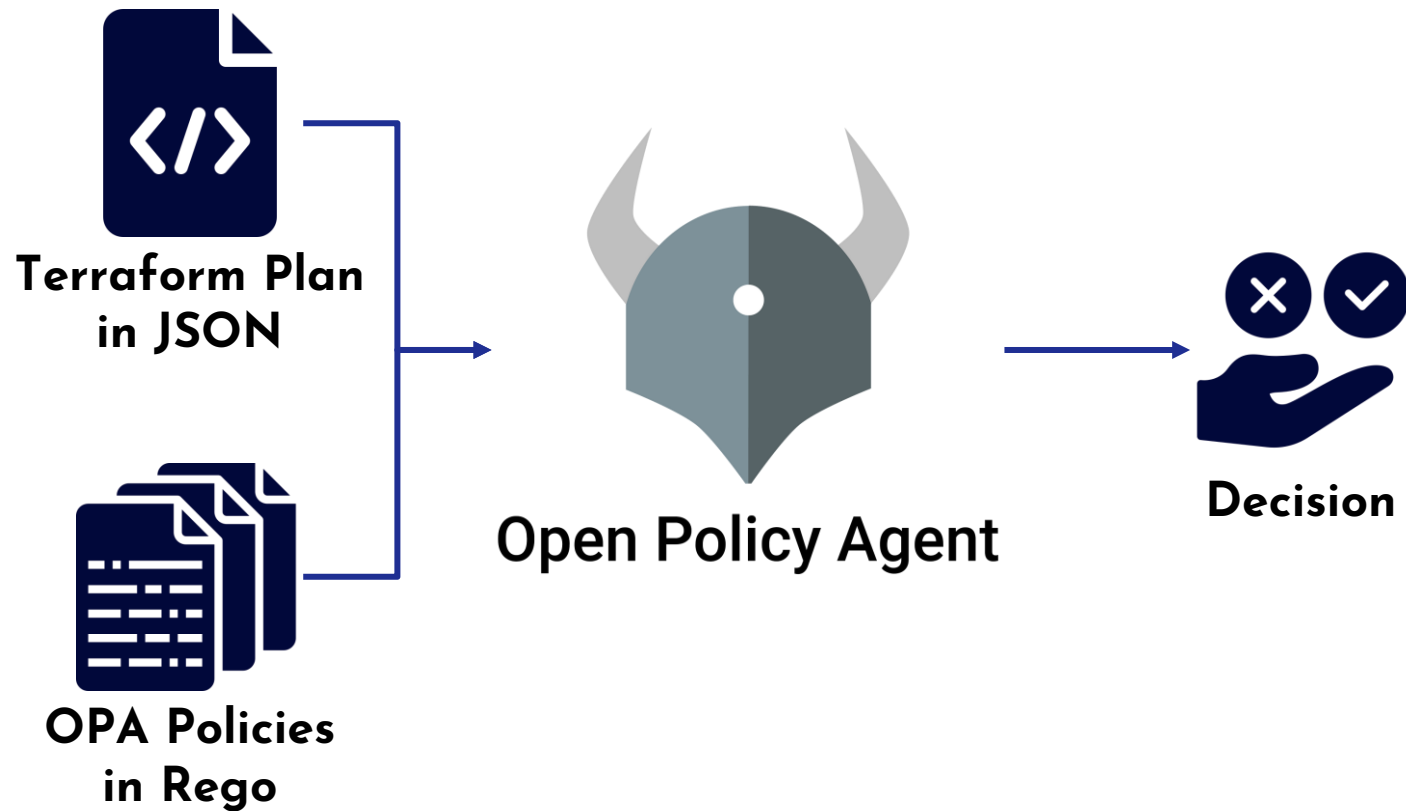


Preventative, detective and corrective controls

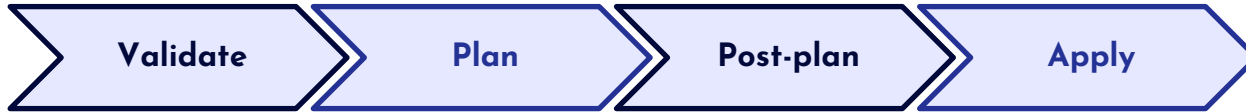


OPA use cases

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



GitLab CI/CD Pipeline



- Validate Terraform files
- Check Terraform files format
- Validate Rego files
- Check Rego files format
- Create Terraform execution Plan
- Transform Terraform Plan to JSON
- Executes OPA against Terraform Plan
- Apply Terraform Plan



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

INPUT

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

DATA

OUTPUT

Found 1 result in 33µs.

```
1 {
2   "hello": true
3 }
```

LINT

No linter violations

Courses

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

Policy as Code

OPA by Example

★★★★★ (8)

42 Lessons | Free

 **styra** | ACADEMY



OPA by Example

Policy as Code

OPA Policy Authoring

★★★★★ (98)

42 Lessons | Free

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OPA Policy Authoring

Policy as Code, Infrastructure Policy

OPA for K8s Admission Control

★★★★★ (1)

29 Lessons | Free

 **styra** | ACADEMY



OPA for K8s Admission Control

Policy as Code, Infrastructure Policy

Terraform Validation with Styra

Policy as Code

Microservice Authorization with Styra

Policy as Code

OPA Performance

02

Live demo

opa-wdi-2025

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1

Fork

0

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0

main

1 Branch

0 Tags

Q

Go to file

t

Add file

<> Code

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RUSLAN KORNIICHUK

Software and Platform Engineer in Poland



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PAY

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Thank you for watching!

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