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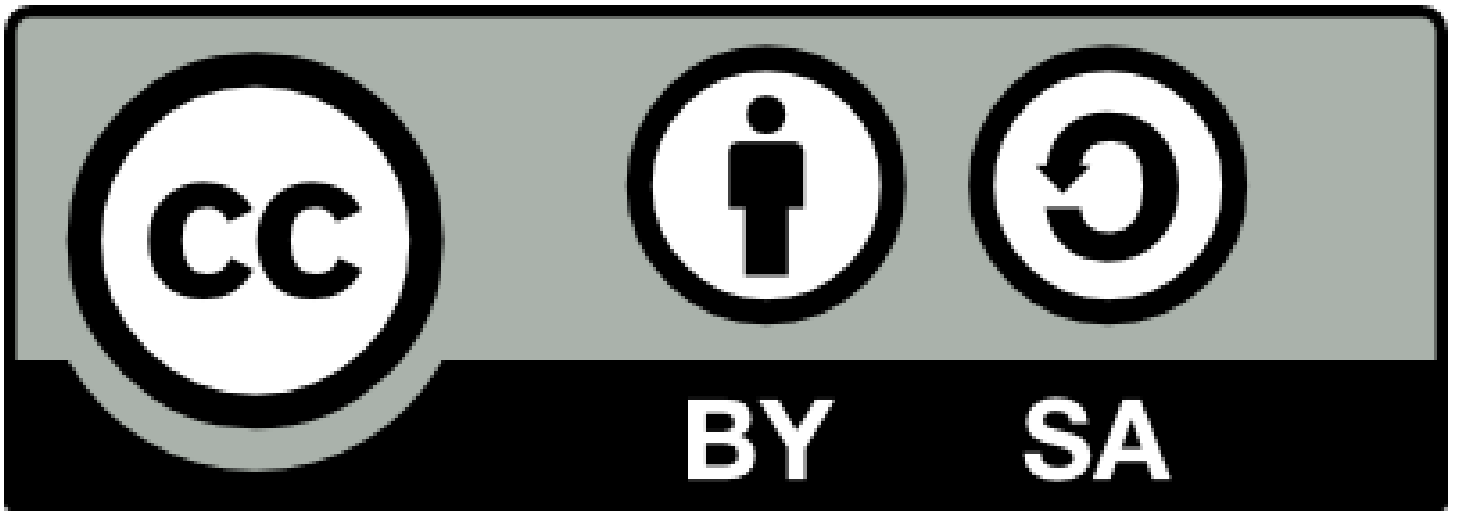
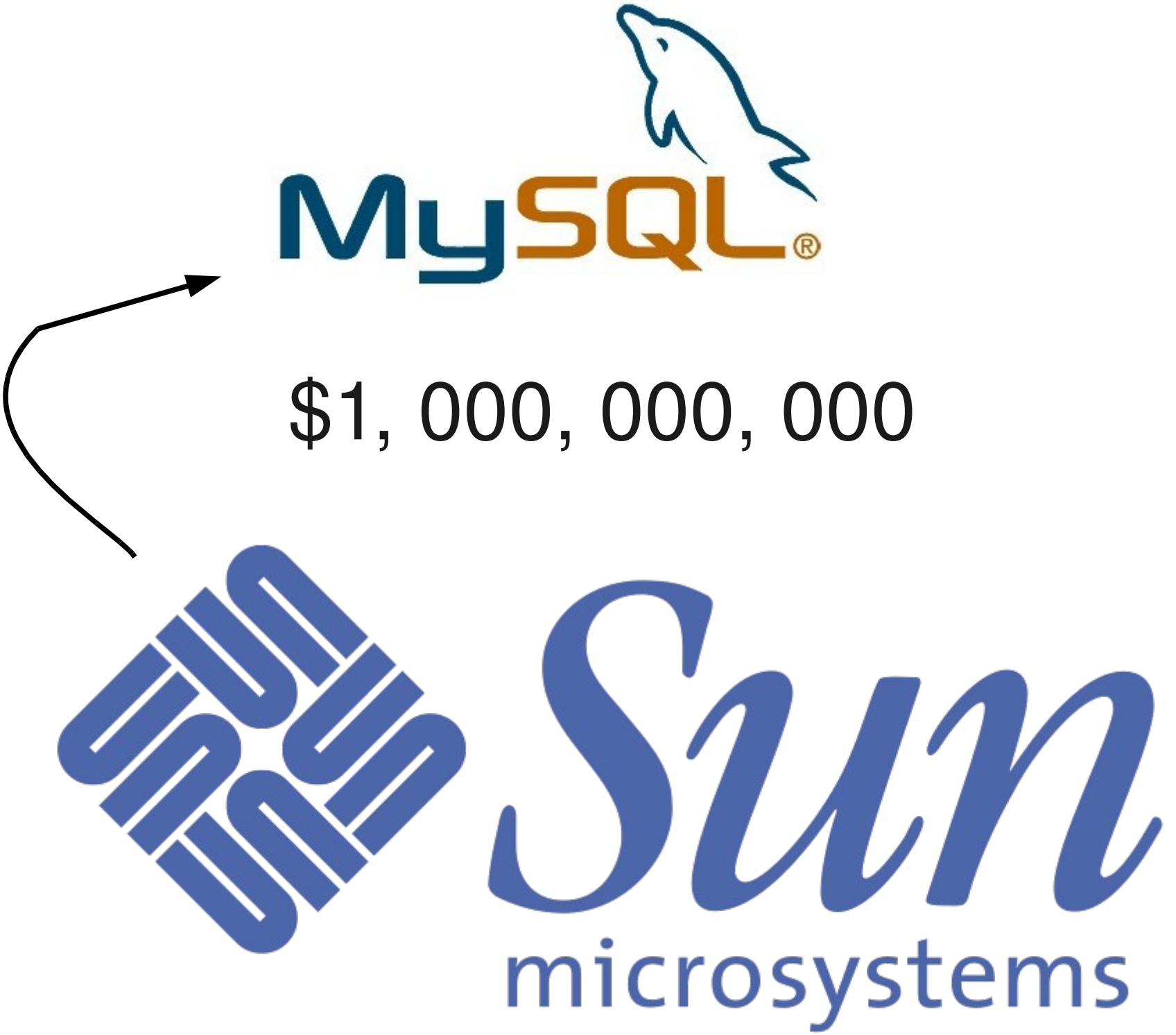
http://parit.ca



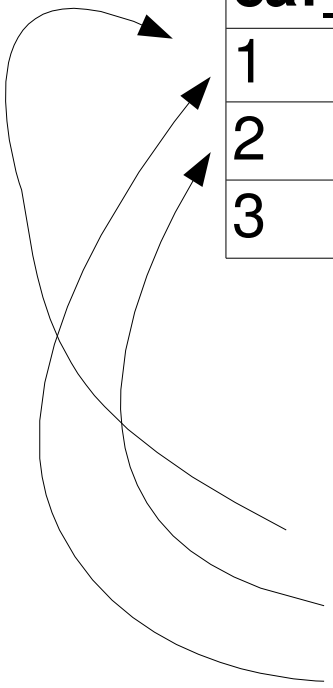

MySQL®


Apache


php


MySQL®
$1, 000, 000, 000
Sun
microsystems

Relational Database



car_num	car_colour	car_company
1	red	Ford
2	red	GM
3	blue	Chrisisler

person_num	car_num	person_name
1	1	Fred Flinstone
2	2	Fredie Mac
3	1	Jo Jo
4	3	Mr Chair

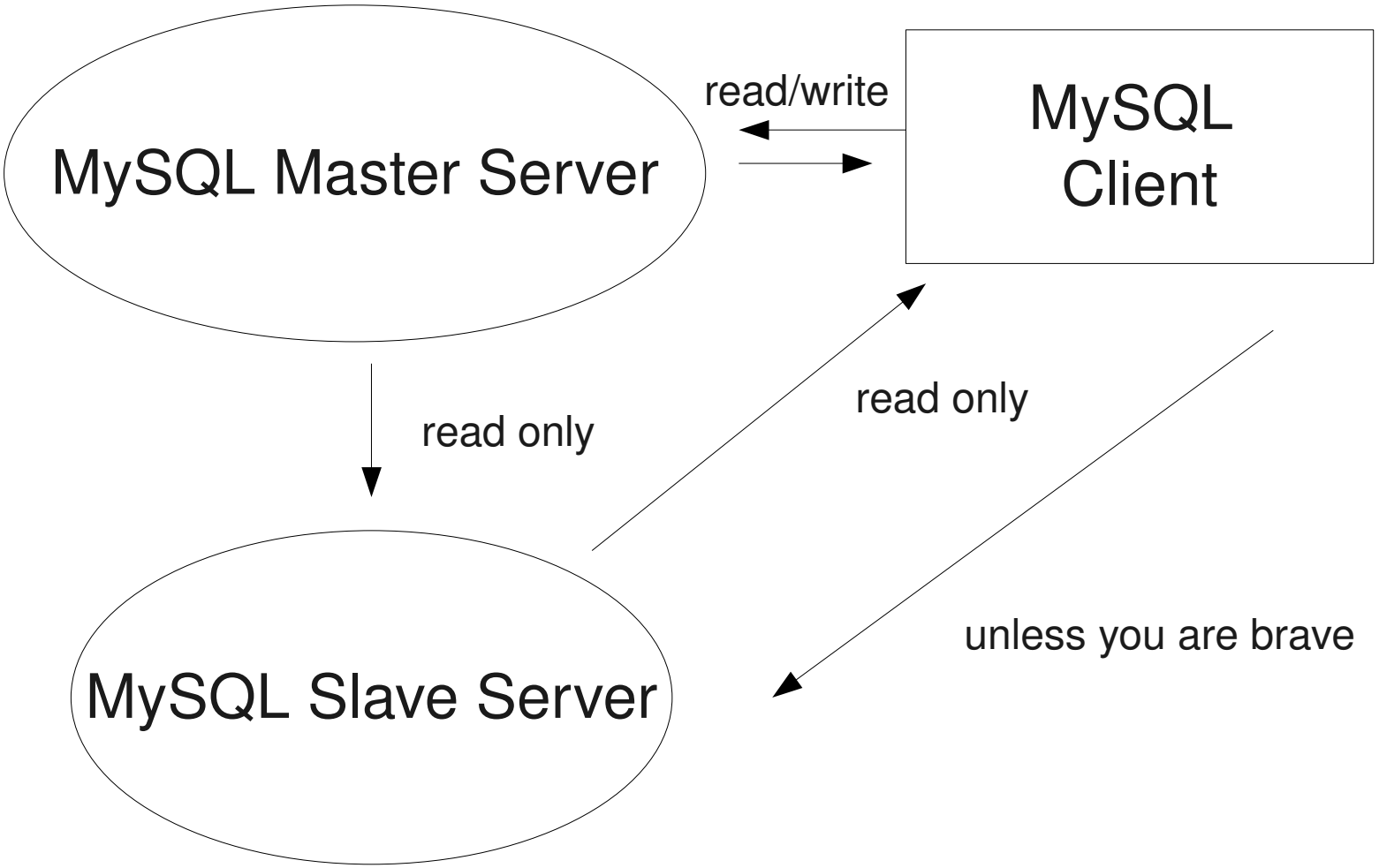
SQL

```
SELECT * FROM tbl_name WHERE name = 'ah';

INSERT INTO tbl_name (a,b,c) \
VALUES(1,2,3);

UPDATE items,month SET \
items.price=month.price \
WHERE items.id=month.id;
```

MySQL Master/Slave Replication



Installation

```
# aptitude install \
> mysql-server

# yum install \
> mysql-server
```

Master Configuration

```
/etc/my.cnf
/etc/mysql/my.cnf
my.ini
```

Master Configuration

```
#skip-networking
```

Master Configuration

```
bind-address
```

Master Configuration

```
mysql> SELECT user,host \
    -> from mysql.user;
```

Master Configuration

firewall

Master Configuration

```
ssl
ssl-ca
ssl-cert
ssl-key
```

Master Configuration

```
log-bin
log-bin-index
```

Master Configuration

```
server-id
```

Master Configuration

```
mysql> GRANT REPLICATION \
    -> SLAVE ON *.* TO \
    -> slaveuser@slaveserver \
    -> IDENTIFIED BY \
    -> 'slavepass';
```

Master Configuration

```
mysql> GRANT REPLICATION \
    -> SLAVE ON *.* TO \
    -> slaveuser@slaveserver \
    -> IDENTIFIED BY 'slavass' \
    -> REQUIRE SSL;
```

Slave Configuration

```
ssl
```

Slave Configuration

```
log-bin
log-bin-index
```

Slave Configuration

log-slave-updates

Slave Configuration

`server-id`

Slave Configuration

```
report-host
```

Slave Configuration

```
read-only
```

Slave Configuration

```
#skip-slave-start
```

Deployment – Master Side

```
mysql> FLUSH \
    -> TABLES WITH \
    -> READ LOCK;
```

Deployment – Master Side

```
mysql> \! bash
# mysqlhotcopy db1 \
> db2 db3 \
> /destination_dir
```

Deployment – Master Side

```
mysql> SHOW MASTER \
    -> STATUS;
```

```
+------------------+-----------+--------------+------------------+
| File             | Position  | Binlog_Do_DB | Binlog_Ignore_DB |
+------------------+-----------+--------------+------------------+
| host-bin.000015  | 663977216 |              |                  |
+------------------+-----------+--------------+------------------+
1 row in set (0.00 sec)
```

Deployment – Master Side

```
mysql> UNLOCK TABLES;
```

magic

Deployment – Slave Side

```
mysql> CHANGE MASTER TO \
    -> MASTER_HOST='master_host', \
    -> MASTER_USER='replication_user', \
    -> MASTER_PASSWORD='replication_pass', \
    -> MASTER_LOG_FILE='log_file_name', \
    -> MASTER_LOG_POS=log_position;
```

Deployment – Slave Side

```
mysql> CHANGE MASTER TO \
    -> MASTER_HOST='master_host', \
    -> MASTER_USER='replication_user', \
    -> MASTER_PASSWORD='replication_pass', \
    -> MASTER_LOG_FILE='log_file_name', \
    -> MASTER_LOG_POS=log_position, \
    -> MASTER_SSL=1, \
    -> MASTER_SSL_CA = 'ca_file_name', \
    -> MASTER_SSL_CAPATH = 'ca_directory', \
    -> MASTER_SSL_CERT = 'cert_file_name', \
    -> MASTER_SSL_KEY = 'key_file_name';
```

Deployment – Slave Side

```
mysql> START SLAVE;
```

Deployment – Slave Side

```
mysql> SHOW SLAVE STATUS;
```

Deployment – Slave Side

```
mysql> SHOW SLAVE \
    -> STATUS\G;
```

Offsite Backups – Slave Side

```
mysql> FLUSH TABLES \
    -> WITH READ LOCK;
mysql> FLUSH LOGS;
mysql> \! bash
# mysqlhotcopy db1 db2 \
> /some_destination
mysql> UNLOCK TABLES
```

Offsite Backups – Slave Side

```
# mysqlhotcopy \
> --flushlog \
> db1 db2 \
> /some_destination
```

Offsite Backups – Restoration

`mysqlbinlog`

Offsite Backups – Restoration

```
mysql> CHANGE MASTER TO \
    -> RELAY_LOG_FILE= \
    -> 'myhost-bin.153', \
    -> RELAY_LOG_POS=410, \
    -> MASTER_HOST= \
    -> 'some_dummy_string';
mysql> START SLAVE SQL_THREAD;
```

Failover

```
mysql> SHOW SLAVE STATUS\G;
mysql> STOP SLAVE;
mysql> CHANGE MASTER TO \
    -> MASTER_HOST='blah';
mysql> SHOW MASTER STATUS;
```

Failover - configuration

```
skip-slave-start
```

Failover - configuration

```
#read-only
```

Load balancing

Load balancing

```
$wgDBservers = array(
        array(
                'host' =>
"master.serv.er",
                'dbname' => "wikidb",
                'user' => "wikiuser",
                'password' => "secret",
                'type' => "mysql",
                'load' => 0,
        ),
        array(
                'host' =>
"slave1.serv.er",
                'dbname' => "wikidb",
                'user' => "wikiuser",
                'password' => "secret",
                'type' => "mysql",
                'load' => 1,
        ),
);
```

More Questions

Goodnight