



MySQL Remote Server

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Simplify.



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Simplify.

Topics

- »» Overview of Replication & Clustering
- »» Integration with cPanel
- »» Caveats and Things to Come

What not to expect

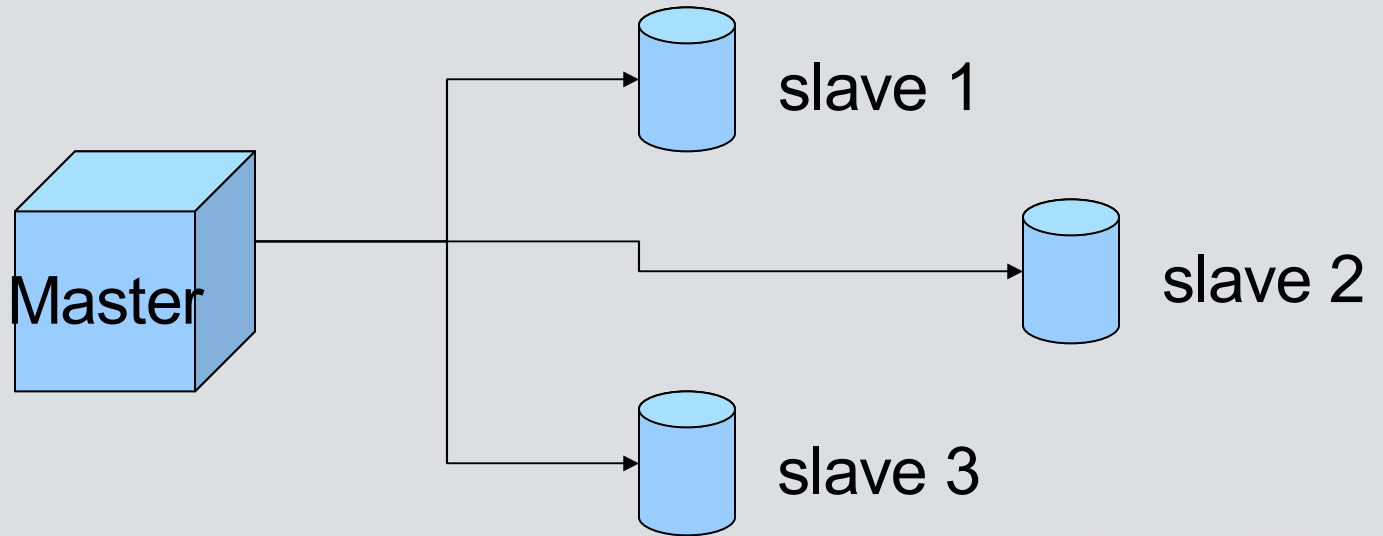
Simplify.

Replication

Simplify.

Replication

Master/Slave



Advantages

Simplify.

Replication

Databases and Tables auto-populated

Modest Requirements

Simple to create

Simplify.

Disadvantages

Replication

Slaves update sequentially

Slaves not guaranteed in sync

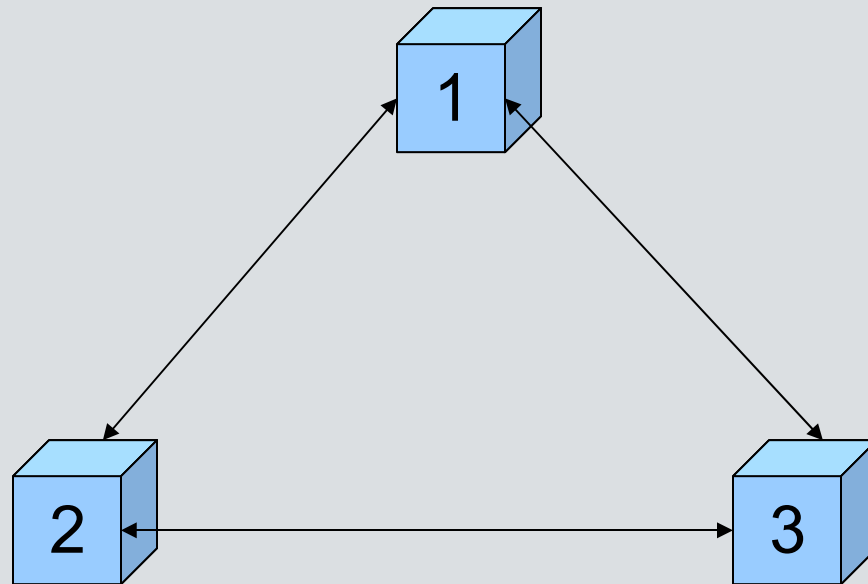
Read from Many; Write to One

Performance is lacking

Clustering

Simplify.

Clustering Peer to Peer



Simplify.

Clustering

Nodes

Management node – handles configuration, logging

SQL Node – like regular MySQL server

Data Node – stores data

Advantages

Simplify.

Clustering - Advantages

Read from & Write to any SQL Node

Data fully synchronized among data nodes

Good performance

Disadvantages

Simplify.

Clustering - Disadvantages

Only NDB tables shared

Data & Indexes in RAM (< 5.1)

SQL Nodes do not auto-populate

Network load

More Administrative overhead

Summary

Replication

<http://dev.mysql.com/doc/refman/5.0/en/replication.html>

Clustering

<http://dev.mysql.com/doc/refman/5.0/en/mysql-cluster.html>

Integration

Simplify.

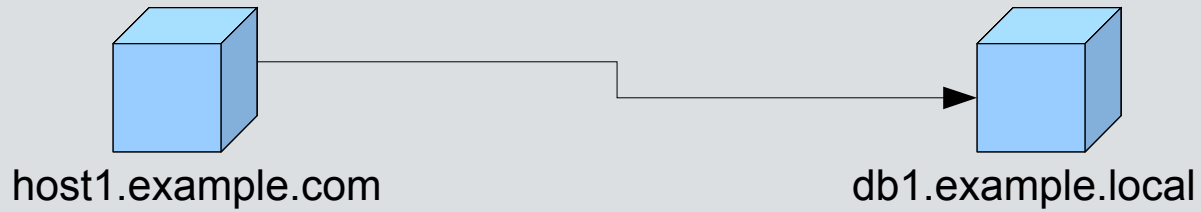
Scenarios

- 1) Single Remote Server
- 2) Group of Servers
- 3) Non Default port

Scenario #1

Single Remote Server

Scenario 1



Scenario 1

Auto Configure:
WHM: Remote MySQL Server setup

Scenario 1

Manual

1. Grant remote access to cPanel root account
2. Add remote host info to `/root/.my.cnf`
3. Configure PHPMyAdmin
4. Configure and migrate Horde
5. Configure and migrate eximstats
6. Configure and migrate hulk

Scenario 1 - Manual

1. Grant remote access to cPanel root account MySQL

```
mysql> GRANT ALL PRIVILEGES ON *.* TO root@`192.168.10.52`  
IDENTIFIED BY 'password' WITH GRANT OPTION;  
mysql> GRANT ALL PRIVILEGES ON *.* TO root@`host1.example.com`  
IDENTIFIED BY 'password' WITH GRANT OPTION;
```

Resolving

/etc/hosts

Scenario 1 - Manual

2. Add remote host info to /root/.my.cnf

```
[client]
user="root"
pass="mypassword"
host="db1.example.local"
```

Scenario 1 - Manual

3. Configure PHPMyAdmin

```
/usr/local/cpanel/base/3rdparty/phpMyAdmin/config.inc.php
```

```
...
```

```
$i++;
```

```
$cfg['Servers'][$i]['host'] = 'db1.example.local';
```

```
$cfg['Servers'][$i]['port'] = '';
```

```
$cfg['Servers'][$i]['socket'] = '';
```

```
$cfg['Servers'][$i]['connect_type'] = 'tcp';
```

```
$cfg['Servers'][$i]['extension'] = 'mysql';
```

```
$cfg['Servers'][$i]['compress'] = FALSE;
```

```
...
```

Scenario 1 - Manual

4. Configure and Migrate Horde

A) Configuration

```
/usr/local/cpanel/base/horde/config/conf.php:
```

```
$conf['sql']['hostspec'] = 'db1.example.local';
```

B) Create / Migrate Horde Database

- i. Create: horde/scripts/sql/create.mysql.sql
- ii. Dump/restore or Migrate physical files

Scenario 1 - Manual

5. Configure and Migrate eximstats
 - A) Configuration
 - B) Create/Migrate database
 - i. `cpanel/etc/eximstats.sql`
 - ii. Dump/Restore or Migrate physical files

Scenario 1 - Manual

6. Configure and Migrate cPHulkd

A) Configuration

B) Create/Migrate database

i. `cpanel/bin/hulkdsetup`

ii. Dump/Restore or Migrate physical files

Scenario #2

Group of Remote Servers

Scenario 2

Use Proxy

Presents groups as a single server

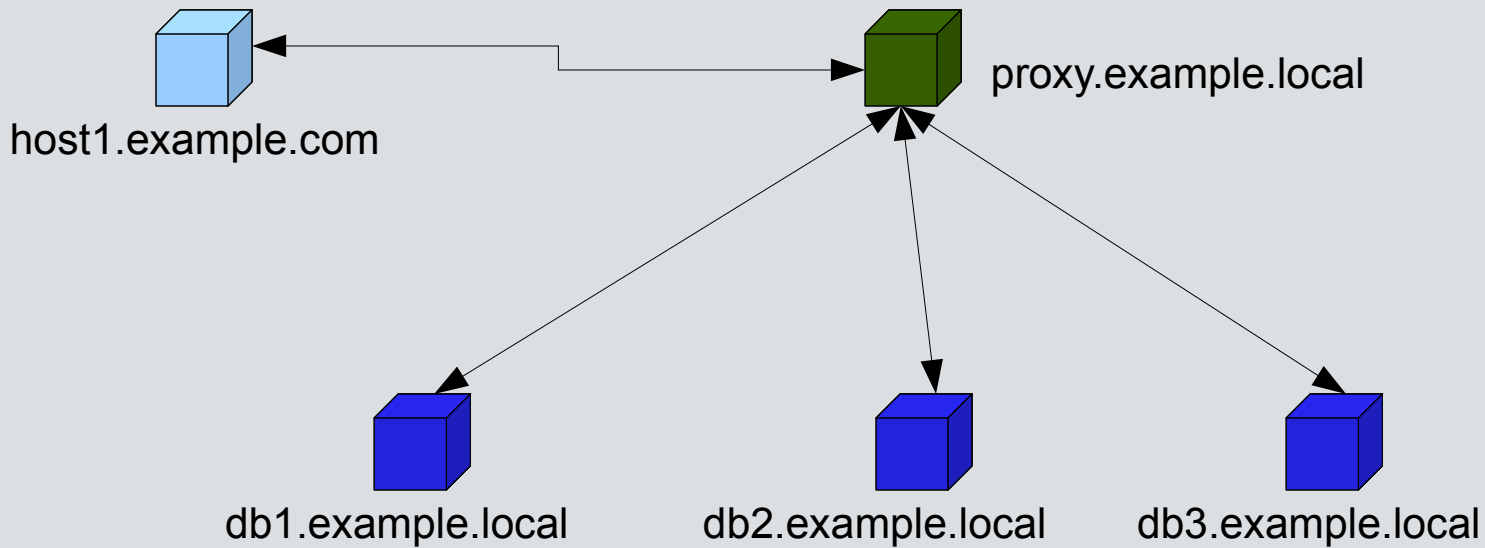
HA Proxy

<http://haproxy.1wt.eu/>

Load balancing

High Availability

Scenario 2



Scenario 2

`/etc/haproxy.conf`

```
listen
  mysql *:3306
  balance roundrobin
  server db1 192.168.128.90:3306
  server db2 192.168.128.91:3306
  server db3 192.168.128.91:3306
```

Scenario 2

WHM Remote MySQL Server setup won't work

Perform 6 steps from scenario 1

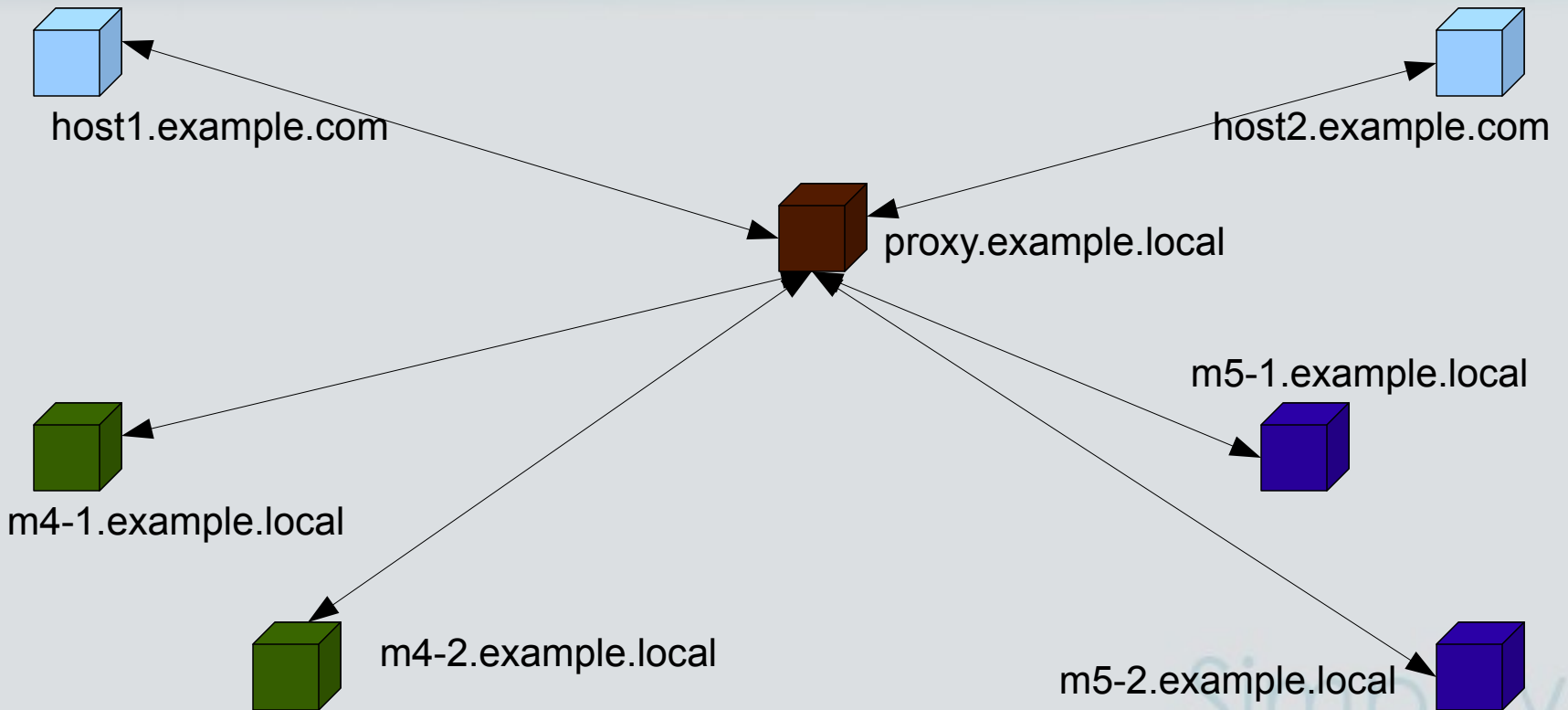
Variance - /root/.my.cnf

```
host="proxy.example.local"
```

Scenario #3

Non Default Port

Scenario 3

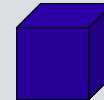
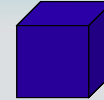


Scenario 3

```
listen
mysql *:3306
balance roundrobin
server m5-1 172.16.0.10:3306
server m5-2 172.16.0.11:3306
```

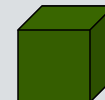
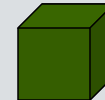
```
listen
mysql *:3316
balance roundrobin
server m4-1 172.16.0.100:3306
server m4-2 172.16.0.101:3306
```

m5-1.example.local



m5-2.example.local

m4-1.example.local



m4-2.example.local

Non Default Ports

cPanel can only use one server

cPanel can only use one port

Configure per prior scenarios

Non Default Ports

Configuration:

Add port entry to my.cnf

```
/root/.my.cnf
```

```
/home/user/.my.cnf
```

```
[client]
```

```
port=3316
```



Non Default Ports

Add support for ports to:

```
/usr/local/cpanel/Cpanel/Mysql.pm
```

Simplify.

```
sub new {
  my $self = {};
  $self->{'dbh'} = undef;
  $self->{'hasmysqlso'} = 0;

  eval {
    my $dbpass = '';
    my $dbdb = 'mysql';
    my $dbserver = 'localhost';
    my $dbuser = 'root';
    my $dbport = 3306;

    open( DBS, '/root/.my.cnf' );
    while (<DBS>) {
      if (/^pass=(\S+)/) {
        $dbpass = $1;
      }
      if (/^host=(\S+)/) {
        $dbserver = $1;
        $dbserver =~ s/^\\"|\"$//g;
      }
      if (/^port=(\S+)/) {
        $dbport = $1;
      }
    }
    close(DBS);
    $dbpass =~ s/^["]|["]$//g;
    $self->{'dbh'} = DBI->connect( "DBI:mysql:$dbdb:$dbserver:$dbport",
$dbuser, $dbpass );
    $self->{'hasmysqlso'} = 1;
  };
};
```

Non Default Ports

Add support for ports to:

Horde

```
$conf['sql']['port'] = 3316
```

PHPMyAdmin

```
$cfg['Servers'][$i]['port'] = '3316';
```

eximstats, cPHulkD

Non Default Ports - eximstats

1. `/usr/local/cpanel/bin/starteximstats:`

```
$dbhost .= ':3316';  
exec '/usr/local/cpanel/bin/eximstats', $dbhost;
```

2. `/usr/local/cpanel/bin/eximstats:`

```
my $dbhost      = @ARGV && $ARGV[0] ne '' ? $ARGV[0] : 'localhost';  
$dbhost .= ':3316';
```

Non Default Ports - cPHulkD

/usr/local/cpanel/Cpanel/Hulkd.pm:

```
my $host = Cpanel::cPanelFunctions::getmydbhost('root') || 'localhost';  
$host .= ':3316';
```

Caveats and things to come

Simplify.

Existing Servers

Simplify.

Known Caveats

WHM Remote MySQL Server setup
Hostnames with '-'

Single global port

Single global server

Measuring bandwidth

Name collision

Changes overwritten



Questions?

Simplify.