Modifying Startup Configuration Options

As part of the ClustrixDB Installation process you made some configuration selections. Once you have completed installation please use the following directions to modify any of these options.

The clxnode.conf is stored on each node in /etc/clustrix/ and options specified during installation are written to this file. The following table summarizes these options and provides information on how they can be modified post-installation.

The steps outlined in this document apply to most installations of ClustrixDB, but do not apply to deployments based on the Clustrix AWS AMI.

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ClustrixDB requires that all nodes have identical configurations. Modifications to any of the options described below must be made on every node in the cluster. Values commented out with a # will have no effect on the database.

Default Options for clxnode.conf

Use standard bash conventions for clxnode.conf. File should contain variable definitions, comments, and blank lines only. Option and value settings should not contain any extraneous spaces. For example CPU_CORES=4

Option	Description	Default Value	To Modify
NODE_MEMORY	Memory to use for ClustrixDB, in MiB	*auto detected*	1. Edit the clxnode.conf file for every node in your cluster to the desired value. 2. Run the following to propagate this change to all nodes: `shell> /opt/clustrix/bin/clx -P cmd 'echo X > /proc/sys/vm/nr_hugepages'` Where X = NODE_MEMORY/2 3. Stop/Start all Clustrix services.
MAX_REDO	Maximum ClustrixDB Redo Space, in MiB	1024	Only modify this variable with guidance from Clustrix Support.
CPU_CORES	Number of CPU cores ClustrixDB will use	All	1. Edit the clxnode.conf file for every node in your cluster to the desired value. 2. Stop/Start all Clustrix services. For additional info, please see section below on setting CPU_CORES.

DATA_PATH	ClustrixDB Database Storage Path	/data/clustrix	1. Stop all Clustrix services.
			2. On each node:
			  a. Move the directory to the desired location.
			  b. Modify the value of DATA_PATH in clxnode.conf to reflect the new location.
			3. Start all Clustrix services.

LOG_PATH	ClustrixDB Logs Path	/data/clustrix/log	1. Stop all Clustrix services.
			2. On each node:
			  a. Move the directory to the desired location.
			  b. Create a simlink in `/data/clustrix/` pointing to the new log folder,
			    i. example: ln -s /log /data/clustrix/log/
			3. Start all Clustrix services.

UI_LOGDIR	ClustrixDB WebUI Logs Path	/data/clustrix/log/clustrix_ui	1. Stop all Clustrix services.
			2. On each node:
			  a. Move the directory to the desired location.
			  b. Create a simlink in `/data/clustrix/log` pointing to the new log folder,
			    i. example: ln -s /log/clustrix_ui /data/clustrix/log/clustrix_ui
			3. Start all Clustrix services.

UI_CACHE DIR	ClustrixDB WebUI Cache Path	/var/cache /clustrix /django	Only modify this variable with guidance from Clustrix Support.
UNIX_SOC KET_PATH	ClustrixDB MySQL Protocol Unix Socket	/var/lib/mysql /mysql.sock	Only modify this variable with guidance from Clustrix Support.
LISTEN_A DDR	ClustrixDB Database Listen Address (Front-End IP) Interface	0.0.0.0	
MYSQL_P ORT	ClustrixDB Database MySQL Port	3306	
BACKEND_ ADDR	ClustrixDB Private (Back-End) IP Interface	*auto detected*	See section below on changing BACKEND_ADDR.
BACKEND_ PORT	ClustrixDB Back End Network Port	24378	It is not recommended to modify the default value for the ClustrixDB Back End Network port.
HTTP_PORT	ClustrixDB WebUI HTTP Port	80	1. Edit value in clxnode.conf 2. Stop/Start all Clustrix services.
NANNY_P ORT	ClustrixDB Nanny Port	2424	It is not recommended to modify the default value for the ClustrixDB nanny port.
CONTROL _PORT	ClustrixDB Control Port	2048	It is not recommended to modify the default value for the ClustrixDB control port.

WRITE_HO STS	Allow ClustrixDB to modify sshd_config and /etc/hosts.
	
	This is required for internode communication for administrative tasks, including upgrades
		#Commented out	1. On each node:
			  a. Remove comment and set variable to *any string*.
			  b. Stop/Start all Clustrix services.

HUGE_TLB _ENABLE	ClustrixDB Enable HugeTLB memory allocation for faster startup. NOTE: This causes instability on some systems (particularly certain virtual machines). Contact Clustrix Support before changing from default.	True	1. On each node, comment out to disable this option. (i.e. #HUGE_TLB_ENABLE) 2. Stop/Start all Clustrix services.

Additional options for clxnode.conf

The following options are NOT included by default in clxnode.conf, but can be added to the end of that file to modify behavior from the default:

Option	Description	Default Value	To Modify
DISABLE_ MULTIPORT	When this option is included, the multiport feature is disabled.	This option is not included in clxnode.conf, resulting in multiport being enabled by default.	To disable multiport, add this entry and define this variable as any value on all nodes. (Its mere presence disables multiport.) To enable multiport, remove or comment out this entry from clxnode. conf on all nodes.

When adding capacity to your cluster, the Flex Clone script will ensure that any options specified in clxnode.conf are used to install Clustrix on the new nodes.

Details of Modifying Startup Configuration Options
ClustrixDB requires that all nodes must have the same values in clxnode.conf

Stop/Start all Clustrix Services

To restart all Clustrix services on all nodes (via nanny), use the following commands. This will restart nanny, and all jobs controlled by nanny, and cause the database to come online. See Overview of Nanny.

```
/opt/clustrix/bin/clx cmd 'initctl stop clustrix'
/opt/clustrix/bin/clx cmd 'initctl start clustrix'
```

CPU_CORES

The default setting of CPU_CORES=All will make use of all available cores in the system. If you would like to limit the number of cores utilized by ClustrixDB you must modify the value for CPU_CORES to specify the number of cores that should be used. ClustrixDB licensing will base its enforcement on the number of cores being utilized in the system as specified by CPU_CORES.

If you are upgrading from v6.X, there may not be an entry for CPU_CORES in clxnode.conf which will implicitly specify CPU_CORES=All. If you would like to specify an alternate value simply add an entry for CPU_CORES.

BACKEND_ADDR

1. Modify the BACKEND_ADDR entry in the `/etc/clustrix/clxnode.conf` file with the new IP
2. Modify `/data/clustrix/broadcast_nodes` file with the new IP addresses on all nodes.
   a. Note: Specifying port 24378 is not necessary unless you're using a non-default configuration.
3. Run the `clx` command to ensure it has cached the IP address of each node.

```
$ /opt/clustrix/bin/clx cmd 'date'
```

4. Stop all Clustrix services (per above).
5. Change the backend interface IP address on each node.
6. Modify iptables as needed.
7. Start all Clustrix services (per above).