Solum Documentation

Release 13.0.1.dev3

OpenStack Foundation

Nov 22, 2022

CONTENTS

Contents:

CHAPTER

ONE

SOLUM QUICK START GUIDE

1.1 Setup Solum development environment

https://wiki.openstack.org/wiki/Solum/solum-development-setup

The following is a guide to deploying an app with Solum.

1.2 Overview

```
$ solum languagepack create <NAME> <GIT_REPO>
$ solum languagepack show <UUID/Name>
$ solum languagepack logs <UUID>
$ solum languagepack list
$ solum app create --app-file <app_file> [--param-file param_file]
$ solum app show <UUID/Name>
$ curl <application_uri>
```

In this document we will work with a python example to demonstrate how you can use solum to deploy an application.

1.3 Create a languagepack

Before deploying an app on Solum, we need to create a run time environment, called languagepack, for the application. A languagepack must exist in Solum, as every application deployed with Solum requires an association to a languagepack to run (even if the languagepack only implements a no-op). Languagepacks can be added to Solum in the following ways:

1. Solum comes with pre-existing languagepacks
2. Solum System Operator creates and adds languagepack(s) available for all users
3. Solum User creates and adds languagepack(s) available only to that user

To learn more, see the languagepacks section of this document.

1. Authenticate to Keystone. The easiest way is to use the credentials supplied by Devstack.

```
$ . ~/devstack/openrc
```

2. Create languagepack

```
$ solum languagepack create python https://github.com/rackspace-solum-samples/
↪solum-languagepack-python.git

+-------------+-------------------------------------------------------------
↪-----------+
| Property    | Value                                                       ␣
↪           |
+-------------+-------------------------------------------------------------
↪-----------+
| status      | QUEUED                                                      ␣
↪           |
| source_uri  | https://github.com/rackspace-solum-samples/solum-languagepack-
↪python.git |
| description | None                                                        ␣
↪           |
| uuid        | 0233f461-5fb0-4de7-8f06-5527721c3e97                        ␣
↪           |
| name        | python                                                      ␣
↪           |
+-------------+-------------------------------------------------------------
↪-----------+
```

Solum takes a few minutes to build your languagepack. You can check the state by using the languagepack show command. A languagepack is ready for use once the state changes to 'READY'.

```
$ solum languagepack show python
+-------------+-------------------------------------------------------------
↪-----------+
| Property    | Value                                                       ␣
↪           |
+-------------+-------------------------------------------------------------
↪-----------+
| status      | READY                                                       ␣
↪           |
| source_uri  | https://github.com/rackspace-solum-samples/solum-languagepack-
↪python.git |
| description | None                                                        ␣
↪           |
| uuid        | 0233f461-5fb0-4de7-8f06-5527721c3e97                        ␣
↪           |
| name        | python                                                      ␣
↪           |
+-------------+-------------------------------------------------------------
↪-----------+
```

You can check logs that were generated while building the languagepack with the following command. This is a great way to debug your languagepack if it fails to build.

```
$ solum languagepack logs python
+--------------------------------------+--------------------+----------------
↪-------------------------------------------------------------+
```

(continues on next page)

(continued from previous page)

```
| resource_uuid                        | created_at          | local_storage ␣
↪                                                                |
+--------------------------------------+---------------------+---------------
↪-------------------------------------------------------------+
| 0233f461-5fb0-4de7-8f06-5527721c3e97 | 2016-04-07 13:33:35 | /var/log/solum/
↪worker/languagepack-2a8cd98e-8b37-4ec7-b17b-f511814a7d6f.log |
+--------------------------------------+---------------------+---------------
↪-------------------------------------------------------------+
```

You can find all available languagepacks with the following command

```
$ solum languagepack list
+--------------------------------------+--------+-------------+--------+------
↪-------------------------------------------------------------------+
| uuid                                 | name   | description | status |␣
↪source_uri                                                              |
+--------------------------------------+--------+-------------+--------+------
↪-------------------------------------------------------------------+
| 95310b74-b3ed-4150-b0bf-e64c21359900 | java   | None        | READY  |␣
↪https://github.com/rackspace-solum-samples/solum-languagepack-java.git   |
| 96f889e7-e8db-4ae3-a38d-0bfda8268e30 | python | None        | READY  |␣
↪https://github.com/rackspace-solum-samples/solum-languagepack-python.git |
+--------------------------------------+--------+-------------+--------+------
↪-------------------------------------------------------------------+
```

1.4 Create your app

Solum clones code from the user's public Git repository or user's public/private GitHub repository. Before you begin, push your code to a Git repo. From within your devstack host, you can now run solum commands to build and deploy your application.

2. To register an app with Solum, you will need to write an appfile to describe it. The following appfile deploys a sample python application. You can find other examples in the `examples/apps/` folder of the solum repo on github. To learn more, see the appfile section of this document.

```
version: 1
name: cherrypy
description: python web app
languagepack: python
source:
  repository: https://github.com/rackspace-solum-samples/solum-python-sample-
↪app.git
  revision: master
workflow_config:
  test_cmd: ./unit_tests.sh
  run_cmd: python app.py
trigger_actions:
 - unittest
```

(continues on next page)

(continued from previous page)

```
 - build
 - deploy
ports:
 - 80
```

The app is named `cherrypy`, and it describes a single application, running the code from the given Github repo. The code in that repo is a Python app that listens for HTTP requests and returns environment variables supplied by the user during app creation. We have configured this example to listen on port 80.

1.5 Deploy your app

3. Create an app by supplying the appfile. This registers your app with Solum. For demonstration purposes, we will use the provided example.

```
$ solum app create --app-file appfile.yaml --param-file params.yaml
+-------------+------------------------------------------------------------
↪------+
| Property    | Value                                                      ␣
↪      |
+-------------+------------------------------------------------------------
↪------+
| description | Sample Python web app.                                     ␣
↪      |
| uri         | http://10.0.2.15:9777/v1/plans/4a795b99-936d-4330-be4d-
↪d2099b160075 |
| name        | cherrypy                                                   ␣
↪      |
| trigger_uri |                                                            ␣
↪      |
| uuid        | 4a795b99-936d-4330-be4d-d2099b160075                       ␣
↪      |
+-------------+------------------------------------------------------------
↪------+
```

The `uri` field above refers to the newly-registered app. At this point, your app is not deployed yet.

Your app is now ready to be deployed using the uuid from above to deploy your app.

4. Deploy app

```
$ solum app deploy 4a795b99-936d-4330-be4d-d2099b160075
+------------+-------------------------------------------------------------
↪-----+
| Property   | Value                                                       ␣
↪     |
+------------+-------------------------------------------------------------
↪-----+
| wf_id      | 1                                                           ␣
↪     |
```

(continues on next page)

(continued from previous page)

```
| created_at | 2016-04-07T13:36:45.497519                                    ␣
↪     |
| app_id     | 7d64347c-93d6-4adf-bf70-309f9d53c034                          ␣
↪     |
| actions    | [u'unittest', u'build', u'deploy']                            ␣
↪     |
| updated_at | 2016-04-07T13:36:45.497519                                    ␣
↪     |
| source     | {u'repository': u'https://github.com/rackspace-solum-samples/
↪solum- |
|            | python-sample-app.git', u'revision': u'master'}               ␣
↪     |
| config     | {u'run_cmd': u'python app.py', u'test_cmd': u'./unit_tests.sh'}
↪     |
| id         | 97e7e2c1-8ba1-4320-9831-b5baef1d480d                          ␣
↪     |
+------------+---------------------------------------------------------------
↪-----+
```

Solum builds a Docker image by layering your app's code on top of the related languagepack's docker image. Then, Solum creates a stack via Heat to deploy your app. At this point, Solum is done, and in a matter of minutes your app will be deployed.

5. You can monitor the progress of your app as it builds and deploys. The status field will show the progress of your app through the process.

```
$ solum app show 4a795b99-936d-4330-be4d-d2099b160075
+-----------------+---------------------------------------------------------
↪-------------+
| Property        | Value                                                   ␣
↪             |
+-----------------+---------------------------------------------------------
↪-------------+
| status          | BUILDING                                                ␣
↪             |
| description     | Sample Python web app.                                  ␣
↪             |
| application_uri | None                                                    ␣
↪             |
| created_at      | 2015-03-10T22:47:04                                     ␣
↪             |
| updated_at      | 2015-03-10T22:49:59                                     ␣
↪             |
| name            | cherrypy                                                ␣
↪             |
| trigger_uri     | http://10.0.2.15:9777/v1/triggers/b6eb26e5-3b7b-416b-b932-
↪302c514071cc |
| uuid            | 185f2741-61e0-497e-b2b7-c890c7e151dd                    ␣
↪             |
+-----------------+---------------------------------------------------------
↪-------------+
```

(continues on next page)

(continued from previous page)

6. Run the `solum app show` command a few times to see the status change. You will notice the `status` field changes to DEPLOYMENT_COMPLETE and the `application_uri` is available.

```
$ solum app show cherrypy

+------------------+------------------------------------------------------------
↪-----------+
| Property         | Value                                                      ␣
↪           |
+------------------+------------------------------------------------------------
↪-----------+
| app_url          | 172.24.4.3:80                                              ␣
↪           |
| entry_points     |                                                            ␣
↪           |
| description      | python web app                                             ␣
↪           |
| created_at       | 2016-04-07T13:36:32                                        ␣
↪           |
| languagepack     | python                                                     ␣
↪           |
| target_instances | 1                                                          ␣
↪           |
| ports            | [80]                                                       ␣
↪           |
| source           | {u'repository': u'https://github.com/rackspace-solum-
↪samples/solum- |
|                  | python-sample-app.git', u'revision': u'master'}            ␣
↪           |
| trigger          | [u'unittest', u'build', u'deploy']                         ␣
↪           |
| trigger_uuid     | b85bdf42-d126-4223-9a64-8c10930447e3                       ␣
↪           |
| id               | 4a795b99-936d-4330-be4d-d2099b160075                       ␣
↪           |
| name             | cherrypy                                                   ␣
↪           |
+------------------+------------------------------------------------------------
↪-----------+
'cherrypy' workflows and their status:
+-------+--------------------------------------+----------------------+
| wf_id | id                                   | status               |
+-------+--------------------------------------+----------------------+
| 1     | 97e7e2c1-8ba1-4320-9831-b5baef1d480d | DEPLOYMENT_COMPLETE  |
+-------+--------------------------------------+----------------------+
```

1.6 Connect to Your App

7. Connect to your app using the value in the `app_url` field.

```
$ curl <your_application_uri_here>
```

1.7 Update Your App

You can set up your Git repository to fire an on_commit action to make a webhook call to Solum each time you make a commit. The webhook call sends a POST request to http://10.0.2.15:9777/v1/triggers/<trigger_id> causing Solum to automatically build a new image and re-deploy your application.

To do this with a GitHub repo, go to your repo on the web, click on Settings, and then select "Webhooks & Services" form the left navigation menu. In the Webhooks section, click "Add Webhook", and enter your GitHub account password when prompted. Copy and paste the value of trigger_uri from your "solum app show" command into the "Payload URL" filed. Note that this will only work if you have a public IP address or hostname in the trigger_uri field. Select the "application/vnd.github.v3+json" Payload version, determine if you only want to trigger this webhook on "git push" or if you want it for other events too by using the radio buttons and Checkboxes provided. Finish by clicking "Add Webhook". Now next time that event is triggered on GitHub, Solum will automatically check out your change, build it, and deploy it for you.

1.8 Languagepacks

Languagepacks define the runtime environment required by your application.

To build a languagepack, solum requires a git repo containing a Dockerfile. Solum creates a Docker and stores the image for use when building and deploying your application. See the sample languagepack repo below

```
$ https://github.com/rackspace-solum-samples/solum-languagepack-python
```

Here are some best practices to keep in mind while creating a languagepack

1. A good languagepack is reusable across application
2. All Operating system level libraries should be defined in the languagepack
3. Test tools should be installed in the languagepack
4. Includes a mandatory build.sh script, which Solum CI expects and executes during the build phase

1.9 appfile

An appfile is used to define your application and passed in during application creation.

```
$ solum app create --app-file appfile.yaml --param-file params.yaml
```

In the above command, we use the --app-file flag to provide

```
version: 1
name: cherrypy
description: python web app
languagepack: python
source:
  repository: https://github.com/rackspace-solum-samples/solum-python-sample-
↪app.git
  revision: master
workflow_config:
  test_cmd: ./unit_tests.sh
  run_cmd: python app.py
trigger_actions:
 - test
 - build
 - deploy
ports:
 - 80
```

The appfile is used to define the following

1. The git repo where your code exists
2. The languagepack to use
3. A name for your application
4. A command that executes your unittests. This command is executed during the unit test phase of the Solum CI workflow.
5. The port which is exposed publicly for accessing your application.
6. A command that executes your command.

1.10 App configuration and environment variables

Applications deployed using Solum can be configured using environment variables. Provide a parameter file during application creation to inject environment variables

```
$ solum app create --app-file appfile.yaml --param-file params.yaml
```

In the example above, we pass in the parameter file (shown in the table below) using the --param-file flag. The parameter file contains key value pairs which are injected into the application run time environment.

```
key: secret_key
user: user_name_goes_here
password: password_for_demo
```

1.11 Set up a Development Environment

These instructions are for those who want to contribute to Solum, or use features that are not yet in the latest release.

1. Clone the Solum repo. Solum repository is available on the OpenStack Git server.

```
$ mkdir ~/Solum
$ cd Solum
$ git clone https://opendev.org/openstack/solum.git
```

In addition to Solum, your environment will also need Devstack to configure and run the requisite OpenStack components, including Keystone, Glance, Nova, Neutron, and Heat.

1.12 Vagrant Dev Environment

2. We have provided a Vagrant environment to deploy Solum and its required OpenStack components via Devstack. We recommend using this approach if you are planning to contribute to Solum. This takes about the same amount of time as setting up Devstack manually, but it automates the setup for you. By default, it uses Virtualbox as its provisioner. We have tested this with Vagrant 1.5.4. The environment will need to know where your Solum code is, via the environment variable `SOLUM`.

```
$ cd ~/Solum
$ export SOLUM=~/Solum/solum
$ git clone https://github.com/rackerlabs/vagrant-solum-dev.git vagrant
$ cd vagrant
```

3. Bring up the devstack vagrant environment. This may take a while. Allow about an hour, more or less depending on your machine speed and its connection to the internet.

```
$ vagrant up --provision devstack
$ vagrant ssh devstack
```

1.13 Devstack

Using Vagrant is not a requirement for deploying Solum. You may instead opt to install Solum and Devstack yourself. The details of integrating Solum with Devstack can be found in `devstack/README.rst`.

CHAPTER

TWO

INSTALL SOLUM

2.1 Distro specific installation

TODO add docs here on how to install on different distros like:

- debian
- redhat
- suse
- ubuntu

2.2 For a development installation use devstack

CHAPTER

THREE

ENABLING SOLUM IN DEVSTACK

1. Install Docker version 1.7.0 using following steps (Solum has been tested with this version of Docker):

```
echo deb http://get.docker.com/ubuntu docker main | sudo tee /etc/apt/
↪sources.list.d/docker.list
sudo apt-key adv --keyserver pgp.mit.edu --recv-keys␣
↪36A1D7869245C8950F966E92D8576A8BA88D21E9
sudo apt-get update
sudo apt-get install lxc-docker-1.7.0
```

2. Download DevStack:

```
git clone https://opendev.org/openstack/devstack.git
cd devstack
```

3. Add this repo as an external repository:

```
cat > local.conf <<END
[[local|localrc]]
enable_plugin solum https://opendev.org/openstack/solum
END
```

   To use stable branches, make sure devstack is on that branch, and specify the branch name to enable_plugin, for example:

```
enable_plugin solum https://opendev.org/openstack/solum stable/mitaka
```

4. Run `./stack.sh`.

Note: This setup will produce virtual machines, not Docker containers. For an example of the Docker setup, see:

```
https://wiki.openstack.org/wiki/Solum/Docker
```

CHAPTER

FOUR

CONFIGURE AND RUN SOLUM

4.1 Configuration Reference

To alter the default compute flavor edit /etc/solum/templates/*.yaml

```
flavor:
  type: string
  description: Flavor to use for servers
  default: m1.tiny
```

Edit the default section to the desired value.

4.2 Administrator Guide

4.2.1 Man pages for services and utilities

Solum utilities

solum-db-manage

SYNOPSIS

```
solum-db-manage <action> [options]
```

DESCRIPTION

solum-db-manage helps manage solum specific database operations.

The migrations in the "alembic_migrations/versions/" directory contain the changes needed to migrate from older Solum releases to newer versions. A migration occurs by executing a script that details the changes needed to upgrade/downgrade the database. The migration scripts are ordered so that multiple scripts can run sequentially to update the database. The scripts are executed by Solum's migration wrapper which uses the Alembic library to manage the migration.

OPTIONS

The standard pattern for executing a solum-db-manage command is:

```
solum-db-manage <command> [<args>]
```

Run with -h to see a list of available commands:

```
solum-db-manage -h
```

Commands are:

- version
- upgrade
- downgrade
- stamp
- revision

Detailed descriptions are below.

Upgrading/Downgrading

If you are a deployer or developer and want to migrate from Icehouse to Juno or later you must first add version tracking to the database:

```
solum-db-manage stamp icehouse
```

You can then upgrade to the latest database version via:

```
solum-db-manage upgrade head
```

To check the current database version:

```
solum-db-manage version
```

Downgrade the database to a specific revision:

```
solum-db-manage downgrade 594288b1585a
```

Generating migration templates (developers only)

A database migration script is required when you submit a change to Solum that alters the database model definition. The migration script is a special python file that includes code to update/downgrade the database to match the changes in the model definition. Alembic will execute these scripts in order to provide a linear migration path between revision. The solum-db-manage command can be used to generate migration template for you to complete. The operations in the template are those supported by the Alembic migration library.

```
solum-db-manage revision -m "description of revision" --autogenerate
```

This generates a prepopulated template with the changes needed to match the database state with the models. You should inspect the autogenerated template to ensure that the proper models have been altered.

In rare circumstances, you may want to start with an empty migration template and manually author the changes necessary for an upgrade/downgrade. You can create a blank file via:

```
solum-db-manage revision -m "description of revision"
```

FILES

The /etc/solum/solum.conf file contains global options which can be used to configure some aspects of solum-db-manage, for example the DB connection and logging.

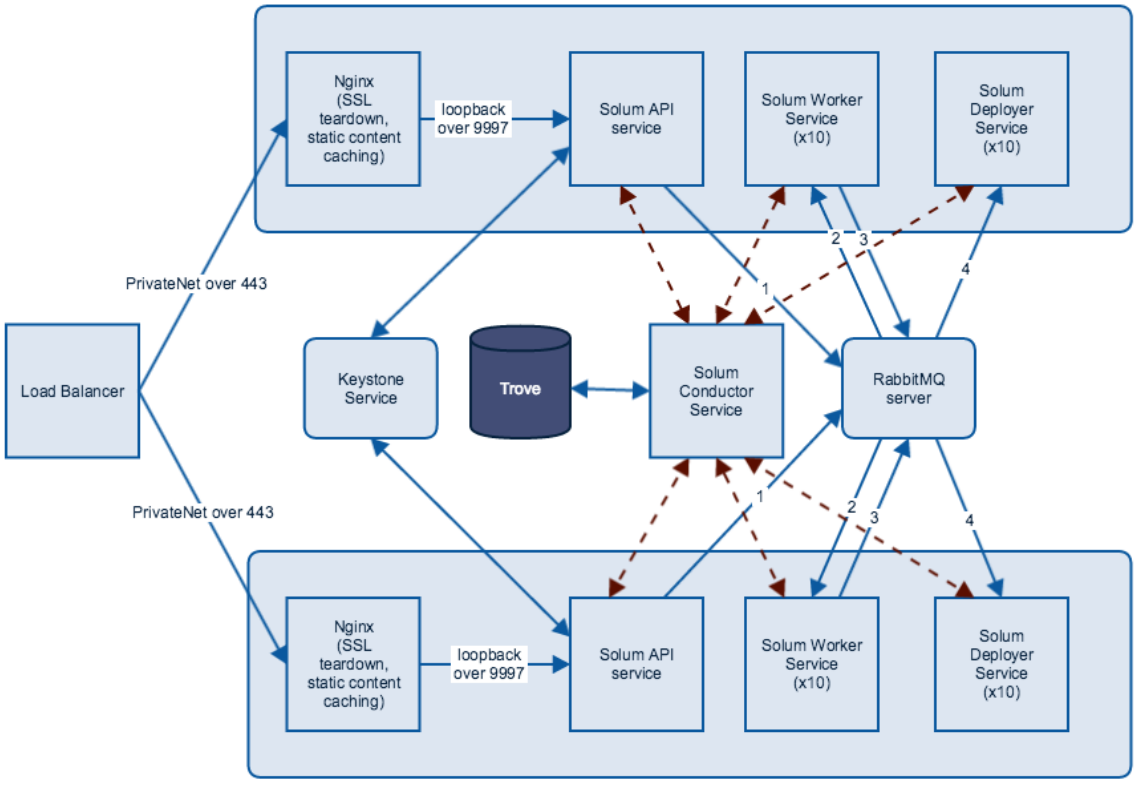
BUGS

Solum issues are tracked in Launchpad so you can view or report bugs here: OpenStack Solum Bugs

4.3 High Availability Guide

4.4 Operations Guide

Solum has been successfully running in production environments with the following example architecture:



Solum application deployment follows this flow:

- Load Balancer listening on HTTPS port

- Traffic travels across private net to 2+ nodes to Nginx listening on port 443
- Nginx tears down SSL and redirects traffic over loopback to port 9777 to Solum API service
- Solum API Service authenticates with Keystone service (open up outbound traffic to only keystone service from Solum API)
- To retrieve Solum applications, API service would send messages to Conductor service, which communicates over service net to Trove to retrieve data
- During app deployment, Solum API service sends a queue message to Rabbit MQ service [1] (should be multi-node over private net)
- Solum Worker service picks up a queue message from Rabbit MQ [2] and pulls down a git repository, builds it, runs unit tests (if specified), builds a docker container, and uploads it to Swift * This is a fairly lengthy process and completely blocks this service. You should scale out your infrastructure to easily accommodate your traffic. A performance test based on your expected load can give you a good idea of how many nodes and how many worker services per node you need.
- Solum Worker persists application state to Trove via Conductor service
- Upon completion, worker service sends a message to Rabbit MQ [3]
- Solum Deployer service picks up the message from Rabbit MQ [4] and calls Heat to deploy a heat stack with user's information and newly created docker container * Deployer service also blocks on this call so your infrastructure should scale out to support your user load
- Deployer service persists application state to Trove via Conductor service

Solum deployment infrastructure is dependent on existence of the following OpenStack services:

- Nova
- Keystone
- Trove
- Swift
- Glance
- Heat

To assist with deploying a new Solum architecture, please refer to the following cookbooks to get started:

- https://github.com/rackerlabs/cookbook-openstack-paas
- https://github.com/openstack/cookbook-openstack-identity.git
- https://github.com/openstack/cookbook-openstack-common.git

4.5 Security Guide

CHAPTER

FIVE

DEVELOP APPLICATIONS FOR SOLUM

5.1 API Complete Reference

5.1.1 Version discovery

type Version

Version representation.

Data samples:

Json

```
{
    "id": "v1.0",
    "link": {
        "href": "http://example.com:9777/v1",
        "target_name": "v1"
    },
    "status": "CURRENT"
}
```

XML

```
b'<value>\n  <id>v1.0</id>\n  <status>CURRENT</status>\n  <link>\n
↪ <href>http://example.com:9777/v1</href>\n    <target_name>v1</
↪target_name>\n  </link>\n</value>'
```

id

Type str

The version identifier.

link

Type Link

The link to the versioned API.

status

Type Enum(SUPPORTED, CURRENT, DEPRECATED)

The status of the API (SUPPORTED, CURRENT or DEPRECATED).

5.1.2 V1 API

type Link

A link representation.

Data samples:

Json

```
{
    "href": "http://example.com:9777/v1",
    "target_name": "v1"
}
```

XML

```
b'<value>\n  <href>http://example.com:9777/v1</href>\n  <target_name>
↪v1</target_name>\n</value>'
```

href

Type str

The link URI.

target_name

Type str

Textual name of the target link.

Platform

type Platform

Representation of a Platform.

The Platform resource is the root level resource that refers to all the other resources owned by this tenant.

Data samples:

Json

```
{
    "assemblies_uri": "http://example.com:9777/v1/assemblies",
    "components_uri": "http://example.com:9777/v1/components",
    "description": "solum native implementation",
    "extensions_uri": "http://example.com:9777/v1/extensions",
    "implementation_version": "2014.1.1",
    "infrastructure_uri": "http://example.com:9777/v1/infrastructure
↪",
    "language_packs_uri": "http://example.com:9777/v1/language_packs
↪",
    "name": "solum",
    "operations_uri": "http://example.com:9777/v1/operations",
```

(continues on next page)

(continued from previous page)


```
    "pipelines_uri": "http://example.com:9777/v1/pipelines",
    "plans_uri": "http://example.com:9777/v1/plans",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "sensors_uri": "http://example.com:9777/v1/sensors",
    "services_uri": "http://example.com:9777/v1/services",
    "tags": [
        "solid"
    ],
    "triggers_uri": "http://example.com:9777/v1/triggers",
    "type": "platform",
    "uri": "http://example.com/v1",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```


XML


```
b'<value>\n  <implementation_version>2014.1.1</implementation_
↪version>\n  <plans_uri>http://example.com:9777/v1/plans</plans_uri>
↪\n  <assemblies_uri>http://example.com:9777/v1/assemblies</
↪assemblies_uri>\n  <services_uri>http://example.com:9777/v1/
↪services</services_uri>\n  <components_uri>http://example.com:9777/
↪v1/components</components_uri>\n  <extensions_uri>http://example.
↪com:9777/v1/extensions</extensions_uri>\n  <operations_uri>http://
↪example.com:9777/v1/operations</operations_uri>\n  <sensors_uri>
↪http://example.com:9777/v1/sensors</sensors_uri>\n  <language_
↪packs_uri>http://example.com:9777/v1/language_packs</language_
↪packs_uri>\n  <pipelines_uri>http://example.com:9777/v1/pipelines</
↪pipelines_uri>\n  <triggers_uri>http://example.com:9777/v1/triggers
↪</triggers_uri>\n  <infrastructure_uri>http://example.com:9777/v1/
↪infrastructure</infrastructure_uri>\n  <name>solum</name>\n  <type>
↪platform</type>\n  <tags>\n    <item>solid</item>\n  </tags>\n
↪<project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_
↪id>55f41cf46df74320b9486a35f5d28a11</user_id>\n  <description>
↪solum native implementation</description>\n  <uri>http://example.
↪com/v1</uri>\n</value>'
```


assemblies_uri

Type str

URI to assemblies.

components_uri

Type str

URI to components.

extensions_uri

Type str

URI to extensions.

`implementation_version`

Type str

Version of the platform.

`infrastructure_uri`

Type str

URI to infrastructure.

`language_packs_uri`

Type str

URI to language packs.

`operations_uri`

Type str

URI to operations.

`pipelines_uri`

Type str

URI to pipelines.

`plans_uri`

Type str

URI to plans.

`sensors_uri`

Type str

URI to sensors.

`services_uri`

Type str

URI to services.

`triggers_uri`

Type str

URI to triggers.

Plans

GET /v1/plans

Return all plans, based on the query provided.

POST /v1/plans

Create a new plan.

GET /v1/plans/(*plan_id*)

Return this plan.

PUT /v1/plans/(*plan_id*)

Modify this plan.

DELETE /v1/plans/(*plan_id*)

Delete this plan.

type Plan

Representation of an Plan file.

The Plan resource is a representation of a Plan file. Plans are used to create Assembly resources. A Plan resource may be used to create an arbitrary number of Assembly instances. They use artifacts and services to indicate what will be used to generate the plan, and what services Solum can use to satisfy them. Note: Plan files are YAML and Plan resources are the REST representation of the Plan file after services have been matched to ones offered by Solum.

Data samples:

Json

```
{
    "artifacts": [
        {
            "artifact_type": "git_pull",
            "content": {
                "href": "git://example.com/project.git",
                "private": false
            },
            "language_pack": "b56ccca7-1f14-4a6a-8de3-b64d8047a5b2",
            "name": "My-python-app",
            "requirements": [
                {
                    "fulfillment": "id:build",
                    "requirement_type": "git_pull"
                }
            ]
        }
    ],
    "description": "A plan with no services or artifacts shown",
    "name": "Example-plan",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "services": [
        {
```

(continues on next page)

(continued from previous page)


```
            "characteristics": [
                "python_build_service"
            ],
            "id": "build",
            "name": "Build-Service"
        }
    ],
    "tags": [
        "small"
    ],
    "trigger_uri": "http://example.com/v1/triggers/1abc234",
    "type": "plan",
    "uri": "http://example.com/v1/plans/x1",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```


XML


```
b'<value>\n  <artifacts>\n    <item>\n      <name>My-python-app</
↪name>\n      <artifact_type>git_pull</artifact_type>\n
↪<content>\n        <item>\n          <key>href</key>\n
↪<value>git://example.com/project.git</value>\n        </item>\n␣
↪    <item>\n          <key>private</key>\n          <value>False</
↪value>\n        </item>\n      </content>\n      <language_pack>
↪b56ccca7-1f14-4a6a-8de3-b64d8047a5b2</language_pack>\n
↪<requirements>\n        <item>\n          <requirement_type>git_
↪pull</requirement_type>\n          <fulfillment>id:build</
↪fulfillment>\n        </item>\n      </requirements>\n    </item>\
↪n  </artifacts>\n  <services>\n    <item>\n      <name>Build-
↪Service</name>\n      <id>build</id>\n      <characteristics>\n␣
↪    <item>python_build_service</item>\n      </characteristics>\n␣
↪  </item>\n  </services>\n  <trigger_uri>http://example.com/v1/
↪triggers/1abc234</trigger_uri>\n  <name>Example-plan</name>\n
↪<type>plan</type>\n  <tags>\n    <item>small</item>\n  </tags>\n
↪<project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_
↪id>55f41cf46df74320b9486a35f5d28a11</user_id>\n  <description>A␣
↪plan with no services or artifacts shown</description>\n  <uri>
↪http://example.com/v1/plans/x1</uri>\n</value>'
```


artifacts

Type list(Artifact)

List of artifacts defining the plan.

parameters

Type dict(str: None)

User defined parameters

services

Type list(ServiceReference)

List of services needed by the plan.

trigger_uri

Type str

The trigger uri used to trigger the build of the plan

Pipelines

GET /v1/pipelines

Return all pipelines.

Return type list(*Pipeline*)

POST /v1/pipelines

Create a new pipeline. :type data: *Pipeline*

Return type *Pipeline*

GET /v1/pipelines/(*pipeline_id*)

Return this pipeline.

Return type *Pipeline*

PUT /v1/pipelines/(*pipeline_id*)

Modify this pipeline. :type data: *Pipeline*

Return type *Pipeline*

DELETE /v1/pipelines/(*pipeline_id*)

Delete this pipeline.

type Pipeline

Representation of an Pipeline.

A pipeline is the association between a plan, a mistral workbook and a git trigger. Together they form a working development "pipeline".

Data samples:

Json


```
{
    "description": "A pipeline for my app",
    "last_execution": "78f41cf46df7430b9486a35f5d28a41",
    "name": "Example-pipeline",
    "plan_uri": "http://example.com/v1/plans/x1",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "tags": [
        "small"
    ],
    "trigger_uri": "http://example.com/v1/triggers/1abc234",
    "type": "pipeline",
    "uri": "http://example.com/v2/pipelines/p1",
```


(continues on next page)

(continued from previous page)

```
    "user_id": "55f41cf46df74320b9486a35f5d28a11",
    "workbook_name": "build-deploy"
}
```

XML

```
b'<value>\n  <plan_uri>http://example.com/v1/plans/x1</plan_uri>\n
↪<workbook_name>build-deploy</workbook_name>\n  <trigger_uri>http://
↪example.com/v1/triggers/1abc234</trigger_uri>\n  <last_execution>
↪78f41cf46df7430b9486a35f5d28a41</last_execution>\n  <type>pipeline
↪</type>\n  <name>Example-pipeline</name>\n  <description>A␣
↪pipeline for my app</description>\n  <tags>\n    <item>small</item>
↪\n  </tags>\n  <project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</
↪project_id>\n  <user_id>55f41cf46df74320b9486a35f5d28a11</user_id>\
↪n  <uri>http://example.com/v2/pipelines/p1</uri>\n</value>'
```

last_execution

Type str

The UUID of the last run execution.

plan_uri

Type str

Link to the plan URI.

trigger_uri

Type str

The trigger uri used to trigger the pipeline.

workbook_name

Type str

Name of the workbook in Mistral to use.

Executions

GET /v1/pipelines/(*pipeline_id*)**/executions**

Return all executions, based on the provided pipeline_id. :type pipeline_id: `str`

Return type list(*Execution*)

type Execution

Data samples:

Json

```
{
    "href": "http://example.com:9777/v1",
```

(continues on next page)

(continued from previous page)

```
    "target_name": "v1"
}
```

XML

```
b'<value>\n  <href>http://example.com:9777/v1</href>\n  <target_name>
↪v1</target_name>\n</value>'
```

Assemblies

GET /v1/assemblies

Return all assemblies, based on the query provided.

Return type list(*Assembly*)

POST /v1/assemblies

Create a new assembly. :type data: *Assembly*

Return type *Assembly*

GET /v1/assemblies/(*assembly_id*)

Return this assembly.

Return type *Assembly*

PUT /v1/assemblies/(*assembly_id*)

Modify this assembly. :type data: *Assembly*

Return type *Assembly*

DELETE /v1/assemblies/(*assembly_id*)

Delete this assembly.

type Assembly

Representation of an Assembly.

The Assembly resource represents a group of components that make up a running instance of an application. You may casually refer to this as "the application" but we refer to it as an Assembly because most cloud applications are actually a system of multiple service instances that make up a system. For example, a three-tier web application may have a load balancer component, a group of application servers, and a database server all represented as Component resources that make up an Assembly resource. An Assembly resource has at least one Component resource associated with it.

Data samples:

Json

```
{
    "components": [],
    "created_at": "2022-11-22T04:47:08.433490",
    "description": "A mysql database",
    "name": "database",
```

(continues on next page)

(continued from previous page)


```
    "operations": [],
    "plan_uri": "http://example.com/v1/plans/45-09",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "sensors": [],
    "tags": [
        "small"
    ],
    "type": "assembly",
    "updated_at": "2022-11-22T04:47:08.433490",
    "uri": "http://example.com/v1/assemblies/x4",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```


XML


```
b'<value>\n  <plan_uri>http://example.com/v1/plans/45-09</plan_uri>\
↪n  <components />\n  <operations />\n  <sensors />\n  <updated_at>
↪2022-11-22T04:47:08.433490</updated_at>\n  <created_at>2022-11-
↪22T04:47:08.433490</created_at>\n  <name>database</name>\n  <type>
↪assembly</type>\n  <tags>\n    <item>small</item>\n  </tags>\n
↪<project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_
↪id>55f41cf46df74320b9486a35f5d28a11</user_id>\n  <description>A␣
↪mysql database</description>\n  <uri>http://example.com/v1/
↪assemblies/x4</uri>\n</value>'
```


application_uri

Type str

The uri of the deployed application.

components

Type list(Component)

Components that belong to the assembly.

created_at

Type datetime

The time the assembly initially created.

operations

Type list(Operation)

Operations that belong to the assembly.

plan_uri

Type str

The URI to the plan to be used to create this assembly.

sensors

Type list(Sensor)

Sensors that belong to the assembly.

status

Type str

The status of the assembly.

updated_at

Type datetime

The last time a change was made to the assembly's status.

workflow

Type list(Enum(unittest, build, deploy))

Defines the workflow that an assembly will go through.

Services

GET /v1/services

Return all services, based on the query provided.

Return type list(*Service*)

POST /v1/services

Create a new service. :type data: *Service*

Return type *Service*

GET /v1/services/(*service_id*)

Return this service.

Return type *Service*

PUT /v1/services/(*service_id*)

Modify this service. :type data: *Service*

Return type *Service*

DELETE /v1/services/(*service_id*)

Delete this service.

type Service

The Service resource represents a networked service.

You may create Component resources that refer to Service resources. A Component represents an instance of a Service. Your application connects to such a Component using a network protocol. For example, the Platform may offer a default Service named "mysql". You may create multiple Component resources that reference different instances of the "mysql" service. Each Component may be a multi-tenant instance of a MySQL database (perhaps a logical database) service offered by the Platform for a given Assembly.

Data samples:

Json


```
{
    "description": "A language pack service",
    "name": "language-pack",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "read_only": false,
    "service_type": "language_pack",
    "tags": [
        "group_xyz"
    ],
    "type": "service",
    "uri": "http://example.com/v1/language_packs/java1.4",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```


XML


```
b'<value>\n  <read_only>false</read_only>\n  <service_type>language_
↪pack</service_type>\n  <name>language-pack</name>\n  <type>service
↪</type>\n  <description>A language pack service</description>\n
↪<project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_
↪id>55f41cf46df74320b9486a35f5d28a11</user_id>\n  <tags>\n    <item>
↪group_xyz</item>\n  </tags>\n  <uri>http://example.com/v1/language_
↪packs/java1.4</uri>\n</value>'
```


read_only

Type bool

The service is read only when this value is true.

service_type

Type str

Type of service. Example: language_pack or db::mysql

Operations

GET /v1/operations

Return all operations, based on the query provided.

Return type list(*Operation*)

POST /v1/operations

Create a new operation. :type data: *Operation*

Return type *Operation*

GET /v1/operations/(*operation_id*)

Return this operation.

Return type *Operation*

PUT /v1/operations/(*operation_id*)

Modify this operation. :type data: `str`

Return type *Operation*

DELETE /v1/operations/(*operation_id*)

Delete this operation.

type Operation

An Operation resource represents an operation or action.

This is for defining actions that may change the state of the resource they are related to. For example, the API already provides ways to register, start, and stop your application (POST an Assembly to register+start, and DELETE an Assembly to stop) but Operations provide a way to extend the system to add your own actions such as "pause" and "resume", or "scale_up" and "scale_down".

Data samples:

Json

```
{
    "description": "A resume operation",
    "documentation": "http://example.com/docs/resume_op",
    "name": "resume",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "tags": [
        "small"
    ],
    "target_resource": "http://example.com/instances/uuid",
    "type": "operation",
    "uri": "http://example.com/v1/operations/resume",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```

XML

```
b'<value>\n  <documentation>http://example.com/docs/resume_op</
↪documentation>\n  <target_resource>http://example.com/instances/
↪uuid</target_resource>\n  <name>resume</name>\n  <type>operation</
↪type>\n  <tags>\n    <item>small</item>\n  </tags>\n  <project_id>
↪1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_id>
↪55f41cf46df74320b9486a35f5d28a11</user_id>\n  <description>A␣
↪resume operation</description>\n  <uri>http://example.com/v1/
↪operations/resume</uri>\n</value>'
```

documentation

Type str

Documentation URI for the operation.

target_resource

Type str

Target resource URI to the operation.

Sensors

GET /v1/sensors

Return all sensors, based on the query provided.

Return type list(*Sensor*)

POST /v1/sensors

Create a new sensor. :type data: str

Return type *Sensor*

GET /v1/sensors/(*sensor_id*)

Return this sensor.

Return type *Sensor*

PUT /v1/sensors/(*sensor_id*)

Modify this sensor. :type data: str

Return type *Sensor*

DELETE /v1/sensors/(*sensor_id*)

Delete this sensor.

type Sensor

A Sensor resource represents exactly one supported sensor.

Sensor resources represent dynamic data about resources, such as metrics or state. Sensor resources are useful for exposing data that changes rapidly, or that may need to be fetched from a secondary system.

Data samples:

Json

```
{
    "description": "A heartbeat sensor",
    "documentation": "http://example.com/docs/heartbeat/",
    "name": "hb",
    "operations": [],
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "sensor_type": "str",
    "target_resource": "http://example.com/instances/uuid",
    "timestamp": "2022-11-22T04:47:08.530982",
    "type": "sensor",
    "uri": "http://example.com/v1/sensors/hb",
    "user_id": "55f41cf46df74320b9486a35f5d28a11",
    "value": "30"
}
```

XML

```
b'<value>\n  <documentation>http://example.com/docs/heartbeat/</
↪documentation>\n  <target_resource>http://example.com/instances/
↪uuid</target_resource>\n  <sensor_type>str</sensor_type>\n
↪<timestamp>2022-11-22T04:47:08.530982</timestamp>\n  <operations />
↪\n  <value>30</value>\n  <name>hb</name>\n  <type>sensor</type>\n
↪<project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n  <user_
↪id>55f41cf46df74320b9486a35f5d28a11</user_id>\n  <description>A␣
↪heartbeat sensor</description>\n  <uri>http://example.com/v1/
↪sensors/hb</uri>\n</value>'
```

(continues on next page)

(continued from previous page)

documentation

Type str

Documentation URI for the sensor.

operations

Type list(Operation)

Operations that belong to the sensor.

sensor_type

Type Enum(str, float, int)

Sensor data type.

target_resource

Type str

Target resource URI to the sensor.

timestamp

Type datetime

Timestamp for Sensor.

property value

Value of the sensor.

Components

GET /v1/components

Return all components, based on the query provided.

Return type list(*Component*)

POST /v1/components

Create a new component. :type data: *Component*

Return type *Component*

GET /v1/components/(*component_id*)

Return this component.

Return type *Component*

PUT /v1/components/(*component_id*)

Modify this component. :type data: *Component*

Return type *Component*

DELETE /v1/components/(*component_id*)

Delete this component.

type Component

The Component resource represents one part of an Assembly.

For example, an instance of a database service may be a Component. A Component resource may also represent a static artifact, such as an archive file that contains data for initializing your application. An Assembly may have different components that represent different processes that run. For example, you may have one Component that represents an API service process, and another that represents a web UI process that consumes that API service. The simplest case is when an Assembly has only one component. For example, your component may be named "PHP" and refers to the PHP Service offered by the platform for running a PHP application.

Data samples:

Json

```
{
    "abbreviated": true,
    "component_type": "heat_stack",
    "components_ids": [],
    "description": "A php web application component",
    "heat_stack_id": "4c712026-dcd5-4664-90b8-0915494c1332",
    "name": "php-web-app",
    "operations": [],
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "sensors": [],
    "services": [],
    "tags": [
        "group_xyz"
    ],
    "type": "component",
    "uri": "http://example.com/v1/components/php-web-app",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```

XML

```
b'<value>\n  <services />\n  <operations />\n  <sensors />\n
↪<abbreviated>true</abbreviated>\n  <components_ids />\n
↪<component_type>heat_stack</component_type>\n  <heat_stack_id>
↪4c712026-dcd5-4664-90b8-0915494c1332</heat_stack_id>\n  <name>php-
↪web-app</name>\n  <type>component</type>\n  <description>A php web␣
↪application component</description>\n  <tags>\n    <item>group_xyz
↪</item>\n  </tags>\n  <project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94
↪</project_id>\n  <user_id>55f41cf46df74320b9486a35f5d28a11</user_
↪id>\n  <uri>http://example.com/v1/components/php-web-app</uri>\n</
↪value>'
```

abbreviated

Type bool

Boolean value indicating if this components has nested components at more than one level of depth.

assembly_uuid

Type str

"The uuid of the assembly that this component belongs in.

component_type

Type str

Type of component e.g. heat_stack.

components_ids

Type list(str)

IDs of nested component of the component.

heat_stack_id

Type str

Unique identifier of the Heat Stack.

operations

Type list(Operation)

Operations that belong to the component.

plan_uri

Type str

URI of Plan of which the component is a part.

resource_uri

Type str

Remote resource URI of the component.

sensors

Type list(Sensor)

Sensors that belong to the component.

services

Type list(Service)

Services that belong to the component.

Extensions

GET /v1/extensions

Return all extensions, based on the query provided.

Return type list(*Extension*)

POST /v1/extensions

Create a new extension. :type data: `str`

Return type *Extension*

GET /v1/extensions/(*extension_id*)

Return this extension.

Return type *Extension*

PUT /v1/extensions/(*extension_id*)

Modify this extension. :type data: `str`

Return type *Extension*

DELETE /v1/extensions/(*extension_id*)

Delete this extension.

type Extension

The Extension resource represents Provider modifications.

This may include additional protocol semantics, resource types, application lifecycle states, resource attributes, etc. Anything may be added, as long as it does not contradict the base functionality offered by Solum.

Data samples:

Json

```
{
    "description": "This logstash extension provides a tool for␣
↪managing your application events and logs.",
    "documentation": "http://example.com/docs/ext/logstash",
    "name": "logstash",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "tags": [
        "large"
    ],
    "type": "extension",
    "uri": "http://example.com/v1/extensions/logstash",
    "user_id": "55f41cf46df74320b9486a35f5d28a11",
    "version": "2.13"
}
```

XML

```
b'<value>\n  <version>2.13</version>\n  <documentation>http://
↪example.com/docs/ext/logstash</documentation>\n  <name>logstash</
↪name>\n  <type>extension</type>\n  <tags>\n    <item>large</item>\
↪n  </tags>\n  <project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</
↪project_id>\n  <user_id>55f41cf46df74320b9486a35f5d28a11</user_id>\
↪n  <description>This logstash extension provides a tool for␣
↪managing your application events and logs.</description>\n  <uri>
↪http://example.com/v1/extensions/logstash</uri>\n</value>'
```

(continues on next page)

(continued from previous page)

documentation

Type str

Documentation URI to the extension.

version

Type str

Version of the extension.

LanguagePacks

GET /v1/language_packs

Return all languagepacks, based on the query provided.

Return type list(*LanguagePack*)

POST /v1/language_packs

Create a new languagepack. :type data: *LanguagePack*

Return type *LanguagePack*

GET /v1/language_packs/(*lp_id*)

Return a languagepack.

Return type *LanguagePack*

DELETE /v1/language_packs/(*lp_id*)

Delete a languagepack.

type LanguagePack

Representation of a language pack.

When a user creates an application, he specifies the language pack to be used. The language pack is responsible for building the application and producing an artifact for deployment.

For a complete list of language pack attributes please refer: https://etherpad.openstack.org/p/Solum-Language-pack-json-format

Data samples:

Json

```
{
    "attributes": {
        "admin_email": "someadmin@somewhere.com",
        "optional_attr1": "value"
    },
    "base_image_id": "4dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "build_tool_chain": [
        {
            "type": "ant",
```

(continues on next page)

(continued from previous page)


```
            "version": "1.7"
        },
        {
            "type": "maven",
            "version": "1.2"
        }
    ],
    "compiler_versions": [
        "1.4",
        "1.6",
        "1.7"
    ],
    "created_image_id": "4afasa09ef2b4d8cbf3594b0ec4f6b94",
    "description": "A php web application",
    "image_format": "docker",
    "language_implementation": "Sun",
    "language_pack_type": "org.openstack.solum.Java",
    "name": "php-web-app",
    "os_platform": {
        "OS": "Ubuntu",
        "version": "12.04"
    },
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "runtime_versions": [
        "1.4",
        "1.6",
        "1.7"
    ],
    "source_format": "heroku",
    "source_uri": "git://example.com/project/app.git",
    "tags": [
        "group_xyz"
    ],
    "type": "languagepack",
    "uri": "http://example.com/v1/images/b3e0d79",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```


XML


```
b'<value>\n  <name>php-web-app</name>\n  <language_pack_type>org.
↪openstack.solum.Java</language_pack_type>\n  <compiler_versions>\n␣
↪    <item>1.4</item>\n    <item>1.6</item>\n    <item>1.7</item>\n
↪</compiler_versions>\n  <runtime_versions>\n    <item>1.4</item>\n␣
↪    <item>1.6</item>\n    <item>1.7</item>\n  </runtime_versions>\n␣
↪ <language_implementation>Sun</language_implementation>\n  <build_
↪tool_chain>\n    <item>\n      <type>ant</type>\n      <version>1.7
↪</version>\n    </item>\n    <item>\n      <type>maven</type>\n  ␣
↪  <version>1.2</version>\n    </item>\n  </build_tool_chain>\n
↪<os_platform>\n    <item>\n      <key>OS</key>\n      <value>Ubuntu
↪</value>\n    </item>\n    <item>\n      <key>version</key>\n
↪<value>12.04</value>\n    </item>\n  </os_platform>\n  <attributes>
↪\n    <item>\n      <key>optimized</key>\n      <value>true</
↪value>\n    </item>\n    <item>\n      <key>admin_email</key>\n  ␣
↪  <value>someadmin@somewhere.com</value>\n    </item>\n  </
↪attributes>\n  <source_uri>git://example.com/project/app.git</
```


(continues on next page)

(continued from previous page)

attributes

Type dict(str: str)

Additional section attributes will be used to expose custom attributes designed by language pack creator.

base_image_id

Type str

The id (in glance) of the image to customize.

build_tool_chain

Type list(BuildTool)

Toolchain available in the language pack. Example: For a java language pack which supports Ant and Maven, build_tool_chain = ["{type:ant,version:1.7}","{type:maven,version:1.2}"]

compiler_versions

Type list(str)

List of all the compiler versions supported by the language pack. Example: For a java language pack supporting Java versions 1.4 to 1.7, version = ['1.4', '1.6', '1.7']

created_image_id

Type str

The id of the created image in glance.

image_format

Type Enum(auto, qcow2, docker)

The image format.

language_implementation

Type str

Actual language implementation supported by the language pack. Example: In case of java it might be 'Sun' or 'openJava' In case of C++ it can be 'gcc' or 'icc' or 'microsoft'.

language_pack_type

Type str

Type of the language pack. Identifies the language supported by the language pack. This attribute value will use the org.openstack.solum namespace.

lp_metadata

Type str

The languagepack meta data.

os_platform

Type dict(str: str)

OS and its version used by the language pack. This attribute identifies the base image of the language pack.

runtime_versions

Type list(str)

List of all runtime versions supported by the language pack. Runtime version can be different than compiler version. Example: An application can be compiled with java 1.7 but it should run in java 1.6 as it is backward compatible.

source_format

Type Enum(auto, heroku, dib, dockerfile)

The source repository format.

source_uri

Type str

The URI of the app/element.

status

Type Enum(QUEUED, BUILDING, ERROR, READY)

The state of the image.

Infrastructure

type Infrastructure

Description of an Infrastructure.

Data samples:

Json

```
{
    "description": "Solum Infrastructure endpoint",
    "name": "infrastructure",
    "project_id": "1dae5a09ef2b4d8cbf3594b0eb4f6b94",
    "stacks_uri": "http://example.com/v1/infrastructure/stacks",
    "tags": [
        "small"
    ],
    "type": "infrastructure",
    "uri": "http://example.com/v1/infrastructure",
    "user_id": "55f41cf46df74320b9486a35f5d28a11"
}
```

XML

```
b'<value>\n  <stacks_uri>http://example.com/v1/infrastructure/stacks
↪</stacks_uri>\n  <name>infrastructure</name>\n  <type>
↪infrastructure</type>\n  <tags>\n    <item>small</item>\n  </tags>\
↪n  <project_id>1dae5a09ef2b4d8cbf3594b0eb4f6b94</project_id>\n
↪<user_id>55f41cf46df74320b9486a35f5d28a11</user_id>\n
↪<description>Solum Infrastructure endpoint</description>\n  <uri>
↪http://example.com/v1/infrastructure</uri>\n</value>'
```

stacks_uri

Type str

URI to services.

Triggers

POST /v1/triggers

Trigger a new event on Solum.

CHAPTER

SIX

HOW TO CONTRIBUTE TO SOLUM

If you would like to contribute to Solum, please see our contributing wiki: https://wiki.openstack.org/wiki/Solum/Contributing

We have the same CLA requirements as OpenStack, so you must follow the steps in the "If you're a developer, start here" section of this page:

https://docs.openstack.org/infra/manual/developers.html

Once those steps have been completed, submit your changes to for review via the Gerrit tool, following the workflow documented at:

https://docs.openstack.org/infra/manual/developers.html#development-workflow

Pull requests submitted through GitHub will be ignored.

Bugs should be filed on Launchpad, not GitHub:

https://bugs.launchpad.net/solum

For tips to help with running unit tests and functional tests on your code, see:

https://wiki.openstack.org/wiki/Solum/Testing

CHAPTER

SEVEN

CLI REFERENCE

7.1 solum-status

7.1.1 Synopsis

```
solum-status <category> <command> [<args>]
```

7.1.2 Description

solum-status is a tool that provides routines for checking the status of a Solum deployment.

7.1.3 Options

The standard pattern for executing a **solum-status** command is:

```
solum-status <category> <command> [<args>]
```

Run without arguments to see a list of available command categories:

```
solum-status
```

Categories are:

- upgrade

Detailed descriptions are below.

You can also run with a category argument such as upgrade to see a list of all commands in that category:

```
solum-status upgrade
```

These sections describe the available categories and arguments for **solum-status**.

Upgrade

`solum-status upgrade check` Performs a release-specific readiness check before restarting services with new code. This command expects to have complete configuration and access to databases and services.

Return Codes

Return code	Description
0	All upgrade readiness checks passed successfully and there is nothing to do.
1	At least one check encountered an issue and requires further investigation. This is considered a warning but the upgrade may be OK.
2	There was an upgrade status check failure that needs to be investigated. This should be considered something that stops an upgrade.
255	An unexpected error occurred.

History of Checks

5.8.0 (Stein)

- Placeholder to be filled in with checks as they are added in Stein.