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# Perl Script Creating Multiple Nodes

This is a simple Perl script to automate the process of creating multiple **Cassandra** nodes, which described at [How to configure multiple node with virtual IP on Linux?](#)

The script contains

1. **anode.pl**: The main Perl script
2. **anode.ini**: The configuration file
3. **templates** directory: contains the templates for various configuration/script files.

## Edit /etc/sudoers file

This script will call `sudo ifconfig` for establishing virtual interface, which requires you to enter password. If you're a lazy people like me, you can enter a line like in `/etc/sudoers` with `sudo visudo` command,

```
SYSAD          ALL=          NOPASSWD:/sbin/ifconfig
```

## Soft link to /home/y/conf/simulator/bin

```
ln -s /home/shangy/svnrepo/carmot/simulator/trunk/src/main/resources/com/yahoo/content/assembly/s
```

# Configuration file anode.ini

## [setting] section

```
[setting]
DefaultCount=2
SourceDir=/home/shangy/download/cassandra-0.3-rc
SampleConfigDir=SampleConfig
TargetConfDir=%{SourceDir}/conf%{Index}
TargetDataDir=/tmp/cassandra/node%{Index}
BaseIP=192.168.10.
VInterface=eth0:%{Index}
VIP=%{BaseIP}%{Index}
VNetmask=255.255.255.0
```

## Script sections

All the sections, other than **[setting]**, are script section. Currently, there are **[create]**, **[remove]**, **[clean]**, **[kill]**, and **[run]** script section defined in **[anode.ini]**, like below. As you can see, there are action steps defined within each script section.

```
# To create a new node
[create]
script = remove
command = mkdir -p %{TargetConfDir}
command = mkdir -p %{TargetDataDir}
command = sudo ifconfig %{VInterface} %{VIP} netmask %{VNetmask} up
ExpandFile = %{SampleConfigDir}/log4j.properties, %{TargetConfDir}/log4j.properties
ExpandFile = %{SampleConfigDir}/storage-conf.xml, %{TargetConfDir}/storage-conf.xml
ExpandFile = %{SampleConfigDir}/cassandra, %{TargetConfDir}/cassandra
ExpandFile = %{SampleConfigDir}/cassandra-cli, %{TargetConfDir}/cassandra-cli
ExpandFile = %{SampleConfigDir}/cassandra.in.sh, %{TargetConfDir}/cassandra.in.sh
command = chmod u+x %{TargetConfDir}/cassandra
command = chmod u+x %{TargetConfDir}/cassandra-cli
command = chmod u+x %{TargetConfDir}/cassandra.in.sh

# To remove a node
[remove]
script = kill
command = rm -rf %{TargetConfDir}
command = rm -rf %{TargetDataDir}
command = sudo ifconfig %{VInterface} %{VIP} netmask %{VNetmask} down

# To clean up the data for a node
[clean]
script = kill
command = rm -rf %{TargetDataDir}
command = mkdir -p %{TargetDataDir}

# To kill the running process for a node
[kill]
command = kill -9 $(ps ux | grep 'Dstorage-config=%{TargetConfDir}' | awk '{ print $2 }')

# To run process for a node
[run]
command=%{TargetConfDir}/cassandra > /dev/null
```

## Action Steps

Currently, **anode.pl** script can only execute three action type,

1. **script**: To execute another script section.
2. **command**: To run external command.
3. **expandFile**: To expand the template file.
4. **echo**: Just echo back the string.
5. **pause**: To pause the execution for specified seconds.
6. **exitIf**: To exit the execution of script, if the evaluation is **true**.

# How To Run

To create ten new nodes, from node0-9, and **node0** is the seed which will use the real IP address, but the other nodes will use virtual IP.

```
> ./anode.pl -c 10 create
```

To kill four running nodes,

```
> ./anode.pl -c 4 kill
```

To create five new nodes, and run them,

```
> ./anode.pl -c 5 create run
```

To bring up Virtual Node IP for virtual nodes 2, 5

```
> ./anode.pl -n 2,5 downvip
```

To stop all the currently running nodes

```
> ./anode.pl killall
```

To clean up all the nodes

```
> ./anode.pl removeall
```

-- ShangyYahoo -- 07 Jul 2009

Last revised by: shangy on 17 Sep 2009

ATTACHMENT LIST

%ATTACHMENTLIST{format="\$fileName?"}%