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juju deployment



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Last updated: Oct 27, 2022 • 3 min read •  3 people viewed

JUJU

JUJU is a deployment system that connects to MAAS. JUJU allows you to deploy charmed services and software to bare-metal and LXD containers to quickly and accurately deploy cloud-based systems

Prerequisites

Juju needs a controller bootstrapped into an environment for use. this can be done through CLI on MAAS. When configuring JUJU make sure you have set up a physical or virtual machine for it and tagged it appropriately in MAAS ([/Dev_Ops/OpenStack/Smokey/Undercloud/Quick-commands](#))

Adding cloud

Add a cloud by typing the following command and then answering the questions, in our case we are using a MAAS cloud as MAAS is the back end of the system.

```
1 juju add-cloud
```

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Cloud Types

- lxd
- maas
- manual

- openstack
- vsphere

Typically the others will be used to connect MAAS and JUJU to existing cloud types. Once you have added a cloud you must add credentials and then bootstrap a controller for the cloud.

```
1 juju add-credential %CLOUDNAME%
```

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EX:

```
1 juju add-credential smokey-prodhw
```

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enter the credential name which is added and found in MAAS under user profile and API:

MAAS

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API keys

SSH keys

SSL keys

Generate MAAS API key

NAME	KEY	ACTIONS
MAAS consumer	ND4rrHpKETGBfedDc:duppN55RfEVf5WVGkP:YD6JcyFH...	Add Edit Delete
juju	qf8U6SyWhmdEYDWXPu:ELGXEScUbeBLQL4xa:bTNGVuf...	Add Edit Delete

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copy the API key for the username you entered as you will need it.

press enter to allow it the default region,

when prompted to enter maas-auth then paste the key copied from the api key screen above.

once the auth is accepted it is time to bootstrap the controller.

Bootstrapping controllers to cloud model

to bootstrap a controller for maas just use the bootstrap command with the proper flags to identify the machine you wish to use for juju.

```
1 juju bootstrap smokey-prodhw --constraints tags=Jujuctl
```

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Configuring model

Some settings for the model may need to be configured during the initial configuration of openstack or other systems. to check the settings on the new model that has been added just run the following command.

```
1 juju model-config
```

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This will list all the settings of the config. to change something in the model config like "default-space" run the following command.

```
1 juju model-config default-space=management
```

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This will change the default space in the model to "management"

deploying with juju

Deploying new apps to a cluster with HA

```
1 juju deploy -n 3 --config vip=<ip-address> <charm-name>
2 juju deploy --config cluster_count=3 hacluster <charm-name>-haclust
3 juju add-relation <charm-name>-hacluster:ha <charm-name>:ha
```

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Expose Openstack dashboard password post-deployment where keystone/%leader system number% is input

```
1 juju run --unit keystone/0 leader-get admin_passwd
```

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this will output a password for you to log into the OpenStack dashboard. make sure you put admin_domain as the domain in the dashboard login.

Adding units and hardware to existing JUJU deployed configurations.

Adding hardware

When adding hardware to existing deployments unless all hardware is identical you must specify by tags or by hardware config what hardware you wish to deploy. you can deploy hardware separately and allocate software to it or you can use a .yaml file to deploy the entire stack but even in the .yaml file, you must specify a tag or constraint.

when setting up hardware you must check tags in MAAS this is where the tag allocation is set and read by JUJU.

Owner tags assist in deployment and management



Preview unavailable

```
1 juju add-machine --constraints tags=%SYSTEM-TYPE%
```

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for example, if we wanted to add 1 machine as a compute and we had an available system tagged as a compute we could input the command

```
1 juju add-machine --constraints tags=Compute
```

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To add multiple systems the command only changed with the -n flag

```
1 juju add-machine -n 3 --constraints tags=Compute
```

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This will deploy 3 machines that are listed as available in MAAS and have the tag compute.

Adding software/nodes

Adding or scaling software in JUJU just requires you to give the number of systems and the software. it will apply to any available deployed machine unless it is specified.

```
1 juju add-unit nova-compute
2 juju add-unit nova-compute --to %MACHINE#%
```

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The First adds a unit to any available hardware in MAAS and the 2nd adds a unit to a specific pre-deployed machine.

this can also be done to an existing system with lxd

```
1 juju deploy mariadb --to lxd
2 juju deploy mongodb --to lxd:25
3 juju deploy nginx --to 24/lxd/3
```

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In the first case, MariaDB is deployed to a container on a new machine. In the second case, MongoDB is deployed to a new container on the existing machine '25'. In the third case, Nginx is deployed to existing container '3' on the existing machine '24'.

+ Add label



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