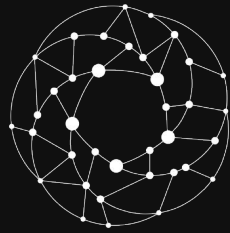


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OSM Hackfest – Session 7c
Charm Debugging and Exercises
Adam Israel (Canonical) and Eduardo Sousa
(Whitestack)



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Debugging Charms

Tips and tricks

\$ juju status

Model	Controller	Cloud/Region	Version	SLA	Timestamp
default	devel	localhost/localhost	2.5.0	unsupported	19:52:02+01:00

App	Version	Status	Scale	Charm	Store	Rev	OS	Notes
simple		error	1	simple	local	0	ubuntu	

Unit	Workload	Agent	Machine	Public address	Ports	Message
simple/0*	error	idle	0	10.182.5.47		hook failed: "install"

Machine	State	DNS	Inst id	Series	AZ	Message
0	started	10.182.5.47	juju-cfb63f-0	bionic		Running

Juju error handling

Juju will automatically retry hooks in an error state. This allows ephemeral errors, such as locked files or network issues, to be resolved without user intervention.

Or we can inspect the error and attempt to resolve it manually.

\$ juju debug-log

```
[...]  
unit-simple-0: 19:51:14 DEBUG unit.simple/0.install Reading package lists...  
unit-simple-0: 19:51:19 DEBUG unit.simple/0.install E: Could not get lock  
/var/lib/dpkg/lock-frontent - open (11: Resource temporarily unavailable)  
unit-simple-0: 19:51:19 DEBUG unit.simple/0.install E: Unable to acquire the dpkg frontend lock  
(/var/lib/dpkg/lock-frontent), is another process using it?
```

\$ juju debug-hooks simple/0 install

```
root@juju-cfb63f-0:/var/lib/juju/agents/unit-simple-0/charm# ps ax|grep apt
3812 ?      Ss      0:00 /bin/sh /usr/lib/apt/apt.systemd.daily install
3816 ?      S       0:00 /bin/sh /usr/lib/apt/apt.systemd.daily lock_is_held install
8557 pts/1    Ds+     0:00 /usr/bin/dpkg --status-fd 10 --no-triggers --unpack
--auto-deconfigure /var/cache/apt/archives/qemu-utils_1%3a2.11+dfsg-1ubuntu7.8_amd64.deb
/var/cache/apt/archives/qemu-block-extra_1%3a2.11+dfsg-1ubuntu7.8_amd64.deb
```

```
root@juju-cfb63f-0:/var/lib/juju/agents/unit-simple-0/charm# ps ax|grep apt
24927 pts/3    S+      0:00 grep apt
```

```
root@juju-cfb63f-0:/var/lib/juju/agents/unit-simple-0/charm# hooks/install
[...]
```

```
root@juju-cfb63f-0:/var/lib/juju/agents/unit-simple-0/charm# exit
```

Running Actions

You can also run actions directly through Juju

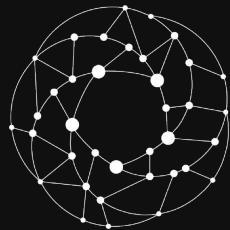
```
$ juju run-action simple/0 touch filename="/home/ubuntu/manual.txt"  
Action queued with id: c05e9635-e78c-4ad5-8f82-0e133bef6590
```

```
# Get the status of the action
```

```
$ juju show-action-status c05e9635-e78c-4ad5-8f82-0e133bef6590
```

```
# Get the result of the action
```

```
$ juju show-action-output c05e9635-e78c-4ad5-8f82-0e133bef6590
```



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Extending the Simple charm Exercises

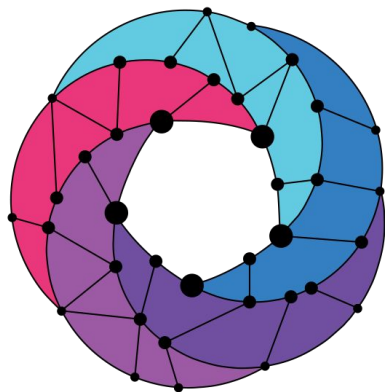
Let's practice adding actions to your simple charm.

1. Create an action that adds a group (parameterizable)

groupadd <group_name>

2. Create an action that creates a user (parameterizable):

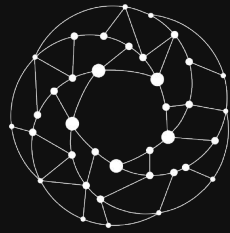
useradd <user_name>



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The End