

Red Hat  
**Summit**

## Connect

# Powering and securing modern apps with NGINX and Red Hat OpenShift

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# Better Together: Red Hat OpenShift with NGINX Plus

## Tackling Digital Transformation today



**60%**

of organizations have already migrated some or all their apps to microservices<sup>1</sup>



**85%**

of new workloads are deployed in containers<sup>1</sup>



**83%**

of internet traffic today is made up of API calls<sup>1</sup>

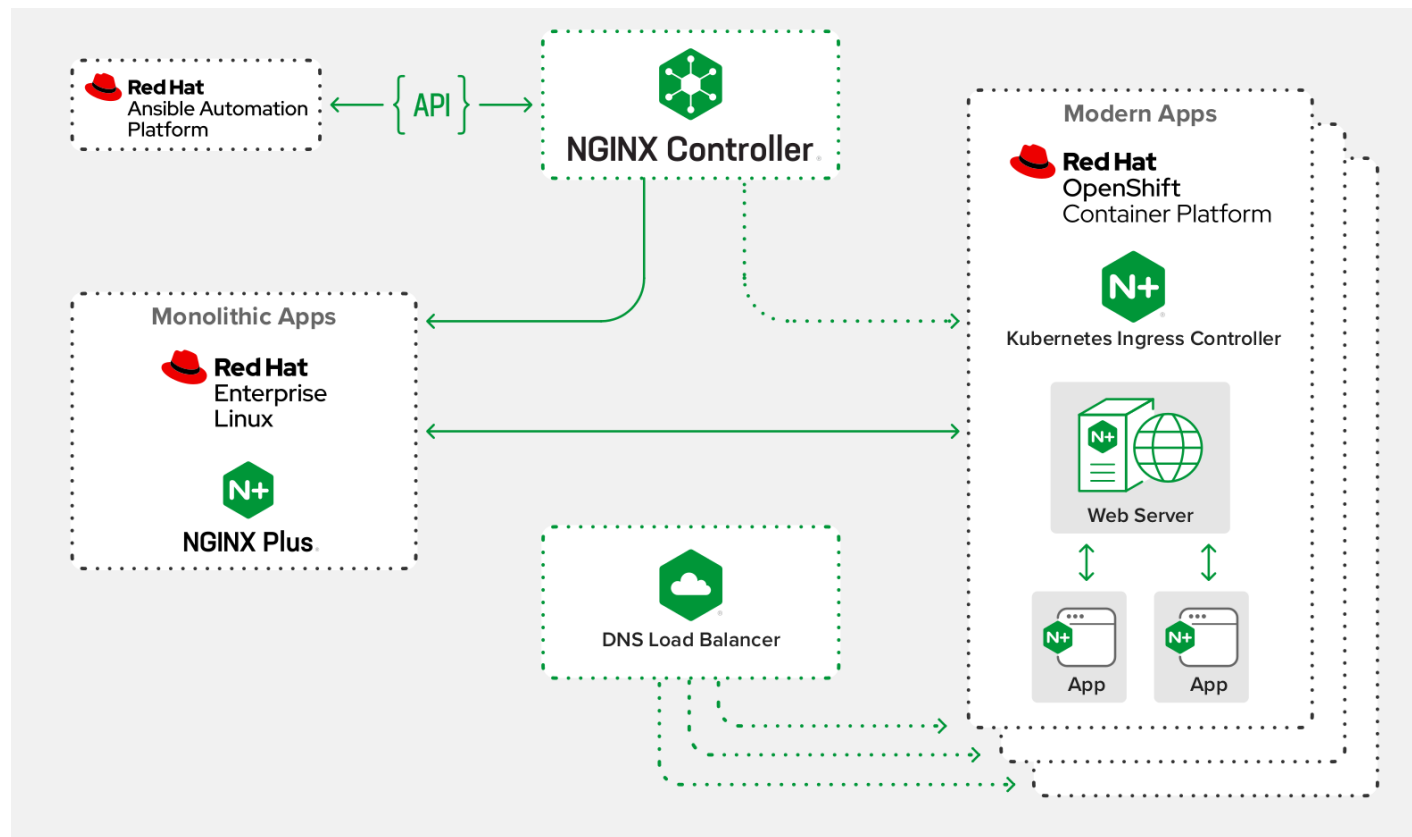


**82%**

of enterprise workloads are in the cloud<sup>1</sup>

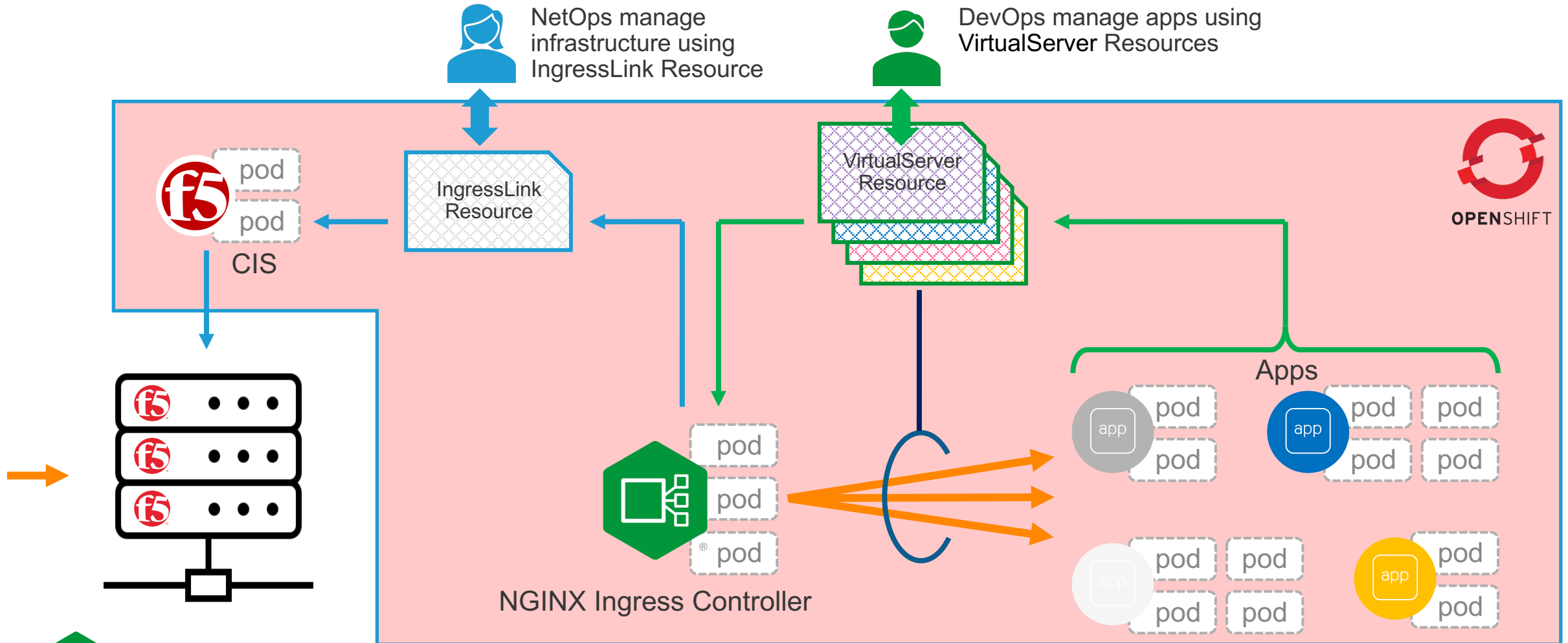
# Modern Apps Delivery with Red Hat and NGINX

Digital Transformation is Key




# NGINX and F5 IngressLink

Enables NetOps and DevOps teams to work at their own speeds




# NGINX Ingress Resources

## Distributed Configuration



Host  
TLS  
Policies  
Upstreams  
Routes  
- Path  
Policies { pass, redirect, return, proxy  
Action  
Split  
Match  
Route { delegation  
ErrorPage

NetOps




Host  
Upstreams  
Subroutes  
- Path  
Policies { pass, redirect, return, proxy  
Action  
Split  
Match  
ErrorPage

DevOps-FE


Rate Limiting

MTLS (Ingress/Egress)

App Protect WAF



DevSecOps




Host  
TLS  
Policies  
Upstreams  
Routes  
- Path  
Policies { pass, redirect, return, proxy  
Action  
Split  
Match  
Route { delegation  
ErrorPage

DevOps-NG

Access Control

Auth (JWT, OIDC)



Identity



Red Hat OpenShift Container Platform

Project: arcadia-team

## Deployments

Name Search by name...

Name	Status	Labels
app2	1 of 1 pods	app=app2 version=v1
app3	1 of 1 pods	app=app3 version=v1
backend	1 of 1 pods	app=backend version=v1
main	1 of 1 pods	app=main version=v1

Red Hat OpenShift Container Platform

Project: nginx-ingress

Deployments → Deployment details

# D nginx-dep1

Details Metrics YAML ReplicaSets Pods Environment Events

## Deployment details

3 Pods

<b>Name</b> nginx-dep1	<b>Update strategy</b> RollingUpdate
<b>Namespace</b> NS nginx-ingress	<b>Max unavailable</b> 25% of 3 pods
<b>Labels</b> No labels	<b>Max surge</b> 25% greater than 3 pods

Edit

ReplicationControllers

HorizontalPodAutoscalers

Networking >

Storage >

Builds >

Observe >

Compute >

User Management >

Administration v

Cluster Settings

## CustomResourceDefinitions

Name

Name  ✕ [Clear all filters](#)

Name ↑	Group ↑
<span>CRD</span> APDosLogConf	appprotectdos.f5.com
<span>CRD</span> APDosPolicy	appprotectdos.f5.com
<span>CRD</span> APLogConf	appprotect.f5.com
<span>CRD</span> APPolicy	appprotect.f5.com
<span>CRD</span> APUserSig	appprotect.f5.com
<span>CRD</span> DosProtectedResource	appprotectdos.f5.com



- ReplicationControllers
- HorizontalPodAutoscalers
- Networking >
- Storage >
- Builds >
- Observe >
- Compute >
- User Management >
- Administration ▾
  - Cluster Settings
  - Namespaces
  - ResourceQuotas
  - LimitRanges
  - CustomResourceDefinitions

Project: security ▾

APPPolicies > APPolicy details

APP basic-pol

Actions ▾

Details YAML

Alt + F1 Accessibility help | View shortcuts | View sidebar

```
2 kind: APPolicy
3 metadata:
4   annotations:
5     kubectl.kubernetes.io/last-applied-configuration: >
6     {"apiVersion":"appprotect.f5.com/v1beta1","kind":"APPolicy","metadata":{"annotations":{},"name":"basic-pol","namespace":"security"},"sp
7   creationTimestamp: '2022-08-16T15:09:16Z'
8   generation: 1
9   managedFields: ...
36  name: basic-pol
37  namespace: security
38  resourceVersion: '2592305'
39  uid: 0935fdbe-cd31-459e-9232-be1e51d6649b
40 spec:
41  policy:
42    applicationLanguage: utf-8
43    enforcementMode: blocking
44    name: basic-owasp
45    template:
46      name: POLICY_TEMPLATE_NGINX_BASE
47
```

Save Reload Cancel

Download

- ReplicationControllers
- HorizontalPodAutoscalers
- Networking
- Storage
- Builds
- Observe
- Compute
- User Management
- Administration
  - Cluster Settings
  - Namespaces
  - ResourceQuotas
  - LimitRanges
  - CustomResourceDefinitions

Project: security

APLogConf details

APLC log-all

Actions

Details YAML

Alt + F1 Accessibility help | View shortcuts | View sidebar

```
2 kind: APLogConf
3 metadata:
4   annotations:
5     kubectl.kubernetes.io/last-applied-configuration: >
6     {"apiVersion":"appprotect.f5.com/v1beta1","kind":"APLogConf","metadata":{"annotations":{},"name":"log-all","namespace":"security"},"spe
7   creationTimestamp: '2022-08-16T15:09:05Z'
8   generation: 1
9   managedFields: ...
36  name: log-all
37  namespace: security
38  resourceVersion: '2592188'
39  uid: '929dd92c-8fb4-48a0-a02d-50957d375902'
40 spec:
41   content:
42     format: default
43     max_message_size: 64k
44     max_request_size: any
45     filter:
46     request_type: all
47
```

Save Reload Cancel

Download

- ReplicationControllers
- HorizontalPodAutoscalers
- Networking >
- Storage >
- Builds >
- Observe >
- Compute >
- User Management >
- Administration v

## CustomResourceDefinitions

Create CustomResourceDefinition

Name k8s.nginx.org

Name k8s.nginx.org x Clear all filters

Name	Group	Latest version	Namespaced	Established
CRD GlobalConfiguration	k8s.nginx.org	v1alpha1	Yes	✓
CRD Policy	k8s.nginx.org	v1	Yes	✓
CRD TransportServer	k8s.nginx.org	v1alpha1	Yes	✓
CRD VirtualServer	k8s.nginx.org	v1	Yes	✓
CRD VirtualServerRoute	k8s.nginx.org	v1	Yes	✓

- ReplicationControllers
- HorizontalPodAutoscalers
- Networking >
- Storage >
- Builds >
- Observe >
- Compute >
- User Management >
- Administration ▾
  - Cluster Settings
  - Namespaces
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  - CustomResourceDefinitions

Project: arcadia-team

Policies > Policy details

**P** sec-pol

Actions ▾

Details YAML

Alt + F1 Accessibility help | View shortcuts | View sidebar

```
49 name: arcadia-team
50 resourceVersion: '2591562'
51 uid: f8eeca13-e37d-4ef9-aad8-ab5dd240e185
52 spec:
53   ingressClassName: nginx-depl
54   waf:
55     apPolicy: security/basic-pol
56     enable: true
57     securityLogs:
58       - apLogConf: security/log-all
59         enable: true
60         logDest: 'syslog:server=10.1.10.21:5144'
61       - apLogConf: security/log-all
62         enable: true
63         logDest: 'syslog:server=10.1.10.20:515'
64 status:
65   message: Policy arcadia-team/sec-pol was added or updated
66   reason: AddedOrUpdated
67   state: Valid
68
```

Save | Reload | Cancel

Download

- ReplicationControllers
- HorizontalPodAutoscalers
- Networking >
- Storage >
- Builds >
- Observe >
- Compute >
- User Management >
- Administration >
  - Cluster Settings
  - Namespaces
  - ResourceQuotas
  - LimitRanges
  - CustomResourceDefinitions

Project: arcadia-team

VirtualServers > VirtualServer details

VS arcadia

Actions

Details YAML

Alt + F1 Accessibility help | View shortcuts | View sidebar

```
47   name: arcadia
48   namespace: arcadia-team
49   resourceVersion: '3420252'
50   uid: 37c133e2-004b-47ef-9e47-af04d20bd017
51   spec:
52     host: arcadia.example.com
53     ingressClassName: nginx-depl
54     policies:
55     - name: sec-pol
56     routes:
57     - action:
58         proxy:
59           upstream: main
60       path: /
61     - action:
62         proxy:
63           upstream: backend
64       path: /files
65     - action:
66         proxy:
67           upstream: app2
```

Save Reload Cancel

Download



American Express Platinum

Balance: \$5,304

5476

ENDING



### Stock Portfolio

Your Portfolio Balance

**\$29,281** 4.58% ↑

AMZN ↑ 1.93%

\$7,950

MSFT ↑ 2.12%

\$7,012

GOOGL ↑ 1.67%

\$7,357

FFIV ↑ 2.48%

\$6,962

Buy Stocks

Sell Stocks

### Last 180 days Balance History



### Profit

YESTERDAY **\$1,481** 5.49 ↑

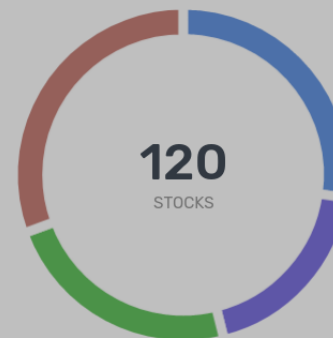
LAST WEEK **\$1,581** 5.86 ↑

LAST MONTH **\$1,881** 6.97 ↑

THIS YEAR **\$2,281** 8.45 ↑

Send Money To

### Portfolio Distribution



Microsoft	Google
23.95%	25.13%
66 Stocks	7 Stocks
Amazon	F5 Networks
27.15%	23.78%
5 Stocks	42 Stocks

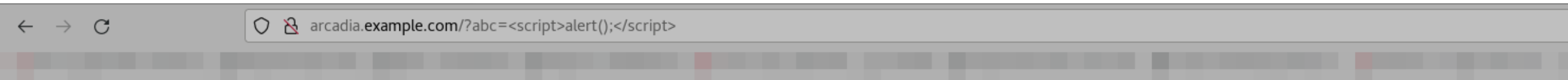
Invite your friends and make \$100 with referrals

Email address...

Send

### Last Transactions

F5 Networks (FFIV)	22.01.2019	\$1980	+12 Stocks
F5 Networks (FFIV)	22.01.2019	\$8112	+48 Stocks
Microsoft (MSFT)	22.01.2019	\$1332	-12 Stocks
Microsoft (MSFT)	22.01.2019	\$16642	-157 Stocks
Amazon (AMZN)	22.01.2019	\$50880	-32 Stocks
F5 Networks (FFIV)	22.01.2019	\$1980	+12 Stocks

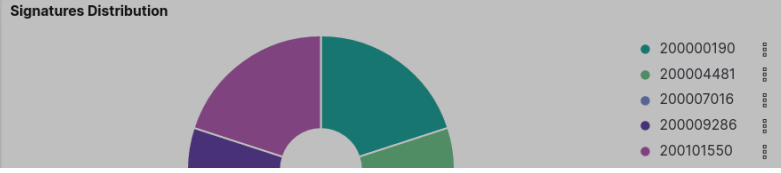
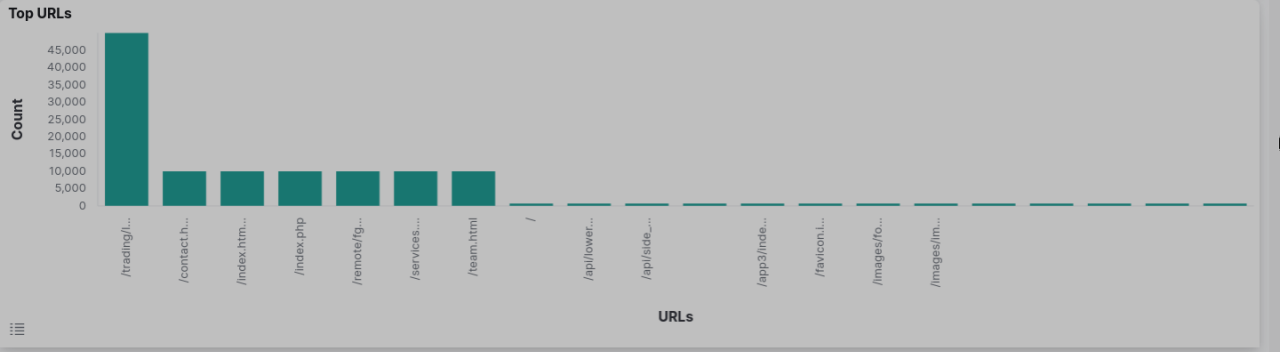
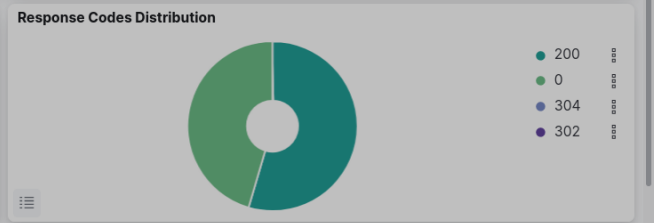
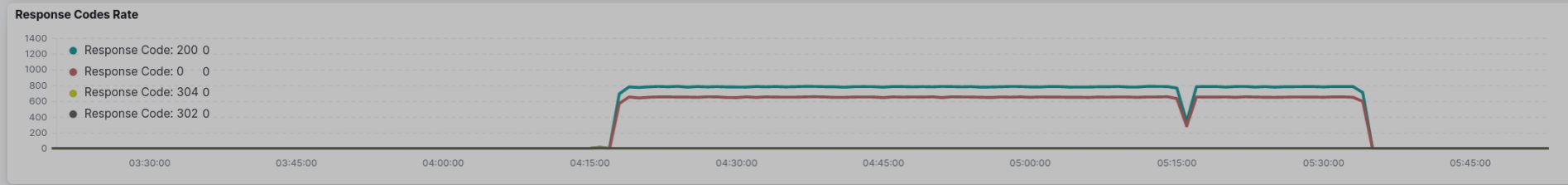
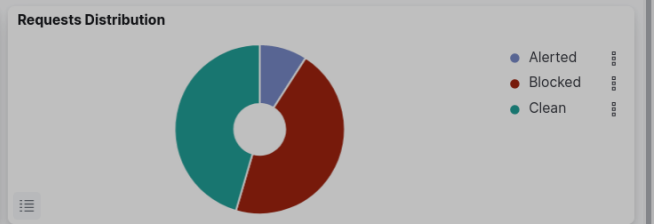
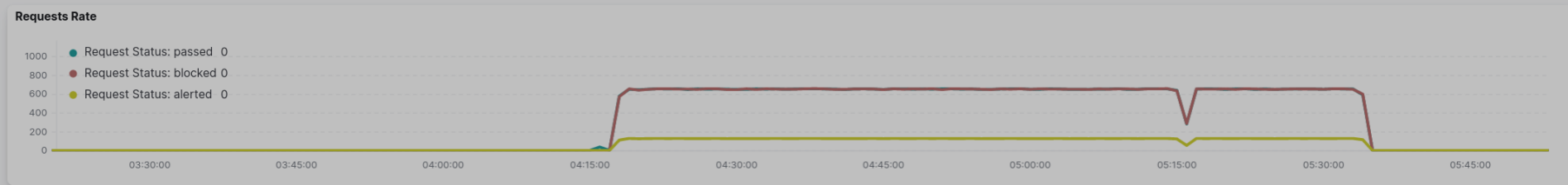


The requested URL was rejected. Please consult with your administrator.

Your support ID is: 11738676320637510390

[\[Go Back\]](#)

+ Add filter





All Requests 1 documents

Time ↓	method	uri	violations	response_code	request_status	ip_client
Nov 22, 2022 @ 12:24:40.000	GET	/	Illegal meta character in value, Attack signature detected, Violation Rating Threat detected	0	blocked	10.1.10.100

Expanded document

Table JSON

Actions	Field	Value
	_id	hzVeoIQBqg0-wE0x2ccn
	_index	waf-logs-2022.11.22
	_score	-
	_type	_doc
	@timestamp	Nov 22, 2022 @ 12:24:40.000
	@version	1
	blocking_exception_reason	N/A
	bot_anomalies	N/A
	bot_category	N/A
	bot_signature_name	N/A

[View surrounding documents](#) [View single document](#)

All Requests 1 documents

severity_label	Critical
sig_ids	200001475, 200000098, 200001088, 200101609
sig_names	XSS script tag end (Parameter) (2), XSS script tag (Parameter), alert() (Parameter)...
sig_set_names	{Cross Site Scripting Signatures;High Accuracy Signatures}, {Cross Site Scripting Signatures;High Accuracy Signatures}, {Cross Site Scripting Signatures}...
source_host	10.1.10.100
src_port	58554
sub_violations	N/A
support_id	11738676320637510390
tags	_goip_lookup_failure
threat_campaign_names	N/A
timestamp	Nov 22, 2022 @ 12:24:40.000
timestamp8601	Nov 22, 2022 @ 12:24:40.000
unit_hostname	nginx-dep1-97f98875b-9hxrk
uri	/
violation_details_b64decoded.request-violations.violation.p arameter data.name	abc

# Why NGINX and Red Hat

## Full Platform for Container Management



Get a Feature-Rich Platform for Container Management



Use Simple, Lightweight Architecture and Secure Monolithic Apps



Protect Applications Against Threats



Protect APIs Without Impacting Performance



Achieve Enterprise-grade Kubernetes



Accelerate Release Cycles and Innovation



Speed Up and Secure Traffic



Reduce Server Load and Speed Up Content Delivery

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