企业级的开源备份工具Bacula之配置　　推荐

一、Bacula配置

　　　Bacula备份的主要配置项目存放在bacula-dir.conf文件中，该文件中的配置项包含以下内容。

Jobdefs：默认执行任务

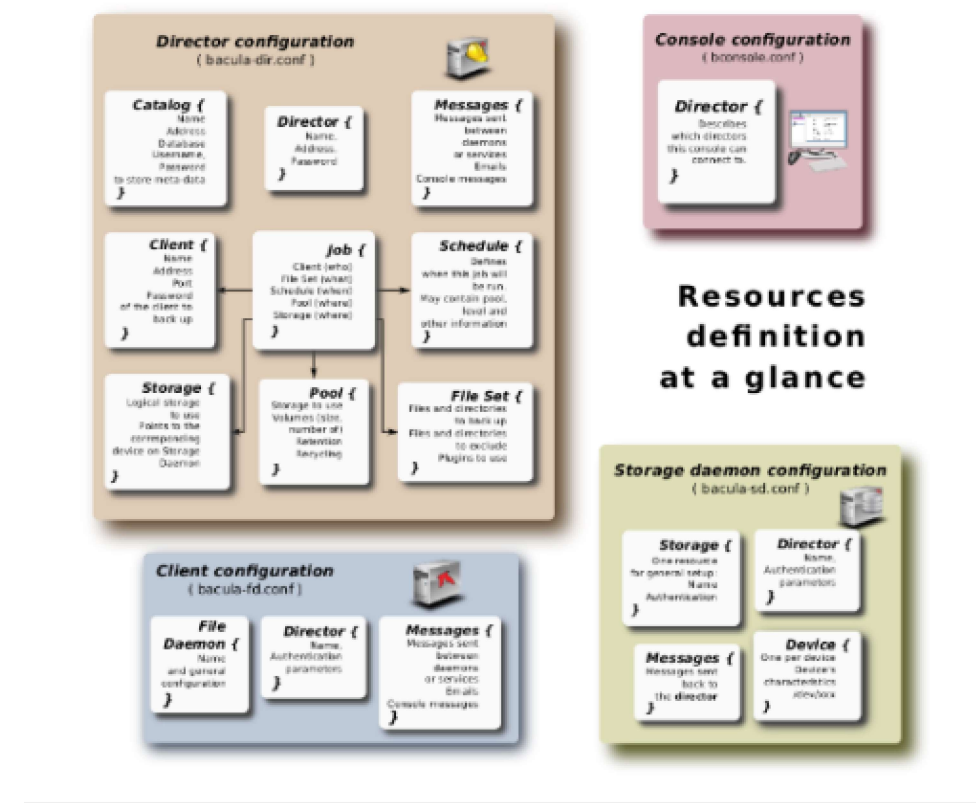Job：自定义一个备份或恢复任务

Fileset：定义备份那些数据，不备份那些数据
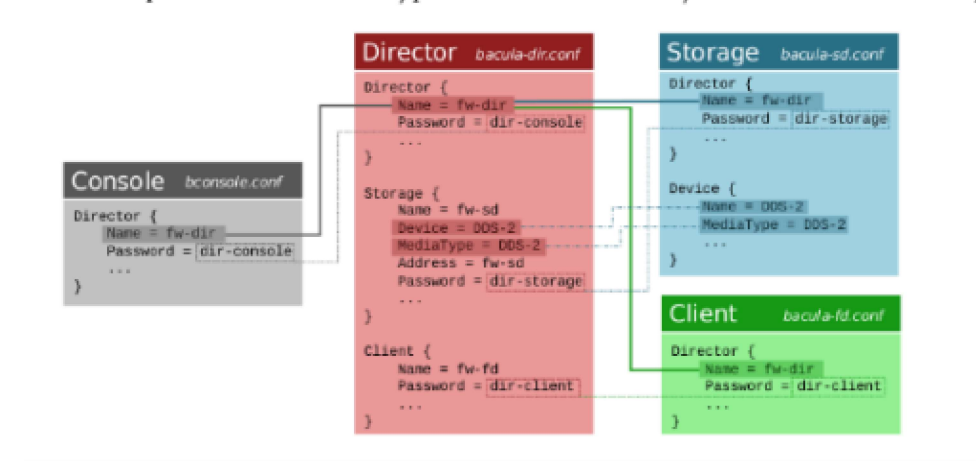
Schedule：定义备份时间策略

Pool：定义供Job使用的池属性

Client：定义要备份的主机地址

Storange：定义数据的存储方式

Messages：定义发送日子报告和记录日志的位置

各项目定义的名称会相互关联，如下图所示。

3.1 bacula-dir.conf配置

主控端的Director项：

1、Name和Console端Director项的Name一致；

2、Name要和介质端Director项的Name一致；

3、Name要和客户端Director项的Name一致；

4、Password项要和Console端的Password项的密码一致；

主控端的Storage项：

1、Device要和介质端Device项的Name一致；

2、MediaType要和介质端Device项的MediaType一致；

3、Password要和介质端Director项的Pasword一致；

主控端的Client项：

Password要和客户端Director项的Password一致；

```
1   vim /etc/bacula/bacula-dir.conf
```

```
 1   Director {#全局设置
 2     Name = bacula-test-dir                        #名称要和Console端、SD端、FD端一致
 3     DIRport = 9101                                #启动的端口
 4     QueryFile = "/usr/libexec/bacula/query.sql"
 5     WorkingDirectory = "/var/spool/bacula/"
 6     PidDirectory = "/var/run"
 7     Maximum Concurrent Jobs = 20                  #同时执行的最大任务数量
 8     Password = "u3R1MUpLlKodHFr4PiqGQMGJfaNfhiXb14ul6xcpBA8d"      #密码和Consc
 9     Messages = Daemon
10   }
11
12   JobDefs {                             #默认的任务设置
13     Name = "DefaultJob"                 #任务名称
14     Type = Backup                           #任务的类型，有备份、恢复、校验、管理等
15     Level = Incremental                     #增量备份，有差异、全备份
16     Client = bacula-test-fd                 #备份的客户端
17     FileSet = "Full Set"                     #选择客户端需要备份额目录及文件
18     Schedule = "WeeklyCycle"                 #备份周期
19     Storage = File1                          #存储的方式
20     Messages = Standard
21     Pool = File
22     SpoolAttributes = yes
23     Priority = 10
24     Write Bootstrap = "/var/spool/bacula/%c.bsr"              #将作业记录写入文件
25   }
26   Job {
27     Name = "Backup-17.98"                              #定义一个备份任务
28     Type = Backup
29     Level = Incremental
30     Client = bacula-17-98                         #需要备份的客户端
31     FileSet = "Windows"                            #需要备份的目录和文件
32     Schedule = "WeeklyCycle"
33     Storage = File1
34     Messages = Standard
35     Pool = File
36     SpoolAttributes = yes
37     Priority = 10
38     Write Bootstrap = "/var/spool/bacula/windows%c.bsr"
39   }
40   Job {
41     Name = "BackupClient1"
42     JobDefs = "DefaultJob"
43   }
44   Job {
45     Name = "BackupCatalog"                        #定义一个元数据备份任务
46     JobDefs = "DefaultJob"
47     Level = Full
48     FileSet="Catalog"
49     Schedule = "WeeklyCycleAfterBackup"
50     RunBeforeJob = "/usr/libexec/bacula/make_catalog_backup.pl MyCatalog"
51     RunAfterJob  = "/usr/libexec/bacula/delete_catalog_backup"
```

```
52        Write Bootstrap = "/var/spool/bacula/%n.bsr"
53        Priority = 11
54     }
55     Job {
56        Name = "RestoreFiles"                    #定义一个恢复任务
57        Type = Restore
58        Client=bacula-test-fd
59        FileSet="Full Set"
60        Storage = File1
61        Pool = File
62        Messages = Standard
63        Where = /tmp/bacula-restores
64     }
65     FileSet {
66        Name = "Full Set"                        #定义需要备份的目录及文件
67        Include {
68          Options {
69            signature = MD5                       #采用MD5
70            Compression = GZIP                    #启用GZIP压缩
71              }
72          File = /var/lib/mysql                   #需要备份的目录
73        }
74        Exclude {                                 #无需备份的目录和文件
75          File = /var/spool/bacula/
76          File = /tmp
77          File = /proc
78          File = /tmp
79          File = /sys
80          File = /.journal
81          File = /.fsck
82        }
83     }
84     FileSet {
85        Name = "Windows"                         #定义一个新的需要备份的设置
86        Include {
87          Options {
88            signature = MD5
89            compression = GZIP
90            IgnoreCase = yes
91          }
92          File = "D:/msdn"
93        }
94     }
95     Schedule {
96        Name = "WeeklyCycle"                     #定义备份周期
97        Run = Full 1st sun at 23:05
98        Run = Differential 2nd-5th sun at 23:05
99        Run = Incremental mon-sat at 23:05
100    }
101    Schedule {
102       Name = "WeeklyCycleAfterBackup"         #另一种不同的备份周期
103       Run = Full sun-sat at 23:10
104    }
105    FileSet {
106       Name = "Catalog"                        #定义需要备份的元数据
107       Include {
108         Options {
109           signature = MD5
110         }
111         File = "/var/spool/bacula/bacula.sql"
112       }
113    }
114    Client {
115       Name = bacula-test-fd                    #定义需要备份的客户端
```

```
116        Address = 192.168.17.100
117        FDPort = 9102
118        Catalog = MyCatalog
119        Password = "nb5dURhiVT3RPsHkFvXetau9LrnL/FhY/ORWkFOTPamT"#密码要和FD端的一
120        File Retention = 30 days           #定义文件记录在 Catalog 数据库中的保留时
121        Job Retention = 3 months           #定义任务记录在 Catalog 数据库中的保留时
122        AutoPrune = yes                    #自动修剪
123      }
124
125      Client {
126        Name = bacula-17-98
127        Address = 192.168.17.98
128        FDPort = 9102
129        Catalog = MyCatalog
130        Password = "nb5dURhiVT3RPsHkFvXetau9LrnL/FhY/ORWkFOTPamT"
131        File Retention = 30 days
132        Job Retention = 3 months
133        AutoPrune = yes
134      }
135      Storage {
136        Name = File1
137        Address = 192.168.17.100              #存储端的地址
138        SDPort = 9103
139        Password = "qy5ILHHJNXLCUWGudeC1ke1hPioBo+ye2bUBU5ncxADg"
140        Device = FileChgr1                #指定存储的设备。引用存储端配置文件的 Devi
141        Media Type = File1                #与存储端配置文件的 Device{}的 Media
142        Maximum Concurrent Jobs = 10      #定义此存储端所允许同时进行的任务最大数量
143      }
144      Storage {
145        Name = File2
146        Address = 192.168.17.100
147        SDPort = 9103
148        Password = "qy5ILHHJNXLCUWGudeC1ke1hPioBo+ye2bUBU5ncxADg"
149        Device = FileChgr2
150        Media Type = File2
151        Maximum Concurrent Jobs = 10
152      }
153      Catalog {
154        Name = MyCatalog                     #指定 Catalog{}名称
155        dbname = "bacula"; dbuser = "bacula"; dbpassword = "bacula"
156      }
157      Messages {
158        Name = Standard                      #定义日志
159        append = "/var/log/bacula.log" = all, !skipped
160        append = "/var/log/bacula.err.log" = error,warning,fatal
161        catalog = all
162      }
163      Messages {
164        Name = Daemon
165        append = "/var/log/bacula.log" = all, !skipped
166        append = "/var/log/bacula.err.log" = error,warning,fatal
167      }
168      Pool {
169        Name = Default
170        Pool Type = Backup
171        Recycle = yes                        #是否重复使用 Volumes
172        AutoPrune = yes                      #自动清理
173        Maximum Volume Jobs = 1
174        Volume Retention = 15 days       #卷的保留时间
175        Maximum Volume Bytes = 5G        #Volume容量
176        Maximum Volumes = 100            #Volumes数量l
177        Label Format = "db-${Year}-${Month:p/2/0/r}-${Day:p/2/0/r}-id${JobId}"#卷
178      }
179      Pool {
```

```
180      Name = File
181      Pool Type = Backup
182      Recycle = yes
183      AutoPrune = yes
184      Maximum Volume Jobs = 1
185      Volume Retention = 15 days
186      Maximum Volume Bytes = 50G
187      Maximum Volumes = 100
188      Label Format = "db-${Year}-${Month:p/2/0/r}-${Day:p/2/0/r}-id${JobId}"
189    }
190  # Scratch pool definition
191  Pool {
192      Name = Scratch
193      Pool Type = Backup
194    }
195  Console {
196      Name = bacula-test-mon
197     Password = "fX2cKUkN2RSiLTkeQd5LCPDDw61PzGkuit2+7DvWxVG1"
198      CommandACL = status, .status
199    }
```

3.2 bacula-sd.conf配置

存储端的配置文件是bacula-sd.conf，它主要负责定义备份文件的存放方式和地址，具体的情况如下所示：

```
 1  Storage {                              #定义存储端名称
 2      Name = bacula-test-sd
 3      SDPort = 9103
 4      WorkingDirectory = "/var/spool/bacula/"
 5      Pid Directory = "/var/run"
 6      Maximum Concurrent Jobs = 20
 7    }
 8  Director {
 9      Name = bacula-test-dir
10      Password = "qy5ILHHJNXLCUWGudeC1ke1hPioBo+ye2bUBU5ncxADg"
11    }
12  Director {
13      Name = bacula-test-mon
14      Password = "7zSF0B9viPBuwkKpPC2PoJw1qxOEuvCxbWDxzXc1cHk9"
15      Monitor = yes
16    }
17   Autochanger {#是否自动更换设备
18      Name = FileChgr1
19      Device = FileChgr1-Dev1, FileChgr1-Dev2#定义需更换的设备
20      Changer Command = ""
21      Changer Device = /dev/null
22    }
23
24  Device {
25      Name = FileChgr1-Dev1
26      Media Type = File1#类型是文件（可以是DVD，磁带）
27      Archive Device = /tmp#存放位置
28      LabelMedia = yes;                    #媒体标注
29      Random Access = Yes;
30      AutomaticMount = yes;                #自动挂载
31      RemovableMedia = no;
32      AlwaysOpen = no;
33      Maximum Concurrent Jobs = 5
34    }
35  Device {
36      Name = FileChgr1-Dev2
37      Media Type = File1
38      Archive Device = /tmp
39      LabelMedia = yes;
```

```
40        Random Access = Yes;
41        AutomaticMount = yes;
42        RemovableMedia = no;
43        AlwaysOpen = no;
44        Maximum Concurrent Jobs = 5
45      }
46    Autochanger {
47        Name = FileChgr2
48        Device = FileChgr2-Dev1, FileChgr2-Dev2
49        Changer Command = ""
50        Changer Device = /dev/null
51      }
52
53    Device {
54        Name = FileChgr2-Dev1
55        Media Type = File2
56        Archive Device = /tmp
57        LabelMedia = yes;
58        Random Access = Yes;
59        AutomaticMount = yes;
60        RemovableMedia = no;
61        AlwaysOpen = no;
62        Maximum Concurrent Jobs = 5
63      }
64    Device {
65        Name = FileChgr2-Dev2
66        Media Type = File2
67        Archive Device = /tmp
68        LabelMedia = yes;
69        Random Access = Yes;
70        AutomaticMount = yes;
71        RemovableMedia = no;
72        AlwaysOpen = no;
73        Maximum Concurrent Jobs = 5
74      }
75    Messages {
76        Name = Standard
77        director = bacula-test-dir = all
78      }
```

二、Bacula备份、恢复测试

2.1 备份操作

运行备份操作

[root@bacula-test /tmp]

```
1  #bconsole
```

Connecting to Director 192.168.17.100:9101
1000 OK: 102 bacula-test-dir Version: 7.4.1 (15 February 2016)
Enter a period to cancel a command.

```
1  *label          #标签状态
```

Automatically selected Catalog: MyCatalog
Using Catalog "MyCatalog"
The defined Storage resources are:
     1: File1
     2: File2
Select Storage resource (1-2): 1   #定义的存储资源
Enter new Volume name: vol-20160601
Defined Pools:
     1: Default
     2: File
     3: Scratch
Select the Pool (1-3): 2   #文件类型
Connecting to Storage daemon File1 at 192.168.17.100:9103 ...

```
Sending label command for Volume "vol-20160601" Slot 0 ...
3000 OK label. VolBytes=209 VolABytes=0 VolType=1 Volume="vol-20160601" Device="FileChgr1-
Dev1" (/tmp)
Catalog record for Volume "vol-20160601", Slot 0  successfully created.
Requesting to mount FileChgr1 ...
3906 File device ""FileChgr1-Dev1" (/tmp)" is always mounted.
```

 1 │ *run   #执行备份操作

```
A job name must be specified.
The defined Job resources are:
     1: Backup-17.98
     2: BackupClient1
     3: BackupCatalog
     4: RestoreFiles
Select Job resource (1-4): 3              #选择需要备份的客户端
Run Backup job
JobName:  BackupCatalog
Level:    Full
Client:   bacula-test-fd
FileSet:  Catalog
Pool:     File (From Job resource)
Storage:  File1 (From Job resource)
When:     2016-06-01 15:59:49
Priority: 11
OK to run? (yes/mod/no): yes            #同意备份
Job queued. JobId=37
```

 1 │ *messages

```
You have no messages.
```

 1 │ *exit

4.2 恢复操作

 1 │ #bconsole

```
Connecting to Director 192.168.17.100:9101
1000 OK: 102 bacula-test-dir Version: 7.4.1 (15 February 2016)
Enter a period to cancel a command.
```

 1 │ *restore

```
Automatically selected Catalog: MyCatalog
Using Catalog "MyCatalog"

First you select one or more JobIds that contain files
to be restored. You will be presented several methods
of specifying the JobIds. Then you will be allowed to
select which files from those JobIds are to be restored.
```

```
To select the JobIds, you have the following choices:
     1: List last 20 Jobs run
     2: List Jobs where a given File is saved
     3: Enter list of comma separated JobIds to select
     4: Enter SQL list command
     5: Select the most recent backup for a client
     6: Select backup for a client before a specified time
     7: Enter a list of files to restore
     8: Enter a list of files to restore before a specified time
     9: Find the JobIds of the most recent backup for a client
    10: Find the JobIds for a backup for a client before a specified time
    11: Enter a list of directories to restore for found JobIds
    12: Select full restore to a specified Job date
    13: Cancel
Select item:  (1-13):   5
Defined Clients:
     1: bacula-17-98
     2: bacula-test-fd
Select the Client (1-2): 2
 The defined FileSet resources are:
     1: Catalog
     2: Full Set
Select FileSet resource (1-2): 2
+-------+-------+----------+-----------+---------------------+--------------------+
| JobId | Level | JobFiles | JobBytes  | StartTime           | VolumeName         |
+-------+-------+----------+-----------+---------------------+--------------------+
|     1 | F     |      126 |   731,496 | 2016-05-18 16:02:32 | linux-file1        |
|    29 | D     |        5 |   991,369 | 2016-05-29 23:05:04 | db-2016-05-29-id29 |
|    32 | I     |        2 | 1,000,660 | 2016-05-30 23:05:04 | db-2016-05-30-id32 |
|    35 | I     |        2 | 1,038,878 | 2016-05-31 23:05:05 | db-2016-05-31-id35 |
+-------+-------+----------+-----------+---------------------+--------------------+
You have selected the following JobIds: 1,29,32,35

Building directory tree for JobId(s) 1,29,32,35 ...    ++++++++++++++++++++++++++++++++++++++++
122 files inserted into the tree.

You are now entering file selection mode where you add (mark) and
remove (unmark) files to be restored. No files are initially added, unless
you used the "all" keyword on the command line.
Enter "done" to leave this mode.

cwd is: /
  1 |    ls
var/
  1 | $ mark var
126 files marked.
  1 | $ lsmark
*var/
  *lib/
    *mysql/
      *aria_log.00000001
      *aria_log_control
      *bacula/
        *BaseFiles.frm
        *CDImages.frm
        *Client.frm
  1 | done
Bootstrap records written to /var/spool/bacula//bacula-test-dir.restore.1.bsr
```

```
Bootstrap records written to /var/spool/bacula//bacula-test-dir.restore.1.bsr

The Job will require the following (*=>InChanger):
   Volume(s)                 Storage(s)                SD Device(s)
===============================================================================

   linux-file1               File1                     FileChgr1
   db-2016-05-29-id29        File1                     FileChgr1
   db-2016-05-31-id35        File1                     FileChgr1

Volumes marked with "*" are in the Autochanger.


126 files selected to be restored.

Using Catalog "MyCatalog"
Run Restore job
JobName:         RestoreFiles
Bootstrap:       /var/spool/bacula//bacula-test-dir.restore.1.bsr
Where:           /tmp/bacula-restores
Replace:         Always
FileSet:         Full Set
Backup Client:   bacula-test-fd
Restore Client:  bacula-test-fd
Storage:         File1
When:            2016-06-01 16:08:14
Catalog:         MyCatalog
Priority:        10
Plugin Options:
OK to run? (yes/mod/no): yes
  Job queued. JobId=38
  1 | *messages
You have no messages.
```


参考内容：
企业级的开源备份工具Bacula之安装：http://waringid.blog.51cto.com/65148/1792007

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