

DIEGO MICHELOTTO

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FOREMAN & PUPPET @ CNAF

CORSO ANSIBLE/FOREMAN/PUPPET

5-8 GIUGNO 2018

INDICE

- ▶ Requisiti
- ▶ Infrastruttura
- ▶ Organizzazione
- ▶ Upgrade Foreman
- ▶ Upgrade Puppet 3 → 5
- ▶ Futuro

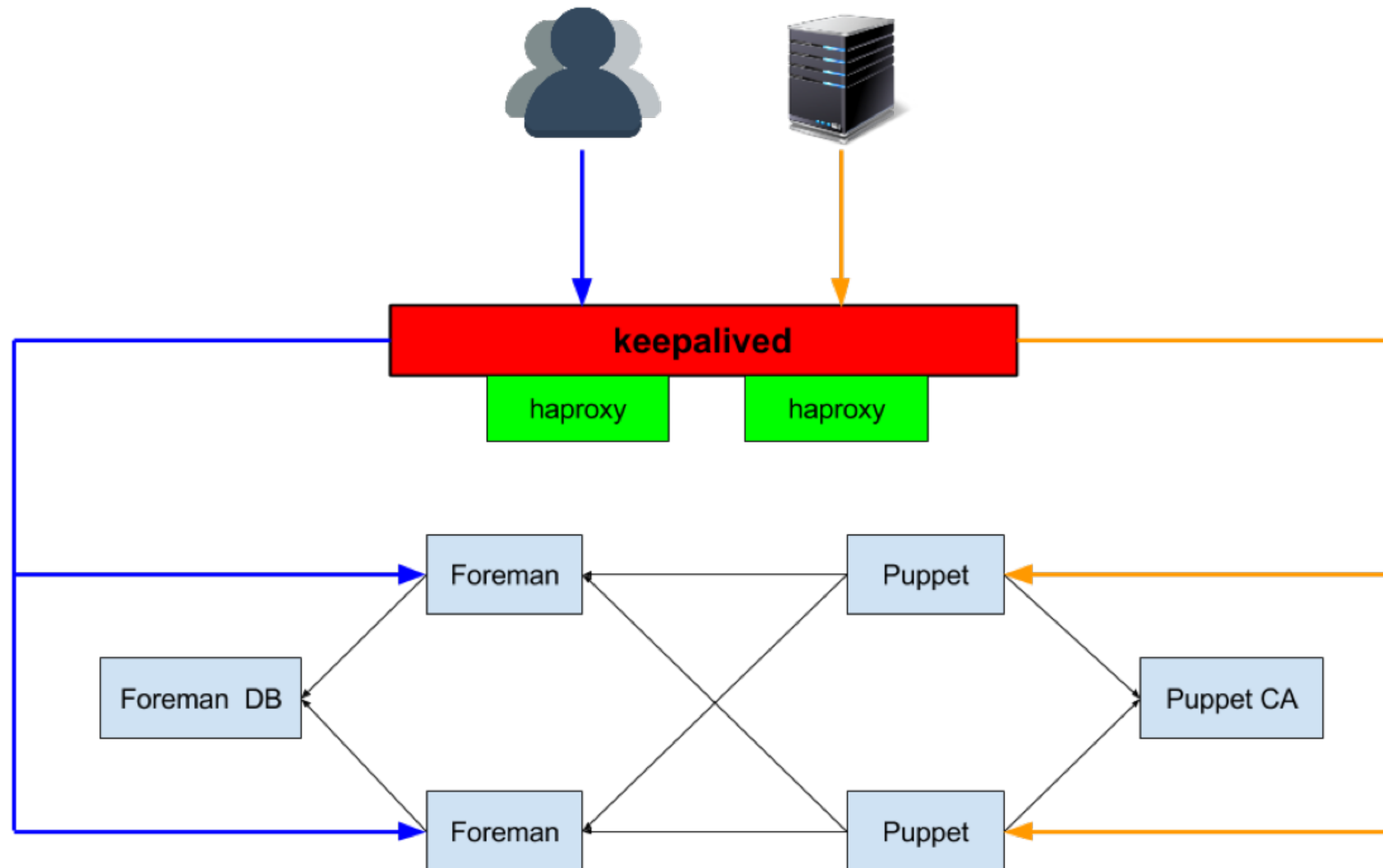
REQUISITI

- ▶ Strumento unico per tutto il CNAF
- ▶ Strumento scalabile: supporto per un grande numero di nodi ~ 2K
- ▶ Infrastruttura resiliente e affidabile
- ▶ Multitenancy
 - ▶ Viste separate per ogni gruppo (Farming, Storage, SDDS, ...)
- ▶ Condivisione di effort
 - ▶ Condividere attività comuni
 - ▶ Condivisione risorse (software, hardware, know how)

REQUISITI

- ▶ Progetto Bebop
 - ▶ Iniziato tra le fine del 2014 e inizio 2015
 - ▶ Gruppo trasversale ai reparti del CNAF
 - ▶ Scelti come strumenti Foreman e Puppet
 - ▶ In produzione da Estate 2015 (circa 650 nodi allora)

INFRASTRUTTURA – ARCHITETTURA



INFRASTRUTTURA – ARCHITETTURA

- ▶ Tutte VM su oVirt
 - ▶ 2 HAProxy + Keepalive
 - ▶ 3 Puppetmaster
 - ▶ 1 PuppetCA
 - ▶ 2 Foreman
 - ▶ 1 ForemanDB (PostgreSQL)
- ▶ Backup su VM di servizio (BackupPC + TSM)
 - ▶ Dump DB
 - ▶ PuppetCA (Certificato CA)
 - ▶ Repository (Per paranoia)

INFRASTRUTTURA – CONFIGURAZIONE

- ▶ La configurazione dell'infrastruttura è gestita tramite Foreman e Puppet
 - ▶ Vantaggi:
 - ▶ Facile scalare l'infrastruttura
 - ▶ Utile durante le fasi di upgrade
 - ▶ Svantaggi:
 - ▶ È nato prima l'uovo o prima la gallina?

INFRASTRUTTURA – PRIMO SETUP

- ▶ La prima installazione ha usato puppet masterless
 - ▶ Installazione manuale VM
 - ▶ Installazione manuale di Puppet e Git
 - ▶ Download e installazione manuale di moduli dal repository
 - ▶ Download e installazione dei manifest
 - ▶ Esecuzione dei manifest (puppet apply manifest.pp) a seconda del ruolo della VM

INFRASTRUTTURA – RIEPILOGO


► Software

- Foreman 1.16
 - Plugin: oVirt, VMware, Openstack, DHCP browser, Rundeck
- Puppet 3.8.7



► Servizio

- 1749 host collegati
 - Compilati circa 120 cataloghi ogni 6 minuti
- Interfacciato con 2 DHCP, 1 DNS e 2 TFTP

INFRASTRUTTURA – RIEPILOGO


FOREMAN

[Monitor](#)
[Hosts](#)
[Configure](#)
[Infrastructure](#)



DIEGO MICHELOTTO

[Administer](#)

Overview

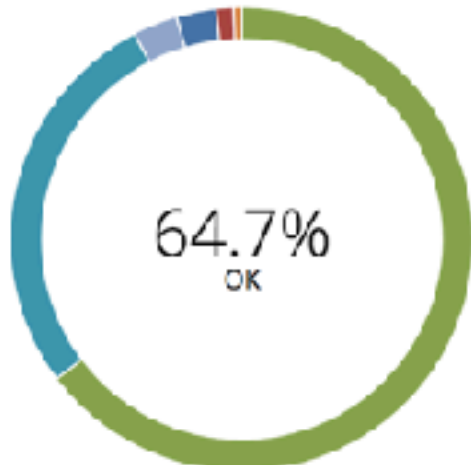
Generated at 07 Jun 08:30
[Manage](#)
[Refresh](#)
[Documentation](#)

Host Configuration Status

- Hosts that had performed modifications without error: 49
- Hosts in error state: 21
- Good host reports in the last about 1 hour: 1133
- Hosts that had pending changes: 1
- Out of sync hosts: 483
- Hosts with no reports: 9
- Hosts with alerts disabled: 54

Total Hosts: 1749

Host Configuration Chart

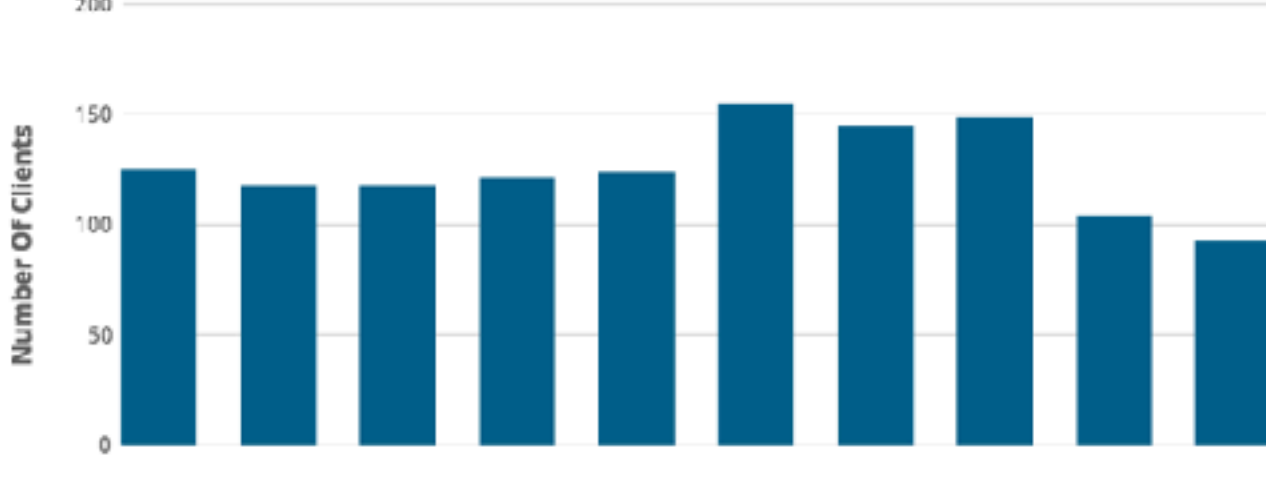


64.7% OK

Latest Events

Host	A	R	F	FR	S	P
diskserv-san-B6.cr.cnaf.infn.it	10	0	3	0	1	0
ds-514.cr.cnaf.infn.it	10	0	0	0	0	0
cnprov-pup02.cr.cnaf.infn.it	2	0	0	0	0	0
wn-206-04-07-02-a.cr.cnaf.infn.it	0	0	27	0	17	0
wn-206-04-07-01-a.cr.cnaf.infn.it	0	0	27	0	17	0
xdc-cache-2.cr.cnaf.infn.it	11	0	0	0	0	0
ds-513.cr.cnaf.infn.it	10	0	0	0	0	0
diskserv-san-95.cr.cnaf.infn.it	1	0	0	0	0	0
cnprov-pup01.cr.cnaf.infn.it	2	0	0	0	0	0

Run Distribution (last 60 minutes)



Number of Clients vs Minutes Ago



Overview

Filter ...



Search



Generated at 07 Jun 08:30

Manage ▾



Documentation

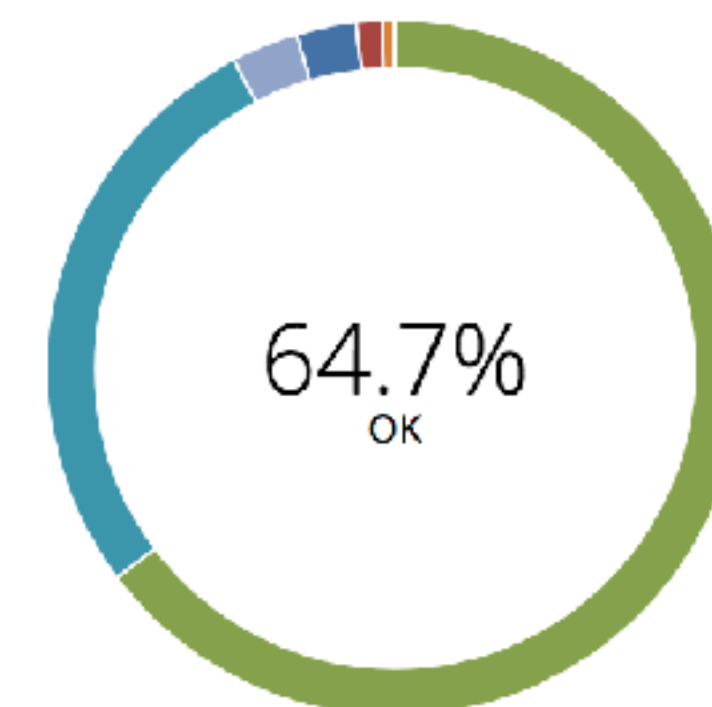
Host Configuration Status



Hosts that had performed modifications without error	49
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Host Configuration Chart

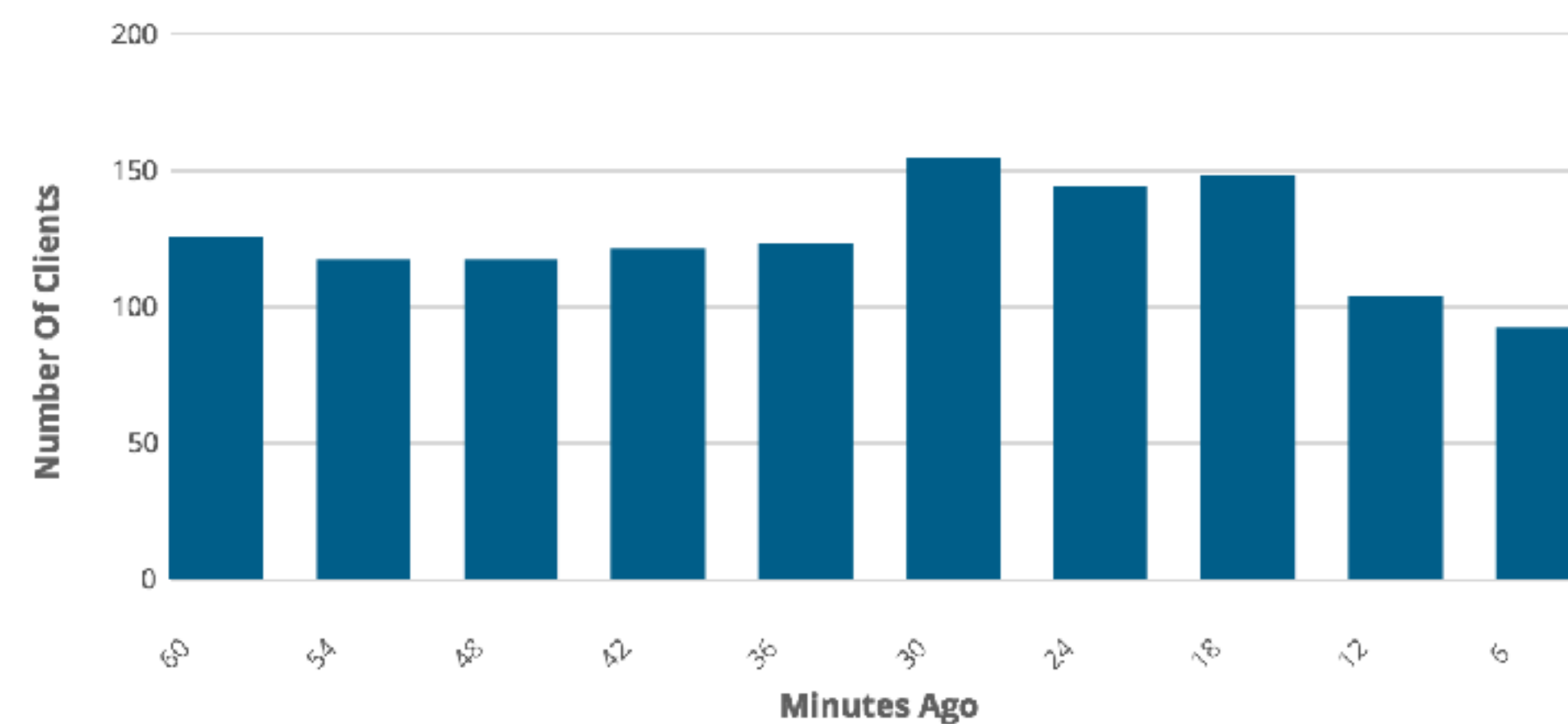


Latest Events



Host	A	R	F	FR	S	P
diskserv-san-86.cr.cnaf.infn.it	10	0	3	0	1	0
ds-514.cr.cnaf.infn.it	10	0	0	0	0	0
cnprov-pup02.cr.cnaf.infn.it	2	0	0	0	0	0
wn-206-04-07-02-a.cr.cnaf.infn.it	0	0	27	0	17	0
wn-206-04-07-01-a.cr.cnaf.infn.it	0	0	27	0	17	0
xdc-cache-2.cr.cnaf.infn.it	11	0	0	0	0	0
ds-513.cr.cnaf.infn.it	10	0	0	0	0	0
diskserv-san-95.cr.cnaf.infn.it	1	0	0	0	0	0
cnprov-pup01.cr.cnaf.infn.it	2	0	0	0	0	0


Run Distribution (last 60 minutes)



ORGANIZZAZIONE

- ▶ Codice su repository (baltig.infn.it), repository privati
 - ▶ Uso dei webhook di baltig per pubblicare il codice ogni volta che viene fatto un push o un merge nel branch master
 - ▶ Unico progetto che contiene tutti i repository
- ▶ Environment separati 1 per reparto
 - ▶ in modules c'è una collezione di moduli usati da tutti i gruppi
 - ▶ moduli scaricati da puppet forge o moduli di servizio dell'infrastruttura
- ▶ Viste differenti dei repository e di Foreman -> ogni reparto vede il suo,
 - ▶ uso di filtri e convenzioni sui nomi. OS, moduli, template, hostgroup hanno un prefix con il nome reparto
- ▶ Gruppo trasversale che gestisce l'infrastruttura, circa un componente per ogni reparto.




















ORGANIZZAZIONE

 FOREMAN


Monitor ▾Hosts ▾Configure ▾Infrastructure ▾

Operating Systems

description ~ SDDS or description ~ storage or description ~ Farming

Title
 Farming CentOS7 snapshot
 Farming SL6 snapshot
 SDDS-CentOS 6.7
 SDDS-CentOS 6.8
 SDDS-CentOS 6.9
 SDDS-CentOS 7.1.1503
 SDDS-CentOS 7.2.1511
 SDDS-CentOS 7.3.1611
 SDDS-CentOS 7.4.1708
 SDDS-CentOS 7.5.1804
 SDDS-Scientific Linux 6.7
 SDDS-Ubuntu 14.04.3 LTS
 SDDS-Ubuntu 16.04 LTS
 storage_centos_6_7
 Storage CentOS 7
 Storage CentOS 7.4
 Storage_SL_6.6
 Storage_SL_6x_local
 storage_ubuntu_thrusty_2

50 ▾ per page

 FOREMAN

Monitor ▾Hosts ▾Configure ▾Infrastructure ▾

Host Groups




















title ~ BeboP/Provisioning or title ~ Farming/Grid/CE or title ~ SDDS/RedHat/Infra/Mitaka or title × Q Search ▾

Name	Hosts	Hosts including Sub-groups
BeboP/Provisioning	1	8
BeboP/Provisioning/Foreman-app	0	0
BeboP/Provisioning/Foreman-db	2	2
BeboP/Provisioning/HAProxy	2	2
BeboP/Provisioning/Monitor	0	0
BeboP/Provisioning/Puppet	3	3
BeboP/Provisioning/Puppetca	0	0
Farming/Grid/CE	5	5
Farming/Grid/CE_tier2_lhcb	3	3
SDDS/RedHat/Infra/Mitaka	0	85
SDDS/RedHat/Infra/Mitaka/Compute	55	80
SDDS/RedHat/Infra/Mitaka/Compute/LSD	24	24
SDDS/RedHat/Infra/Mitaka/Controller	2	2
SDDS/RedHat/Infra/Mitaka/Network	2	2
SDDS/RedHat/Infra/Mitaka/UI	1	1
Storage/gpfs_server	31	115
Storage/gpfs_server/archive-md1_md2	0	6
Storage/gpfs_server/archive-md1_md2/archive-virgo-gr2_data	3	3
Storage/gpfs_server/archive-md1_md2/cis50-data	3	3
Storage/gpfs_server/archive-md3_md4	0	6
Storage/gpfs_server/archive-md3_md4/archive-virgo-gr2-data	0	0
Storage/gpfs_server/archive-md3_md4/cms	3	3


Operating Systems

NE

description – SDDS or description – storage or description – Farming

Title
 Farming CentOS7 snapshot
 Farming SL6 snapshot
 SDDS-CentOS 6.7
 SDDS-CentOS 6.8
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 SDDS-CentOS 7.5.1804
 SDDS-Scientific Linux 6.7
 SDDS-Ubuntu 14.04.3 LTS
 SDDS-Ubuntu 16.04 LTS
 storage_centos_6_7
 Storage CentOS 7
 Storage CentOS 7.4
 Storage_SL_6.6
 Storage_SL_6x_local
 storage ubuntu thrusty 2

50 ▴▾ per page

 FOREMAN

Monitor ▾

Hosts ▾

Configure ▾

Infrastructure ▾




















Host Groups

title ~ Bebp/Provisioning or title ~ Farming/Grid/CE or title ~ SDDS/RedHat/Infra/Mitaka or title × Q Search ▾

Name	Hosts	Hosts including Sub-groups
Bebop/Provisioning	1	8
Bebop/Provisioning/Foreman-app	0	0
Bebop/Provisioning/Foreman-db	2	2
Bebop/Provisioning/HAProxy	2	2
Bebop/Provisioning/Monitor	0	0
Bebop/Provisioning/Puppet	3	3
Bebop/Provisioning/Puppetca	0	0
Farming/Grid/CE	5	5
Farming/Grid/CE_tier2_lhcb	3	3
SDDS/RedHat/Infra/Mitaka	0	85
SDDS/RedHat/Infra/Mitaka/Compute	55	80
SDDS/RedHat/Infra/Mitaka/Compute/LSD	24	24
SDDS/RedHat/Infra/Mitaka/Controller	2	2
SDDS/RedHat/Infra/Mitaka/Network	2	2
SDDS/RedHat/Infra/Mitaka/UI	1	1
Storage/gpfs_server	31	115
Storage/gpfs_server/archive-md1_md2	0	6
Storage/gpfs_server/archive-md1_md2/archive-virgo-gr2-data	3	3
Storage/gpfs_server/archive-md1_md2/cis50-data	3	3
Storage/gpfs_server/archive-md3_md4	0	6
Storage/gpfs_server/archive-md3_md4/archive-virgo-gr2-data	0	0
Storage/gpfs_server/archive-md3_md4/cms	3	3

Operating Systems

description ~ SDDS or description ~ storage or description ~ Farming

Title
 Farming CentOS7 snapshot
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 SDDS-CentOS 6.7
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 Storage CentOS 7.4
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 Storage_SL_6x_local
 storage ubuntu thrusty 2
50 ▴▾ per page

NE

Host Groups

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Bebop/Provisioning/Puppetca	0	0
Farming/Grid/CE	5	5
Farming/Grid/CE_tier2_lhcb	3	3
SDDS/RedHat/Infra/Mitaka	0	85
SDDS/RedHat/Infra/Mitaka/Compute	56	80
SDDS/RedHat/Infra/Mitaka/Compute/LSD	24	24
SDDS/RedHat/Infra/Mitaka/Controller	2	2
SDDS/RedHat/Infra/Mitaka/Network	2	2
SDDS/RedHat/Infra/Mitaka/UI	1	1
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Storage/gpfs_server/archive-md1_md2/archive-virgo-gr2-data	3	3
Storage/gpfs_server/archive-md1_md2/ds50-data	3	3
Storage/gpfs_server/archive-md3_md4	0	6
Storage/gpfs_server/archive-md3_md4/archive-virgo-gr2-data	0	0
Storage/gpfs_server/archive-md3_md4/cms	3	3

ORGANIZZAZIONE

FOREMAN

Monitor ▾ Hosts ▾ Configure ▾ Infrastructure ▾

Administer ▾

Roles

Filter ...

Q Search ▾

Name

Beep

Customized Manager

Customized Site manager

Customized Viewer

Default role

Discovery Manager

Discovery Worker

Edit Hosts

Edit provision roles

Farming

Manager

Organization admin

OverProvisionPlugin

SDDS

SDDS-restricted

SDDS-SD

Site manager

Storage

System

Tier3

Viewer

View Hosts

Role

Filters

Resource	Permissions	Unlimited	Override	Search	Actions
(Miscellaneous)	access_dashboard, view_tasks, view_statistics, view_plugins	✓		N/A	<div>Edit ▾</div>
Architecture	view_architectures	✓		N/A	<div>Edit ▾</div>
Audit	view_audit_logs			hostgroup - SDDS	<div>Edit ▾</div>
Bookmark	destroy_bookmarks, edit_bookmarks, view_bookmarks, create_bookmarks	✓		N/A	<div>Edit ▾</div>
Compute profile	create_compute_profiles, edit_compute_profiles, view_compute_profiles	✓		N/A	<div>Edit ▾</div>
Compute resource	console_compute_resources_vms, view_compute_resources, create_compute_resources, edit_compute_resources, destroy_compute_resources_vms, view_compute_resources_vms, create_compute_resources_vms, edit_compute_resources_vms, destroy_compute_resources_vms, power_compute_resources_vms			name - SDDS	<div>Edit ▾</div>
Config group	view_config_groups, create_config_groups, destroy_config_groups			name - SDDS	<div>Edit ▾</div>

INFRA

Projects ▾ Groups ▾ Activity ▾ Milestones ▾ Snippets

znaf-provisioning

Overview

Details

Activity

Issues 10

Merge Requests 2

Members

Settings

znaf-provisioning

Leave group

Global ▾

Filter by name...

farming

Collection of farming puppet modules and utilities.

modules

SDDS

production

cnprov_rundeck_deploy

Roles

Filter ...

✕

Q Search

▾

Name
Bebop
Customized Manager
Customized Site manager
Customized Viewer
Default role
Discovery Manager
Discovery Reader
Edit hosts
Edit partition tables
Farming
Manager
Organization admin
OvirtProvisionPlugin
SDDS
SDDS-restricted
SDDS-SD
Site manager
Storage
Sysinfo
Tier3
Viewer
View hosts

Role						
Filters						
<div></div>						
Resource	Permissions	Unlimited	Override	Search	Actions	
(Miscellaneous)	access_dashboard, view_tasks, view_statistics, view_plugins	✓		N/A	Edit ▾	
Architecture	view_architectures	✓		N/A	Edit ▾	
Audit	view_audit_logs			hostgroup ~ SDDS	Edit ▾	
Bookmark	destroy_bookmarks, edit_bookmarks, view_bookmarks, create_bookmarks	✓		N/A	Edit ▾	
Compute profile	create_compute_profiles, edit_compute_profiles, view_compute_profiles	✓		N/A	Edit ▾	
Compute resource	console_compute_resources_vms, view_compute_resources, create_compute_resources, edit_compute_resources, destroy_compute_resources, view_compute_resources_vms, create_compute_resources_vms, edit_compute_resources_vms, destroy_compute_resources_vms, power_compute_resources_vms			name ~ SDDS		
Config group	view_config_groups, create_config_groups, destroy_config_groups,			name ~ SDDS		

INFRA


Projects ▾

Groups

Activity

Notifications

Snippets

znaf-provisioning

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Merge Requests 2

Members


Settings

znaf-provisioning


Leave group


Global ▾


Filter by name...


 farming

Collection of farming puppet modules and utilities.

 modules

 SDDS

 production

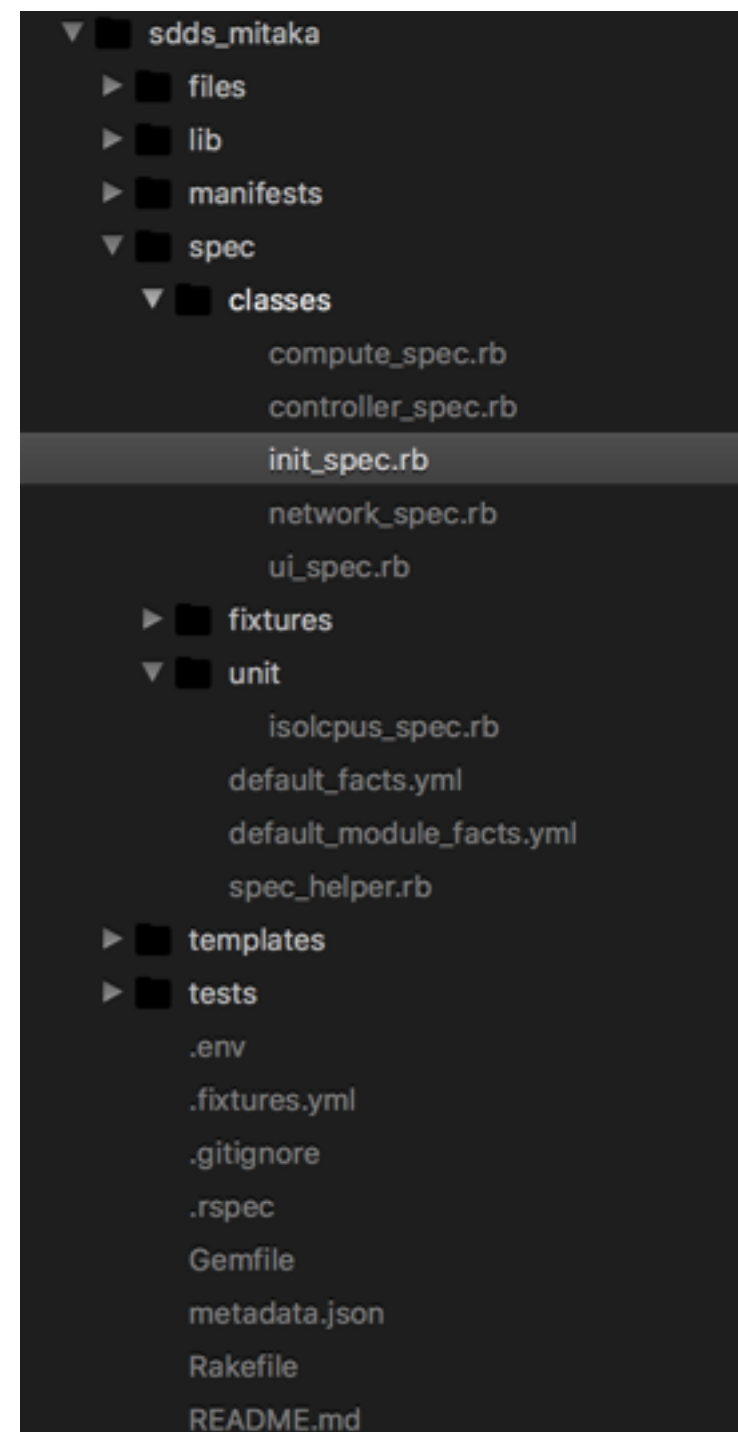
 cnpv_rundeck_deploy

UPGRADE FOREMAN

- ▶ Periodicamente
- ▶ Testbed
- ▶ Verifica, aggiornamento e test classi puppet
- ▶ Verifica interazione con Compute resortes
 - ▶ oVirt
 - ▶ VMWare
 - ▶ Openstack
- ▶ Upgrade
 - ▶ Inizio downtime
 - ▶ Stop di puppet sulle macchine di foreman
 - ▶ Stop dei servizi
 - ▶ Upgrade del software su i due nodi
 - ▶ Migrazione del DB su un solo nodo
 - ▶ Verifica funzionalità e run di puppet
 - ▶ Fine downtime

UPGRADE PUPPET 3 -> 5

► Fase I -> Test classi su puppet **DONE**



```
require 'spec_helper'
describe 'sdds_mitaka', :type => :class do
  on_supported_os.each do |os, facts|
    context "on #{os}" do
      let(:pre_condition) { ['include ::sdds_sensu']}

      let(:facts) do
        facts.merge({
          :is_virtual => false,
          :operatingsystemrelease => '7.3.1611',
        })
      end

      describe 'with undefined role' do
        let(:params) do
          {
            :env => 'test'
          }
        end

        it { is_expected.to compile.and_raise_error(/Unsupported role:/) }
      end

      describe 'with undefined env' do
        let(:params) do
          {
            :role => 'controller'
          }
        end

        it { is_expected.to compile.and_raise_error(/Valid environment are test or prod/) }
      end

      ['test', 'prod'].each do |env|
        ['compute', 'network'].each do |role|
          describe "with default values for all parameters, role: #{role} and env: #{env}" do
            let(:params) do
              {
                :role => role,
                :env => env
              }
            end

            it { is_expected.to compile.with_all_deps }
            it { is_expected.to contain_class('sdds_mitaka') }
            it { is_expected.to contain_class("sdds_mitaka::role::#{role}") }

            it do
              is_expected.to contain_class('sdds_mitaka::setup::packages') \
                .that_requires('Class[sdds_mitaka::setup::repos]') \
                .that_comes_before('Class[sdds_mitaka::role::#{role}]')
            end
          end
        end
      end
    end
  end
end
```


PUPPET 3 -> 5

classi su puppet **DONE**

```
▼ sdds_mitaka
  ► files
  ► lib
  ► manifests
  ▼ spec
    ▼ classes
      compute_spec.rb
      controller_spec.rb
      init_spec.rb
      network_spec.rb
      ui_spec.rb
    ► fixtures
    ▼ unit
      isolcpus_spec.rb
      default_facts.yml
      default_module_facts.yml
      spec_helper.rb
  ► templates
  ► tests
    .env
    .fixtures.yml
    .gitignore
    .rspec
    Gemfile
    metadata.json
    Rakefile
    README.md
```

```
require 'spec_helper'
describe 'sdds_mitaka', :type => :class do
  on_supported_os.each do |os, facts|
    context "on #{os}" do
      let(:pre_condition) { ['include ::sdds_sensu']}

      let(:facts) do
        facts.merge({
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        })
      end

      describe 'with undefined role' do
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          }
        end
        it { is_expected.to compile.and_raise_error(/Unsupported role:/) }
      end

      describe 'with undefined env' do
        let(:params) do
          {
            :role => 'controller'
          }
        end
        it { is_expected.to compile.and_raise_error(/Valid environment are test or prod/) }
      end

      ['test', 'prod'].each do |env|
        ['compute', 'network'].each do |role|
          describe "with default values for all parameters, role: #{role} and env: #{env}" do
            let(:params) do
              {
                :role => role,
                :env => env
              }
            end

            it { is_expected.to compile.with_all_deps }
            it { is_expected.to contain_class('sdds_mitaka') }
            it { is_expected.to contain_class("sdds_mitaka::role::#{role}") }

            it do
              is_expected.to contain_class('sdds_mitaka::setup::packages') \
                .that_requires('Class[sdds_mitaka::setup::repos]') \
                .that_comes_before('Class[sdds_mitaka::role::#{role}]')
            end
          end
        end
      end
    end
  end
end
```

REMAN/PUR

PET 3 ->

assì su pu

```
require 'spec_helper'
describe 'sdds_mitaka', :type => :class do
  on_supported_os.each do |os, facts|
    context "on #{os}" do
      let(:pre_condition) { ['include ::sdds_sensu']}

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            :env => 'test'
          }
        end

        it { is_expected.to compile.and_raise_error(/Unsupported role:/) }
      end

      describe 'with undefined env' do
        let(:params) do
          {
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          }
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        it { is_expected.to compile.and_raise_error(/Valid environment are test or prod/) }
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      ['test', 'prod'].each do |env|
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          describe "with default values for all parameters, role #{role} and env #{env}" do

            let(:params) do
              {
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                :env => env
              }
            end

            it { is_expected.to compile.with_all_deps }
            it { is_expected.to contain_class('sdds_mitaka') }
            it { is_expected.to contain_class("sdds_mitaka::role::#{role}") }

            it do
              is_expected.to contain_class('sdds_mitaka::setup::packages') \
                .that_requires('Class[sdds_mitaka::setup::repos]') \
                .that_comes_before("Class[sdds_mitaka::role::#{role}]")
            end
          end
        end
      end
    end
  end
end
```


UPGRADE PUPPET 3 -> 5

► Fase I -> Test classi su puppet **DONE**

P

puppet_testing

Overview

Repository

Registry

Issues0

Merge Requests0

CI / CD

Wiki

Snippets

Settings

cnaf-provisioning > puppet_testing > Container Registry

Container Registry

With the Docker Container Registry integrated into GitLab,
Learn more about [Container Registry](#).

cnaf-provisioning/puppet_testing

Tag	Tag ID
3.1.9.3	2dbd5
4.2.1.7	925f3
4.2.3.1	dfb09
5.2.1.7	151f4a
latest	8633c
5.2.3.1	62c03
5.2.4.3	efb86

```
5.2.4.3.1 | 1 deprecation warning total
5.2.4.3.1 |
5.2.4.3.1 | Top 10 slowest examples (11.58 seconds, 97.9% of total time):
5.2.4.3.1 |   farm_sensu on centos-7-x85_64 with default values for all parameters should contain Class[farm_sensu]
5.2.4.3.1 |   7.21 seconds ./spec/classes/init_spec.rb:9
5.2.4.3.1 |   farm_sensu on centos-6-x85_64 with server true should contain Class[farm_sensu]
5.2.4.3.1 |   1.67 seconds ./spec/classes/init_spec.rb:31
5.2.4.3.1 |   farm_sensu on centos-7-x85_64 with no default values for some parameters should contain Class[farm_sensu]
5.2.4.3.1 |   1.62 seconds ./spec/classes/init_spec.rb:41
5.2.4.3.1 |   farm_sensu on centos-6-x85_64 with no default values for some parameters should contain Class[farm_sensu]
5.2.4.3.1 |   1.58 seconds ./spec/classes/init_spec.rb:21
5.2.4.3.1 |   farm_sensu on centos-7-x85_64 with server true should contain Class[farm_sensu]
5.2.4.3.1 |   1.41 seconds ./spec/classes/init_spec.rb:31
5.2.4.3.1 |   farm_sensu on centos-7-x85_64 with server true should compile into a catalogue without dependency cycles
5.2.4.3.1 |   0.76519 seconds ./spec/classes/init_spec.rb:32
5.2.4.3.1 |   farm_sensu on centos-6-x85_64 with server true should compile into a catalogue without dependency cycles
5.2.4.3.1 |   0.70534 seconds ./spec/classes/init_spec.rb:32
5.2.4.3.1 |   farm_sensu on centos-7-x85_64 with no default values for some parameters should compile into a catalogue without dependency cycles
5.2.4.3.1 |   0.68877 seconds ./spec/classes/init_spec.rb:22
5.2.4.3.1 |   farm_sensu on centos-6-x85_64 with no default values for some parameters should compile into a catalogue without dependency cycles
5.2.4.3.1 |   0.56759 seconds ./spec/classes/init_spec.rb:22
5.2.4.3.1 |   farm_sensu on centos-6-x85_64 with default values for all parameters should contain Class[farm_sensu]
5.2.4.3.1 |   0.3522 seconds ./spec/classes/init_spec.rb:9
5.2.4.3.1 |
5.2.4.3.1 | Finished in 11.82 seconds (Files took 2.01 seconds to load)
5.2.4.3.1 | 12 examples, 0 failures
5.2.4.3.1 |
5.2.4.3.1 | farmsensu_5.2.4.3.1 exited with code 0

[dmichelotto@pcdmichelotto SDDS] (master ✓ --) $
```

P

puppet_testing

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 cnaf-provisioning > puppet_testing > Container Registry

Container Registry

With the Docker Container Registry integrated into GitLab,

Learn more about [Container Registry](#).

[^](#) [cnaf-provisioning/puppet_testing](#) 

Tag	Tag ID
3_1.9.3 	2dbd5
4_2.1.7 	925f3
4_2.3.1 	dfb09
5_2.1.7 	151f4e
latest 	8633c
5_2.3.1 	62c03
5_2.4.3 	efb86

DONE

```
S_2.4.3.1 | 1 deprecation warning total
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S_2.4.3.1 | 12 examples, 0 failures
S_2.4.3.1 |
S_2.4.3.1 | farm_sensu_5_2.4.3.1 exited with code 0

[dmichelotto@pcdmichelotto SDDS] (master ✓ --) $
```



```
5_2.4.3_1 | 1 deprecation warning total
5_2.4.3_1 |
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5_2.4.3_1 | Finished in 11.82 seconds (files took 2.01 seconds to load)
5_2.4.3_1 | 12 examples, 0 failures
5_2.4.3_1 |
farmsensu_5_2.4.3_1 exited with code 0
```

```
[dmichelotto@pcdmichelotto SDDS] (master ✓ --) $ █
```


UPGRADE PUPPET 3 -> 5

- ▶ Fase I -> Test classi su puppet **DONE**
- ▶ Fase II -> Upgrade client puppet 3.8.7 **DONE**
- ▶ Fase III -> Upgrade PuppetCA a 5 **DONE**
- ▶ Fase IV -> Infrastruttura parallela Puppet 5 **DONE**
 - ▶ 3 Puppetserver
 - ▶ 1 Nuovo alias
 - ▶ 1 Nuovo proxy (Puppet 5) su Foreman.

UPGRADE PUPPET 3 -> 5

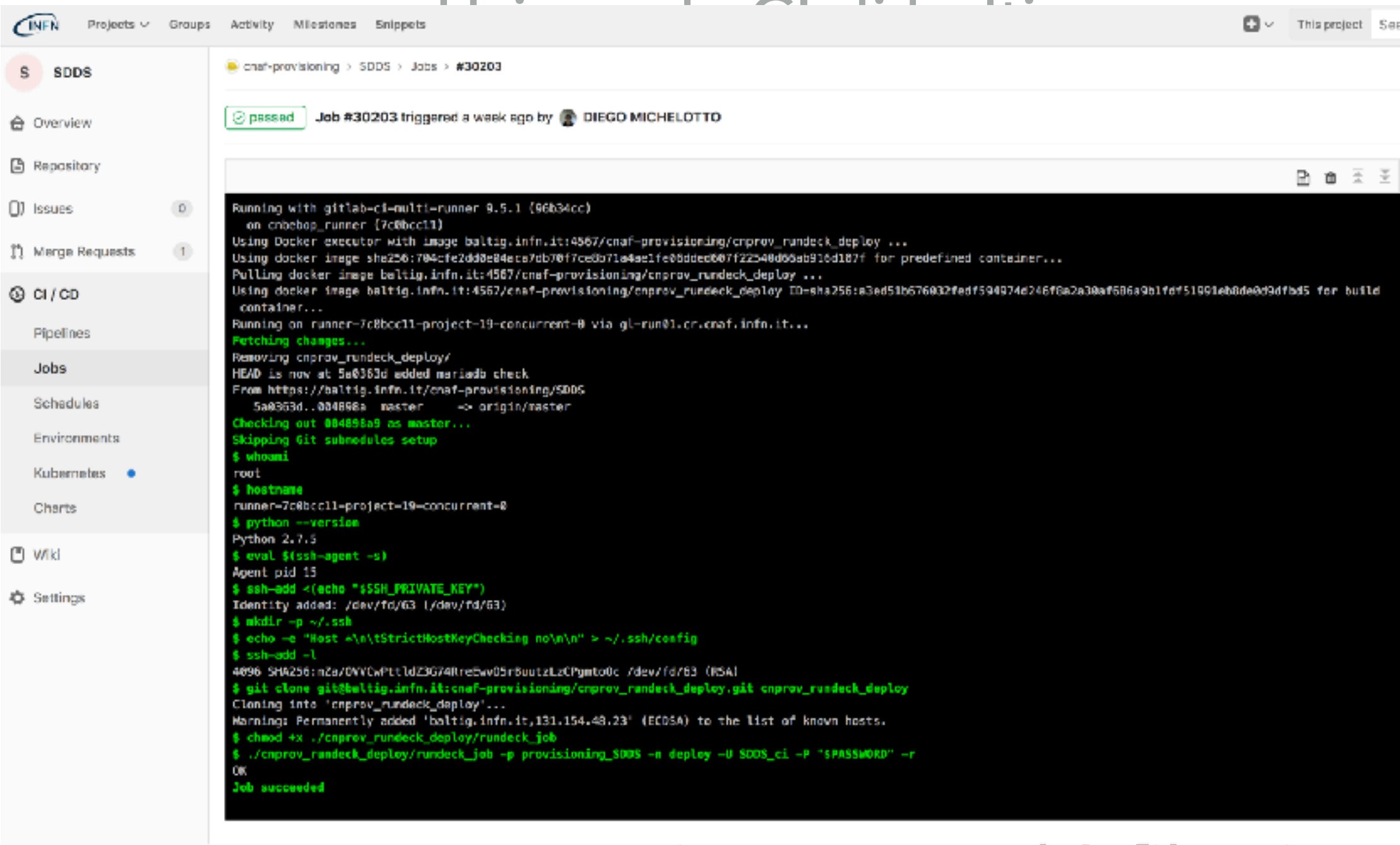
- ▶ Fase I -> Test classi su puppet **DONE**
- ▶ Fase II -> Upgrade client puppet 3.8.7 **DONE**
- ▶ Fase III -> Upgrade PuppetCA a 5 **DONE**
- ▶ Fase IV -> Infrastruttura parallela Puppet 5 **DONE**
- ▶ Fase V -> Migrazione di alcuni client da Puppet 3 a Puppet 5
- ▶ Fase VI -> Migrazione di tutti i client
- ▶ Fase VII -> Upgrade degli agent da 3 a 5
- ▶ Fase VIII -> Decommissioning Puppet 3

UPGRADE PUPPET 3 -> 5

- ▶ Nuova modalità per pubblicare i moduli sull'infrastruttura Puppet 5 (non usa httpd, il nostro webhook era uno script php)
- ▶ Usiamo la CI di baltig.infn.it
 - ▶ Al *merge* o *push* in master parte un job di CI
 - ▶ Il job usa un container ad hoc che tramite uno script custom esegue una POST su un job Rundeck
 - ▶ Il job Rundeck prende la lista dei puppetserver da Foreman ed esegue il *git pull* sui nodi
 - ▶ In caso di scale-in o scale-out dei puppetserver la lista è sempre aggiornata perchè filtra i nodi foreman in base all'hostgroup dei Puppet 5

UPGRADE PUPPET 3 -> 5

- ▶ Nuova modalità per pubblicare i moduli sull’infrastruttura Puppet 5 (non usa httpd, il nostro webhook era uno script php)



Creare un job di CI che tramite uno script custom installa i puppetserver da Foreman e filtra i puppetserver la lista è se aggiornata perchè filtra i nodi foreman in base all’hostgroup

Puppet 5

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cnaf-provisioning > SDDS > Jobs > #30203

passed

Job #30203 triggered a week ago by DIEGO MICHELOTTO

Running with gitlab-ci-multi-runner 9.5.1 (96b34cc)
on cnbebop_runner (7c0bcc11)
Using Docker executor with image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy ...
Using docker image sha256:704cfe2dd0e04aca7db70f7ce8b71a4ae1fe06dded607f22540d66ab916d107f for predefined container...
Pulling docker image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy ...
Using docker image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy ID=sha256:a3ed51b676032fedf594974d246f8a2a30af686a9b1fdf51991eb8de0d9dfbd5 for build container...
Running on runner-7c0bcc11-project-19-concurrent-0 via gl-run01.cr.cnaf.infn.it...
Fetching changes...
Removing cnprov_rundeck_deploy/
HEAD is now at 5a0363d added mariadb check
From https://baltig.infn.it/cnaf-provisioning/SDDS
5a0363d..004898a master -> origin/master
Checking out 004898a9 as master...
Skipping Git submodules setup
\$ whoami
root
\$ hostname
runner-7c0bcc11-project-19-concurrent-0
\$ python --version
Python 2.7.5
\$ eval \$(ssh-agent -s)
Agent pid 15
\$ ssh-add <(echo "\$SSH_PRIVATE_KEY")
Identity added: /dev/fd/63 (/dev/fd/63)
\$ mkdir -p ~/.ssh
\$ echo -e "Host *\n\tStrictHostKeyChecking no\n\n" > ~/.ssh/config
\$ ssh-add -l
4096 SHA256:nZa/OVVCwPttdZ3G74RreEww05rBuutzLzCPgmo0c /dev/fd/63 (RSA)
\$ git clone git@baltig.infn.it:cnaf-provisioning/cnprov_rundeck_deploy.git cnprov_rundeck_deploy
Cloning into 'cnprov_rundeck_deploy'...
Warning: Permanently added 'baltig.infn.it,131.154.48.23' (ECDSA) to the list of known hosts.
\$ chmod +x ./cnprov_rundeck_deploy/rundeck_job
\$./cnprov_rundeck_deploy/rundeck_job -p provisioning_SDDS -n deploy -U SDDS_ci -P "\$PASSWORD" -r
OK
Job succeeded

RUNDECK

provisioning_SDDS

Jobs

Nodes

Activity

deploy

Action

Prepare and Run...

Definition

Steps:

1. [3 lines]
1 #!/bin/bash
2
3 cd /etc/puppetlabs/code/environments/SDDS/ && git pu
4

If a step fails: Stop at the failed step.

Strategy:
Node First Execute all steps on a node before proceeding to the next node.

Nodes: Include nodes matching: name: *
Execute on up to 5 Nodes at a time.
If a node fails: Fail the step without running on any remaining nodes.
Sort nodes by name in ascending order.
Node selection: Target nodes are selected by default

Notification: On Failure:
Slack Incoming Webhook

UUID: bf773c5-fa78-4f8f-8a1a-666f16df8e3a

Created: 59d22h ago

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Settings

cnaf-provisioning > SDDS > Jobs > #30203

passed

Job #30203 triggered a week ago by DIEGO MICHELOTTO

Running with gitlab-ci-multi-runner 9.5.1 (96b34cc)
on cnbebop_runner (7c0bcc11)
Using Docker executor with image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy
Using docker image sha256:704cfe2dd0e04aca7db70f7ce8b71a4ae1fe06dded607f22540d66ab916d107
Pulling docker image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy ...
Using docker image baltig.infn.it:4567/cnaf-provisioning/cnprov_rundeck_deploy ID=sha256:
container...
Running on runner-7c0bcc11-project-19-concurrent-0 via gl-run01.cr.cnaf.infn.it...
Fetching changes...
Removing cnprov_rundeck_deploy/
HEAD is now at 5a0363d added mariadb check
From https://baltig.infn.it/cnaf-provisioning/SDDS
5a0363d..004898a master -> origin/master
Checking out 004898a9 as master...
Skipping Git submodules setup
\$ whoami
root
\$ hostname
runner-7c0bcc11-project-19-concurrent-0
\$ python --version
Python 2.7.5
\$ eval \$(ssh-agent -s)
Agent pid 15
\$ ssh-add <(echo "\$SSH_PRIVATE_KEY")
Identity added: /dev/fd/63 (/dev/fd/63)
\$ mkdir -p ~/.ssh
\$ echo -e "Host *\n\tStrictHostKeyChecking no\n\n" > ~/.ssh/config
\$ ssh-add -l
4096 SHA256:nZa/QVVCwPttdZ3G74RreEww05rBuutzLzCPgmo0c /dev/fd/63 (RSA)
\$ git clone git@baltig.infn.it:cnaf-provisioning/cnprov_rundeck_deploy.git cnprov_rundeck_deploy
Cloning into 'cnprov_rundeck_deploy'...
Warning: Permanently added 'baltig.infn.it,131.154.48.23' (ECDSA) to the list of known hosts
\$ chmod +x ./cnprov_rundeck_deploy/rundeck_job
\$./cnprov_rundeck_deploy/rundeck_job -p provisioning_SDDS -n deploy -U SDDS_ci -P "\$PASSWD"
OK
Job succeeded

RUNDECK

provisioning_SDDS

Jobs

Nodes

Activity

deploy

Action ▾

Prepare and Run...Definition

Steps:

1. #! [3 lines] ▾
1 #!/bin/bash
2
3 cd /etc/puppetlabs/code/environments/SDDS/ && bit pu
4

If a step fails: Stop at the failed step.

Strategy:
◆ Node First Execute all steps on a node before proceeding to the next node.

Nodes: Include nodes matching: name: .* ➡
Execute on up to 5 Nodes at a time.
If a node fails: Fail the step without running on any remaining nodes.
Sort nodes by name in ascending order.
Node selection: Target nodes are selected by default

Notification: On Failure:
Slack Incoming WebHook ➡

UUID: bef773c5-fa78-4f8f-8a1a-666f16df8e3a

UPGRADE PUPPET 3 -> 5

RUNDECK

provisioning_SDDS

Jobs

Nodes

Activity

deploy

Action

#320

← Previous

At last

Succeeded

after 4s

at 5/31 9am

started at 5/31 9am

by SDDS_ci

0.00:04

Summary

Report

Log Output

Definition

View Options

Node view:

By Node

Ansi Color

cnprov-pupfive02.cr.cnaf.infn.it

6 lines

09:28:14

cnprov-pupfive02.cr.cnaf.infn.it

1. Script

From baltig.infn.it:cnaf-provisioning/SDDS

5a0363d..004898a master -> origin/master

09:28:14

cnprov-pupfive02.cr.cnaf.infn.it

1. Script

Updating 5a0363d..004898a

Fast-forward

modules/sdds_sensu/manifests/subscription.pp | 12 +++++-----

09:28:14

cnprov-pupfive02.cr.cnaf.infn.it

1. Script

1 file changed, 6 insertions(+), 6 deletions(-)

cnprov-pupfive03.cr.cnaf.infn.it

6 lines

09:28:14

cnprov-pupfive03.cr.cnaf.infn.it

1. Script

From baltig.infn.it:cnaf-provisioning/SDDS

5a0363d..004898a master -> origin/master

09:28:14

cnprov-pupfive03.cr.cnaf.infn.it

1. Script

Updating 5a0363d..004898a

Fast-forward

modules/sdds_sensu/manifests/subscription.pp | 12 +++++-----

09:28:14

cnprov-pupfive03.cr.cnaf.infn.it

1. Script

1 file changed, 6 insertions(+), 6 deletions(-)

cnprov-pupfive01.cr.cnaf.infn.it

6 lines

09:28:14

cnprov-pupfive01.cr.cnaf.infn.it

1. Script

From baltig.infn.it:cnaf-provisioning/SDDS

5a0363d..004898a master -> origin/master

09:28:14

cnprov-pupfive01.cr.cnaf.infn.it

1. Script

Updating 5a0363d..004898a

Fast-forward


modules/sdds_sensu/manifests/subscription.pp | 12 +++++-----

09:28:14


cnprov-pupfive01.cr.cnaf.infn.it

1. Script

1 file changed, 6 insertions(+), 6 deletions(-)

 **deploy**

Action

 **#320**

Previous

At last

Succeeded after 4s at 5/31 9am started at 5/31 9am by SDDS_ci 0.00:04

Summary

Report

Log Output

Definition

View Options

Node view:

☒ By Node

☒ Ansi Color

cnprov-pupfive02.cr.cnaf.infn.it 6 lines		
09:28:14	cnprov-pupfive02.cr.cnaf.infn.it	#! 1. Script From baltig.infn.it:cnaf-provisioning/SDDS
09:28:14		5a0363d..004898a master -> origin/master
09:28:14	cnprov-pupfive02.cr.cnaf.infn.it	#! 1. Script Updating 5a0363d..004898a
09:28:14		Fast-forward
09:28:14		modules/sdds_sensu/manifests/subscription.pp 12 ++++++-----
09:28:14		1 file changed, 6 insertions(+), 6 deletions(-)
cnprov-pupfive03.cr.cnaf.infn.it 6 lines		
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09:28:14		5a0363d..004898a master -> origin/master
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09:28:14		Fast-forward
09:28:14		modules/sdds_sensu/manifests/subscription.pp 12 ++++++-----
09:28:14		1 file changed, 6 insertions(+), 6 deletions(-)

FUTURO

- ▶ Fine tuning puppetserver
- ▶ Divisione dei repository, 1 repository git per ogni modulo
- ▶ Modifica dei repository degli environment con *submodules* per includere i moduli
- ▶ Abilitazione CI per unit testing dei moduli in modalità automatica per repository/modulo ed estensione dei test per aumentare il coverage

DOMANDE?

GRAZIE PER L'ATTENZIONE