Ganeti cheat sheet

Start and stop

Command example	Description
`gnt-instance start <VM>`	Start an instance
`gnt-instance start -H \` `kernel_path=/vmlinuz,initrd_path=/initrd.img <VM>`	Start Linux instance with the given kernel from the host filesystem (must exist on both nodes if using drbd)
`gnt-instance start -H kernel_args="ro single" <VM>`	Start Linux instance in single-user mode (if using kernel from the host filesystem)
`gnt-instance shutdown <VM>`	Initiate shutdown, with 120 second timeout before forcible switch off
`gnt-instance shutdown --timeout=0 <VM>`	Switch off immediately
`gnt-instance reboot [--timeout=N] <VM>`	Shutdown then restart

Console

Command example	Description
`gnt-instance console <VM>`	Attach to serial console, ctrl-] to disconnect
`gnt-instance list -o name,pnode,network_port`	List VMs, showing node and VNC port
`gnt-cluster modify -H kvm:vnc_bind_address=0.0.0.0`	Allow network VNC connections to all VMs
`gnt-instance modify -H vnc_bind_address=0.0.0.0 <VM>`	Allow network VNC connections to a single VM
`gnt-instance modify -H vnc_bind_address=default <VM>`	Revert to cluster default behaviour

To set password authentication for VNC connections:
`echo "somepassword" >/etc/ganeti/vnc-cluster-password`
`gnt-cluster copyfile /etc/ganeti/vnc-cluster-password`
`gnt-cluster modify -H kvm:vnc_password_file=/etc/ganeti/vnc-cluster-password`	

Enable serial console in guest

Configuration	Description
Uncomment this line in /etc/inittab `T0:23:respawn:/sbin/getty -L ttyS0 9600 vt100`	Debian guest

Create file /etc/init/ttyS0.conf
`start on stopped rc RUNLEVEL=[2345]`
`stop on runlevel [!2345]`
`respawn`
`exec /sbin/getty -L 115200 ttyS0 xterm`
	Ubuntu guest

DRBD and migration

Command example	Description
`gnt-instance modify -t drbd [-n <snode>]` `  [--no-wait-for-sync] <VM>`	Convert plain to drbd, with secondary storage on given node (instance must be shutdown)
`gnt-instance modify -t plain <VM>`	Convert drbd to plain (instance must be shutdown)
`gnt-instance move [-n <node>] <VM>`	Move a shutdown plain instance to another node
`gnt-instance migrate <VM>`	Live-migrate a running instance from primary to secondary; secondary becomes primary
`gnt-instance migrate --cleanup <VM>`	Clean up after failed live migration

`gnt-instance shutdown <VM>`
`gnt-instance modify -t plain <VM>`
`gnt-instance modify -t drbd -n <snode> <VM>`
`gnt-instance start <VM>`
	Fix a seriously failed migration which --cleanup cannot (by converting to plain and back to drbd)

`gnt-instance failover <VM>`	Migrate a shutdown or failed instance (i.e. change the secondary node to be primary and vice versa)

Manage hypervisor and backend

Command example	Description
`gnt-instance info <VM>`	Show all VM settings
`gnt-cluster modify -H kvm:<hvparams> -B <beparams>`	Set cluster-wide values inherited by all instances
`gnt-cluster modify -H kvm:kernel_path=,initrd_path=`	Example: do not boot from kernel on host filesystem (i.e. boot from instance disk)
`gnt-instance modify -H <hvparams> -B <beparams> <VM>`	Modify the settings for a VM, take effect on the next shutdown/start
`gnt-instance start -H <hvparams> -B <beparams> <VM>`	Start a VM with these parameters for one session only
`gnt-instance modify -m <memory> <VM>`	Set memory (MB) on running instance, between minmem and maxmem

Important hypervisor parameters (see 'man gnt-instance' for full list)

hvparams (comma-separated)	Description
`boot_order={disk|cdrom|floppy|network}`	Which device to boot from
`cdrom_image_path=/srv/ganeti/iso/cd.iso`	Attach CD-ROM
`cdrom2_image_path=/srv/ganeti/iso/cd2.iso`	Attach second CD-ROM (e.g. drivers disk)

`kernel_path=/vmlinuz`
`initrd_path=/initrd.img`
`root_path=/dev/vda1`
`kernel_args="ro"`
	Boot Linux guest using kernel from host. Other settings are ignored unless kernel_path is set.

`nic_type={paravirtual|e1000|...}`	Select type of NIC emulated
`disk_type={paravirtual|ide|scsi|...}`	Select type of hard disk emulated

Important backend parameters (see 'man gnt-instance' for full list)

beparams (comma-separated)	Description
`maxmem=N`	Maximum memory (MB)
`minmem=N`	Minimum memory (MB)
`vcpus=N`	Number of CPUs

Network settings

Command example	Description
`gnt-instance modify --net 0:modify,link=br-lan` `  [--hotplug] <VM>`	Change NIC 0 to bridge br-lan
`gnt-instance modify --net add:link=br-svc` `  [--hotplug] <VM>`	Add another NIC connected to br-svc
`gnt-instance modify --net 1:remove [--hotplug] <VM>`	Remove NIC 1

Disk settings

Command example	Description
`gnt-instance modify --disk add:size=4G [--hotplug]` `  [--no-wait-for-sync] <VM>`	Add a disk
`gnt-instance modify --disk 1:remove [--hotplug] <VM>`	Remove disk 1
`gnt-cluster modify -D drbd:resync-rate=80`	Set global disk parameters, in this example DRBD sync rate=80MB/s (see 'man gnt-cluster')

Node management

Command example	Description
`gnt-node list`	Show all nodes with disk and memory usage and number of primary/secondary instances
`gnt-node info [<nodename>]`	Detailed information about given node or all nodes
`gnt-node evacuate -p <nodename>`	Migrate all primary instances off this node: running instances will be live-migrated to their secondary, and hence all instances which were primary on this node will now be secondary on this node
`gnt-node evacuate -s [-n <newnode>] <nodename>`	Migrate secondary storage off this node. This will copy data to another node, which you can specify using -n or let the instance allocator choose
`gnt-node modify --offline=yes <nodename>`	Mark a node as failed, so we no longer try to communicate with it
`gnt-node add --readd <nodename>`	Re-add node after repair
`gnt-node failover [--ignore-consistency] <node>`	Fail over all instances having the given node as primary to their secondary nodes
`gnt-node master-failover`	Promote the node you are logged into to master

Cluster maintenance

Command example	Description
`gnt-cluster info`	Show cluster settings and instance defaults
`gnt-cluster copyfile /path/to/file`	Distribute file to all nodes
`gnt-cluster verify`	Check the cluster configuration
`gnt-cluster redist-conf`	Redistribute configuration to all nodes
`gnt-cluster modify --reserved-lvs=xenvg/root, xenvg/swap,xenvg/var`	Ignore these logical volumes when checking cluster configuration
`gnt-cluster verify-disks`	Check disk status
`drbd-overview`	(Run on individual nodes) show DRBD sync status
`gnt-node add [-s x.x.x.x] <nodename>`	Add node [x.x.x.x = new node's secondary IP]
`gnt-node remove <nodename>`	Remove node, once all instances removed

Instance creation

Command example	Description
`gnt-instance add -s 4G -t drbd [-n <pnode>:<snode>]` `    -o debootstrap+default [--no-start] <VM>`	Debian debootstrap

`gnt-instance add -s 4G -t drbd [-n <pnode>:<snode>]`
`    -o debootstrap+precise --no-start <VM>`
`gnt-instance start`
`  -H kernel_path=/vmlinuz,initrd_path=/initrd.img <VM>`
`gnt-instance console <VM>`
`<<login as root>>`
`update-grub`
`grub-install /dev/vda`
	Ubuntu debootstrap, install grub

`gnt-instance add -s 4G -t drbd [-n <pnode>:<snode>]`
`    -o image+default --no-install --no-start <VM>`
`gnt-instance start -H boot_order=cdrom,`
`    cdrom_image_path=/srv/ganeti/iso/xxx.iso <VM>`
	Install from ISO (file must exist on both nodes, see `gnt-cluster copyfile`)

Common options	
`--no-name-check`	Don't check <VM> name resolves to IP
`--no-ip-check`	Don't check <VM> IP address in use
`--no-wait-for-sync`	Don't wait for DRBD to sync
`--net 0:ip=x.x.x.x,link=br-svc`	Specify NIC IP address/link

Backing up instances

Command example	Description
`gnt-backup export -n <node> <VM>`	Export a node (disk + configuration data) to a directory – by default `/var/lib/ganeti/export` The exported image will typically be no larger than the data used on the disk (not the entire disk allocated)