



DIRAC Server Installation

DIRAC Project

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- ▶ Accessing the server
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- ▶ Monitoring inside the server
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- ▶ 9130-9200 ports should be open in the firewall
- ▶ Ports 80 and 443 should be open and redirected to ports 8080 and 8443
- ▶ Grid services certificates in pem format
- ▶ CAs and CRLs files are updated (/etc/grid-security/certificates)
- ▶ gLite User Interface must be installed and the environment set up.
- ▶ Be sure than the machine is defined in /etc/hosts and hostname returns the FQHN (Fully Qualified Host Name)
XXX.XXX.XXX.XXX hostname.domain hostname
- ▶ Check than any mysql installation was made previously, remove any my.cnf if this file exist.

- ▶ Create an user account with login *dirac*

```
adduser -s /bin/bash -d /home/dirac dirac
```

- ▶ Create a directory in */opt* called *dirac* belonging to *dirac* user.

```
mkdir /opt/dirac
```

```
chown dirac:dirac /opt/dirac
```

- ▶ As *dirac* user, create directories for security data and copy host certificate.

```
mkdir -p /opt/dirac/etc/grid-security/
```

- ▶ As *dirac* user, create a directory or a link pointing to the CA certificates directory.

```
ln -s /etc/grid-security/certificates /opt/dirac/grid-security/certificates
```



Requirements Installation files

► Download `install_site.sh` script and install minimal from:

https://github.com/DIRACGrid/DIRAC/blob/integration/Core/scripts/install_site.sh

Download `install_minimal.cfg` configuration file:

https://github.com/DIRACGrid/DIRAC/blob/integration/Core/scripts/install_minimal.cfg

For this tutorial:

http://dirac.in2p3.fr/Tutorial/install_server.cfg



Requirements Installation File Configuration

- ▶ **Note:** for tutorial purposes all the WorkloadManagement system is commented out to not to be installed during the first server installation in order to show others procedures of components installation.



Requirements Installation File Configuration

This section determines which DIRAC components will be installed and where

LocalInstallation

```
{
  # DIRAC release version
  Release = v6r1p4
  # LCG software package version
  LcgVer = 2011-06-06
  # Set this flag to yes if each DIRAC software update will be
  installed
  # in a separate directory, not overriding the previous ones
  UseVersionsDir = yes
  # The directory of the DIRAC software installation
  TargetPath = /vo/dirac
  # DIRAC extensions to be installed
  ExtraModules = Web
  PythonVersion = 26
```



Requirements Installation File Configuration

```
# Site name
SiteName = LCG.IN2P3.fr
# Setup name
Setup = Dirac-Production
# Default name of system instances
InstanceName = Production
# Flag to skip CA checks when talking to services
SkipCAChecks = no
# Flag to skip CA download (if they are already available
at the server)
SkipCADownload = yes
# Flag to use the server certificates
UseServerCertificate = yes
# Configuration Server URL
ConfigurationServer = dips://ccegeevmli01.in2p3.fr:9135/
Configuration/Server
```




Requirements Installation File Configuration

```
# Used when build the URL to be published for the
installed service (default: socket.getfqdn())
Host = ccegeevml101.in2p3.fr
# The list of DIRAC Systems to be installed
Systems = Configuration
Systems += Framework
Systems += DataManagement
Systems += WorkloadManagement
Systems += Accounting
Systems += RequestManagement
# The list of Services to be installed
Services = Configuration/Server
Services += Framework/SystemAdministrator
Services += DataManagement/StorageElement
Services += DataManagement/FileCatalog
Services += DataManagement/StorageElementProxy
```



Requirements Installation File Configuration

```
Services += Framework/SystemLoggingReport
Services += Framework/Monitoring
Services += Framework/Notification
Services += Framework/SecurityLogging
Services += Framework/UserProfileManager
Services += Framework/ProxyManager
Services += Framework/SystemLogging
Services += Framework/Plotting
Services += Framework/BundleDelivery
#Services += WorkloadManagement/SandboxStore
#Services += WorkloadManagement/Matcher
#Services += WorkloadManagement/JobMonitoring
#Services += WorkloadManagement/JobManager
#Services += WorkloadManagement/JobStateUpdate
#Services += WorkloadManagement/WMSAdministrator
#Services += RequestManagement/RequestManager
#Services += Accounting/DataStore
#Services += Accounting/ReportGenerator
```



Requirements Installation File Configuration

```
## The list of Agents to be installed
Agents = Framework/SystemLoggingDBCleaner
Agents += Framework/CAUpdateAgent
Agents += Framework/TopErrorMessageReporter
#Agents += WorkloadManagement/MightyOptimizer
#Agents += WorkloadManagement/PilotStatusAgent
#Agents += WorkloadManagement/JobHistoryAgent
#Agents += WorkloadManagement/SiteDirector
#Agents += WorkloadManagement/InputDataAgent
#Agents += WorkloadManagement/TaskQueueDirector
#Agents += WorkloadManagement/JobCleaningAgent
#Agents += WorkloadManagement/StalledJobAgent
Agents += Configuration/CE2CSAgent
# Flag determining whether the Web Portal will be installed
WebPortal = yes
```



Requirements

Installation File Configuration

```
# Flag to set up the Configuration Server as Master
ConfigurationMaster = yes
# Configuration Name
ConfigurationName = Dirac-Prod

# Name of the Admin user (default: None )
AdminUserName = vhamar
# DN of the Admin user certificate (default: None )
AdminUserDN = /O=GRID-FR/C=FR/O=CNRS/OU=CPPM/CN=Vanessa
Hamar
# Email of the Admin user (default: None )
AdminUserEmail = hamar@cppm.in2p3.fr
# Name of the Admin group (default: dirac_admin )
AdminGroupName = dirac_admin
```



Requirements Installation File Configuration

```
# DN of the host certificate (default: None )
HostDN = /O=GRID-FR/C=FR/O=CNRS/OU=CC-IN2P3/CN=dirac.in2p3.fr
Databases = AccountingDB
Databases += SandboxMetadataDB
#Databases += JobDB
Databases += FileCatalogDB
#Databases += JobLoggingDB
Databases += UserProfileDB
#Databases += TaskQueueDB
Databases += NotificationDB
Databases += RequestDB
Databases += ComponentMonitoringDB
Databases += ProxyDB
Databases += PilotAgentsDB
Databases += SystemLoggingDB
}
```

- ▶ Execute the installation script using the configuration file as option

- ▶ `./install_site.sh install_server.cfg`

- ▶ At the end of the installation must appear something like:

	Name : Runit	Uptime	PID
	Configuration_Server : Run	667	8748
DataManagement_FileCatalog	: Run	252	9408
Framework_CAUpdateAgent	: Run	62	9934



Server Installation

Name : Runit	Uptime	PID
Configuration_Server : Run	667	8748
DataManagement_FileCatalog : Run	252	9408
Framework_CAUpdateAgent : Run	62	9934
Framework_SecurityLogging : Run	176	9635
Framework_SystemAdministrator : Run	285	9322
DataManagement_StorageElementProxy : Run	236	9452
DataManagement_StorageElement : Run	268	9365
Framework_Monitoring : Run	208	9544
Framework_SystemLoggingDBCleaner : Run	78	9885
Framework_UserProfileManager : Run	160	9681
Framework_SystemLogging : Run	127	9766
Framework_ProxyManager : Run	144	9726
Framework_TopErrorMessagesReporter : Run	45	10010
Web_paster : Run	6	10977
Configuration_CE2CSAgent : Run	7	10827
Web_httpd : Run	7	10829
Framework_Plotting : Run	110	9809
Framework_Notification : Run	192	9591
Framework_SystemLoggingReport : Run	220	9497
Framework_BundleDelivery : Run	94	9841





Post – Installation Requirement

- ▶ To start the service automatically each time the server is restarted it is possible to add the next line at the end of /etc/inittab file:

SV:123456:respawn:/opt/dirac/sbin/runsvdir-start

- ▶ This script contains the following lines:

```
#!/bin/bash
source /opt/dirac/bashrc
RUNSVCTRL=`which runsvctrl`
chpst -u dirac $RUNSVCTRL d /opt/dirac/startup/*
killall runsv svlogd
killall runsvctrl
/opt/dirac/pro/mysql/share/mysql/mysql.server stop --user=dirac
sleep 10
/opt/dirac/pro/mysql/share/mysql/mysql.server start --user=dirac
sleep 20
RUNSVDIR=`which runsvdir`
exec chpst -u dirac $RUNSVDIR -P /opt/dirac/startup 'log: DIRAC runsv'
```


- ▶ As `dirac_admin` user you can login from a remote DIRAC client using:

```
dirac-admin-sysconfig-cli -host <server_name>
```

- ▶ This command allows you to execute various commands, check the status, restart services, install components.
- ▶ In this case the possibilities are:
 - ▶ Use `ccali/AFS` DIRAC client defining your own configuration file.
 - ▶ Install a DIRAC client in your virtual machine.

- ▶ **Using ccali/AFS DIRAC client:**
 - ▶ Create a `.dirac.cfg` in your home

```
DIRAC
```

```
{  
  VirtualOrganization = vo.formation.idgrilles.fr  
  Setup = Dirac-Production  
  Configuration  
  {  
    Servers = dips://ccegeevmli01.in2p3.fr:9135/Configuration/Server  
  }  
  Security  
  {  
    UseServerCertificate = no  
    SkipCAcheck = yes  
  }  
}
```

► Installing a DIRAC client in you virtual machine:

Create a local user, copy your certificate in .globus

```
$ wget -np
```

```
https://raw.githubusercontent.com/DIRACGrid/DIRAC/integration/  
Core/scripts/dirac-install.py
```

```
$ chmod 755 dirac-install.py
```

```
$ ./dirac-install.py -g 2011-06-06 -r v6r1p2
```

```
$ source bashrc
```

```
$ dirac-proxy-init
```

```
$ dirac-configure -V vo.formation.idgrilles.fr -S  
Dirac-Production -C dips://ccegeevml101.in2p3.fr:  
9135/Configuration/Server
```

- ▶ Create your proxy as `dirac_admin`

```
$ dirac-proxy-init -g dirac_admin
```

- ▶ Check that your proxy has the extension:

```
DIRAC group : dirac_admin
```

- ▶ Start the admin console

```
$ dirac-admin-sysadmin-cli --host <HOST_NAME>
```

▶ Getting help

➤ `help`

Documented commands (type help <topic>):

=====

```
add    execfile  install  restart  show    stop
exec  exit      quit     set      start  update
```

Undocumented commands:

=====

help

▶ Getting help for a special command

> `help install`

Install various DIRAC components

usage:

```
install mysql
install db <database>
install service <system> <service>
install agent <system> <agent>
```

▶ Showing available Services and Agents

```
> show software
```

```
{'Agents': {'Configuration': ['CE2CSAgent', 'UsersAndGroups'],  
            'DataManagement': ['TransferAgent',  
                                'ReplicationScheduler',  
                                'RemovalAgent',  
                                'FTSMonitorAgent',  
                                'FTSCleaningAgent',  
                                'RegistrationAgent',  
                                'FTSSubmitAgent',  
                                'SEvsLFCAgent',  
                                'LFCvsSEAgent'],  
            'Framework': ['LemonAgent',  
                           'MyProxyRenewalAgent',  
                           'TopErrorMessageReporter',  
                           'SystemLoggingDBCleaner',  
                           'ErrorMessageMonitor',  
                           'CAUpdateAgent']},
```



Installing and monitoring using DIRAC CLI

- ▶ Before starting the installation of other components it is necessary to be sure that the databases associated are installed.

- ▶ The order recommended to make the installation is:
 1. Instances
 2. Databases
 3. Services
 4. Agents

▶ Add an instance:

```
> add instance Accounting Production
```

```
Adding Accounting system as Production instance  
for Dirac-Production setup to dirac.cfg and CS  
Accounting system instance Production added  
successfully
```

▶ Installing databases

```
> install db JobDB
```

```
MySQL root password:
```

```
Adding to CS WorkloadManagement/JobDB
```

```
Database JobDB from DIRAC/
```

```
WorkloadManagementSystem installed successfully
```




Installing and monitoring using DIRAC CLI

► Show databases status:

> **show databases**

```
DataLoggingDB : Not installed
SandboxMetadataDB : Installed
JobDB : Installed
FileCatalogDB : Installed
TransformationDB : Not installed
JobLoggingDB : Installed
UserProfileDB : Installed
ResourceManagementDB : Not installed
TaskQueueDB : Not installed
.....
NotificationDB : Installed
RequestDB : Installed
ComponentMonitoringDB : Installed
StorageManagementDB : Not installed
DataIntegrityDB : Not installed
ProxyDB : Installed
AccountingDB : Installed
PilotAgentsDB : Installed
ResourceStatusDB : Not installed
TransferDB : Not installed
SystemLoggingDB : Installed
```



Installing and monitoring using DIRAC CLI

► Show installed software

> **show installed**

```
{ 'Agents': { 'Configuration':  
  [ 'CE2CSAgent' ],  
  'Framework':  
  [ 'TopErrorMessageReporter',  
    'CAUpdateAgent',  
    'SystemLoggingDBCleaner' ] },  
  'Services':  
  { 'Configuration': [ 'Server' ]  
    'DataManagement':  
    [ 'StorageElement',  
      'FileCatalog',  
      'StorageElementProxy' ],
```

```
  'Framework':  
  [ 'SecurityLogging',  
    'ProxyManager',  
    'UserProfileManager',  
    'Plotting',  
    'SystemLogging',  
    'SystemAdministrator',  
    'Notification',  
    'BundleDelivery',  
    'SystemLoggingReport',  
    'Monitoring' ] }
```

► Installing services

```
> install service WorkloadManagement SandboxStore
```

```
Loading configuration template /home/hamar/DIRAC-  
v6r1p2/DIRAC/WorkloadManagementSystem/  
ConfigTemplate.cfg
```

```
Adding to CS WorkloadManagement/SandboxStore  
service WorkloadManagement_SandboxStore is  
installed, runit status: Run
```



Installing and monitoring using DIRAC CLI

> show status

System	Name	Type	Setup	Installed	Runit	Uptime	PID
DataManagement	StorageElement	service	SetUp	Installed	Run	2610	9365
DataManagement	FileCatalog	service	SetUp	Installed	Run	2594	9408
DataManagement	StorageElementProxy	service	SetUp	Installed	Run	2578	9452
Framework	SystemLoggingReport	service	SetUp	Installed	Run	2562	9497
Framework	Monitoring	service	SetUp	Installed	Run	2550	9544
Framework	Notification	service	SetUp	Installed	Run	2534	9591
Framework	SecurityLogging	service	SetUp	Installed	Run	2518	9635
Framework	UserProfileManager	service	SetUp	Installed	Run	2502	9681
Framework	ProxyManager	service	SetUp	Installed	Run	2486	9726
Framework	SystemAdministrator	service	SetUp	Installed	Run	2627	9322
Framework	SystemLogging	service	SetUp	Installed	Run	2469	9766
Framework	Plotting	service	SetUp	Installed	Run	2452	9809
Framework	BundleDelivery	service	SetUp	Installed	Run	2436	9841
WorkloadManagement 45	SandboxStore 1888	service	SetUp	Installed	Run		
Configuration	Server	service	SetUp	Installed	Run	3009	8748
Framework	SystemLoggingDBCleaner	agent	SetUp	Installed	Run	2420	9885
Framework	CAUpdateAgent	agent	SetUp	Installed	Run	2404	9934
Framework	TopErrorMessageReporter	agent	SetUp	Installed	Run	2387	10010
Configuration	CE2CSAgent	agent	SetUp	Installed	Run	1	2345



Installing and monitoring using DIRAC CLI

▶ Installing agents

```
> install agent WorkloadManagement  
MightyOptimizer
```

```
Loading configuration template /home/hamar/DIRAC-  
v6r1p2/DIRAC/WorkloadManagementSystem/  
ConfigTemplate.cfg
```

```
Adding to CS WorkloadManagement/MightyOptimizer  
agent WorkloadManagement_MightyOptimizer is  
installed, runit status: Run
```



Installing and monitoring using DIRAC CLI

> show status

System	Name	Type	Setup	Installed	Runit	Uptime	PID
DataManagement	StorageElement	service	SetUp	Installed	Run	2763	9365
DataManagement	FileCatalog	service	SetUp	Installed	Run	2747	9408
DataManagement	StorageElementProxy	service	SetUp	Installed	Run	2731	9452
Framework	SystemLoggingReport	service	SetUp	Installed	Run	2715	9497
Framework	Monitoring	service	SetUp	Installed	Run	2703	9544
Framework	Notification	service	SetUp	Installed	Run	2687	9591
Framework	SecurityLogging	service	SetUp	Installed	Run	2671	9635
Framework	UserProfileManager	service	SetUp	Installed	Run	2655	9681
Framework	ProxyManager	service	SetUp	Installed	Run	2639	9726
Framework	SystemAdministrator	service	SetUp	Installed	Run	2780	9322
Framework	SystemLogging	service	SetUp	Installed	Run	2622	9766
Framework	Plotting	service	SetUp	Installed	Run	2605	9809
Framework	BundleDelivery	service	SetUp	Installed	Run	2589	9841
WorkloadManagement	SandboxStore	service	SetUp	Installed	Run	198	1888
Configuration	Server	service	SetUp	Installed	Run	3162	8748
Framework	SystemLoggingDBCleaner	agent	SetUp	Installed	Run	2573	9885
Framework	CAUpdateAgent	agent	SetUp	Installed	Run	2557	9934
Framework	TopErrorMessagesReporter	agent	SetUp	Installed	Run	2540	10010
WorkloadManagement 3491	MightyOptimizer	agent	SetUp	Installed	Run		41
Configuration	CE2CSAgent	agent	SetUp	Installed	Run	1	3921



Installing and monitoring using DIRAC CLI

▶ Checking the logs

```
> show log WorkloadManagement SandboxStore
```

```
  /vo/dirac/versions/v6r1p4_1326728294/Linux_x86_64_glibc-2.5/lib/python2.6/site-packages/  
MySQL_python-1.2.2-py2.6-linux-x86_64.egg/MySQLdb/__init__.py:34: DeprecationWarning: the sets  
module is deprecated
```

```
  from sets import ImmutableSet
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore INFO: Loaded DIRAC/  
WorkloadManagementSystem/Service/SandboxStoreHandler.py
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO:  
=====
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO: User:  
Dirac
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO: Host:  
localhost
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO: Port:  
3306
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO: DBName:  
SandboxMetadataDB
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO: MaxQueue:  
10
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore/SandboxMetadataDB INFO:  
=====
```

```
  2012-01-16 16:38:57 UTC WorkloadManagement/SandboxStore ALWAYS: Listening at dips://  
cceegeeqli01.in2p3.fr:9196/WorkloadManagement/SandboxStore
```



Installing and monitoring using DIRAC CLI

- ▶ If the installation requires the installation of more than one service, or a group of components with DIRAC a file with dirac cli commands can be created and executed from Admin CLI.



Installing and monitoring using DIRAC CLI

- ▶ Download the file with DIRAC commands from:

<http://dirac.in2p3.fr/Tutorial/FileToExecute.txt>

```
$ more FileToExecute.txt
install db TaskQueueDB
install service WorkloadManagement SandboxStore
install service WorkloadManagement Matcher
install service WorkloadManagement JobMonitoring
install service WorkloadManagement JobManager
install service WorkloadManagement JobStateUpdate
install service WorkloadManagement WMSAdministrator
install service RequestManagement RequestManager
install service Accounting DataStore
install service Accounting ReportGenerator
install agent WorkloadManagement MightyOptimizer
install agent WorkloadManagement PilotStatusAgent
install agent WorkloadManagement JobHistoryAgent
install agent WorkloadManagement SiteDirector
install agent WorkloadManagement InputDataAgent
install agent WorkloadManagement TaskQueueDirector
install agent WorkloadManagement JobCleaningAgent
install agent WorkloadManagement StalledJobAgent
```



Installing and monitoring using DIRAC CLI

► Installing from a text file using Admin CLI:

```
> execfile FileToExecute.txt
--> Executing install db TaskQueueDB
MySQL root password:
Adding to CS WorkloadManagement/TaskQueueDB
Database TaskQueueDB from DIRAC/WorkloadManagementSystem installed successfully
--> Executing install service WorkloadManagement SandboxStore
service WorkloadManagement_SandboxStore is installed, runit status: Run
--> Executing install service WorkloadManagement Matcher
Loading configuration template /home/hamar/DIRAC-v6r1p2/DIRAC/WorkloadManagementSystem/
ConfigTemplate.cfg
Adding to CS WorkloadManagement/Matcher
service WorkloadManagement_Matcher is installed, runit status: Run
...
--> Executing install agent WorkloadManagement StalledJobAgent
Loading configuration template /home/hamar/DIRAC-v6r1p2/DIRAC/WorkloadManagementSystem/
ConfigTemplate.cfg
Adding to CS WorkloadManagement/StalledJobAgent
agent WorkloadManagement_StalledJobAgent is installed, runit status: Run
```



Installing and monitoring using DIRAC CLI

▶ Checking a complete installation

> show status

System	Name	Type	Setup	Installed	Runit	Uptime	PID
DataManagement	StorageElement	service	SetUp	Installed	Run	5150	9365
DataManagement	FileCatalog	service	SetUp	Installed	Run	5134	9408
DataManagement	StorageElementProxy	service	SetUp	Installed	Run	5119	9452
Framework	SystemLoggingReport	service	SetUp	Installed	Run	5102	9497
Framework	Monitoring	service	SetUp	Installed	Run	5091	9544
Framework	Notification	service	SetUp	Installed	Run	5075	9591
Framework	SecurityLogging	service	SetUp	Installed	Run	5058	9635
Framework	UserProfileManager	service	SetUp	Installed	Run	5042	9681
Framework	ProxyManager	service	SetUp	Installed	Run	5026	9726
Framework	SystemAdministrator	service	SetUp	Installed	Run	5167	9322
Framework	SystemLogging	service	SetUp	Installed	Run	5009	9766
Framework	Plotting	service	SetUp	Installed	Run	4992	9809
Framework	BundleDelivery	service	SetUp	Installed	Run	4976	9841



Installing and monitoring using DIRAC CLI

WorkloadManagement	SandboxStore	service	SetUp	Installed	Run	2585	1888
WorkloadManagement	Matcher	service	SetUp	Installed	Run	1217	16247
WorkloadManagement	JobMonitoring	service	SetUp	Installed	Run	1196	16477
WorkloadManagement	JobManager	service	SetUp	Installed	Run	1179	16660
WorkloadManagement	JobStateUpdate	service	SetUp	Installed	Run	1158	16892
WorkloadManagement	WMSAdministrator	service	SetUp	Installed	Run	1142	17075
RequestManagement	RequestManager	service	SetUp	Installed	Run	1122	17312
Accounting	DataStore	service	SetUp	Installed	Run	1068	17815
Accounting	ReportGenerator	service	SetUp	Installed	Run	1084	17712
Configuration	Server	service	SetUp	Installed	Run	5549	8748
Framework	SystemLoggingDBCleaner	agent	SetUp	Installed	Run	4960	9885
Framework	CAUpdateAgent	agent	SetUp	Installed	Run	4944	9934
Framework	TopErrorMessagesReporter	agent	SetUp	Installed	Run	4927	10010
WorkloadManagement	PilotStatusAgent	agent	SetUp	Installed	Run	1058	17920
WorkloadManagement	JobHistoryAgent	agent	SetUp	Installed	Run	1041	18093
WorkloadManagement	SiteDirector	agent	SetUp	Installed	Run	1020	18305
WorkloadManagement	InputDataAgent	agent	SetUp	Installed	Run	1004	18450
WorkloadManagement	TaskQueueDirector	agent	SetUp	Installed	Run	983	18644
WorkloadManagement	MightyOptimizer	agent	SetUp	Installed	Run	2428	3491
WorkloadManagement	JobCleaningAgent	agent	SetUp	Installed	Run	962	18841
WorkloadManagement	StalledJobAgent	agent	SetUp	Installed	Run	946	19005
Configuration	CE2CSAgent	agent	SetUp	Installed	Run	0	27685



Installing and monitoring using DIRAC CLI

> show errors

System	Component	Last hour	Last day	Last error
1 Configuration	CE2CSAgent	1542	1542	Error while loading agent module
2 Configuration	Server	3	3	Error while calling initialize method of Config... proposal unknown(/O=GRID-FR/C=FR/O=CNRS/OU=CC-IN2P3/CN=dirac.in2p...
3 DataManagement	FileCatalog	0	0	
4 DataManagement	StorageElement	0	0	
5 DataManagement	StorageElementProxy	1	1	Missing __RCSID__
6 Framework	BundleDelivery	0	0	
7 Framework	CAUpdateAgent	2	2	Could not save hash after synchronization /vo/dirac/versions/v6r1p4_1326728294/e...
8 Framework	Monitoring	0	0	
9 Framework	Notification	0	0	
10 Framework	Plotting	0	0	
11 Framework	ProxyManager	0	0	
12 Framework	SecurityLogging	0	0	
13 Framework	SystemAdministrator	0	0
20 WorkloadManagement	SandboxStore	0	0	



Installing and monitoring using DIRAC CLI

▶ Restarting services:

```
> help restart
```

Restart services or agents or database server

usage:

```
restart <system|*> <service|agent|*>
```

```
restart mysql
```

Example:

```
> restart WorkloadManagement SiteDirector
```

Monitoring inside the server

- ▶ Using runsv commands to restart, stop or start services or agents.

- ▶ First change to /vo/dirac/startup directory

- ▶ Restarting Services or Agents with runsvctrl

```
$ runsvctrl t /vo/dirac/startup/WorkloadManagement_SiteDirector
```

- ▶ Stopping a service/agent

```
$ runsvctrl d /vo/dirac/startup/WorkloadManagement_SiteDirector
```

- ▶ Starting a service/agent

```
$ runsvctrl u /vo/dirac/startup/WorkloadManagement_SiteDirector
```

- ▶ Using runsvstat command to check the services/agents status

```
$ runsvstat *
```

```
Accounting_DataStore: run (pid 17815) 1636 seconds
Accounting_ReportGenerator: run (pid 17712) 1652 seconds
Configuration_CE2CSAgent: run (pid 827) 1 seconds
Configuration_Server: run (pid 8748) 6117 seconds
DataManagement_FileCatalog: run (pid 9408) 5702 seconds
DataManagement_StorageElement: run (pid 9365) 5718 seconds
DataManagement_StorageElementProxy: run (pid 9452) 5686 seconds
Framework_BundleDelivery: run (pid 9841) 5544 seconds
Framework_CAUpdateAgent: run (pid 9934) 5512 seconds
Framework_Monitoring: run (pid 9544) 5658 seconds
Framework_Notification: run (pid 9591) 5642 seconds
Framework_Plotting: run (pid 9809) 5560 seconds
```

```
Framework_ProxyManager: run (pid 9726) 5594 seconds
Framework_SecurityLogging: run (pid 9635) 5626 seconds
Framework_SystemAdministrator: run (pid 9322) 5735 seconds
Framework_SystemLogging: run (pid 9766) 5577 seconds
Framework_SystemLoggingDBCleaner: run (pid 9885) 5528 seconds
Framework_SystemLoggingReport: run (pid 9497) 5670 seconds
Framework_TopErrorMessagesReporter: run (pid 10010) 5495 seconds
Framework_UserProfileManager: run (pid 9681) 5610 seconds
RequestManagement_RequestManager: run (pid 17312) 1689 seconds
Web_httpd: run (pid 10829) 5457 seconds
Web_paster: run (pid 10977) 5456 seconds
WorkloadManagement_InputDataAgent: run (pid 18450) 1572 seconds
WorkloadManagement_JobCleaningAgent: run (pid 18841) 1530 seconds
WorkloadManagement_JobHistoryAgent: run (pid 18093) 1609 seconds
WorkloadManagement_JobManager: run (pid 16660) 1747 seconds
WorkloadManagement_JobMonitoring: run (pid 16477) 1764 seconds
WorkloadManagement_JobStateUpdate: run (pid 16892) 1726 seconds
WorkloadManagement_Matcher: run (pid 16247) 1785 seconds
WorkloadManagement_MightyOptimizer: run (pid 3491) 2996 seconds
WorkloadManagement_PilotStatusAgent: run (pid 17920) 1626 seconds
WorkloadManagement_SandboxStore: run (pid 1888) 3153 seconds
WorkloadManagement_SiteDirector: run (pid 18305) 1588 seconds
WorkloadManagement_StalledJobAgent: run (pid 19005) 1514 seconds
WorkloadManagement_TaskQueueDirector: run (pid 18644) 1551 seconds
WorkloadManagement_WMSAdministrator: run (pid 17075) 1710 seconds
```




Monitoring inside the server

- ▶ Looking into server log files as dirac user:

```
tail -f /vo/dirac/startup/<System>_<Service or Agent>/log/current
```

- ▶ Using the Web Portal follow the links:

System -> Error Console



Monitoring inside the server

- ▶ Sometimes it is useful to check the databases inside MySQL, the user by default is Dirac.

```
$ mysql -u Dirac -p
```

```
Enter password:
```

```
Welcome to the MySQL monitor.  Commands end with ; or \g.
```

```
Your MySQL connection id is 45
```

```
Server version: 5.1.53 Source distribution
```

```
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```

```
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```

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

```
mysql> show databases;
```

```
+-----+  
| Database          |  
+-----+  
| information_schema |  
| AccountingDB      |  
| JobDB             |  
| test              |  
+-----+
```



- ▶ There are several ways to update a DIRAC sever:

- ▶ Using DIRAC admin CLI - recommended

```
> update vXrXpX
```

- ▶ Running dirac-install command with all the attributes

```
$ dirac-install -t server -g 2011-06-06 -r vXrXpX
```

- ▶ Changing the values in the configuration file:

- ▶ Change the version in DIRAC configuration install file

```
Version = vXrXpX
```

Execute again:

```
install_site.sh install_server.cfg
```



What we have learnt?

- ▶ Install a DIRAC Server
- ▶ Use admin CLI to add Instances/Databases/Services/Agents
- ▶ Different ways to check server status
- ▶ Update a server

