集群版matlab2021b使用介绍

1.加载matlab模块:

module load apps/matlab/2021b

2.打开matlab图形化界面:

matlab

3.导入集群配置文件:

1)点击MATLAB菜单栏Parallel>Parallel Preferences

2)点击Cluster Profile Manager>Import,导入profile文件,路径为:

/public/software/apps/MATLAB/MDCS_2021B/cluster_profile/Torquepbs/TORQUEProfile1.mlsettings 3)导入后点击 Edit 可以看到左侧 Cluster Profile 栏出现了导入的配置文件,点击右下角 Edit 4)设置"Number of workers available to cluster NumWorkers"数为申请核数; "Resource arguments for job submission"栏输入PBS脚本的命令: -1 nodes=1:ppn=28 -q spst_pub,其他保持默认即可,点击 Done 5)验证配置。点击 Properties 右边的 Validation 选项,点击 Validate 验证配置文件是否能够正常运 行。验证通过后可以看到5个状态全部显示Passed。



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ADDITIONAL TORQUE PROPERTIES			
Resource arguments for job submission. Use the placeholders '^N^' for the number of workers and '^T^' for NumThreads.		-I nodes=1:ppn=28 -q spst_pub	
		Default is -I nodes=^N^	
ResourceTemplate			
Additional command line arguments for job submission			
SubmitArguments			
Script that cluster runs to start workers CommunicatinglobWrapper		Use default	
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Remote shell command to call on UNIX when running communicating jobs RshCommand		Use default	
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Automatically send code files to cluster.	ata files or	Line default	
folders must be listed in the AttachedFile	s property.	Default is true	
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4.运行matlab程序:

1)回到主界面后,先点击Parallel>Select a Default Cluster>TORQUEProfile1

2)输入j = batch('abc','Pool',4)运行程序名为abc.m的程序

3)运行后会返回如图所示的job信息,记住Job ID,然后可以关闭 MATLAB 或退出登陆节点



4)一旦任务完成,重新登陆 MATLAB,通过如下命令取回结果:

```
c=parcluster()
j=c.findJob('ID',1)
load(j)
```

也可以在登录节点使用 qstat 命令查看作业运行情况。

5.通过命令行提交任务

对于不需要打开图形化界面运行的任务,可以直接通过PBS脚本提交任务:

#!/bin/sh
#PBS -N jobname
#PBS -l nodes=1:ppn=32
#PBS -q spst_pub
#PBS -o job.out
#PBS -e job.err
#PBS -l walltime=24:00:00

cd \$PBS_0_WORKDIR
NPROCS=`wc -1 < \$PBS_NODEFILE`
module load apps/matlab/2021b</pre>

matlab -nodesktop -nosplash -nodisplay -r abc

注意:

当前使用的MATLAB2021b在Centos7.2版本(如 10.15.22.190 登录节点、spst-node01~spst-node45等) 的机器上运行时暂时还存在版本兼容问题,使用时请调用Centos7.6版本的机器。