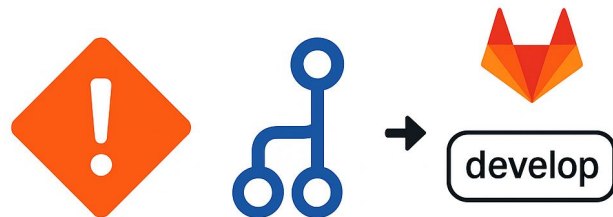


Objetivo da Solução

Garantir que nenhum pipeline Logstash com erro de sintaxe seja enviado para ambiente de desenvolvimento (**develop**) através de Merge Request usando validação automática com CI no GitLab



SOBRE O ARQUIVO `.gitlab-ci.yml`

O `.gitlab-ci.yml` é o arquivo que define o que o GitLab deve executar (ex: testes, validações) e quando (ex: em merge requests), usando uma imagem específica e etapas definidas no pipeline. Ele automatiza a validação e controle de qualidade no fluxo de CI/CD.

```
gitlab-ci.yml M X
gitlab-ci.yml > ( ) validate_logstash > [ ] only
1  stages:
2    - validate
3
4  validate_logstash:
5    image: docker.elastic.co/logstash/logstash:8.13.0
6    stage: validate
7    script:
8      - echo "🔍 Validando sintaxe dos arquivos .conf do Logstash..."
9      - |
10         for file in $(ls logstash/*.conf); do
11           echo "📁 Verificando: $file"
12           if logstash --config.test_and_exit -f "$file"; then
13             echo "✅ $file está válido."
14           else
15             echo "❌ ERRO: Sintaxe inválida no arquivo: $file"
16             exit 1
17           fi
18         done
19    only:
20      - merge_requests
21      - develop
```

No nosso caso:

Ele está configurado para:

✅ **Validar a sintaxe dos arquivos `.conf` do Logstash**

🔒 **Impedir que qualquer código com erro de sintaxe seja enviado para a branch develop via Merge Request**

Ou seja, ele funciona como um **validador automatizado de qualidade**:

Se a configuração estiver errada, o merge é bloqueado automaticamente.

Habilitar no GitLab

Bloquear merge com pipeline com erro

- Acesse: Settings > General > Merge Requests
- Marque a opção:
Pipelines must succeed

🏠 sarahnovais25-group / validador-logstash / Merge requests

Merge requests

Squashing is never performed and the checkbox is hidden.

☒ Allow
Checkbox is visible and unselected by default.

☐ Encourage
Checkbox is visible and selected by default.

☐ Require
Squashing is always performed. Checkbox is visible and selected, and users cannot change it.

Merge checks

These checks must pass before merge requests can be merged.

☒ Pipelines must succeed
Merge requests can't be merged if the latest pipeline did not succeed or is still running.

☐ Skipped pipelines are considered successful
Introduces the risk of merging changes that do not pass the pipeline.

☐ All threads must be resolved

Merge suggestions

The commit message used when applying merge request suggestions.

Do not allow merges when the pipeline fails.



Validação simplificada de sintaxe com Logstash

Validação mínima viável de pipelines Logstash via CI: simples, clara e eficaz

Exemplo de pipeline **com erro de sintaxe**

Nesse caso o "add_field" está faltando um array com chave e valor

```
logstash > logstash.conf
1  input {
2    http {
3      port => 5044
4    }
5  }
6
7  filter {
8    mutate {
9      add_field => "campo_errado_sintaxe"
10   }
11 }
12 output {
13   elasticsearch {
14     hosts => ["http://elasticsearch:9200"]
15     index => "logstash-test"
16   }
17 }
```



Bloqueio do merge request

erro proposital no logstash.conf

 Open Sarah Novais requested to merge `fix-pipeline` into `develop` just now

Overview 0 Commits - Pipelines 0 Changes 1



Checking pipeline status. ?

8v [Approve](#) Approval is optional ?

 Merge blocked: 1 check failed



 Pipeline must succeed.

☐ Delete source branch ☐ Squash commits ? ☐ Edit commit message

- The source branch is [1 commit behind](#) the target branch. [Rebase source branch](#)
- 1 commit and 1 merge commit will be added to develop.

[Set to auto-merge](#)

Merge when all merge checks pass ?


1. Dev cria branch, faz alterações no pipeline
2. Abre um **Merge Request para develop**
3. CI roda o `validate_logstash` (do `gitlab-ci.yml`)
4. Se algum `.conf` tiver erro (como no slide anterior):
 -  O pipeline falha
 -  Merge é **bloqueado automaticamente**

Validação simplificada de sintaxe com Logstash

Validação mínima viável de pipelines Logstash via CI: simples, clara e eficaz

Exemplo de pipeline com a sintaxe ajustada

Nesse caso o "add_field" foram adicionadas as chaves, e a "chave => valor".

```
logstash >  logstash.conf
1  input {
2    http {
3      port => 5044
4    }
5  }
6
7  filter {
8    mutate {
9      add_field => {
10       "chave" => "valor"
11     }
12   }
13 }
14
15 output {
16   elasticsearch {
17     hosts => ["http://elasticsearch:9200"]
18     index => "logstash-test"
19   }
20 }
21
```



Merge Request aprovado

Sarah Novais / validador-logstash / Merge requests / 15

Fix pipeline

Edit Code

Open Sarah Novais requested to merge fix-pipeline into develop just now

Overview 0 Commits - Pipelines 0 Changes 3

Add a to-do item

0 0

✓ Merge request pipeline #1831891923 passed
Merge request pipeline passed for e88fe4f7 just now ?

0 Assignees
None - assign yourself Edit

0 Reviewers
None - assign yourself Edit

Labels
None Edit

Milestone
None Edit

8 ✓ Approve Approval is optional ?

✓ Ready to merge!

☐ Delete source branch ☐ Squash commits ? ☐ Edit commit message

- The source branch is 1 commit behind the target branch. [Rebase source branch](#)
- 8 commits and 1 merge commit will be added to develop.

Merge

Activity

All activity

Se tudo estiver OK:

- ✓ Pipeline passa
- 🔒 Merge é liberado

Google Chrome



Pipeline passed
Pipeline passed for "Fix pipeline"
gitlab.com

Merge Request aprovado

Ao clicar no número do pipeline, será direcionado para tela central para visualizar e auditar o funcionamento do seu CI/CD.
E posteriormente para o resultado, que estará na próxima página.

Sarah Novais / validador-logstash / Merge requests / !5

Fix pipeline

Merged Sarah Novais requested to merge `fix-pipeline` into `develop` 15 minutes ago

Overview 0 Commits - Pipelines 0 Changes 3

0 0

✓ Merge request pipeline #1831891923 passed
Merge request pipeline passed for `e80fe4f7` 14 minutes ago ?

8✓ Approval is optional

Merged by Sarah Novais 13 minutes ago Revert Cherry-pick Delete source branch

Merge details

- Changes merged into `deve` with `ef1873b2`.
- Did not delete the source branch.

✓ Pipeline #1831895854 passed
Pipeline passed for `ef1873b2` on `deve` 12 minutes ago

Sarah Novais / validador-logstash / Pipelines / #1831891923

Update .gitlab-ci.yml file

✓ Passed Sarah Novais created pipeline for commit `e80fe4f7` 17 minutes ago

Related merge request !5 to merge `fix-pipeline`

latest merge request 1 job 0.84 50 seconds, queued for 0 seconds

Pipeline Jobs 1 Tests 0

validate

✓ validate_logstash



Resultado da validação dos arquivos Logstash no pipeline

Sarah Novais / validador-logstash / Jobs / #10122898881

Search visible log output

```
31 [2025-05-22T18:14:24,839][INFO ][logstash.runner          ] Jackson default
    value override `logstash.jackson.stream.read.constraints.max-number-length`
    configured to `10000`
32 [2025-05-22T18:14:24,854][INFO ][logstash.settings        ] Creating direct
    ory {:setting=>"path.queue", :path=>"/usr/share/logstash/data/queue"}
33 [2025-05-22T18:14:24,856][INFO ][logstash.settings        ] Creating direct
    ory {:setting=>"path.dead_letter_queue", :path=>"/usr/share/logstash/data/d
    ead_letter_queue"}
34 [2025-05-22T18:14:25,081][WARN ][logstash.config.source.multilocal] Ignorin
    g the 'pipelines.yml' file because modules or command line options are spec
    ified
35 [2025-05-22T18:14:25,084][INFO ][logstash.config.source.local.configpathloa
    der] No config files found in path {:path=>"/usr/share/logstash/logstash/lo
    gstash.conf"}
36 [2025-05-22T18:14:25,085][ERROR][logstash.config.source.loader] No configura
    tion found in the configured sources.
37 Configuration OK
38 [2025-05-22T18:14:25,085][INFO ][logstash.runner          ] Using config.te
    st_and_exit mode. Config Validation Result: OK. Exiting Logstash
39 $ echo "✅ Todos os arquivos .conf foram validados com sucesso."
40 ✅ Todos os arquivos .conf foram validados com sucesso.
41 Cleaning up project directory and file based variables
42 Job succeeded
```

Duration: 50 seconds

Finished: 14 minutes ago

Queued: 0 seconds

Timeout: 5m (from job) ?

Runner: #12270807 (j1aLDqxS) 1-
blue.saas-linux-small-
amd64.runners-
manager.gitlab.com/default

Source: Merge Request

Commit e80fe4f7 in !5

Update .gitlab-ci.yml file

Pipeline #1831891923 Passed for
!5 with fix-pipeline

validate

Related jobs

→ Passed validate_logstash

Objetivo

Evitar que códigos python com **erros de sintaxe, má indentação ou más práticas** sejam enviados para **develop**.

FERRAMENTA	O QUE VALIDA	RIGOR	MOTIVO DA ESCOLHA
flake8	Indentação, parênteses, variáveis não usadas	Médio	Detecta erros sem exagerar
black	Formatação de código padronizada	Leve	Ajuda na consistência

Script Python com erro proposital para bloquear Merge Request

```
end_of_life.py 1, U X
python_scripts > end_of_life.py > consultar_eol
1 import requests
2 import json
3 import sys
4
5 def consultar_eol(tecnologia: str) -> dict
6     url = f"https://endoflife.date/api/{tecnologia}.json"
7     response = requests.get(url, timeout=5)
8     response.raise_for_status()
9     dados = response.json()
10
11     return {
12         "tecnologia": tecnologia,
13         "versao": dados[0]["cycle"],
14         "fim_suporte": dados[0]["eol"]
15     }
16
17 if __name__ == "__main__":
18     try:
19         resultado = consultar_eol("python")
20         print(json.dumps(resultado, indent=2))
21     except Exception as e:
22         print(json.dumps({"erro": str(e)}))
23         sys.exit(1)
24
```

Este script simula uma consulta à API pública endoflife.date para verificar a versão e o fim de suporte de uma tecnologia (ex: Python).

No entanto, contém um erro proposital de sintaxe, com o objetivo de demonstrar como o pipeline GitLab CI identifica e bloqueia automaticamente Merge Requests com código Python inválido.

FAILED

Sarah Novais / validador-logstash / Jobs / #10123581187

Search visible log output

```
00:00
45 Collecting platformdirs>=2
46   Downloading platformdirs-4.3.8-py3-none-any.whl (18 kB)
47 Collecting pathspec>=0.9.0
48   Downloading pathspec-0.12.1-py3-none-any.whl (31 kB)
49 Installing collected packages: typing-extensions, tomli, pyflakes, pycodest
yle, platformdirs, pathspec, packaging, mypy-extensions, mccabe, click, fla
ke8, black
50 Successfully installed black-25.1.0 click-8.2.1 flake8-7.2.0 mccabe-0.7.0 m
ypy-extensions-1.1.0 packaging-25.0 pathspec-0.12.1 platformdirs-4.3.8 pyco
destyle-2.13.0 pyflakes-3.3.2 tomli-2.2.1 typing-extensions-4.13.2
51 WARNING: Running pip as the 'root' user can result in broken permissions an
d conflicting behaviour with the system package manager. It is recommended
to use a virtual environment instead: https://pip.pypa.io/warnings/venv
52 [notice] A new release of pip is available: 23.0.1 -> 25.1.1
53 [notice] To update, run: pip install --upgrade pip
54 $ echo " Validando com flake8 (estrutura e erros básicos)..."
55   Validando com flake8 (estrutura e erros básicos)...
56 $ flake8 python_scripts/
57 python_scripts/end_of_life.py:5:45: E999 SyntaxError: expected ':'
58 Cleaning up project directory and file based variables
59 ERROR: Job failed: exit code 1
```

Duration: 36 seconds
Finished: 3 minutes ago
Queued: 0 seconds
Timeout: 1h (from project)
Runner: #12270837 (J2nyww-s) 4-blue.saas-linux-small-amd64.runners-manager.gitlab.com/default
Source: Push

Commit a1bdfb46 in 16
Update .gitlab-ci.yml file

Pipeline #1831999331 Failed for f1
x-pipeline
validate

Related jobs
→ validate_python

✓ O que acontece:

1. O pipeline executa `flake8`, `black` ou `python -m compileall`
2. O erro de sintaxe é identificado
3. O job `validate_python` falha automaticamente
4. O GitLab bloqueia o merge com a mensagem:
"Merge blocked: 1 check failed – Pipeline must succeed"