

# **MySQL and JBoss integration framework**

This document describes about the framework that allows the external servers which includes MySQL 5.024 a and JBoss server to be integrated within HP Output Server infrastructure and be able to manage them as any other standard HP Output Server servers using standard set of commands such as `server_status`, `stop_server`, `start_server`, `config_host`, `list_server` and `config_server`.

## **Procedure involved in integrating external servers in HP Output Server**

This section explains the steps involved in integrating external party servers in HP Output Server infrastructure. The following procedure is used for MySQL server and you can use the same procedure for any other external server.

1. To register a new server new DPAOIDs (DPAOIDs.custom in *installDir/custom* directory) entries need to be added for the `server-type` class as follows.
  - a. 198-mysql
  - b. 198-mysql-manager

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NOTE: The oid's needs to be picked up from appropriate branch as applicable (Mainline/SP/PS branch)

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2. Create a sample template. The `ServerTemplates.sgml` entries for the MySQL server is as follows.
  - i. Set the `-server-create-default` attribute to `true` if the server should be created automatically when `config_server -t all` command is executed.

```
<DAZEL-AVPAIR NAME="server-create-default">
<DAZEL-VALUE STRING-VALUE="true">
</DAZEL-AVPAIR>
```
  - ii. Set the `-server-group` of the server, you can make the new server as part of either primary or a delivery group,

```
<DAZEL-AVPAIR NAME="server-group">
<DAZEL-VALUE STRING-VALUE="primary">
</DAZEL-AVPAIR>
```
  - iii. `-server-style-` Specify the `-server-type` as external for any external server.

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```
<DAZEL-AVPAIR NAME="server-style">  
<DAZEL-VALUE STRING-VALUE="external">  
</DAZEL-AVPAIR>
```

- iv. `-server-type-long` -The name of the server, should match with the name used in the Server template

```
<DAZEL-AVPAIR NAME="server-type-long">  
<DAZEL-VALUE STRING-VALUE="mysql-manager">  
</DAZEL-AVPAIR>
```

- v. `-server-type-short` - The name of the server should match with short name used in Server template

```
<DAZEL-AVPAIR NAME="server-type-short">  
<DAZEL-VALUE STRING-VALUE="mysql">  
</DAZEL-AVPAIR>
```

- vi. The `-server-status-executable-name` attribute is used to specify the name of the executable that should be used to check the status of the external server, If this attribute is not specified, the executable specified in `-server-status-executable-name` attribute is used.

```
<DAZEL-AVPAIR NAME="server-status-executable-name">  
<DAZEL-VALUE STRING-VALUE="perl">  
</DAZEL-AVPAIR>
```

- vii. The `-server-status-executable-options` attribute is used to specify the options that need to be specified in the `server-status` command.

```
<DAZEL-AVPAIR NAME="server-status-executable-options">  
<DAZEL-VALUE STRING-VALUE="!{dazel-home}!/bin/mysql_status.pl">  
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!">  
</DAZEL-AVPAIR>
```

- viii. The `-server-stop-executable-name` attribute is used to specify the name of the executable that should be used to stop the external server, If this attribute is not specified, the executable specified in `server-executable-name` attribute is used.

```
<DAZEL-AVPAIR NAME="server-stop-executable-name">  
<DAZEL-VALUE STRING-VALUE="perl">  
</DAZEL-AVPAIR>
```

- ix. The `-server-stop-executable-options` attribute is used to specify the options that need to be passed to the `server-stop` executable.

```
<DAZEL-AVPAIR NAME="server-stop-executable-options">  
<DAZEL-VALUE STRING-VALUE="!{dazel-home}!/bin/mysql_stop.pl">  
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!">  
</DAZEL-AVPAIR>
```

- x. The `-server-init-command` attribute is used to specify name of executable that should be run in beginning when server is configured with `config_server -t` option.

```
<DAZEL-AVPAIR NAME="server-init-command">  
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/perl">  
</DAZEL-AVPAIR>
```

- xi. The `-server-init-arguments` attribute to specify the options that need to be passed to the `server-init` command.

```
<DAZEL-AVPAIR NAME="server-init-arguments">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/mysql_config.pl init1 init2
init3 init4....">
</DAZEL-AVPAIR>
```

- xii. The `-server-clean-command` attribute to specify name of executable that should be run after the server is deleted with `config_server -d` option.

```
<DAZEL-AVPAIR NAME="server-clean-command">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/perl">
</DAZEL-AVPAIR>
```

- xiii. The `-server-clean-arguments` attribute to specify the options that need to be passed to the `-server-clean` command.

```
<DAZEL-AVPAIR NAME="server-clean-arguments">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/mysql_config.pl clean1 clean2
clean3 clean4....">
</DAZEL-AVPAIR>
```

- xiv. The `-server-multiple-instance-allowed` attribute to specify the options for single or multiple servers. The valid values are TRUE or FALSE.

```
<DAZEL-AVPAIR NAME="server-multiple-instance-allowed">
<DAZEL-VALUE STRING-VALUE="false">
</DAZEL-AVPAIR>
```

- xv. The `-server-group` attribute specifies the type of servers.

```
<DAZEL-AVPAIR NAME="server-group">
<DAZEL-VALUE STRING-VALUE="primary">
</DAZEL-AVPAIR>
```

- xvi. The `-server-privilege-check-type` attribute is used to customize the privilege checking for MySQL server. The valid values are none and pm.

```
<DAZEL-AVPAIR NAME="server-privilege-check-type">
<DAZEL-VALUE STRING-VALUE="none">
</DAZEL-AVPAIR>
```

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NOTE: For details on Sample file for the MySQL server, refer to “Sample ServerTemplates.sgml for the MySQL server” at the end of this technote.

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3. You need to create the start, stop, status and config scripts to do appropriate handling of the request and return 0/1 depending on the result of the operation to indicate success or failure of the operation.

#### **mysql\_start.pl**

```
my $working_dir= shift @ARGV;
my $binpath= "$working_dir/bin";
my $my_command;
chdir($working_dir);
```

```
$mysql_command="$binpath/mysql_safe"." --defaults-file=$working_dir/  
my.cnf &";  
system $mysql_command;  
exit(0);
```

**mysql\_status.pl**

```
my $working_dir= shift @ARGV;  
my $binpath= "$working_dir/bin";  
my $my_command;  
$mysql_command="$binpath/mysqladmin"." --defaults-file=$working_dir/  
my.cnf ping";  
open(CAPTURE, "$mysql_command 2>&1 |") || die "can't fork: $!";  
binmode (CAPTURE);  
while (<CAPTURE>)  
{  
    /^error/ && do  
    {  
        exit (1);  
    }  
}  
close(CAPTURE);  
exit(0);  
file name mysql_stop.pl
```

```
my $working_dir= shift @ARGV;  
my $binpath= "$working_dir/bin";  
my $my_command;  
$mysql_command="$binpath/mysqladmin"." --defaults-file=$working_dir/my.cnf  
shutdown";  
open(CAPTURE, "$mysql_command 2>&1 |") || die "can't fork: $!";  
binmode (CAPTURE);  
while (<CAPTURE>) {  
    /^error/ && do{  
        exit (1);  
    }  
}  
close(CAPTURE);  
exit(0);
```

**mysql\_config.pl**

```
my $working_dir= shift @ARGV;
  my $binpath= "$working_dir/bin";
  my $my_command;
  my $command_line_option = shift @ARGV;
  if ($command_line_option eq "configure") {
  #external server configuration code
  exit(0);
  )

  if ($command_line_option eq "unconfigure"){
  #external server unconfiguration code
  exit(0);
  }
```

## Advantages

The following are the benefits of external server integration:

1. It allows to manage the external server in the same way as HP Output Server standard servers.
2. It provides uniformity for management of all servers across HP Output Server standard servers.

## Limitations

The following are the limitations of external server integration:

1. The remote management using a client only installation does not work
2. A process which does not provide means of start and stop option and status similar to the EPO server can not be integrated using this framework.
3. The external servers do not get registered with the NM server.

## Sample ServerTemplates.sgml for the MySQL server

```
<DAZEL-SERVER NAME="mysql-manager">
<DAZEL-AVP-SET>
<DAZEL-AVPAIR NAME="server-name">
<DAZEL-VALUE STRING-VALUE="mysql">
</DAZEL-AVPAIR>
```

```
<DAZEL-AVPAIR NAME="server-type">
<DAZEL-VALUE STRING-VALUE="mysql-manager">
</DAZEL-AVPAIR>
```

```
<DAZEL-AVPAIR NAME="server-multiple-instance-allowed">
<DAZEL-VALUE STRING-VALUE="false">
</DAZEL-AVPAIR>
```

```
<DAZEL-AVPAIR NAME="server-create-default">
<DAZEL-VALUE STRING-VALUE="true">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-style">
<DAZEL-VALUE STRING-VALUE="external">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-type-long">
<DAZEL-VALUE STRING-VALUE="mysql-manager">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-type-short">
<DAZEL-VALUE STRING-VALUE="mysql">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-start-enabled">
<DAZEL-VALUE STRING-VALUE="true">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-start-order">
<DAZEL-VALUE STRING-VALUE="150">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-log-file">
<DAZEL-VALUE STRING-VALUE="!{dazel-home}!/var/log/!{server-name}!_manage.log">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-uses-syslog">
<DAZEL-VALUE STRING-VALUE="false">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-working-directory">
<DAZEL-VALUE STRING-VALUE="!{dazel-home}!/var/mysql">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-login-name">
```

```
<DAZEL-VALUE STRING-VALUE="!{server-login-name-default}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-executable-path">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-executable-name">
<DAZEL-VALUE STRING-VALUE="perl">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-executable-options">
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!/bin/mysql_start.pl">
<DAZEL-VALUE STRING-VALUE="-r !{server-working-directory}!">
<DAZEL-VALUE STRING-VALUE="-l !{server-login-name}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-status-executable-name">
<DAZEL-VALUE STRING-VALUE="perl">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-status-executable-options">
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!/bin/mysql_status.pl">
<DAZEL-VALUE STRING-VALUE="-r !{server-working-directory}!">
<DAZEL-VALUE STRING-VALUE="-w !{database-server-password}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-stop-executable-options">
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!/bin/mysql_stop.pl">
<DAZEL-VALUE STRING-VALUE="-r !{server-working-directory}!">
<DAZEL-VALUE STRING-VALUE="-l !{server-login-name}!">
<DAZEL-VALUE STRING-VALUE="-w !{database-server-password}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="managing-server">
<DAZEL-VALUE STRING-VALUE="mysql">
</DAZEL-AVPAIR>
```

```
<DAZEL-AVPAIR NAME="server-init-command">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/perl">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-init-arguments">
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!/bin/mysql_config.pl -O
configure -r !{server-working-directory}! -F !{server-log-file}! -l
!{server-login-name}! -w !{database-server-password}! -s
!{mysql-database-size}! -e !{mysql-database-autoextend-size}! -j
!{database-server-port}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-clean-command">
<DAZEL-VALUE STRING-VALUE="!{dazel-bin}!/perl">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-clean-arguments">
<DAZEL-VALUE STRING-VALUE="!{server-working-directory}!/bin/mysql_config.pl -O
unconfigure -r !{server-working-directory}! -F !{server-log-file}! -l
!{server-login-name}! -w !{database-server-password}! -s
!{mysql-database-size}!">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-group">
<DAZEL-VALUE STRING-VALUE="primary">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-privilege-check-type">
<DAZEL-VALUE STRING-VALUE="none">
</DAZEL-AVPAIR>

<DAZEL-AVPAIR NAME="server-startup-completion-time">
<DAZEL-VALUE STRING-VALUE="20">
</DAZEL-AVPAIR>

</DAZEL-AVP-SET>
</DAZEL-SERVER>
```