



# CURSO 525

## INFRAESTRUTURA ÁGIL COM PRÁTICAS DEVOPS





## Anotações

[illegible]

- 1 O que é o Rundeck
- 2 Características do Rundeck
- 3 Primeiros Passos
- 4 Criando Usuários

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

A ferramenta é muito utilizada pela comunidade DevOps e também em Data Centers, sendo possível conectá-la a ferramentas de ChatOps para que seja informado o estado de execuções de jobs.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- ✓ Execução de comandos de forma distribuída;
- ✓ Workflow (incluindo condicionais, tratamento de erros e estratégias múltiplas de workflows);
- ✓ Sistema de Execução Plugável (SSH e WinRM por padrão, Powershell via plugins);
- ✓ Modelo de Recursos Conectáveis (Coleta de detalhes de infraestrutura de sistemas externos;
- ✓ Execuções de tarefas Planejadas;

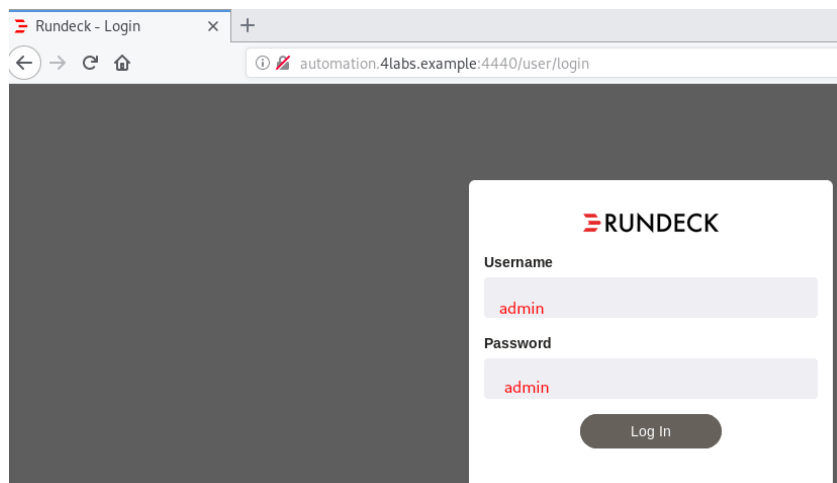
## Anotações

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- ## Anotações

[illegible]

Abra o navegador, acesse o endereço <http://automation.4labs.example:4440> e efetue o login com usuário e senha admin.



## Anotações

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You can see this message again by clicking the version number in the page footer.

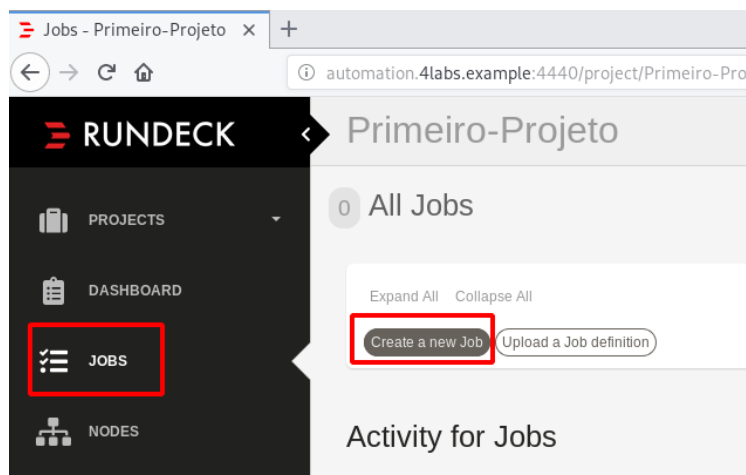
## Anotações

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8

Após a criação do projeto, podemos adicionar tarefas (jobs) clicando em **Jobs**. Em seguida, clique em **Create a New Job**.



## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Vamos chamar nosso primeiro job de **verify-hosts** e escrever uma descrição para o mesmo.

Create New Job: **verify-hosts**

Details

Workflow

Nodes

Schedule

Notifications

Other

Job Name

verify-hosts

Group is a / separated path

Description

Edit

1

Projeto para verificação dos hosts da máquina.

The first line of the description will be shown in plain text, the rest will be rendered with Markdown. [More...](#)

Cancel

Create

## Anotações

[illegible]

▶

Primeiro-Projeto

Create New Job: **verify-hosts**

Details

**Workflow**

Nodes

Schedule

Notifications

Other

Options

Undo

Redo

No Options

+ Add an option

Workflow

Stop at the failed step.

Run remaining steps before failing.

Strategy: 

Node First

Execute all steps on a node before proceeding to the next node.

Explain >

Global Log Filters

+ add

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

No Workflow steps

## Add a Step

Click on a Step type to add.

Search step

Enter a step filter string.

?

Search

Node Steps

Workflow Steps

Runs once for each node in the workflow.

Command - Execute a remote command

Script - Execute an inline script

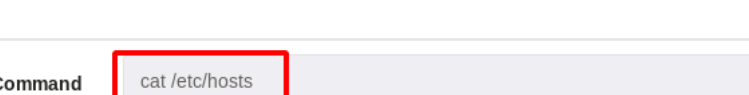
Script file or URL - Execute a local script file or a script from a URL

Job Reference - Execute another Job for each Node

## Anotações

[illegible]

Preencha o comando **cat /etc/hosts** e um nome para o passo a ser executado. Em seguida, clique em **Save**.



1.

**Command** `cat /etc/hosts`

**Step Label** `Lendo o conteúdo do arquivo Hosts`

No Workflow steps

## Anotações

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Clique em **Create** para finalizar a criação do nosso Job.

**Workflow**

If a step fails: ☒ Stop at the failed step. ☐ Run remaining steps before failing.

**Strategy:** Node First

Execute all steps on a node before proceeding to the next node.

Explain >

---

**Global Log Filters** + add

---

⏮ Undo Redo ⏭ ⏮ Revert All Changes

1.

```
cat /etc/hosts
```

Lendo o conteúdo do arquivo Hosts

⚙ ✕ 📄 !

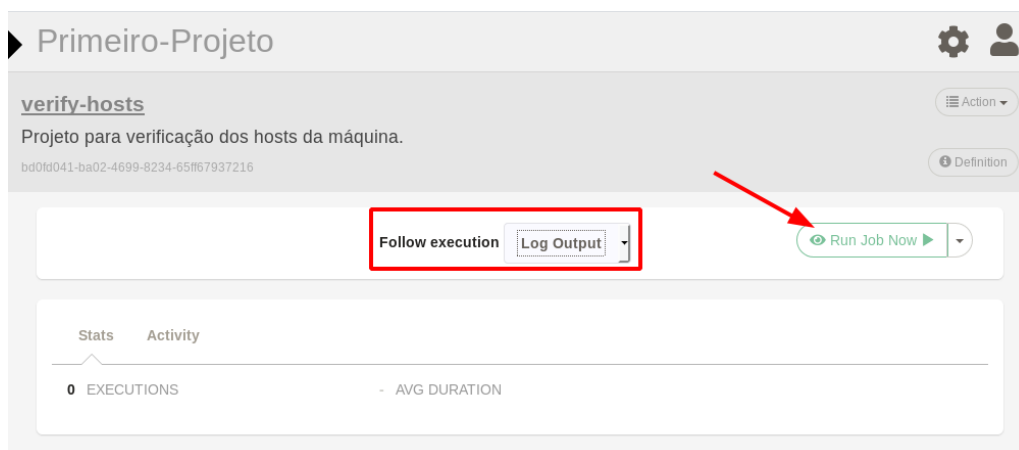
+ Add a step

Cancel Create

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Será exibida a tela com o job criado. Selecione **Log Output** em Follow Execution e depois clique em **Run Job Now**.



## Anotações

[illegible]



Após executar o job, será exibida uma tela com a atividade e o resultado da execução.

# Primeiro-Projeto

**verify-hosts**

Succeeded 0.00:04 at 5:17 pm >

#1

you

[Run Again](#)

Projeto para verificação dos hosts da máquina.

Nodes »


View Options Execution Log

```

17:17:21 1. Lendo o conteúdo do arquivo Hosts 127.0.0.1 automation.4labs.example automation
17:17:21                                     127.0.0.1 localhost localhost.localdomain localhost4
17:17:21                                     localhost4.localdomain4
17:17:21                                     ::1 localhost localhost.localdomain localhost6
17:17:21                                     localhost6.localdomain6
17:17:21                                     10.5.25.10 automation.4labs.example
17:17:21                                     10.5.25.20 compliance.4labs.example
17:17:21                                     10.5.25.30 container.4labs.example
17:17:21                                     10.5.25.40 scm.4labs.example
17:17:21                                     10.5.25.50 log.4labs.example
    
```

## Anotações

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**RUNDECK** < Primeiro-Projeto

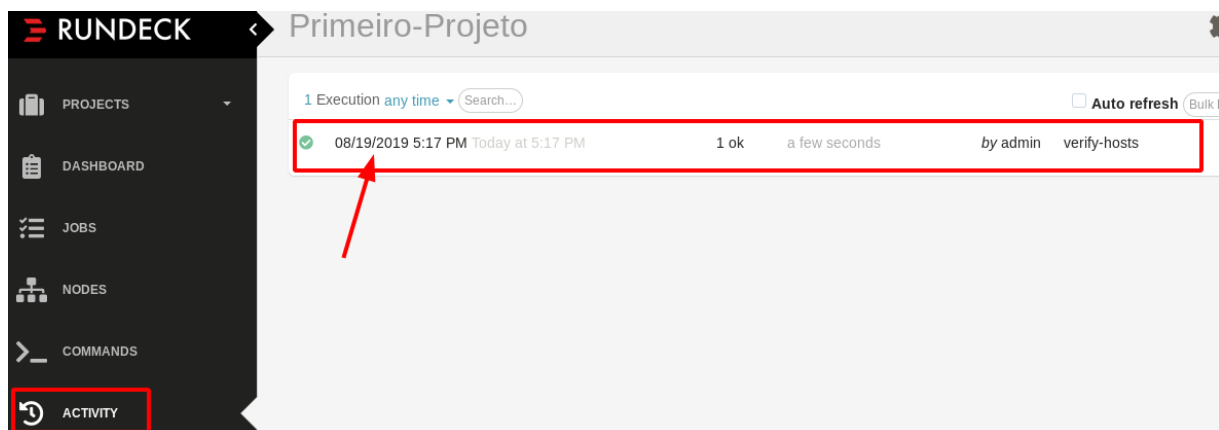
Meu primeiro projeto com Rundeck

**1 Execution** In the last Day (0 Failed)  
by 1 User admin

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Em **ACTIVITY**, podemos verificar as atividades de execuções das tarefas. Clique sobre a atividade para visualizar informações da mesma.



## Anotações

[illegible]

Serão exibidos alguns dados como percentual de acerto, falha e tempo de duração da execução. Caso queira executar novamente, clique em **Run Again** e depois em **Run Job Now**.

# Primeiro-Projeto

✓ verify-hosts

Projeto para verificação dos hosts da máquina.

Succeeded 00:00:04 at 5:17 pm

you

#1

Run Again

Log Output

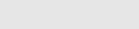
100% 1/1 COMPLETE0 FAILED0 INCOMPLETE0 NOT STARTED

NodeStart timeDuration

> 4labsAll Steps OK0.00:01

StatsActivity

1 EXECUTIONS100% SUCCESS RATE4s AVG DURATION



## Anotações

[illegible]

Primeiro-Projeto						
2 Executions <a href="#">any time</a> Search...		<input type="checkbox"/> Auto refresh Bulk Delete				
✓	08/19/2019 5:23 PM Today at 5:23 PM	1 ok	a few seconds	by admin	verify-hosts	#2
✓	08/19/2019 5:17 PM Today at 5:17 PM	1 ok	a few seconds	by admin	verify-hosts	#1

## Anotações

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A criação de usuários é feita via CLI, para isto, vamos acessar a máquina automation e editar o arquivo **realm.properties**.

1

Acesse a máquina automation:  
**# vagrant ssh automation**

2

Edite o arquivo realm.properties para adicionar o usuário:  
**# sudo vim /etc/rundeck/realm.properties +\$**  
  
**analista:devops@4linux,user,admin,architect,deploy,build**

3

Reinicie o serviço rundeckd para aplicar as alterações:  
**# sudo systemctl restart rundeckd**

automation.4labs.example

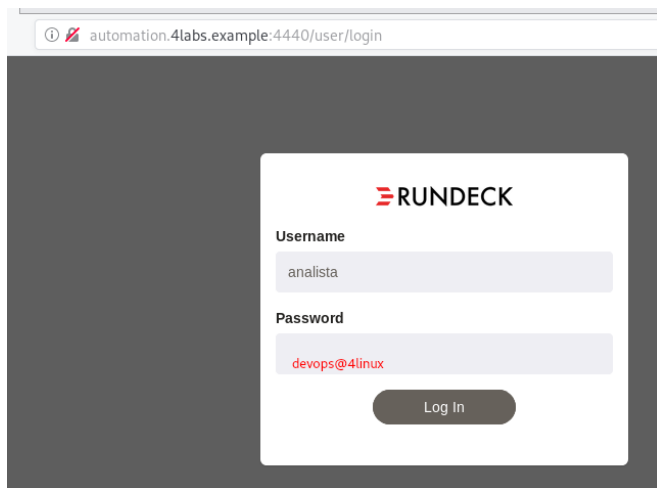
Somente de executar o comando vagrant init, será criado um arquivo com diversas opções já preenchidas, porém comentadas.

Para quem está trabalhando pela primeira vez com ela, talvez seja a melhor opção, caso contrário use a opção -m ou --minimal para remover todas essas linhas e deixar somente o necessário.

Durante a criação do Vagrantfile, é possível informar qual imagem que será utilizada, assim o arquivo já é automaticamente construído com esse valor preenchido.

Por padrão, a variável **config.vm.box** vem com o valor “base”, que significa nada, sendo necessário alterar para o nome da imagem que deseja utilizar, por exemplo “ubuntu/xenial64”.

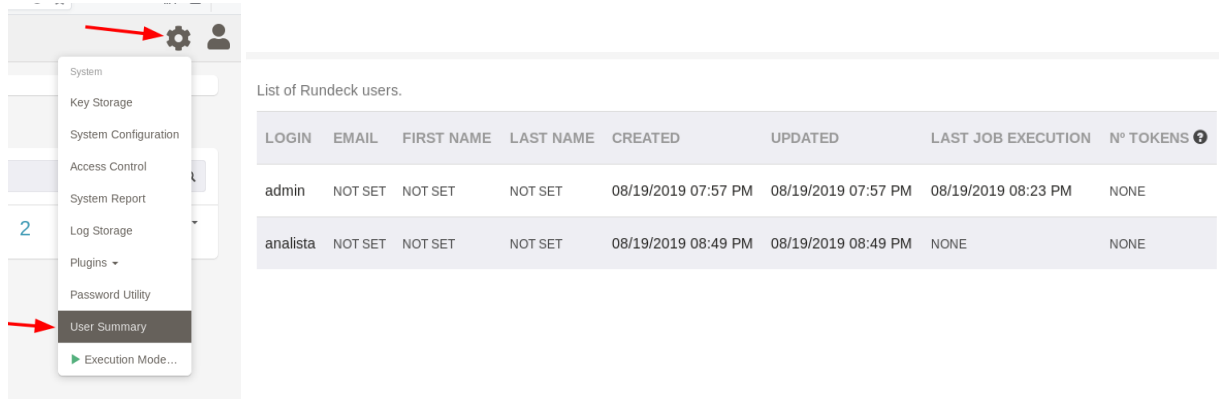
Acesse novamente o Rundeck pelo navegador em `http://automation.4labs.example:4440` e efetue o login com o usuário **analista** e senha **devops@4linux**.



## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Para listar os usuários, clique na engrenagem no canto superior direito da tela. Em seguida, clique em **User Summary**.



## Anotações

[illegible]



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## Anotações

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# Construindo Pipelines de Infraestrutura com Rundeck

## Registrando e Verificando Nodes

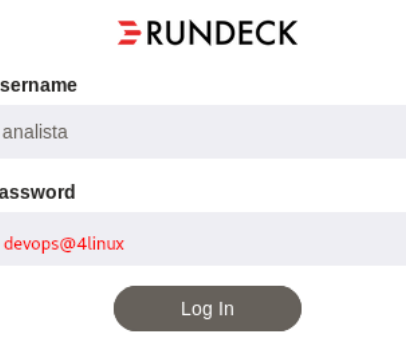
Anotações


- ## Anotações

No Rundeck, podemos adicionar outras máquinas como nodes de um projeto, para que elas possam executar determinadas ações.

[illegible]

**analista** e senha **devops@4linux**.



 RUNDECK

**Username**

analista

**Password**

devops@4linux

Log In

## Anotações

[illegible]

The screenshot shows the Key Management Service console. On the left, a navigation menu is open, with 'Key Storage' highlighted. A red arrow points to the gear icon in the top right corner of the menu. Another red arrow points to the 'Key Storage' item in the menu. On the right, the 'Key Storage' section is displayed, showing a search bar with the text 'keys/' and 'Enter a path'. Below the search bar, there is a button labeled '+ Add or Upload a Key' with a red arrow pointing to it. The main content area shows 'No keys' and a description: 'Key Storage provides a global directory-like structure'.

[illegible]

1

```
# vagrant ssh automation
```

2

```
# sudo cat /root/.ssh/id_rsa
```

## Anotações

### Overwrite a Key

Key Type: Private Key

Private Keys and Passwords are not available to download once they are stored. Public keys can be downloaded.

Enter text

```
oepzrlcqm0U1zhEvE/v0
klq6BIY0dvX1Dy7sNQymOlaY3Lplt7sF/J+cGVQj
/YZGwdpYpW29RI0qYx6i7lxI
aS3ewm+a3vMBU4Bm6Hlf2EwZwqdPyXsp/gcQ7K2kJVuP
KktzzBBThg==
-----END RSA PRIVATE KEY-----
```

Storage path: keys/ Enter the directory name

Name: devops

☐ Do not overwrite a file with the same name.

You can reference this stored Key using the storage path:  
[keys/devops](#)

Cancel Save


## Anotações

[illegible]




keys/

Enter a path




↑

Action ▾





Add or Upload a Key



Overwrite Key


1 keys





devops

Private Key

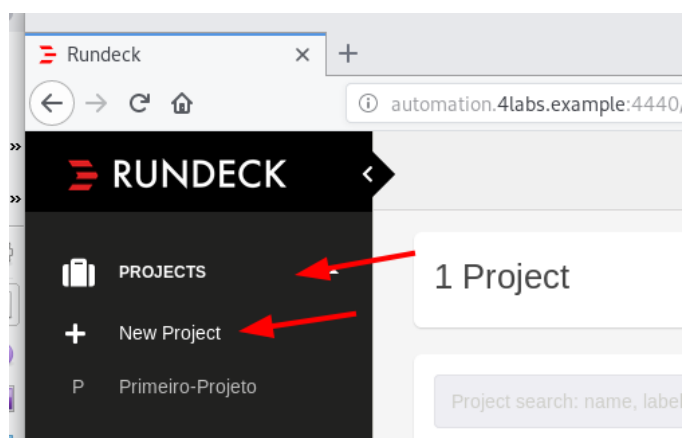
Storage path: [keys/devops](#) 

Created: 11:57 pm by: analista

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Clique em **Projects** e depois em **New Project**.



## Anotações

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Vamos chamar nosso projeto de **InfraAgil**, preencher o label com **525** e adicionar uma descrição.

### Create a new Project

Details Execution History Clean Execution Mode User Interface Default Node Executor

**Project Name**

InfraAgil

**Label**

525

**Description**

Projeto de Infraestrutura Agil com Praticas DevOps

Cancel Create

## Anotações

[illegible]

Em **Default Node Executor**, selecione o SSH Key Storage Path - **keys/devops**, depois clique em **Select**.

Details

Execution History Clean

Execution Mode

User Interface

Default Node Executor

Default File Copier

The Node Executor is responsible for executing commands and scripts on remote nodes.

SSH

Executes a command on a remote node via SSH.

SSH Key File path

File Path to the SSH Key to use

SSH Key Storage Path

keys/devops

Select...

SSH Password Storage Path

Path to the Password to use within Rundeck Storage. E.g. "keys/path/my.password". Can be overridden by a Node attribute named 'ssh-password-storage-path'.

## Anotações

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Antes de adicionar a lista de Nodes no Rundeck, vamos preparar a pasta e o arquivo `nodes.yml` na máquina automation.

Crie a pasta que ira armazenar a lista de nodes no Rundeck:

```
# sudo mkdir /var/lib/rundeck/projects/525
```

Copie para a pasta de projetos o arquivo nodes.yml utilizando o modelo da pasta Aula 8.2:

```
# sudo cp /vagrant/4525/arquivos/Aula\ 8.2/nodes.yml
/var/lib/rundeck/projects/525/
```

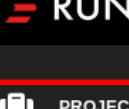
E ajuste a permissão de acesso ao usuário rundeck:

```
# sudo chown -R rundeck. /var/lib/rundeck/projects/525/
```

automation.4labs.example

## Anotações

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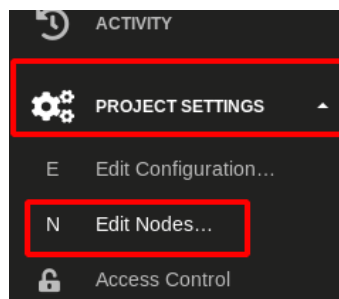


**RUNDECK**

**PROJECTS**

+ New Project

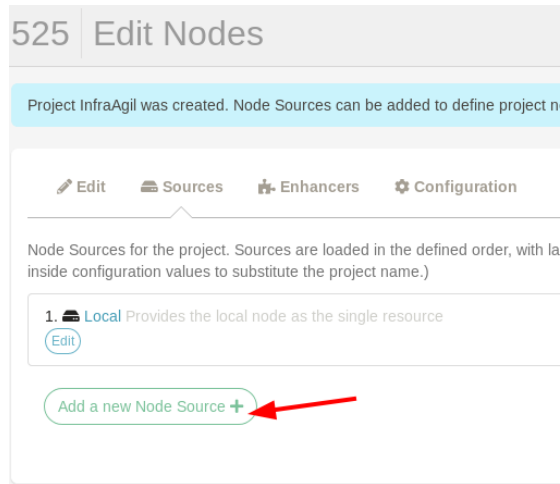
5	525
P	Primeiro-Projeto



## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Clique em **Add a new Node Source +** para adicionar um novo recurso.







## Anotações

[illegible]

**File.**

## Add a new Node Source


- +  **AWS S3 remote model source**  
Obtain nodes information from a file located in a S3 bucket
- +  **Ansible Resource Model Source**  
Imports nodes from Ansible's inventory.
- +  **Directory**  
Scans a directory and loads all resource document files
- +  **File**  
Reads a file containing node definitions in a supported format

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Selecione o formato como **resourceyaml** e digite o caminho do arquivo para **/var/lib/rundeck/projects/525/nodes.yml**. Em seguida, selecione as opções **Generate**, **Require File Exists**, **Writeable** e clique em **Save**.

2.  **File** Reads a file containing node definitions in a supported format

**Format**

Format of the file. If unspecified, the format will be determined by the file extension.

**File Path**

Path of the file

☒ **Generate**

Automatically generate the file if it is missing? Also creates missing directories.

☐ **Include Server Node**

Automatically include the server node in the generated file?

☒ **Require File Exists**




Require that the file exists

☒ **Writable**

Allow this file to be editable.

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

1.  **Local** Provides the local node as the single resource  
[Edit](#)
2.  **File** Reads a file containing node definitions in a supported format  
Format: **resourceyaml**  
File Path: **/var/lib/rundeck/projects/525/nodes.yml**  
Generate: **yes**  
Require File Exists: **yes**  
Writeable: **yes**  
[Edit](#)  **Modified**

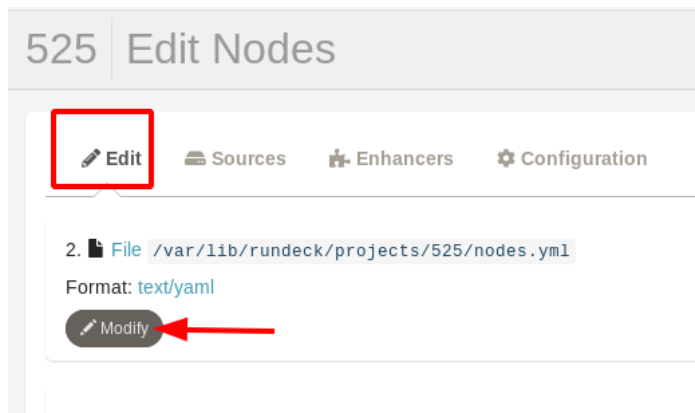
[Add a new Node Source +](#)

[Revert](#) [Save](#)

changes have not been saved.

## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

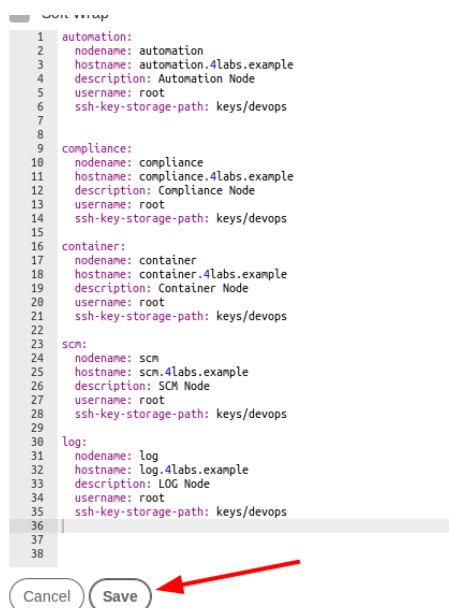
Clique em **Edit** e **Modify** para adicionar as configurações dos Nodes.



## Anotações

[illegible]

Adicione os dados para conexão aos nodes e clique em **Save**.



===== /var/lib/rundeck/projects/525/nodes.yml =====

```

automation:
  nodename: automation
  hostname: automation.4labs.example
  username: rundeck
  
```

```

compliance:
  nodename: compliance
  hostname: compliance.4labs.example
  description: Compliance Node
  username: root
  ssh-key-storage-path: keys/devops
  
```

```

container:
  nodename: container
  hostname: container.4labs.example
  description: Container Node
  username: root
  ssh-key-storage-path: keys/devops
  
```

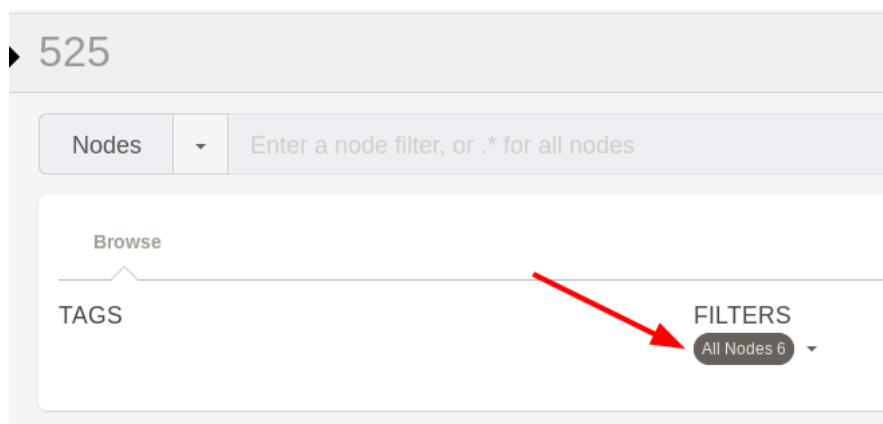
```

scm:
  nodename: scm
  hostname: scm.4labs.example
  description: SCM Node
  username: root
  ssh-key-storage-path: keys/devops
  
```

```

log:
  nodename: log
  hostname: log.4labs.example
  description: LOG Node
  username: root
  ssh-key-storage-path: keys/devops
  
```

Jose Luiz Bento Da Silva / luizbsilva@gmail.com



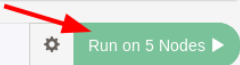
## Anotações

[illegible]

## Anotações

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Jose Luiz Bento Da Silva / luizbsilva@gmail.com



## Anotações

[illegible]

A execução atualizará a tela com o resultado dos comandos.

Recent ▾

cat /etc/hosts

Run on 5 Nodes ▶

cat /etc/hosts

Save as a Job #31 Succeeded ✕

```
01:40:13 127.0.0.1 automation.4labs.example automation
01:40:13 01:40:13 127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
01:40:13 ::1 localhost localhost.localdomain localhost6 localhost6.localdomain6
01:40:13 01:40:13 10.5.25.10 automation.4labs.example
01:40:13 10.5.25.20 compliance.4labs.example
01:40:13 01:40:13 10.5.25.30 container.4labs.example
01:40:13 10.5.25.40 scm.4labs.example
01:40:13 10.5.25.50 log.4labs.example
01:40:17 127.0.0.1 localhost
01:40:17
01:40:17 # The following lines are desirable for IPv6 capable hosts
01:40:17 ::1 ip6-localhost ip6-loopback
01:40:17 fe00::0 ip6-localnet
01:40:17 ff00::0 ip6-mcastprefix
01:40:17 ff02::1 ip6-allnodes
01:40:17 01:40:17 10.5.25.10 automation.4labs.example
01:40:17 10.5.25.20 compliance.4labs.example
01:40:17 10.5.25.30 container.4labs.example
01:40:17 10.5.25.40 scm.4labs.example
01:40:17 10.5.25.50 log.4labs.example
01:40:17 127.0.1.1 ubuntu-bionic ubuntu-bionic
01:40:17
01:40:19 127.0.0.1 container.4labs.example container
01:40:19 127.0.0.1 localhost localhost.localdomain localhost4 localhost4.localdomain4
```

## Anotações

[illegible]



- ## Anotações

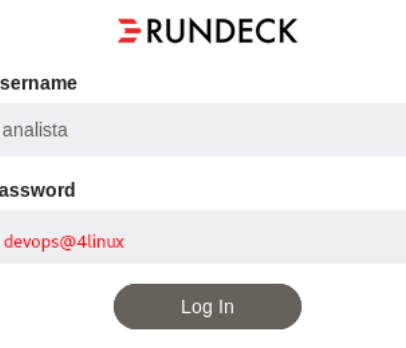
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## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- ## Anotações

O Rundeck permite que você organize, execute e observe o progresso a medida que um Job está sendo executado.

## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



 RUNDECK

**Username**

analista

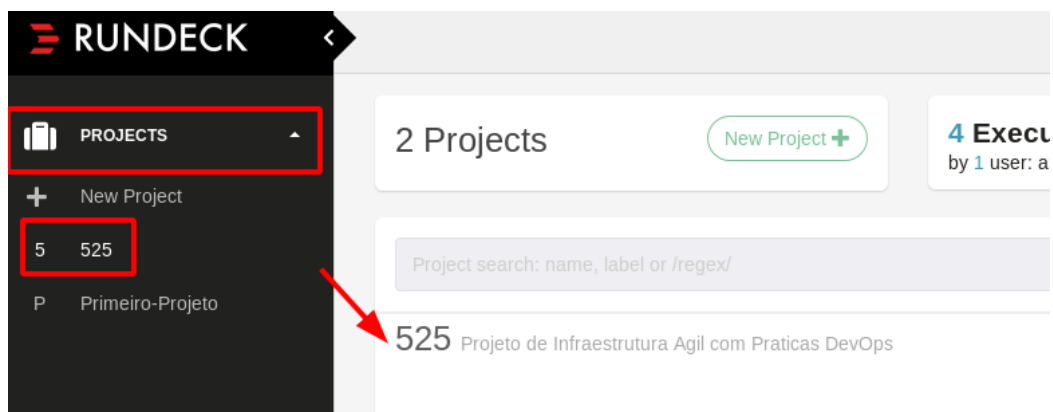
**Password**

devops@4linux

Log In

[illegible]

Para acessar o projeto, podemos clicar no menu **PROJECTS** e depois em **525**, ou ir diretamente ao dashboard e clicar no projeto diretamente.



## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

The screenshot shows the Rundeck web interface. On the left is a dark sidebar with navigation links: RUNDECK, PROJECTS, DASHBOARD, JOBS (highlighted with a red box), NODES, COMMANDS, ACTIVITY, and PROJECT SETTINGS. The main content area has a header with the number 525 and a gear icon. Below the header is a section titled 'All Jobs' with a search bar. Underneath are links for 'Expand All' and 'Collapse All', a 'Modified' status indicator, and a 'Job Actions' dropdown menu. There are two buttons: 'Create a new Job' and 'Upload a Job definition'. A red arrow points to the 'Create a new Job' button. Below this is a section titled 'Activity for Jobs' showing '0 Executions any time' and a message 'No results for the query'.

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Create New Job

Upload Definition

Details

Workflow

Nodes

Schedule

Notifications

Other

Job Name

Group is a / separated path

Choose

[illegible]



## Características de um Job

**Details** – Menu onde é possível dar um nome, grupo e descrição a um job.

The screenshot shows the 'Details' tab selected in a menu with other options: Workflow, Nodes, Schedule, Notifications, and Other. The 'Job Name' field is a text input. To its right is a 'Group' field with a placeholder text 'Group is a / separated path' and a 'Choose' button. Below these is the 'Description' section, which includes an 'Edit' button and a text area. The text area has a line number '1' in the left margin. Below the text area, a note states: 'The first line of the description will be shown in plain text, the rest will be rendered with Markdown. [More...](#)'

**Job Name** - Nome a ser dado ao Job;

**Group** – Campo utilizado para criar agrupamentos de jobs;

**Description** – Descrição do job.

## Características de um Job

**Workflow** – Menu onde são definidas as tarefas a serem executadas dentro de um Job e suas opções.

The screenshot shows the 'Workflow' tab in a configuration interface. At the top, there are tabs for 'Details', 'Workflow', 'Nodes', 'Schedule', 'Notifications', and 'Other'. The 'Workflow' tab is active. Below the tabs, there are three main sections: 'Options', 'Workflow', and 'Global Log Filters'. The 'Options' section has 'Undo' and 'Redo' buttons, a 'No Options' label, and an 'Add an option' button. The 'Workflow' section has a heading 'If a step fails:' with two radio buttons: 'Stop at the failed step.' (selected) and 'Run remaining steps before failing.'. Below this is a 'Strategy:' dropdown menu set to 'Node First', with a tooltip that says 'Execute all steps on a node before proceeding to the next node.' and an 'Explain' link. The 'Global Log Filters' section has a '+ add' button. At the bottom, there are 'Undo' and 'Redo' buttons, a 'No Workflow steps' label, and a large 'Add a Step' button.

**Options** – Neste campo, podemos definir perguntas a serem feitas ao usuário no momento da execução do job. Podemos utilizar por exemplo, para alterar alguma variável a ser executada pelo script, ou até mesmo definir que o job só será executado se o usuário digitar uma determinada palavra;

**Workflow** – Definição de como o job será executado e qual será sua estratégia de execução;

**Global log Filters** – Definições de filtragem de log. Podemos definir por exemplo, que determinadas palavras serão realçadas no log;

**Workflow Steps** – São as ações propriamente ditas que serão executadas durante nosso Job.

## Características de um Job

**Nodes** – Definições de quais nodes executarão as tarefas do workflow do nosso job.

The screenshot shows a configuration interface with a horizontal tab bar at the top containing 'Details', 'Workflow', 'Nodes', 'Schedule', 'Notifications', and 'Other'. The 'Nodes' tab is selected. Below the tabs, there are two sections. The first section is titled 'Nodes' and contains two radio buttons: 'Dispatch to Nodes' (unselected) and 'Execute locally' (selected). Below these is a text label: 'Choose whether the Job will run on filtered nodes or only on the local node.' The second section is titled 'Show Excluded Nodes' and contains two radio buttons: 'Yes' (unselected) and 'No' (selected). Below these is a text label: 'If true, the excluded nodes will be indicated when running the Job. Otherwise they will not be shown at all.' At the bottom left of the form are two buttons: 'Cancel' and 'Create'.

**Nodes** - Definição de quais nodes executarão as tarefas;

**Show Excluded Nodes** – Exibe todos os nós na execução do job, mesmo se não houver nenhuma tarefa atrelada ao mesmo.

## Características de um Job

**Schedule** – Configurações de Agendamento do Job.

Details

Workflow

Nodes

Schedule

Notifications

Other

Schedule to run repeatedly?

☒ No ☐ Yes

Enable Scheduling?

☒ Yes ☐ No

Allow this Job to be scheduled?

Enable Execution?

☒ Yes ☐ No

Allow this Job to be executed?

Cancel

Create

**Schedule to run repeatedly** – Define se o Job será executado outras vezes e como será a repetição;

**Enable Scheduling** – Habilita o Job para ser agendado;

**Enable Execution** – Habilita a execução do Job.

**Notifications** – Envio de notificações do Job.

Details
Workflow
Nodes
Schedule
Notifications
Other

Send Notification?

☒ No
☐ Yes

Cancel

Create

**Send Notification** – Define se o job enviará notificações e em quais casos.

Casos Possíveis:

- Sucesso
- Falha
- Inicio
- Tempo de Duração superior
- Job falhou e executou novamente

**Other** – Outras configurações.

Details Workflow Nodes Schedule Notifications **Other**

---

**Log level** ☒ Normal ☐ Debug  
 Debug level produces more output

**Multiple Executions?** ☒ No ☐ Yes  
 Allow this Job to be executed more than one time simultaneously?

**Limit Multiple Executions?**   
 Max number of multiple executions. Use blank or 0 to indicate no limit.

**Timeout**   
 The maximum time for an execution to run. Time in seconds, or specify time units: "120m" "2h" "3d" Use

**Log Level** – Define o nível de log do job;

**Multiple Executions** – Habilita o job para ser executado mais de uma vez simultaneamente;

**Timeout** – Define o tempo máximo da execução do job;

**Retry / Retry Delay** – Define a quantidade máxima de tentativas e o tempo entre as tentativas;

**Log Output Limit / Log Limit Action** – Tratativas do tamanho máximo de linhas do log;

**Default Tab** – Define a aba padrão a ser exibida quando executar um job;

**UUID** – Definição Manual de Identificação única do Job.

Vamos criar alguns jobs para a nossa infraestrutura. Clique em **Details** e defina o nome do job para **Verificando Hosts**. Em seguida, adicione uma descrição.

Details

Workflow

Nodes

Schedule

Notifications

Other

Job Name

Verificando Hosts

Description

Edit

1

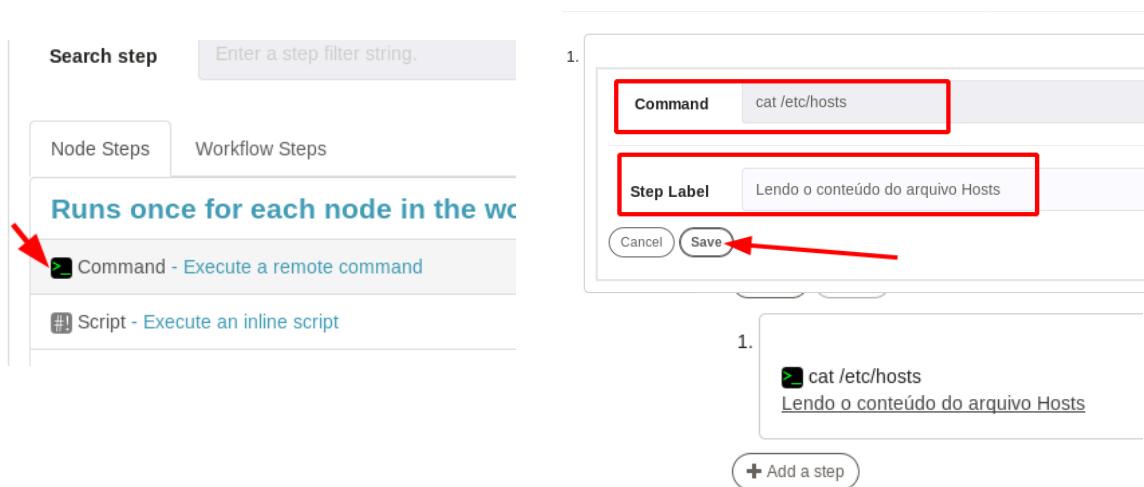
Job para verificação do /etc/hosts

The first line of the description will be shown in plain text, t

## Anotações

[illegible]

Em **Workflow**, vamos adicionar um passo de **comando** para executar a leitura do hosts.



## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Em **Nodes**, vamos marcar a opção Dispatch to Nodes e adicionar o filtro **ssh-key-storage-path: keys/devops**.

Nodes

☒ Dispatch to Nodes ☐ Execute locally

Choose whether the Job will run on filtered nodes or only on the local node.

Node Filter

▼

ssh-key-storage-path: keys/devops

Exclude Filter

▼

Enter a node filter, or \* for all nodes

This is a secondary filter that excludes nodes from the Node Filter results


Show Excluded Nodes


☐ Yes ☒ No


If true, the excluded nodes will be indicated when running the Job. Otherwise they will not be shown


Matched Nodes


5 Nodes Matched

 automation

 container

 scm

 compliance

 log

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Ainda em **Nodes**, vamos alterar as opções de falha para continuar executando antes de falhar um passo.

Rank Order	<input checked="" type="radio"/> Ascending <input type="radio"/> Descending
If a node fails	<input type="radio"/> Fail the step without running on any remaining nodes. <input checked="" type="radio"/> Continue running on any remaining nodes before failing the step.
If node set empty	<input checked="" type="radio"/> Fail the job. <input type="radio"/> Continue execution.
Node selection	<input checked="" type="radio"/> Target nodes are selected by default <input type="radio"/> The user has to explicitly select target nodes
Orchestrator	<div></div> <p>This can be used to control the order and timing in which nodes are processed</p>

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Details

Workflow

Nodes

Schedule

Notifications

Other

Schedule to run repeatedly?

☐ No ☒ Yes

Simple

Crontab

00 : 00

☒ Every Day

☒ Every Month

Time Zone

A valid Time Zone, either an abbreviation such as "PST", a full name such as "America/Los\_Angeles", or a custom ID

## Anotações

[illegible]

Em **Other**, vamos alterar a Default Tab para **Log Output** e clicar em **Create**.

bytes.

**Default Tab** ☐ Nodes ☒ Log Output ☐ HTML

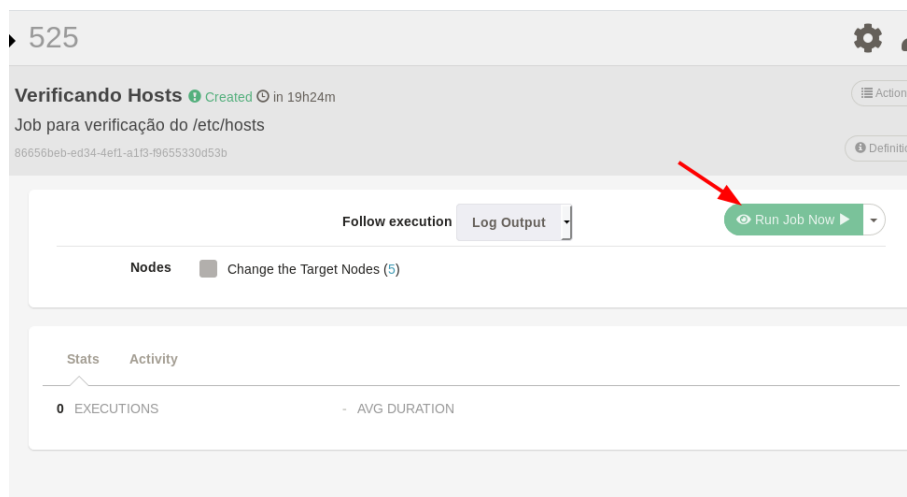
Default tab to display when you follow an execution.

**UUID**

## Anotações

[illegible]



Será criado nosso job. Caso seja necessário a execução instantânea do job, basta clicar em **Run Job Now**.




## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

525




 Verificando Hosts


in 16h35m

Successful

0.00:22 at 4:24 am

 you

#39




Run Again

Nodes »


View Options

Execution Log


04:24:18

 1. Lendo o conteúdo do arquivo Hosts


```
127.0.0.1 automation.4labs.example automation
127.0.0.1 localhost localhost.localdomain localhost4
localhost4.localdomain4
::1 localhost localhost.localdomain localhost6
localhost6.localdomain6
10.5.25.10 automation.4labs.example
10.5.25.20 compliance.4labs.example
10.5.25.30 container.4labs.example
10.5.25.40 scm.4labs.example
10.5.25.50 log.4labs.example
```

 automation

04:24:21

 1. Lendo o conteúdo do arquivo Hosts

```
127.0.0.1 localhost
# The following lines are desirable for IPv6 capable hosts
::1 ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
10.5.25.10 automation.4labs.example
```

 compliance

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Anotações





## Criando jobs

Clicando em **JOBS** também podemos visualizar as atividades dos jobs, bem como em quanto tempo será executado cada job agendado.

### Anotações

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## Criando jobs

Podemos também criar um novo job clicando em **Job Actions**. Em seguida, clique em **New Job**.

### Anotações

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## Criando jobs

Vamos criar um job simples para verificar se o DNS da Google está acessível.

### Anotações

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## Criando jobs

Em workflow, adicione um passo para executar o comando **ping -c4 8.8.8.8** e clique em **Save**.

### Anotações

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## Criando jobs

Adicione um segundo passo para efetuar uma pesquisa de nome ao dns primário da Google.

### Anotações

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## Criando jobs

Repita os passos para o DNS Secundário da Google.

## Anotações

[illegible]

## Criando jobs

Em Nodes, selecione **dispatch to nodes** e aplique o filtro.

### Anotações

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## Criando jobs

Marque para continuar a execução em caso de falha e clique em **Create**.

### Anotações

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## Criando jobs

Para executar, clique em **Run Jobs Now**.

### Anotações

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## Criando jobs

Verifique que alguns passos irão falhar. Clique para expandir e verificar quais foram os problemas.

### Anotações

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## Criando jobs

Verificamos que o dig não está instalado na máquina automation e container. Para corrigir este problema, podemos ir no menu Commands aplicar o filtro e executar o comando para instalação do dig.

### Anotações

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## Criando jobs

Volte ao menu de **JOBS** e clique para executar novamente o job **Verificar DNS Google**.

### Anotações

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## Criando jobs

Verifique que todos os passos foram concluídos com sucesso. Para visualizar cada passo é possível clicar para expandir.

### Anotações

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## Anotações

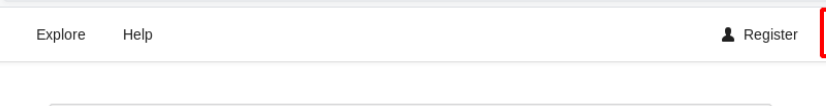
This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

- 1 Criando um repositório no Gogs
- 2 Configurando a Integração

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





The screenshot shows a web browser window with the address bar displaying 'scm.4labs.example/user/login?redirect\_to='. The page features a navigation bar with a gear icon, 'Home', 'Explore', and 'Help' links, and 'Register' and 'Sign In' buttons. The 'Sign In' button is highlighted with a red box. Below the navigation bar is a 'Sign In' form with a grey header. The form contains two input fields: 'Username or email' with the value 'analista' and 'Password' with the value 'devops@4linux'. There is a 'Remember Me' checkbox and a green 'Sign In' button. A link for 'Forgot password?' is also present. At the bottom, there is a link for 'Need an account? Sign up now.'


## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

## New Repository

Owner \*



analista

Repository Name \*

rundeck

Visibility

☒ This repository is **Private**

Description

Repositorio de Jobs do Rundenck

Description of repository. Maximum 512 characters length.

Available characters: 482

.gitignore

Select .gitignore templates

License

Select a license file

Readme ?

Default

☒ Initialize this repository with selected files and template

Create Repository

Cancel

## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Iremos copiar a chave pública do usuário `rundeck` e adicioná-la ao Gogs para que seja possível o acesso ao repositório. Copie a chave da máquina `automation`.

```
1  # vagrant ssh automation
```

```
2 # sudo su - rundeck
# ssh-keygen -t rsa -b 4096
```

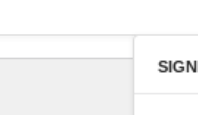
3 Copie o conteúdo da chave pública do usuário rundeck:

```
# cat .ssh/id_rsa.pub
```

automation.4labs.example

## Anotações

[illegible]



## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Clique em **SSH Keys** e depois em **Add Key**. Em seguida, cole a chave copiada e clique em **Add Key** no final da página.

Settings

Profile

Avatar

Password

Email Addresses

SSH Keys

Security

Repositories

Organizations

Applications

Delete Account

Manage SSH Keys

This is a list of SSH keys associated with your account. As these keys allow anyone using them to gain access to your repositories, it is highly important that you make sure you recognize them.

Don't know how? Check out GitHub's guide to [create your own SSH keys](#) or solve [common problems](#) you might encounter using SSH.

Add SSH Key

Key Name

devops

Content

ssh-rsa  
AAAAAB3Nzc1Y2c2AAAAADQAABAAACQADHqh+JfATP7+oAo5/QfImCY2ZrMtDyBpTlqkZZPrEjBW  
N2rqY+NmfofzINMaM2Oiffko1N5Su+FT78uarj21yzoBxGRkQo55YC3nBGV8b+Rjqt  
/mSMSPoVvXiZBETt9vtjuTDMumVOImA1EFQ3kjqwZr1YV0uWkpPrvMxDaNPUGyBTqj6tiaBpTQ1  
7/6D7nsvnsu5aPRA5LaRaFeG7hNk3csdaEiK6ILc8K90bo5Wx0nsPvCfwdHb7/rqinOk  
/uZziffqaw919hwiwKpMRhYTUF/G7VlU+uJA6AvV59sRaK1SEj9cX695VOUfGvID  
/Pf2kxg20i5z2ecQf056Q0Xsmxvkiqlq4DyDuMTAhs3Nh45Yipj45vK8tncMH8F57MQjeD2IR  
1/Rd6GhYOoQ2JAovX9d1V5zKrhK0kohn215kpoal1fz60kyB5GmGy5BkU5OnmeDnmwdbNdS  
Up8bjsG8sAukZiRC00R/kWXFIWwnS6oZUPHb8gzdlX5M2LqJNwpvWpYTiwigJ8F0TUN8XY  
/l4+ +B1p85OcGu6u6n71rmLYB55VaHqe1VA03xg2+oFoCV  
/dtQYOowK8fXjdNBMTqt8DAUIEXidznNaQ/GtAGb  
/oMF7YshsrD3Wh7YGcyrMZlu4+e9guuN29y7VU2IKw== rundeck@automation.4labs.example

Add Key

## Anotações


This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

New SSH key 'devops' has been added successfully!

Manage SSH Keys

Add Key

This is a list of SSH keys associated with your account. As these keys allow anyone using them to gain access to your repositories, it is highly important that you make sure you recognize them.



devops

SHA256:forugAOvTKvBp890ZP0qBnN85fMUiZyY+6DV0aVnSr8

Added on Aug 20, 2019 — ⓘ No recent activity

Delete

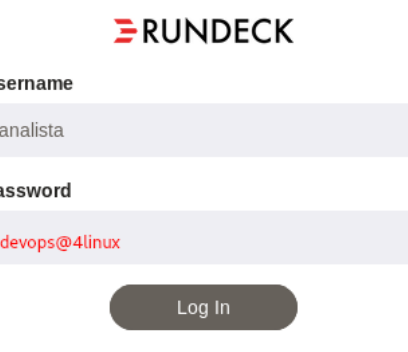
[illegible]


1

```
# cat .ssh/id_rsa
```

## Anotações





 RUNDECK

**Username**

analista

**Password**

devops@4linux

Log In

## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings visible.

The screenshot shows the Key Storage interface. On the left, a navigation menu is open, highlighting 'Key Storage' with a red arrow. The menu options are: System, Key Storage, System Configuration, Access Control, System Report, and Log Storage. Above the menu, a red arrow points to a gear icon. The main content area on the right has a header 'keys/' and a text input field 'Enter a path'. Below this is a toolbar with a folder icon, an 'Action' dropdown, and a green button '+ Add or Upload a Key' with a red arrow pointing to it. The main content area displays 'No keys' and a description: 'Key Storage provides a global directory-like structure'.

[illegible]

✕

Add or Upload a Key

Key Type:

Private Key

Private Keys and Passwords are not available to download once they are stored. Public keys can be downloaded.

Enter text

```
proEUCst+YqmpGvNVS
cdCIVDO4SkrrHrT8LPbOI/OJ8LIGFFMzekj07WFn6URaYL
cWpL38JZygo8HMQ/9i
c026gc0XDkpDnTI56ijQuw7AN4ggWg1kaMHWCBjV5qzCf9
oTWCsu/730mA==
-----END RSA PRIVATE KEY-----
```

Storage path:

keys/ Enter the directory name

Name:

rundeck

☐ Do not overwrite a file with the same name.

You can reference this stored Key using the storage path:

[keys/rundeck](#)

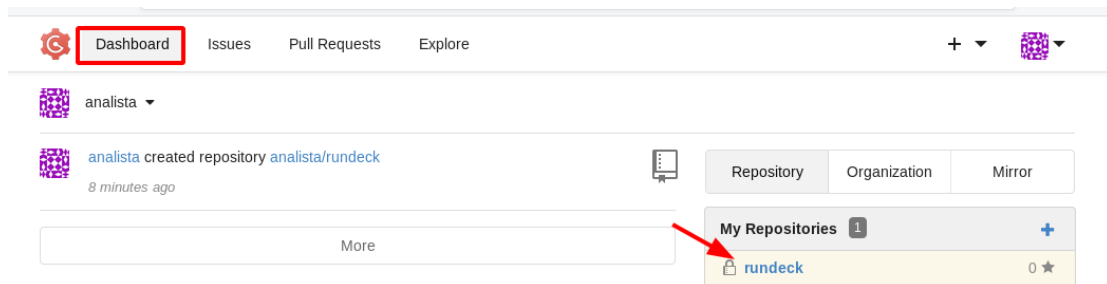
Cancel

Save

## Anotações

[illegible]


Altere para o **Gogs** e clique em **Dashboard** e depois em **rundeck**.



## Anotações

[illegible]

Selecione **SSH** e copie o endereço do repositório.

 **analista** / **rundeck**

Unwatch1

Star0

Fork0

Files

Issues0

Pull Requests0

Wiki


Settings


No Description

1 Commits

1 Branches

0 Releases

 **analista** **709659c378** Initial commit now

 **README.md** **709659c378** Initial commit now

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

2 Projects

New Project +

3 Executions In the last day (0 Failed)

in 2 Projects: InfraAgil Primeiro-Projeto

by 2 users: analista, admin

Project search: name, label or /regex/

525 Projeto de Infraestrutura Agil com Praticas DevOps

1

Action ▾

Primeiro-Projeto






Meu primeiro projeto com Rundeck

2

Action ▾

## Anotações

[illegible]

-  **PROJECT SETTINGS** ▲
- E Edit Configuration...
- N Edit Nodes...
-  Access Control
-  Edit Readme...
-  Edit Message of the Day...
-  **Setup SCM...**


## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Setup SCM


[Enable or configure SCM integration.](#)


### SCM Export

SCM Export Plugins can export Job definitions to an external SCM Repo

 **Git Export**


Export Jobs to a Git Repository [More...](#)

 Setup




### SCM Import

SCM Import Plugins can import Job definitions from an external SCM Repo

 **Git Import**

Import Jobs from a Git Repository [More...](#)

 Setup

[illegible]



Project **InfraAgil**

**Committer Name**   
Name of committer/author of changes. [More...](#)

**Committer Email**   
Email of committer/author of changes. [More...](#)

**Export UUID Behavior**   
How to handle UUIDs for exported Job source files [More...](#)

☒ **Create Branch if it doesn't exist**  
If the entered branch doesn't exist on remote repo, create a new one. If false, it will fail if the branch doesn't exist

## Anotações


This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.


Git Repository



<b>Synchronize Automatically</b>	<input checked="" type="checkbox"/>	Automatically pull remote changes on automatic fetch. If false, you can perform it manually
<b>Base branch on</b>	<input type="text" value="master"/>	Create the new branch based on the existen branch
<b>Base Directory</b>	<input type="text" value="/var/lib/rundeck/projects/InfraAgil/scm"/>	Directory for checkout
<b>Git URL</b>	<input type="text" value="ssh://gogs@scm.4labs.example:2222/analista/rundeck.git"/>	Checkout url. <a href="#">More...</a>
<b>Branch</b>	<input type="text" value="master"/>	Checkout branch
<b>Fetch Automatically</b>	<input type="checkbox"/>	Automatically fetch remote changes for local comparison. If false, you can perform it manually

## Anotações



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Authentication 

SSH: Strict Host Key Checking    
Use strict host key checking. [More...](#)

SSH Key Storage Path   

Path can include variable references [More...](#)

Password Storage Path   

Password to authenticate remotely (e.g. for SSH or HTTPS URLs). [More...](#)



## Anotações

[illegible]

SCM Plugin Setup Complete

Enable or configure SCM integration.

SCM Export Plugins can export Job definitions to an external SCM Repo

[Export Jobs to a Git Repository](#) [More...](#)

```
Committer Name: Analista DevOps
Committer Email: analista@4labs.example
Export UUID Behavior: preserve
Synchronize Automatically: true
Create Branch if it doesn't exist: Yes
Base branch on: master
File Path Template: ${job.group}${job.name}-${job.id}.${config.format}
Base Directory: /var/lib/rundeck/projects/InfraAgil/scm
Git URL: ssh://gogs@scm.4labs.example:2222/analista/rundeck-git
Branch: master
SSH: Strict Host Key Checking: no
SSH Key Storage Path: keys/rundeck
Format: xml
Fetch Automatically: true
```

## Anotações

- 1 Criando um repositório no Gogs
- 2 Configurando a Integração

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



# Construindo Pipelines de Infraestrutura com Rundeck

## Integrações com SCM

### Anotações

[illegible]



## Sincronizando os Jobs

Acesse o Rundeck pelo endereço <http://automation.4labs.example:4440> e efetue o login com o usuário **analista** e senha **devops@4linux**.

### Anotações

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## Sincronizando os Jobs

Para enviar o job para o Gogs, clique em **Action** e depois em **Commit Changes to Git**.

### Anotações

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## Sincronizando os Jobs

Acesse o Gogs pelo endereço <http://scm.4labs.example>, clique em **Sign In** e efetue o login com o usuário **analista** e senha **devops@4linux**.

### Anotações

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## Sincronizando os Jobs

Atualize a página do Gogs e verifique se o commit foi efetuado.

### Anotações

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## Sincronizando os Jobs

Vamos editar o Job e alterar alguns dados. Clique em **JOBS** e depois em **Verificar DNS Google**.

### Anotações

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## Sincronizando os Jobs

Clique em **Action** e depois em **Edit this Job**.

### Anotações

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## Sincronizando os Jobs

Em **Workflow**, adicione um passo para verificar o site da 4linux. Clique em **Save** para o passo e **Save** novamente para gravar o job.

### Anotações

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Será exibida uma tela com as modificações realizadas no código. Clique em **Commit Changes to Git** para atualizar o gogs com o arquivo mais recente.

## Anotações

[illegible]

## Sincronizando os Jobs

Na tela de Jobs, podemos selecionar **actions** sobre o job que desejamos, enviar e efetuar o commit do mesmo.

### Anotações

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## Sincronizando os Jobs

Na tela de Jobs, os que não foram enviados ao SCM, terão um aviso que é exibido ao colocar o mouse sobre o ícone de exclamação.

### Anotações

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Adicione uma mensagem de commit e clique em **commit**.

## Anotações

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## Sincronizando os Jobs

Atualize a página do Gogs e verifique se os commits foram efetuados.

## Anotações

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

