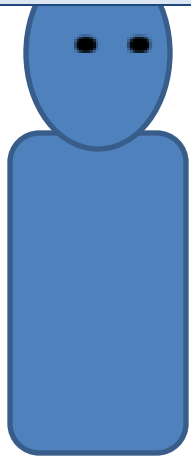


Introduction to MongoDB



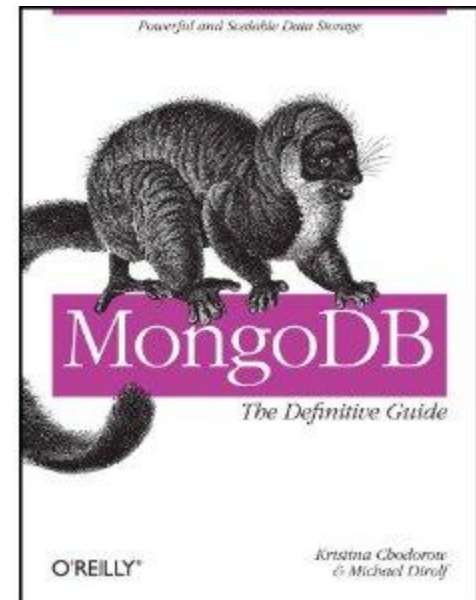
Kristina Chodorow
kristina@mongodb.org



mongoDB



10gen



```
graph TD; Application[Application] --- PHP[PHP]; PHP --- Apache[Apache]; PHP --- Database[Database]; Apache --- Linux[Linux]; Database --- Linux[Linux];
```

Application

PHP

Apache

Database

Linux

Application

PHP

IIS



Windows

Application

PHP

Apache

ORACLE®

Linux

Application

PHP

Apache

Linux



OM NOM NOM

Application

PHP

Apache

Linux



Application

PHP

Apache

Linux

The world's most
popular open source
database



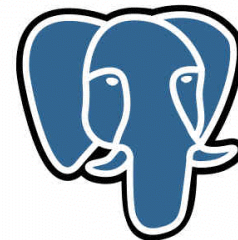
Application

PHP

Apache

Linux

PostgreSQL

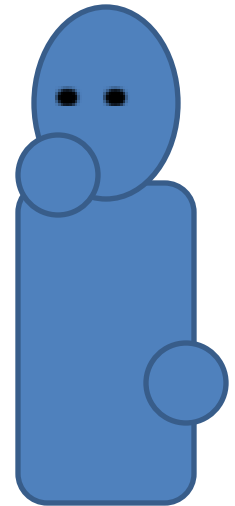
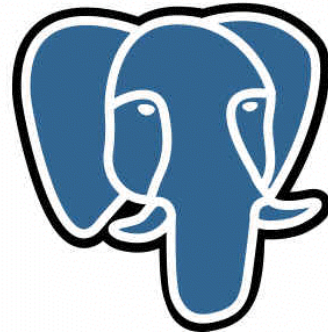


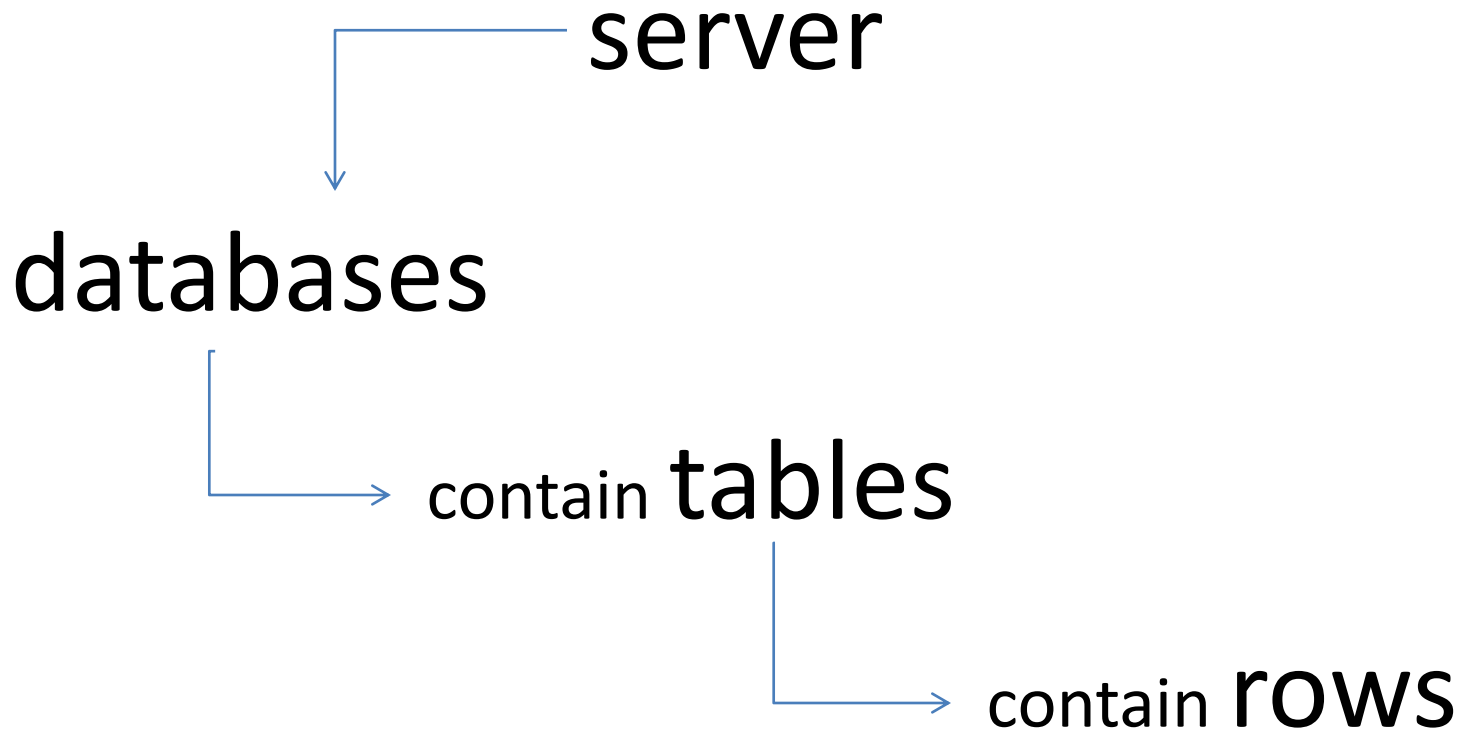
The world's most
advanced open source
database

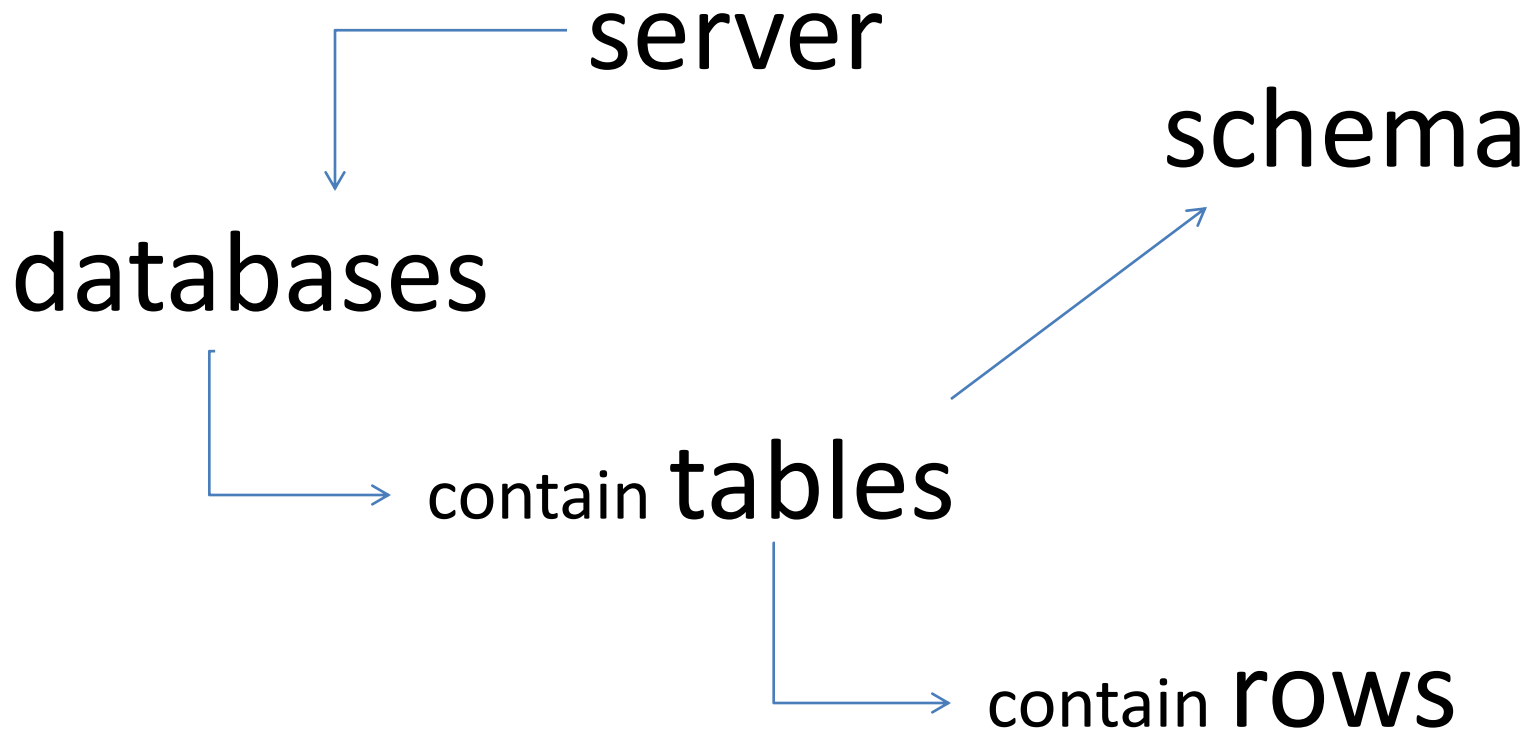


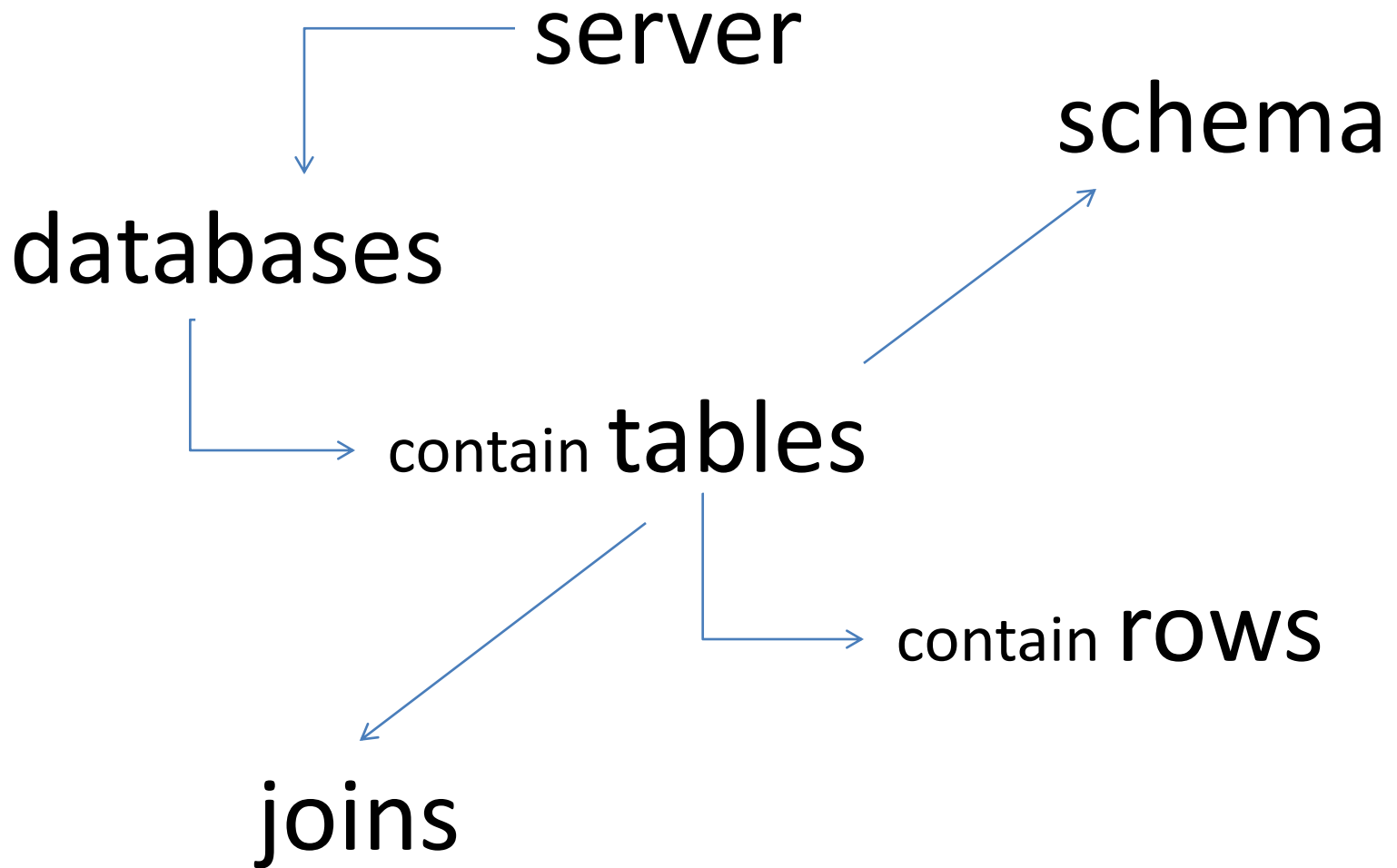
ORACLE®

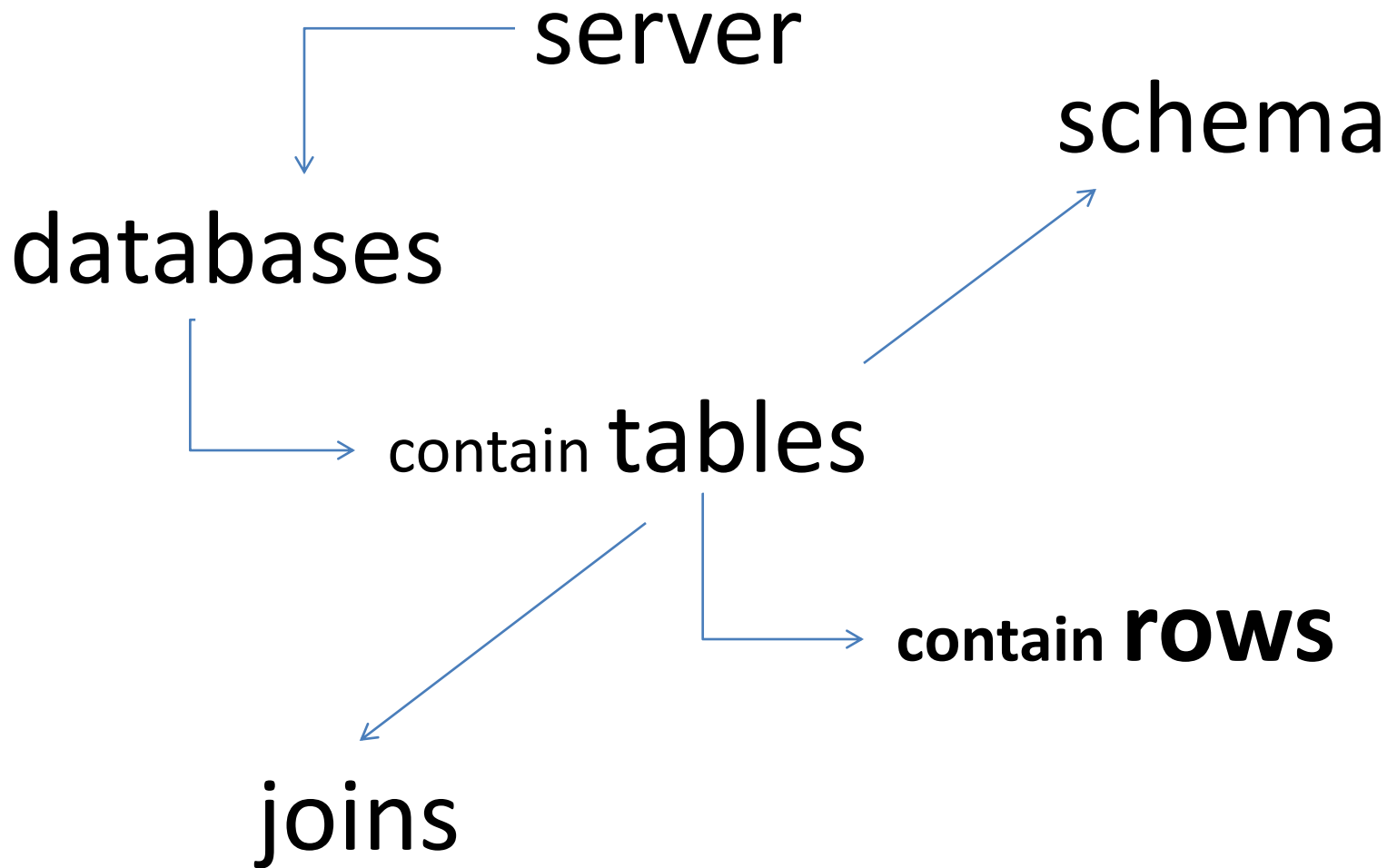
PostgreSQL













Dashboard

Dashboard

Site Stats

Akismet Stats



Posts

Edit

Add New

Post Tags

Categories

Media

Links

Pages

Comments



Appearance

Themes

Widgets



Dashboard

Right Now

At a Glance

52 Posts

96 Comments

3 Pages

58 Approved

7 Categories

0 Pending

66 Tags

38 Spam

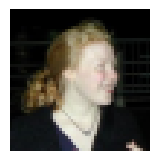
Theme **WordPress Default** with **5 Widgets**

[Change Theme](#)

You are using **WordPress 2.9.2**.

Akismet has protected your site from 1,572 spam comments already, and there are **38 comments** in your spam queue right now.

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From [kristina](#) on [Sleepy.Mongoose: A MongoDB REST Interface #](#)

@Matt the user list is a good place to ask questions

QuickPress

Title

Content

Tags

Recent Drafts

[Quest for a](#)

I still have t

(no title) A

I often see

(no title) M

Just did a T

Videos Being Watched Now

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Spouse - I'm Awesome (OFFICIAL VIDEO)

10,441 views
spizzyspose



Charleston, WV, Defeats Westboro Baptist Church with Love

11,626 views
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17,283 views
noahgarf

Featured Videos





Raskalor

Keeg Gibn

Dunmore

Fafhrkek

whiteout

Keeg Gibn

Fafhrkek

Damador
<Night Crew>

Dunmore

You dance with Keeg Gibn.
 You dance with Keeg Gibn.
 You dance with Keeg Gibn.
 [1: General] Beryl: get down tonight?
 Dunmore says: join in folks
 [1: General] FourInchTool: Considering we're dwarves, little is right.
 Damador bursts into dance.
 Dunmore bursts into dance.

TigerLibra gains Devotion Aura.
 BeoWolven gains Devotion Aura.
 Devotion Aura fades from BeoWolven.
 Devotion Aura fades from BaleogFierce.
 Devotion Aura fades from TigerLibra.
 Devotion Aura fades from Erebus.
 Devotion Aura fades from Brunhilde.
 Devotion Aura fades from BaleogFierce.

Damador
 Dwarf Paladin
 Level 8



Application

Perl

Apache



mongoDB

Linux

getting started

www.mongodb.org

```
$ mysql
```

```
$ mongod
```

```
$ mysql
```

```
$ mongo
```

```
$ mongo
```

```
MongoDB shell version 1.5.5
```

```
url: test
```

```
connecting to: test
```

```
type "help" for help
```

```
>
```

```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
```

```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
test
>
```

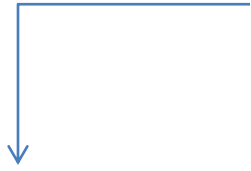
```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
test
>
```

NO ADMINISTRATION

```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
test
> table = db.foo
```

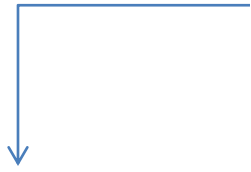
server

server



databases

server

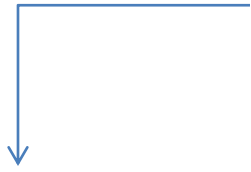


databases



contain tables

server

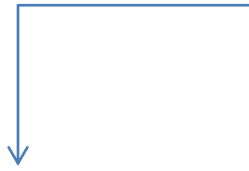


databases



contain ~~tables~~

server



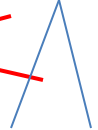
databases

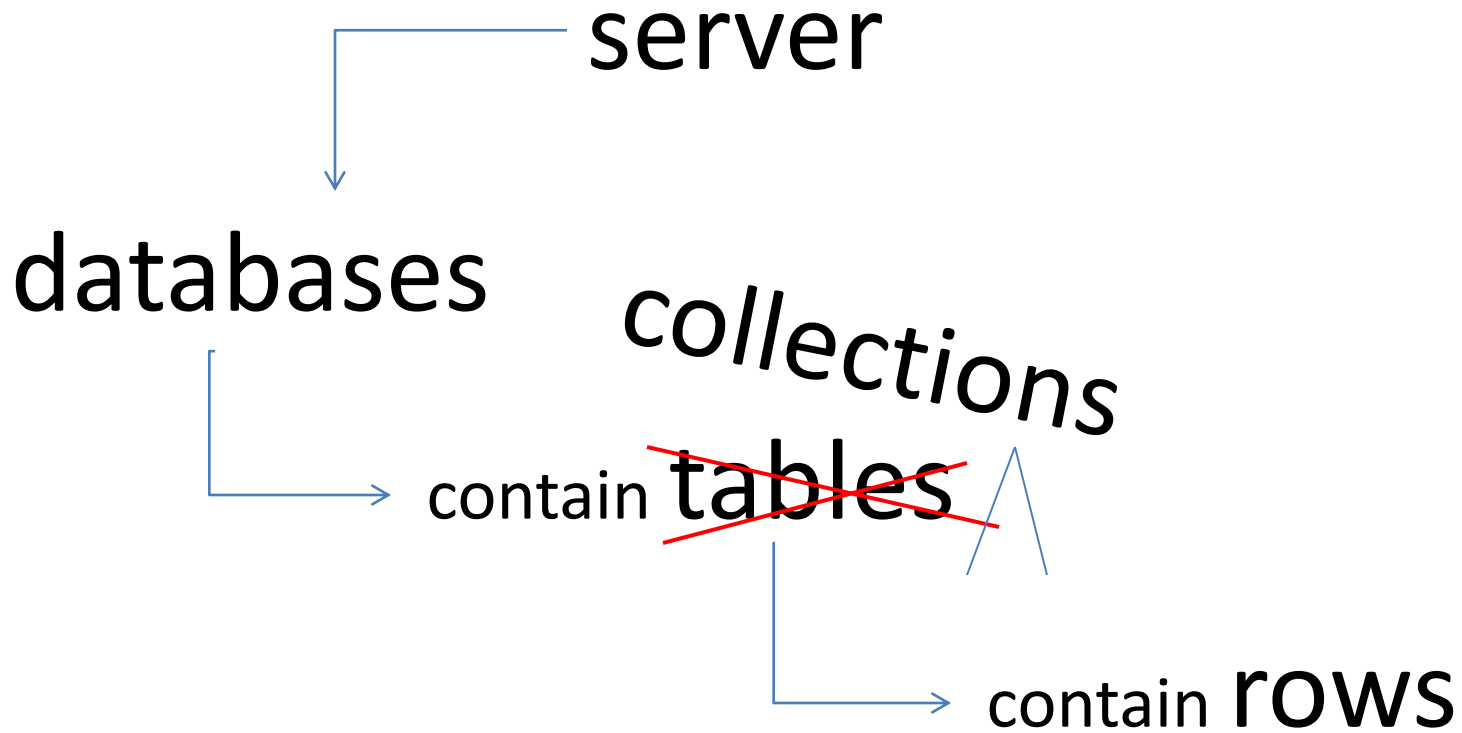
collections

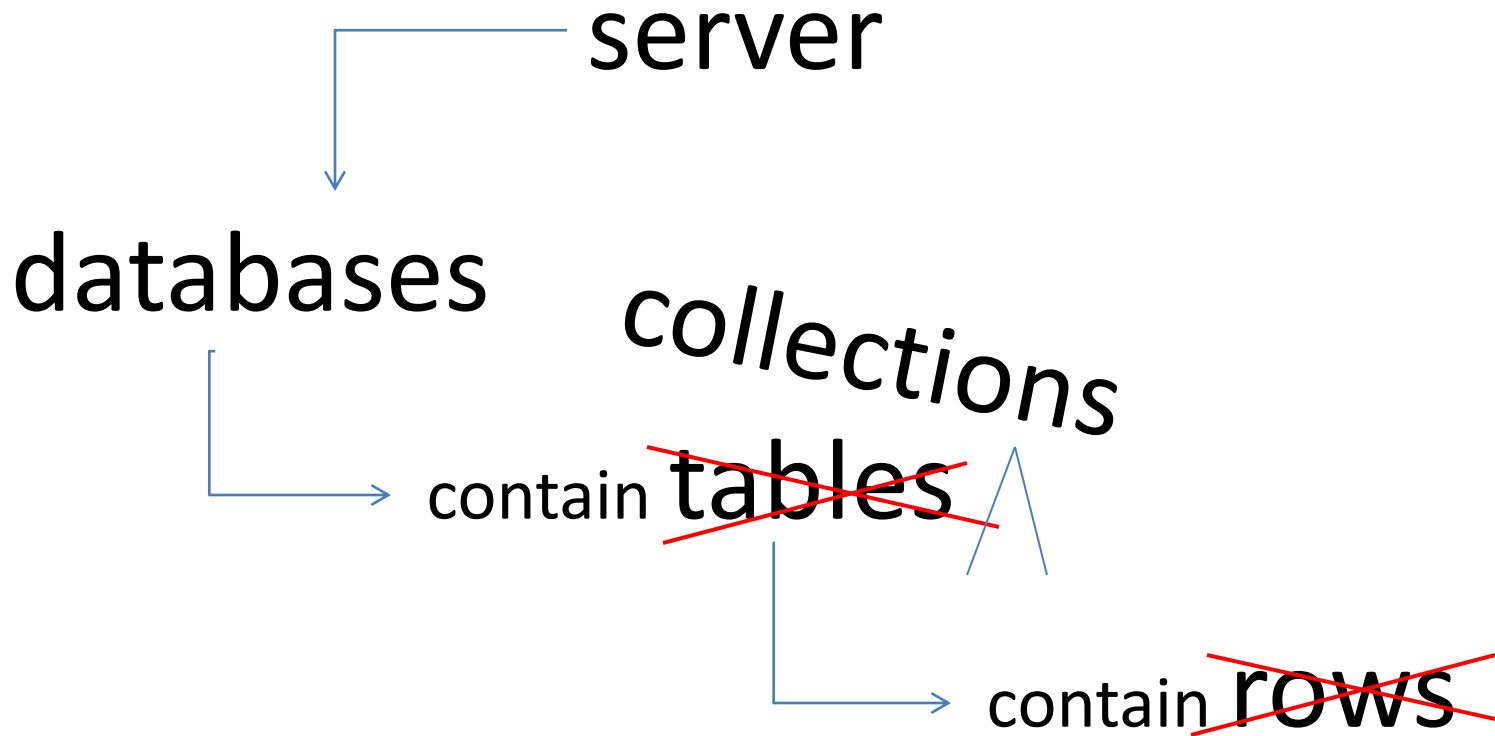


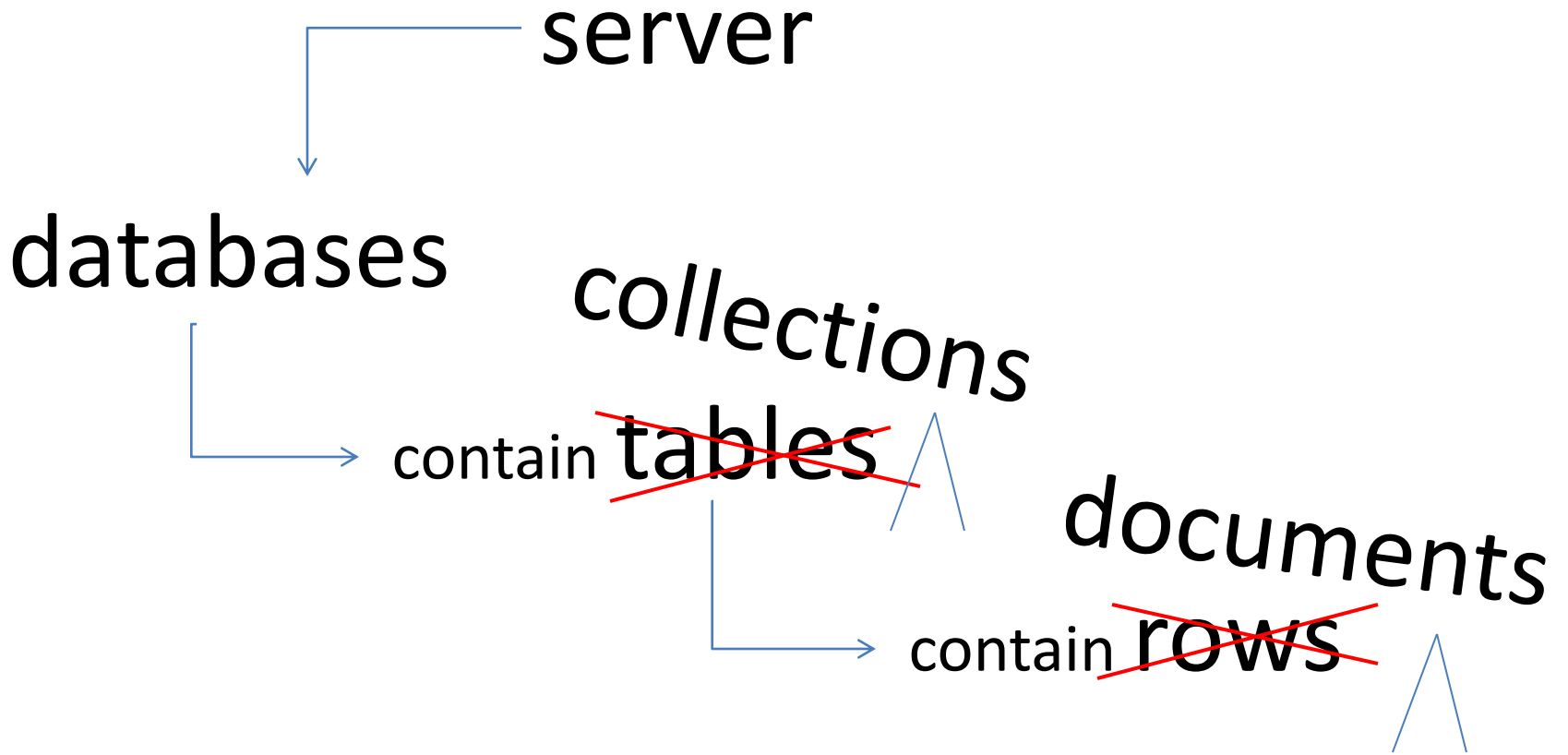
contain

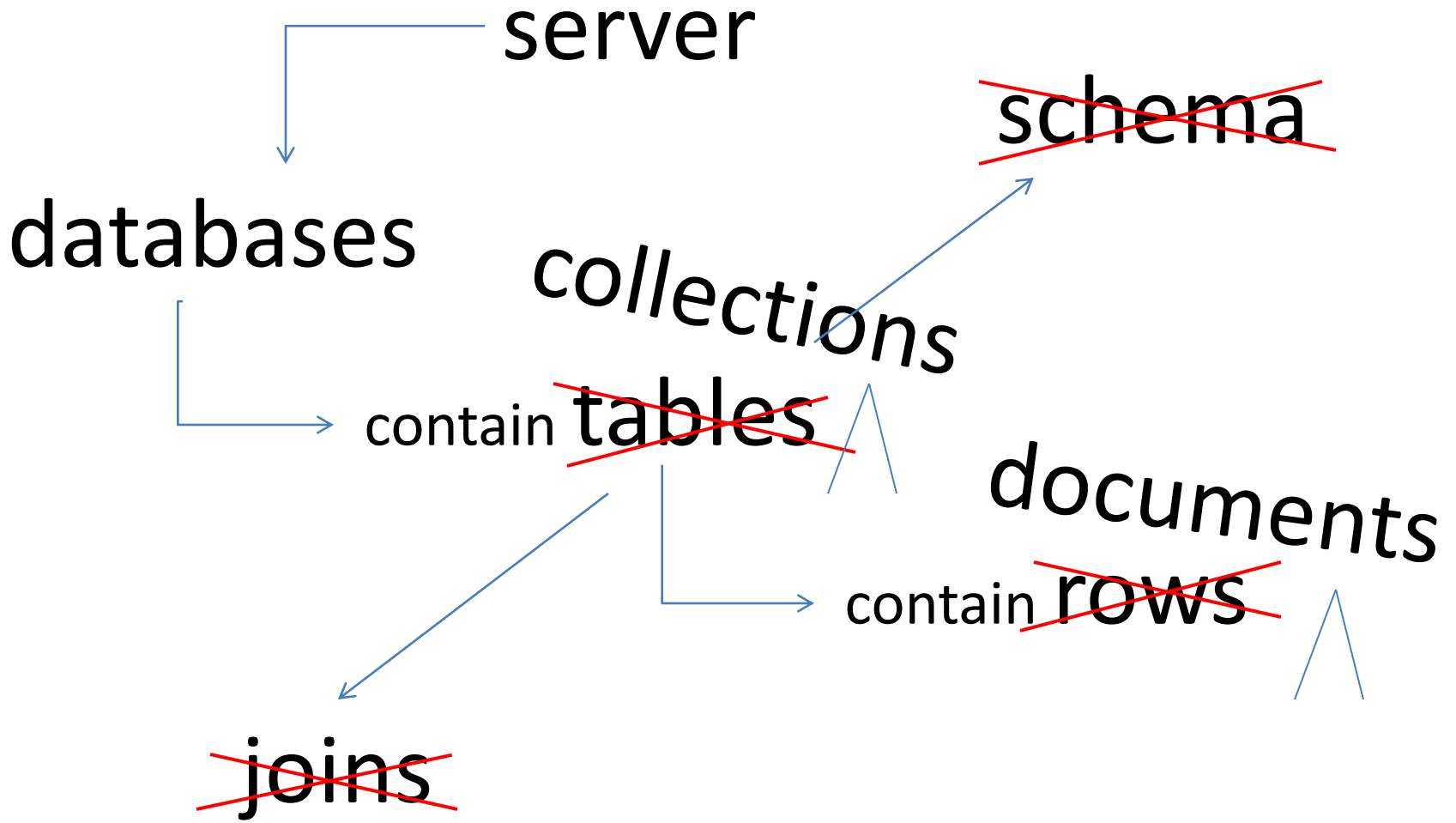
~~tables~~

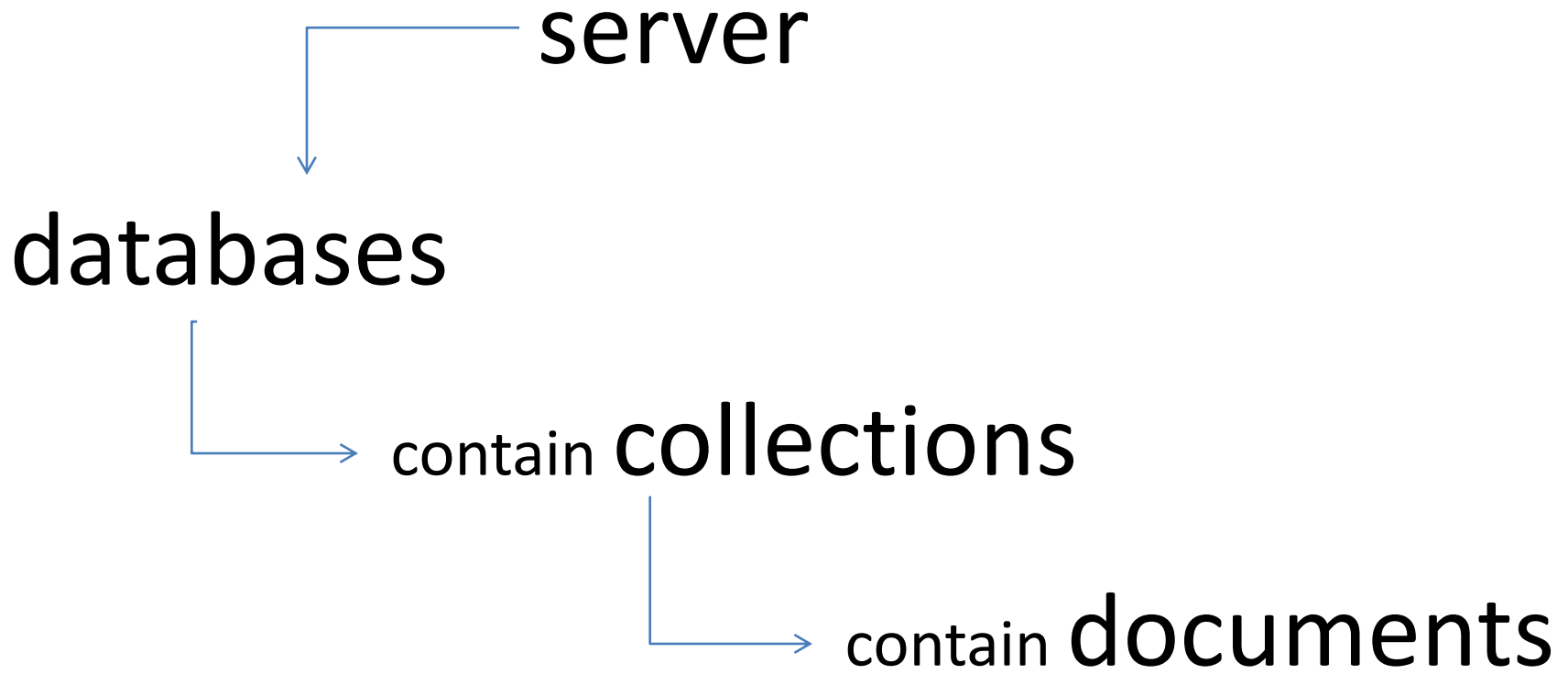












```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
test
> collection = db.foo
```

```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db
test
> collection = db.foo
```

NO ADMINISTRATION

```
> doc = {  
... "name" : "kristina",  
... "contact info" : {  
...   "twitter" : "@kchodorow",  
...   "email" : "kristina@10gen.com"  
... },  
... "friends" : 400232,  
... "pic" : BinData(...)  
... "member since" : new Date() }
```

```
> db.foo.insert(doc)
```

```
> db.foo.findOne({"name" : "kristina"});
```

```
> db.foo.findOne({"name" : "kristina"})
```

```
> db.foo.findOne({  
... "contact.twitter" : "@kchodorow"})
```

```
> db.foo.findOne({"name" : "kristina"})
```

```
> db.foo.findOne({  
... "contact.twitter" : "@kchodorow"})
```

```
> db.foo.find({  
... "member since" : {  
...   "$gt" : yesterday,  
...   "$lt" : today  
... }})
```

```
> db.foo.findOne({"name" : "kristina"})

> db.foo.findOne({
... "contact.twitter" : "@kchodorow"})

> db.foo.find({
... "member since" : {
...   "$gt" : yesterday,
...   "$lt" : today
... }}).sort({friends : 1}).limit(10).
... skip(100)
```

```
db.people.update(  
  {name : "kristina"},
```

```
db.people.update(  
  {name : "kristina"},  
  {$set :
```

```
db.people.update(  
  {name : "kristina"},  
  {$set :  
    {"contact.website" :  
      "snailnaturtleneck.com"  
    }});
```

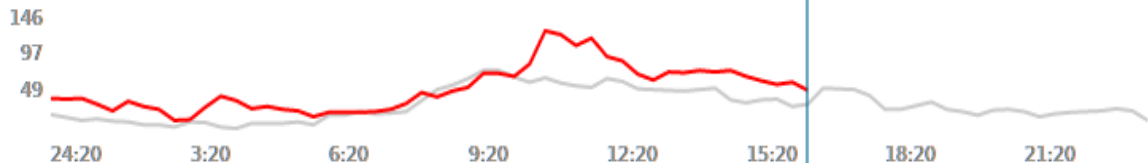
```
> db.pageviews.update(  
  {url : "example.com"},  
  {$inc : {pageviews : 1}},  
  true)
```

4:36:54 PM

Real-time

Replay

Today | 7 days | 30 days



Active Visits

61



30-Day Min 0 30-Day Max 315



New 13 Returning 48

Top Pages

(Paused) More

A VC 13



The Twitter Platform's Inflection 13



Internet Freedom 6



Blackberry Gets Some Social Media 6



Analyzing Financial Statements 3



Cash Flow 3



MBA Mondays : A VC 2



Accounting 2



Does Apple Have A Blind Spot About 1



10 Golden Principles of 1



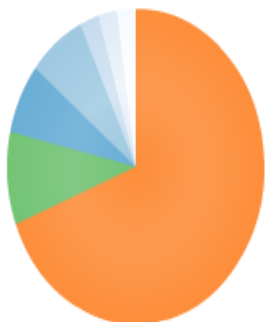
Three Web 2.0 Questions 1



Each ● represents 1 active visit(s). 11 pages shown are 84 percent of active visits.

Traffic Sources

More



Links 19

- twitter.com 3
- pehub.com 3
- bothsidesofthetable.com 1
- google.com 1
- cdixon.org 1
- techcrunch.com 1
- bloglines.com 1

Search 4

- music This is My country 1
- viral 1
- if net income goes up does equity 1
- power of compounding reinvesting 1

Direct 29

Engagement

Reading 11 Writing 4



Idle 46

Minutes on Page

from techmeme.com/ 4:36:08 11 seconds to load Finland

Compounding Interest from search: power of compound 4:36:06 133.14 seconds to load United States

Affiliate Marketing Underv from blog.viglink.com/ 4:36:02 16.01 seconds to load Oregon, United States

Blackberry Gets Some So 4:36:00 3.67 seconds to load California, United States

Cash Flow 4:36:00 24.07 seconds to load New York, United States

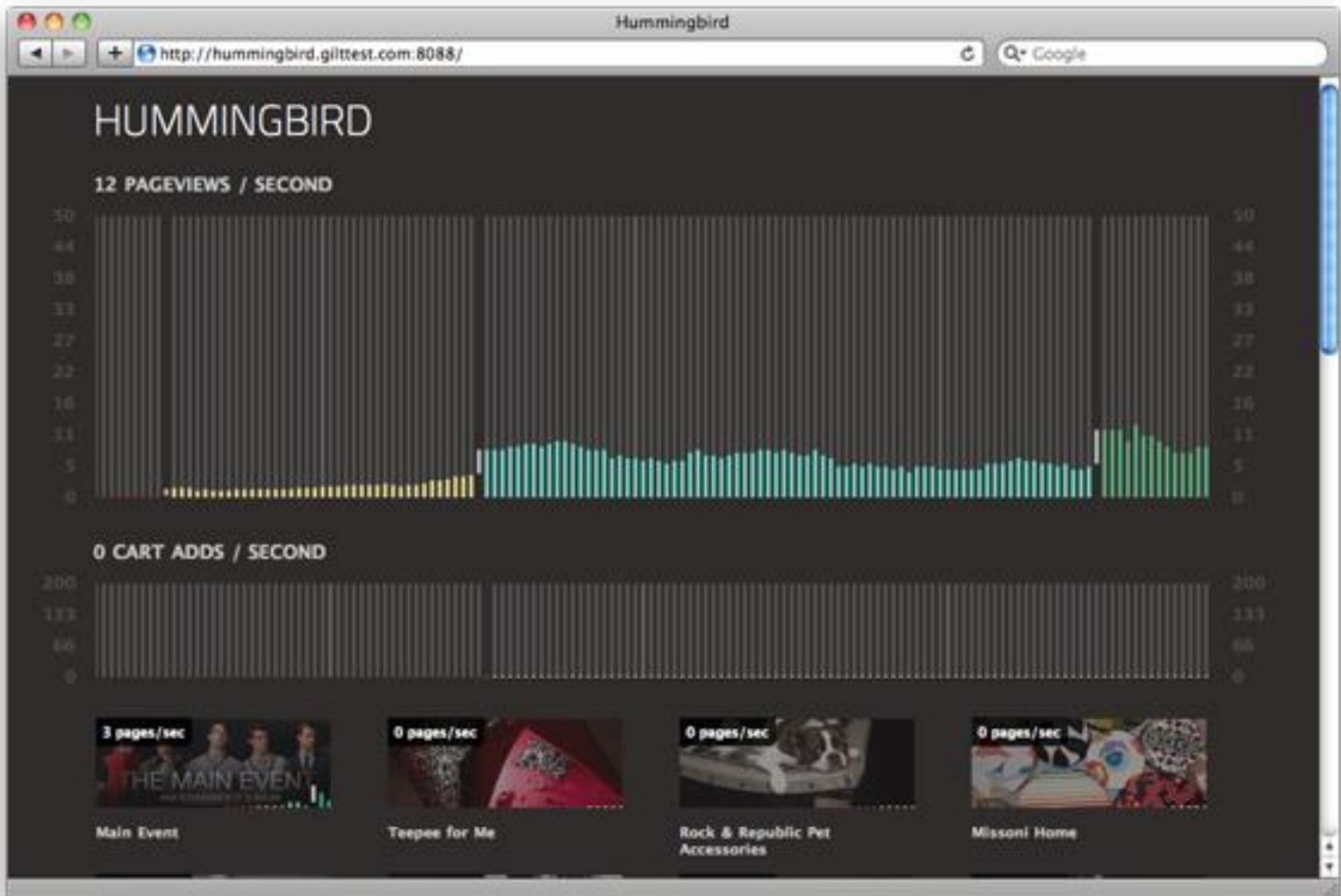
10 Golden Principles of Su Apps 4:36:00 25.08 seconds to load New York, United States

Blackberry Gets Some So from twitter.com/fredwilson/ 4:35:59 24.35 seconds to load Canada

Internet Freedom from google.com/reader/view/ 4:35:58 6.12 seconds to load United States

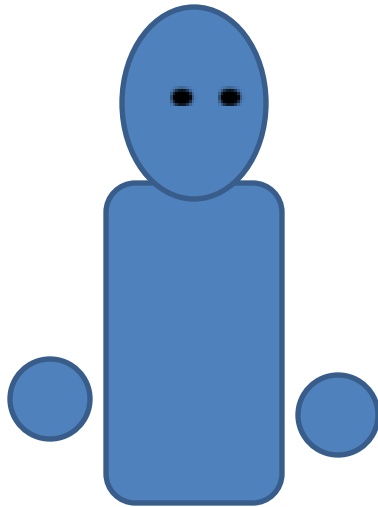
Cash Flow from search: if net income goes up 4:35:58 9.95 seconds to load New Jersey, United States

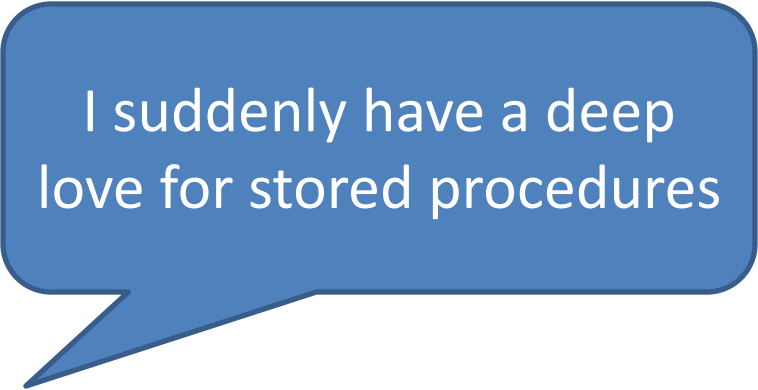
Cash Flow 4:35:56 4.45 seconds to load Washington, United States



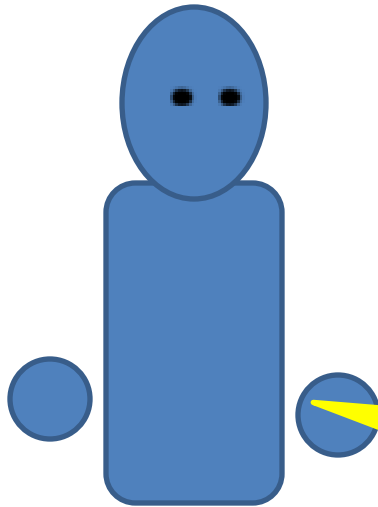
some features

I suddenly have a deep
love for stored procedures





I suddenly have a deep
love for stored procedures



**now with stored
procedures!**

```
> db.system.js.insert({  
  "_id" : "x",  
  "value" : 3});
```

```
> db.system.js.insert({  
  "_id" : "y",  
  "value" : 4});
```

```
> db.eval("return x+y")
```

```
> db.system.js.insert({_id : "log",  
... value : function(msg, level) {  
...   var date = "[" + new Date() + "] ";  
...   var lvl = level ? level+" " : "";  
...   print(date + lvl + msg);  
... }})
```



```
> db.eval("log('all your base are  
belong to us', 'FATAL');");
```

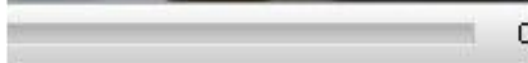
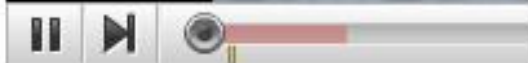
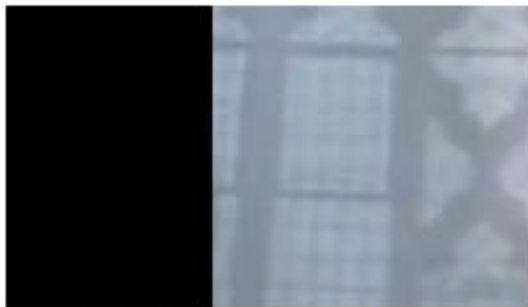
```
> db.eval("log('all your base are  
belong to us', 'FATAL');");
```

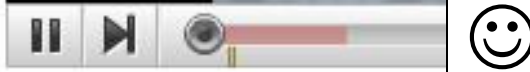
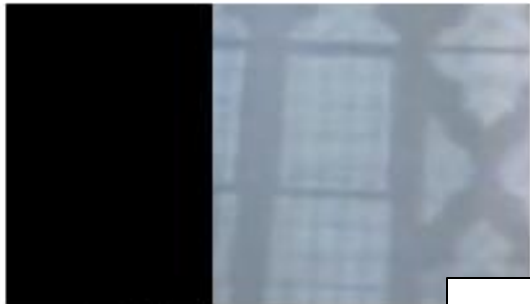
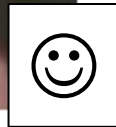
```
[Fri May 19 18:34:57] FATAL all your  
base are belong to us
```



VEVO

0:04 / 3:33  360p    



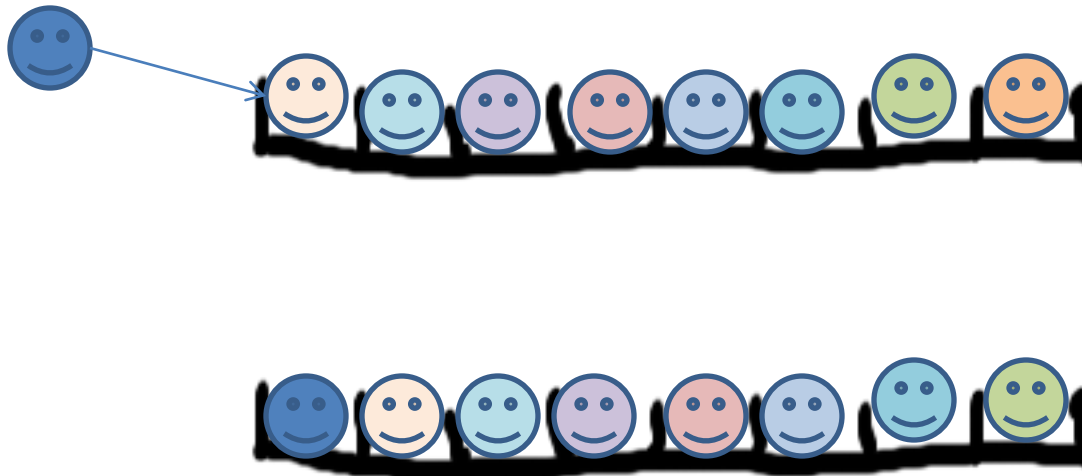




Ri

Video player controls including a progress bar, play/pause button, volume icon, 360p resolution indicator, and other standard playback controls.

capped collections



indexes

geospatial indexes

Everywhere

Search

WA
Memory "Say hi to Greg and Ian"

WA
ills "Find something beautiful
me"

ttle, WA
oods - Interbay "Vanilla latte &
-best breakfast"

, Washington
City Basketball Academy
frest. ECBA!!!

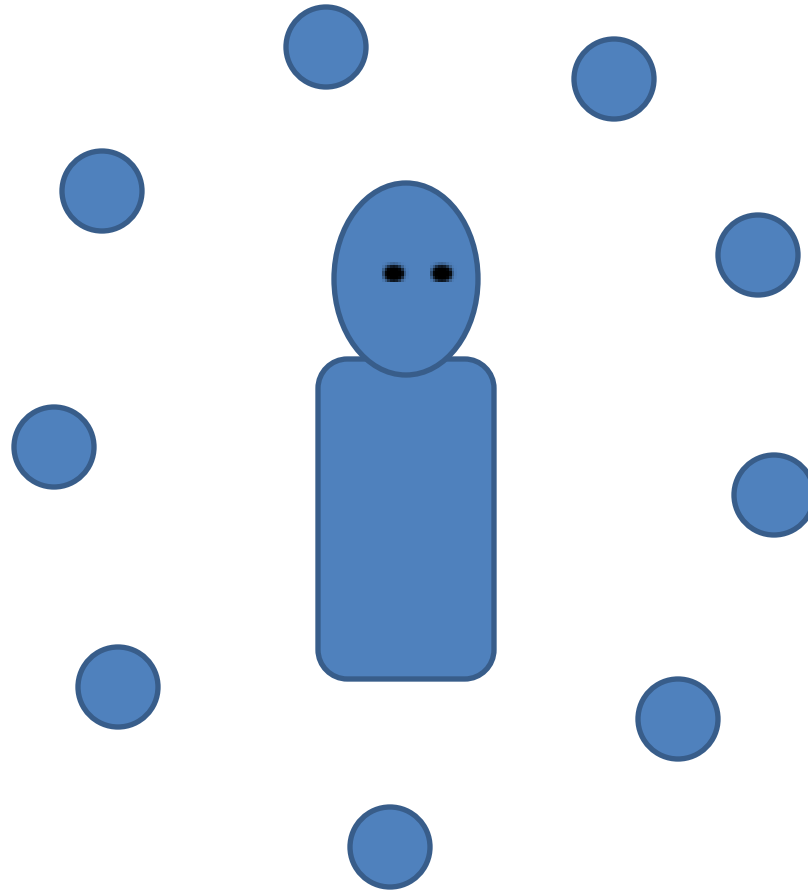
hinese Village "Had

, Washington
Colin "Enter through the right

updates?

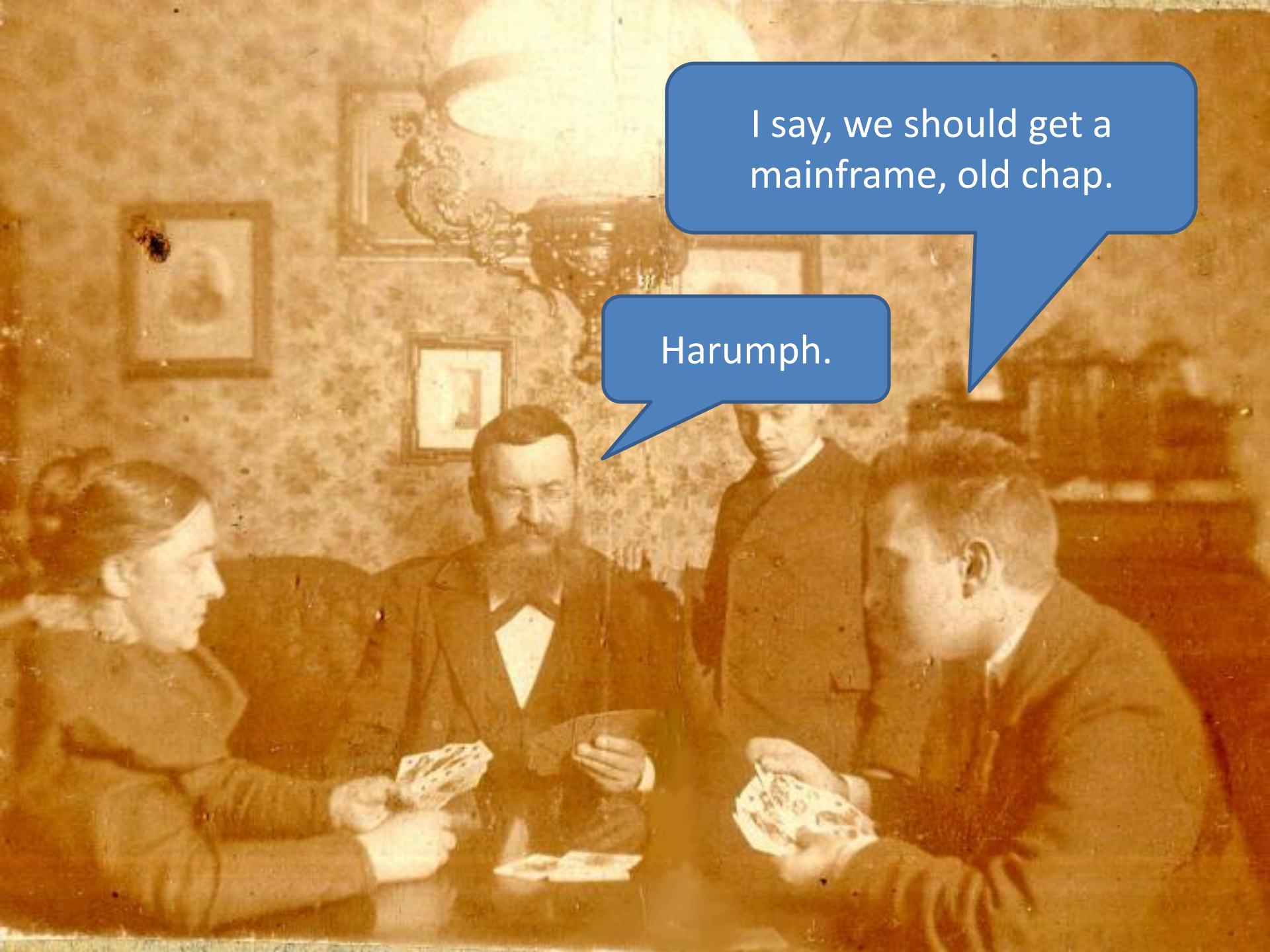


MapReduce



what did we leave out?

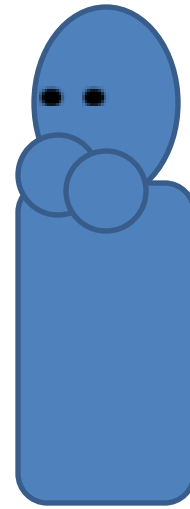


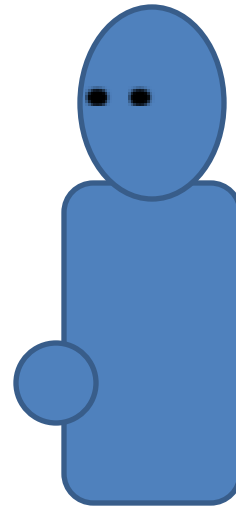


I say, we should get a mainframe, old chap.

Harumph.







are you practicing safe
data storage?



The world's most popular open source database

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Documentation

MySQL Manual

MySQL Workbench

Expert Guides

Topic Guides

MySQL Cluster

Other Docs

MySQL Uni

About

Archives

MySQL 5.5 Reference Manual :: 13 Storage Engines :: 13.6 The InnoDB Storage Engine :: 13.6.2 InnoDB Configuration

Documentation Library

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MySQL 5.5 Manual

MySQL 5.4 Manual

MySQL 5.1 Manual

MySQL 5.0 Manual

MySQL 3.23/4.0/4.1 Manual

Search manual:

Go

13.6.2. InnoDB Configuration

[+/-]

[13.6.2.1. Using Per-Table Tablespaces](#)

[13.6.2.2. Using Raw Devices for the Shared Tablespace](#)

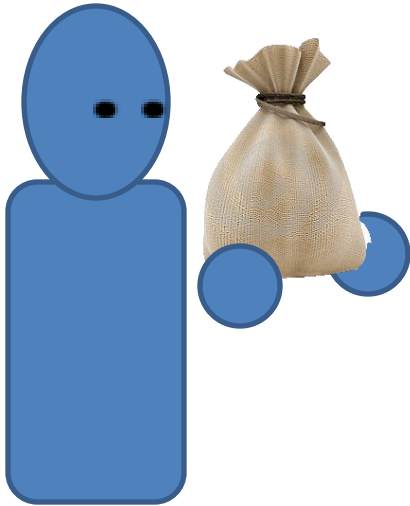
[13.6.2.3. Creating the InnoDB Tablespace](#)

[13.6.2.4. Dealing with InnoDB Initialization Problems](#)

If you do not want to use **InnoDB** tables, start the server with the `--skip-innodb` option to disable the **InnoDB** startup engine.

Caution

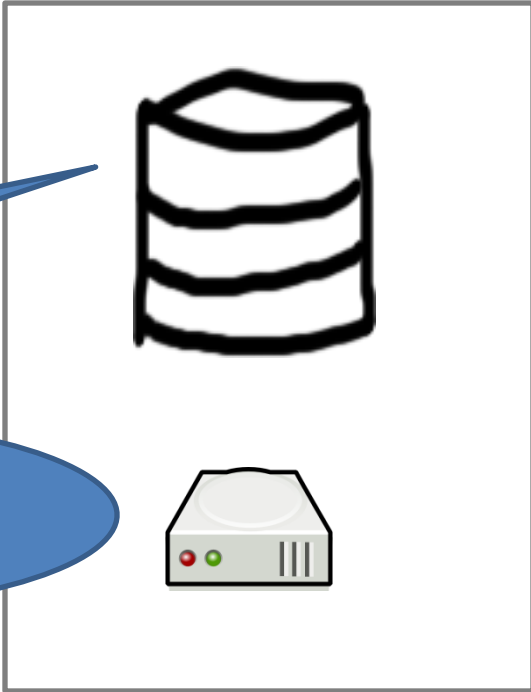
InnoDB is a transaction-safe (ACID compliant) storage engine for MySQL that has commit, rollback, and crash-recovery capabilities to protect user data. **However, it cannot do so** if the underlying operating system or hardware does not work as advertised. Many operating systems or disk subsystems may delay or reorder write operations to improve performance. On some operating systems, the very `fsync()` system call that should wait until all unwritten data for a file has been flushed might actually return before the data has been flushed to stable storage. Because of this, an operating system crash or a power outage may destroy recently committed data, or in the worst case, even corrupt the database because of write operations having been reordered. If data integrity is important to you, you should perform some “pull-the-plug” tests before using anything in



Insert this.

Okay, got it.

Phew, my data's safe.

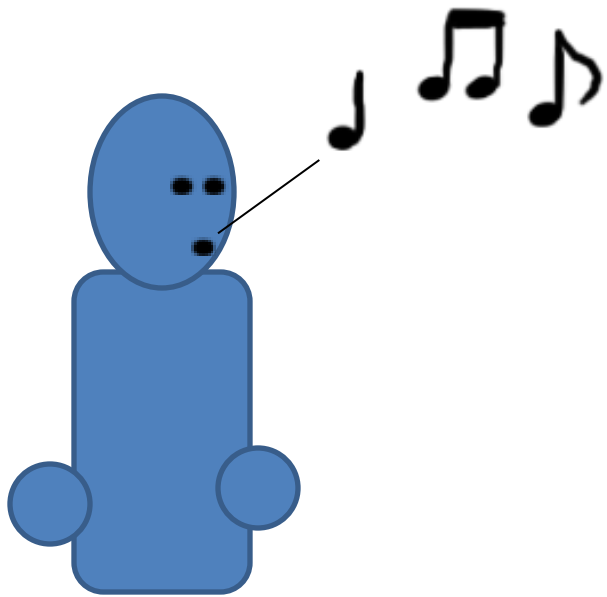


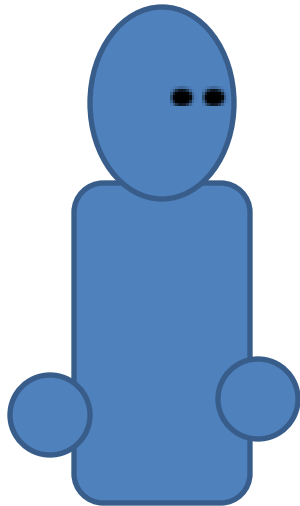
Write this to disk

All over it!

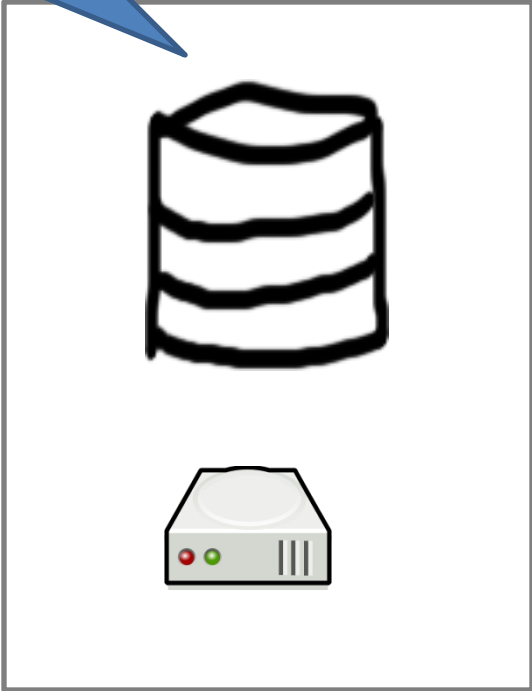


I know better than he does, I'll just let this sit in a buffer for a while.



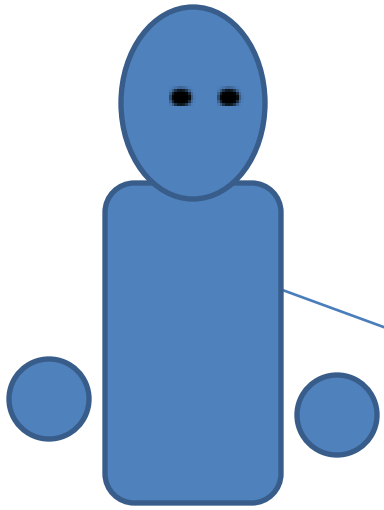


I have no idea what
you're talking about.



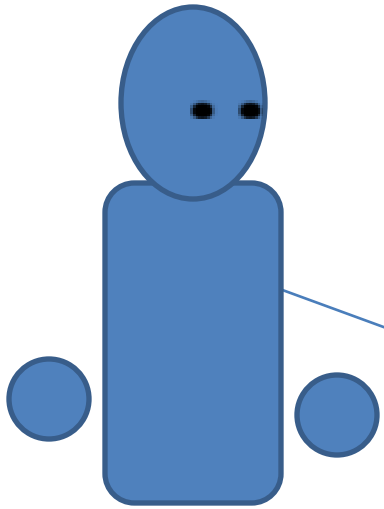
trust no one!

...trust a bunch of ones. Mostly.



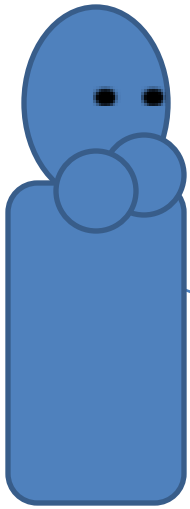
prod1.example.com

prod2.example.com



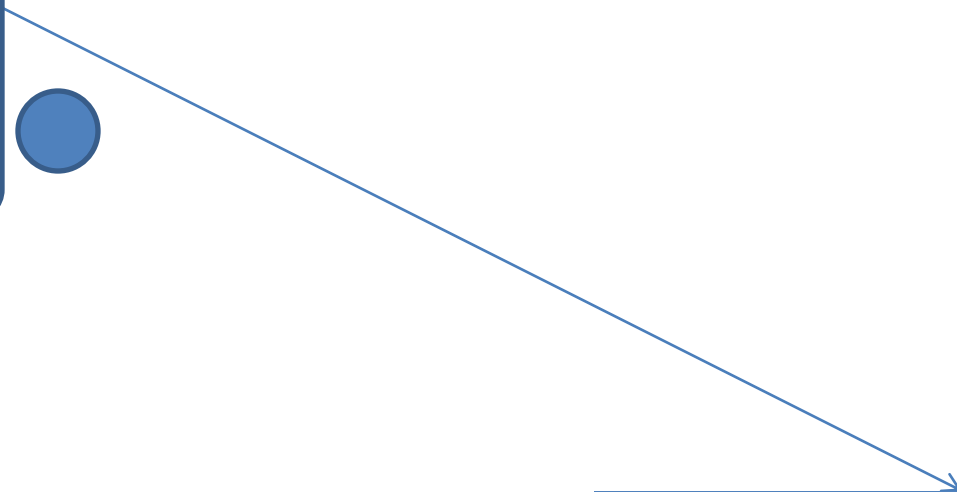
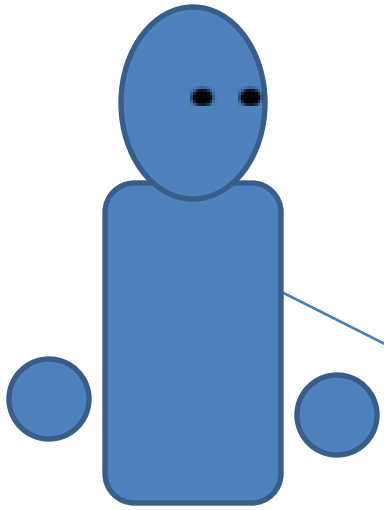
prod1.example.com

prod2.example.com



~~prod1.example.com~~

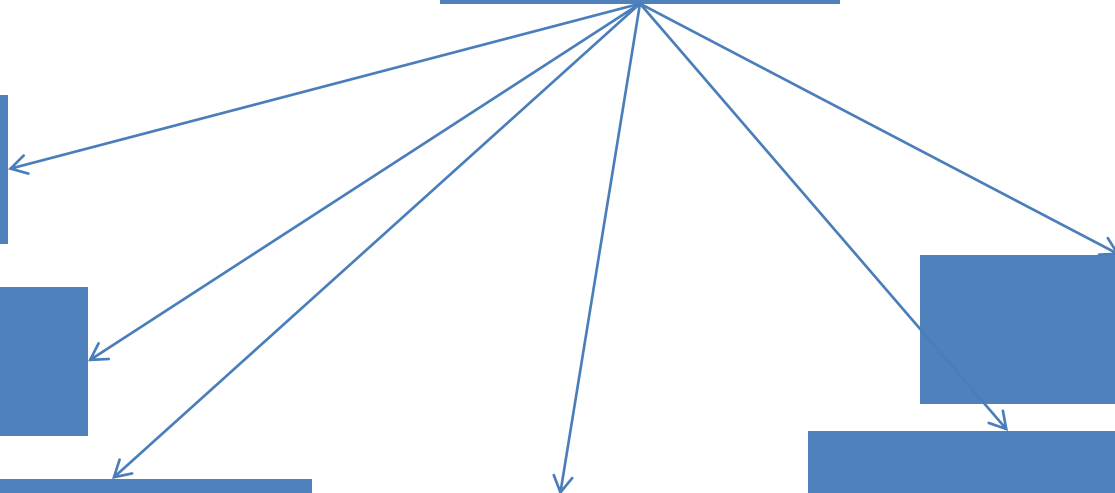
prod2.example.com



prod2.example.com

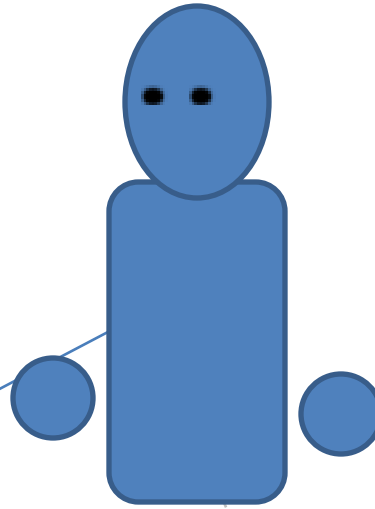
~~prod1.example.com~~

SOURCE-forge





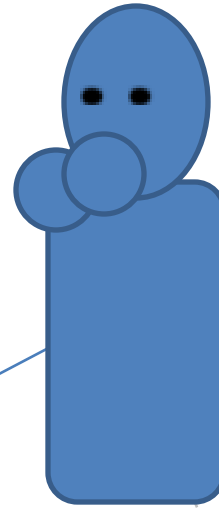
prod1.example.com



prod2.example.com



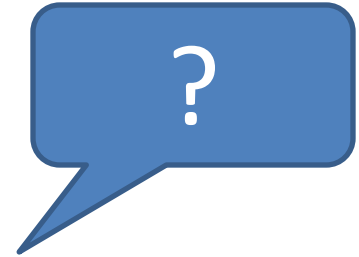
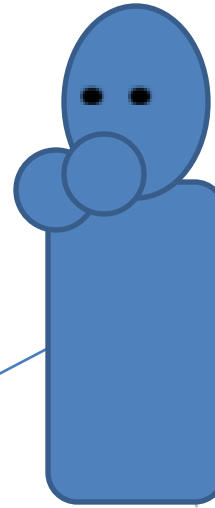
~~prod1.example.com~~



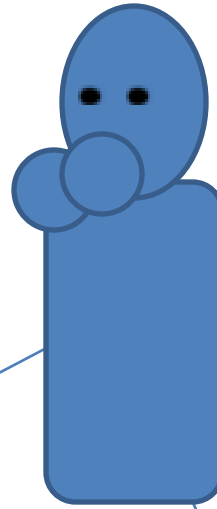
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~~prod1.example.com~~



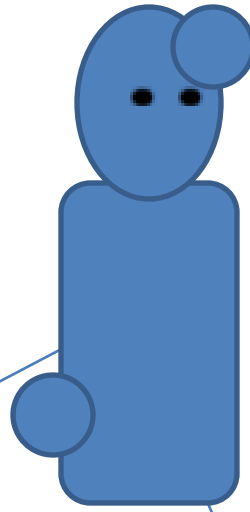
prod2.example.com



~~prod1.example.com~~

prod2.example.com

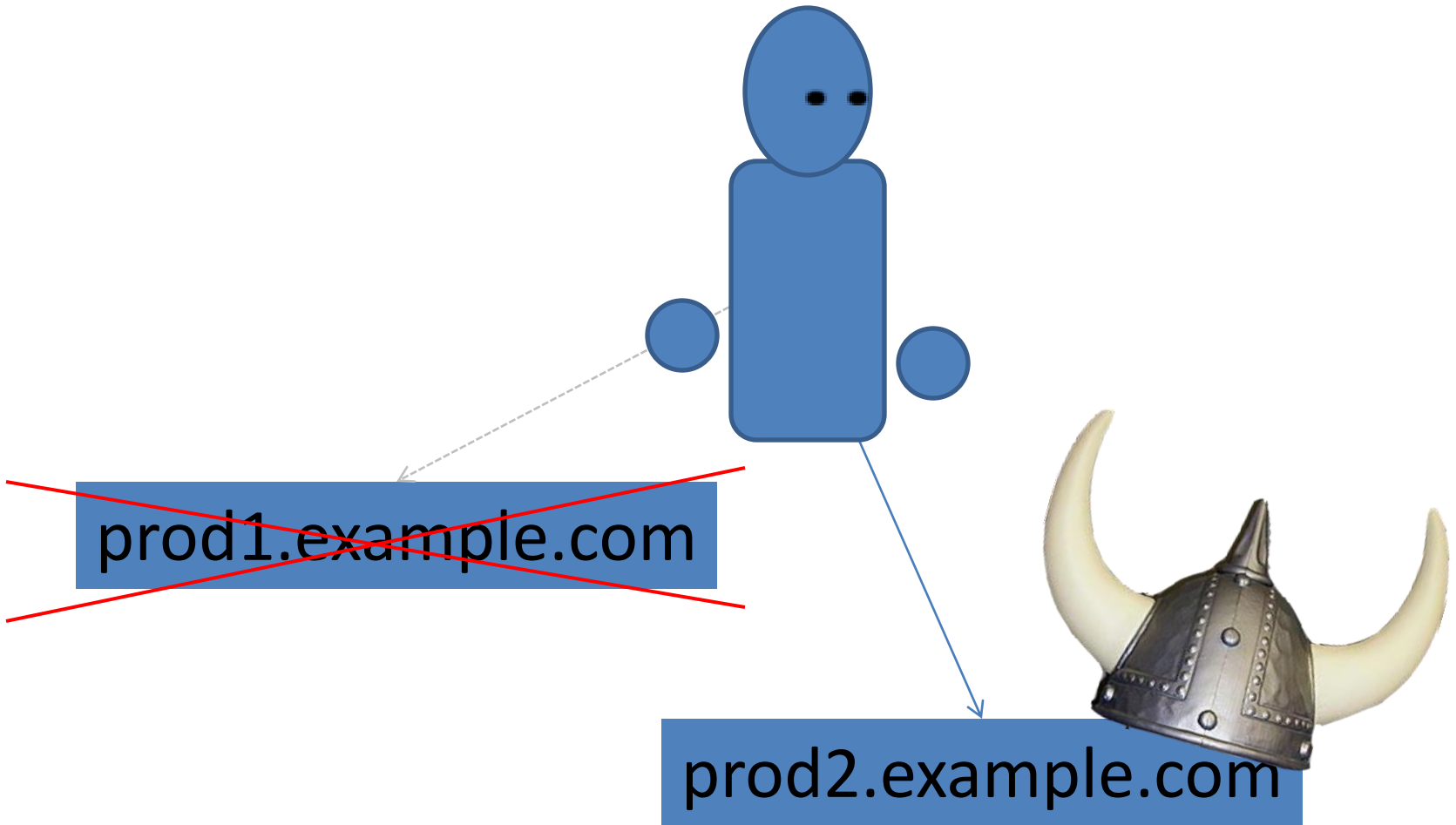




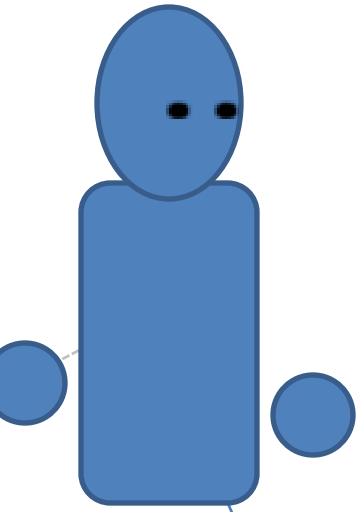
~~prod1.example.com~~

prod2.example.com



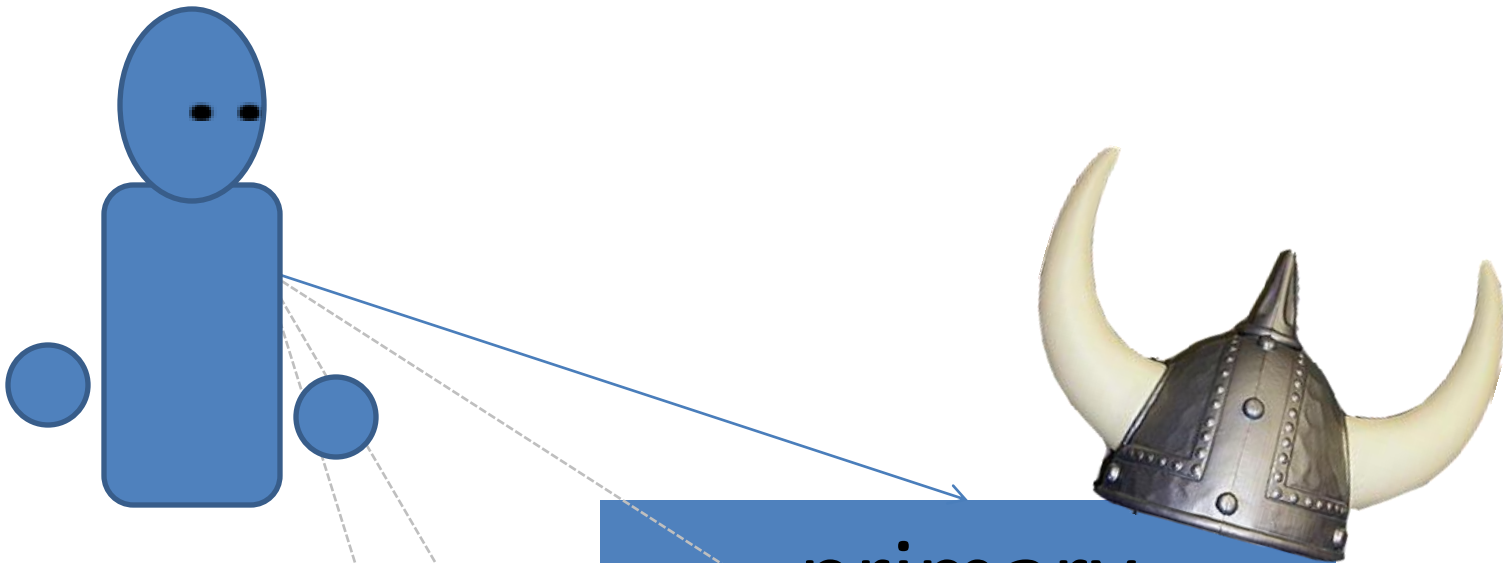


prod1.example.com



prod2.example.com



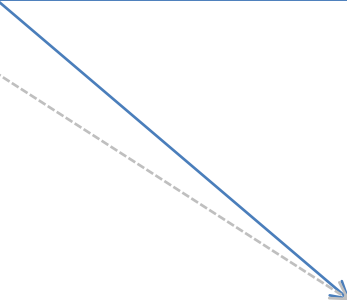
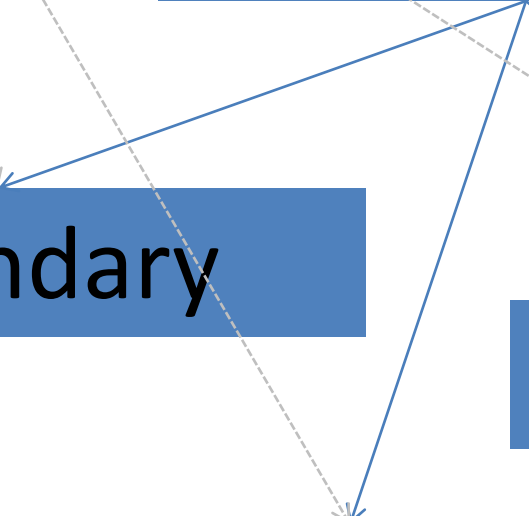
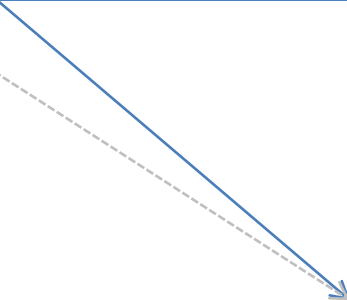
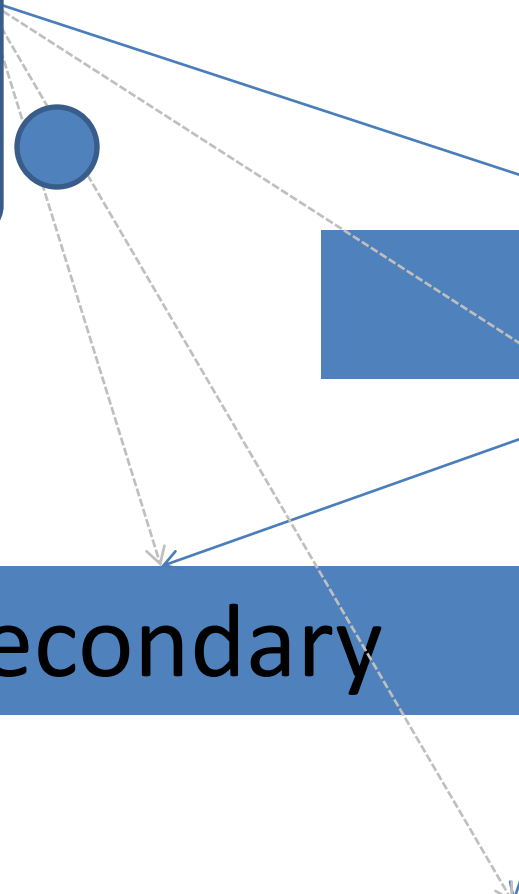
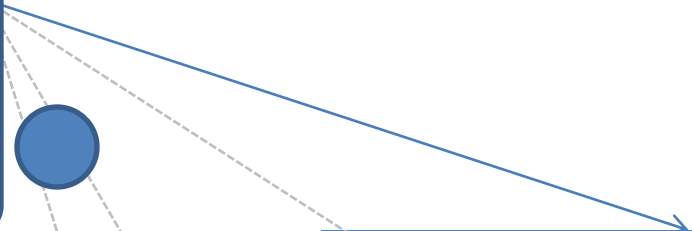


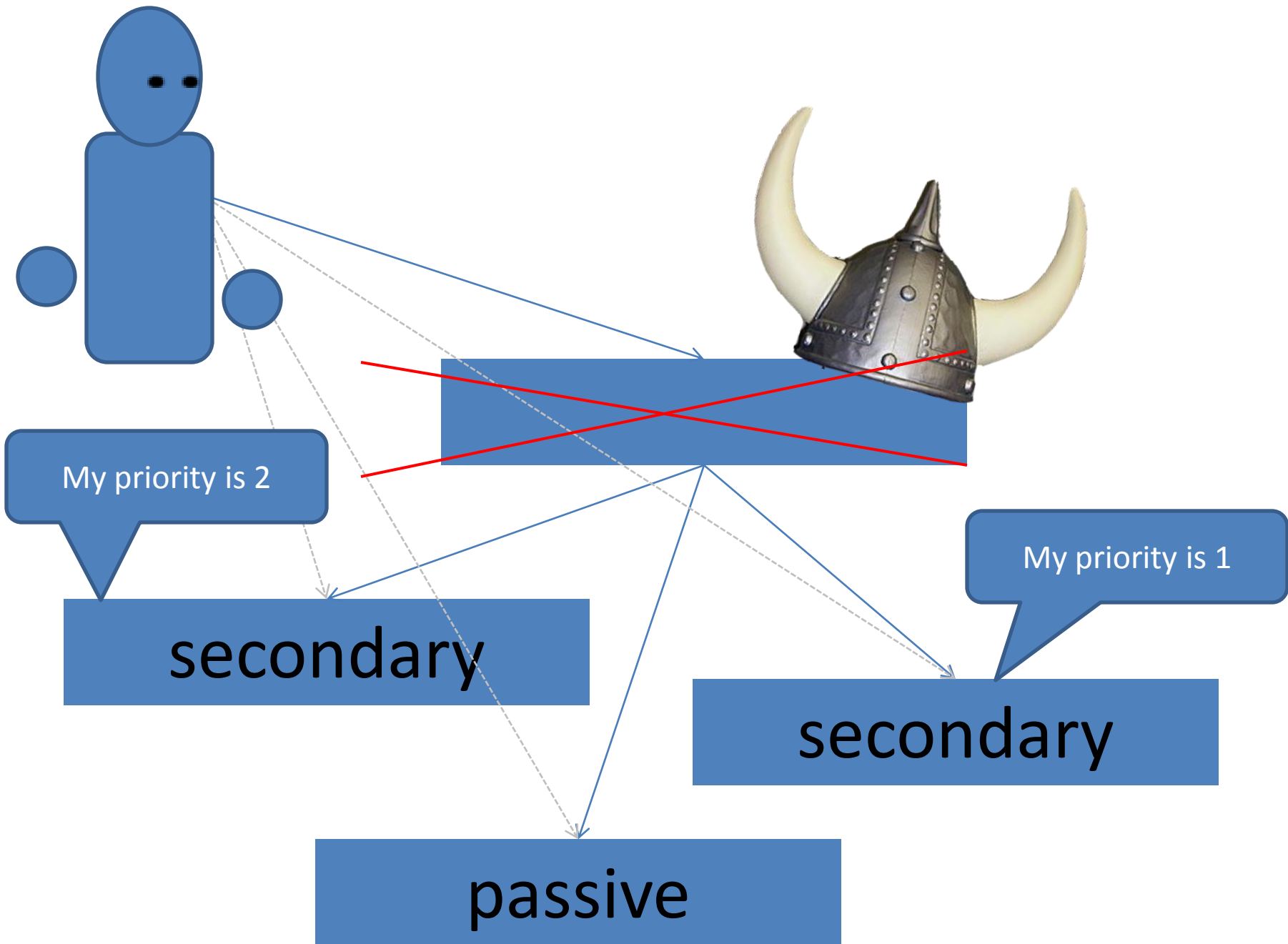
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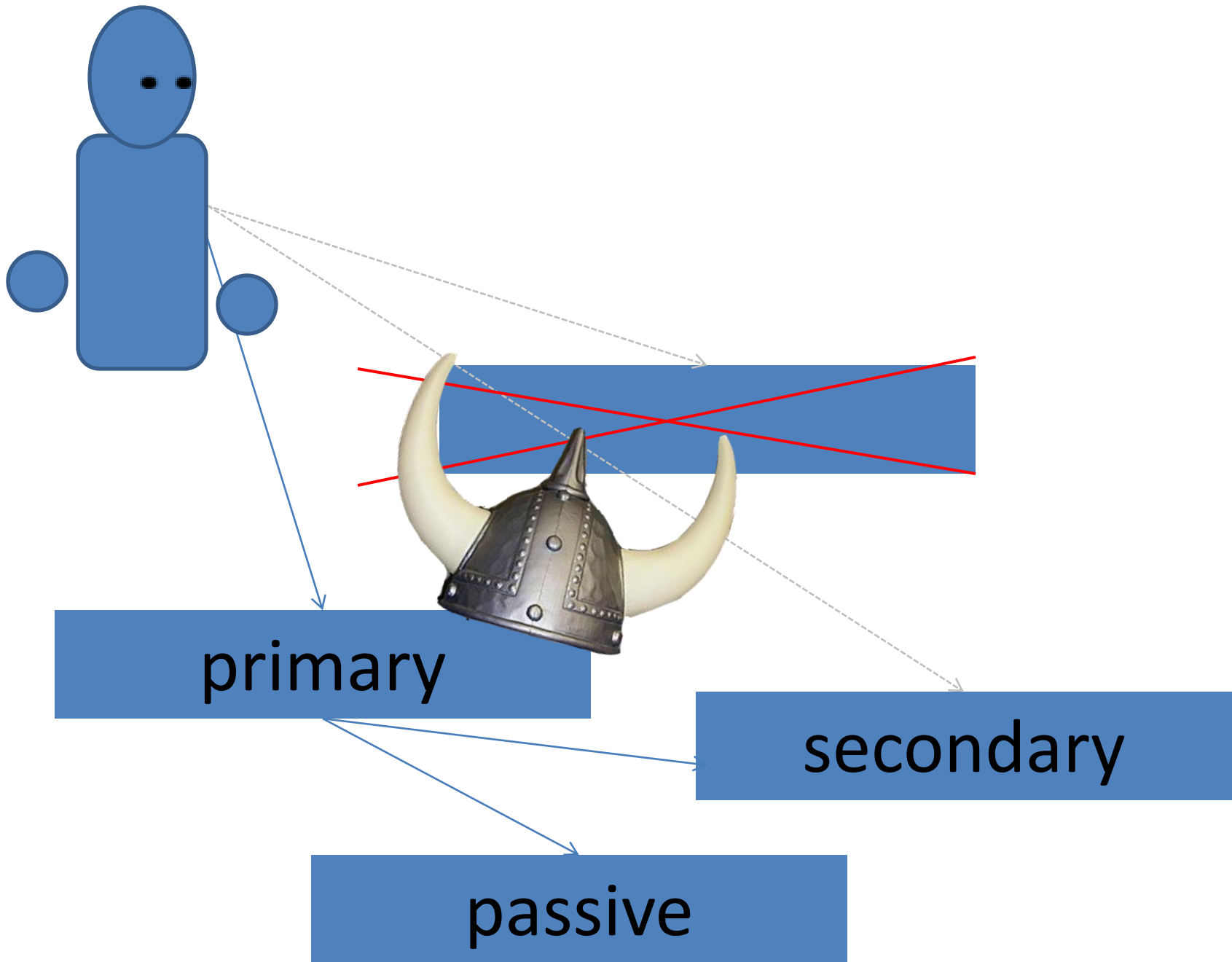
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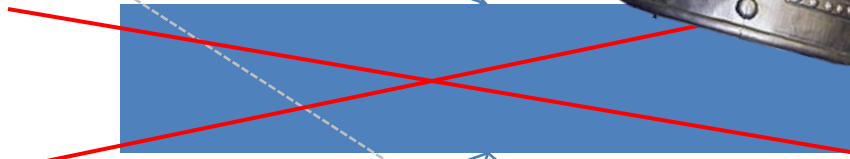
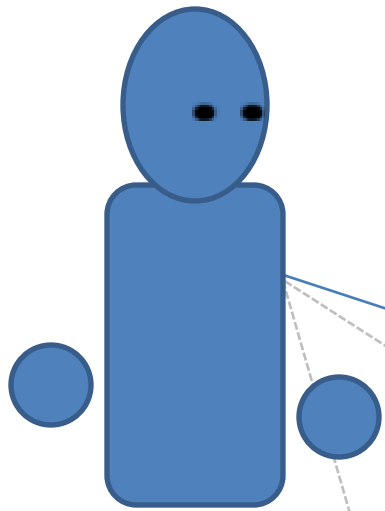
secondary

passive









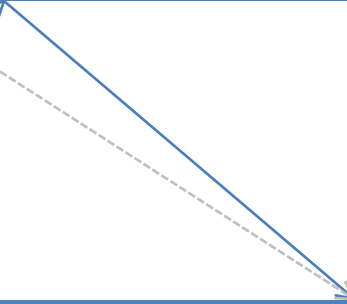
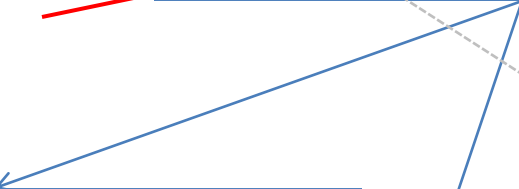
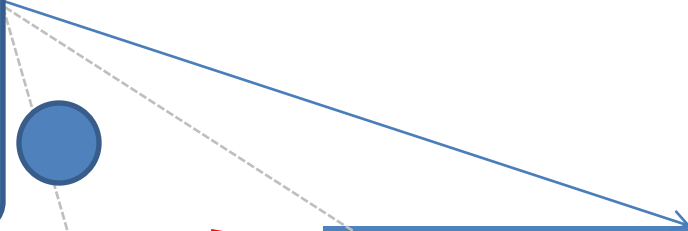
I'm 5 minutes behind the master

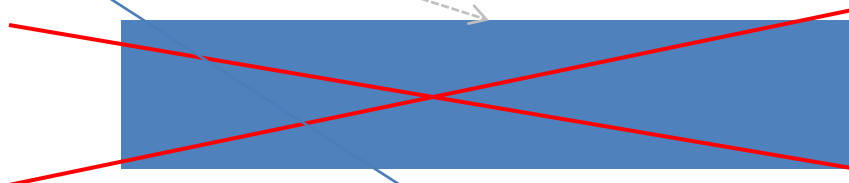
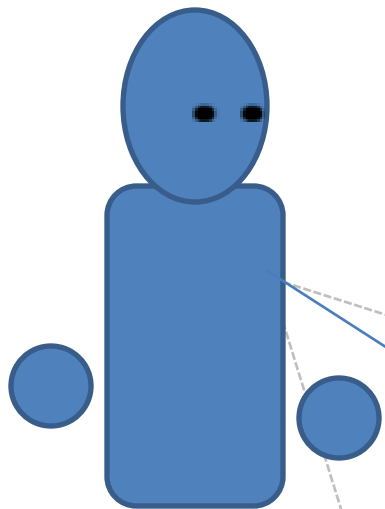
I'm 3 seconds behind the master

secondary

secondary

passive



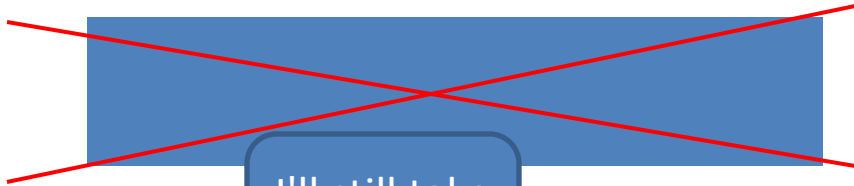
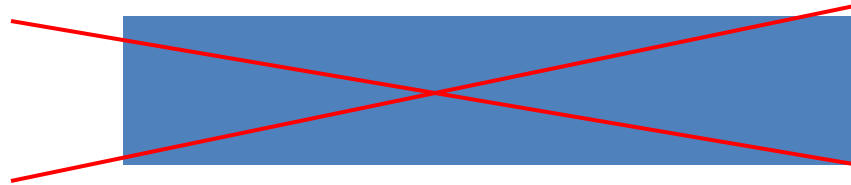
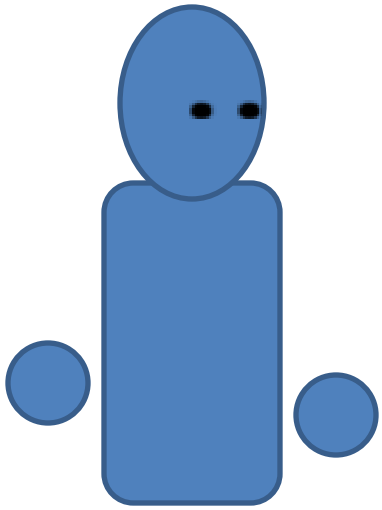


secondary

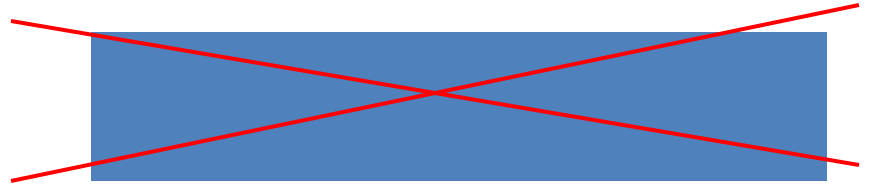
primary

passive

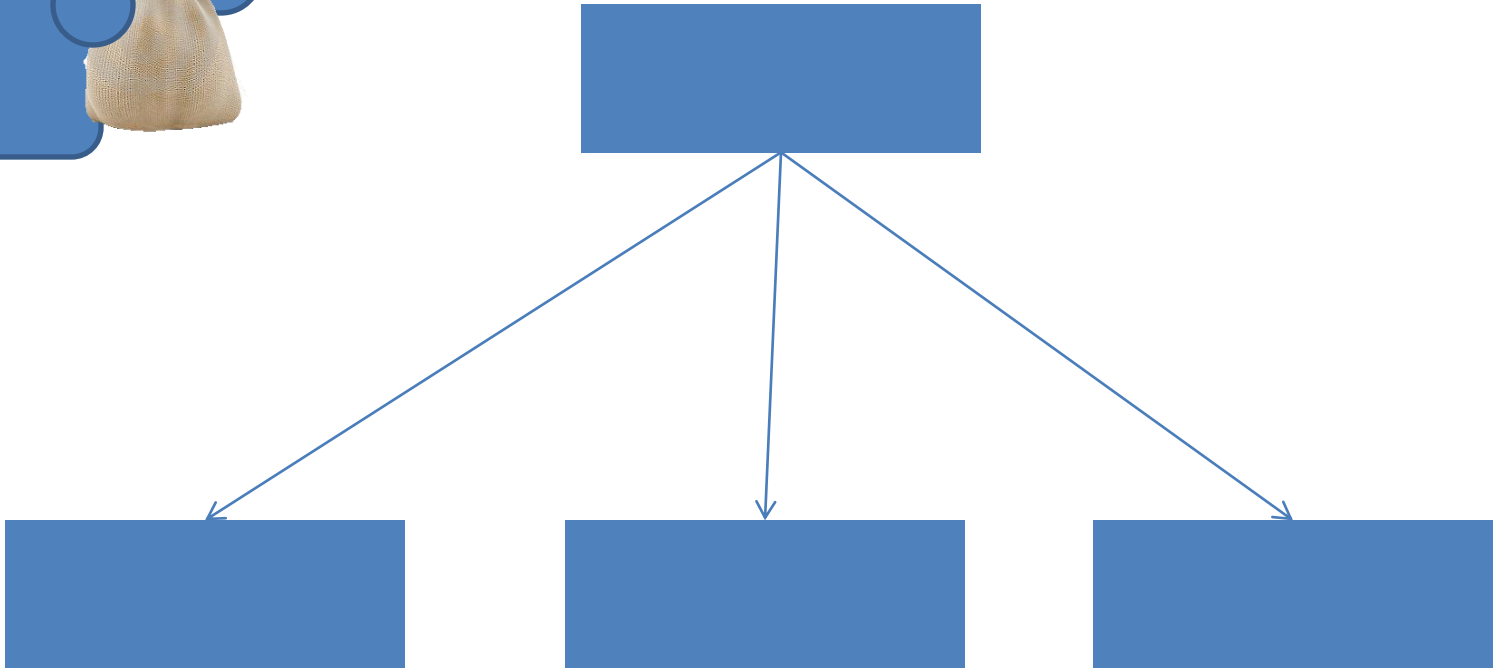


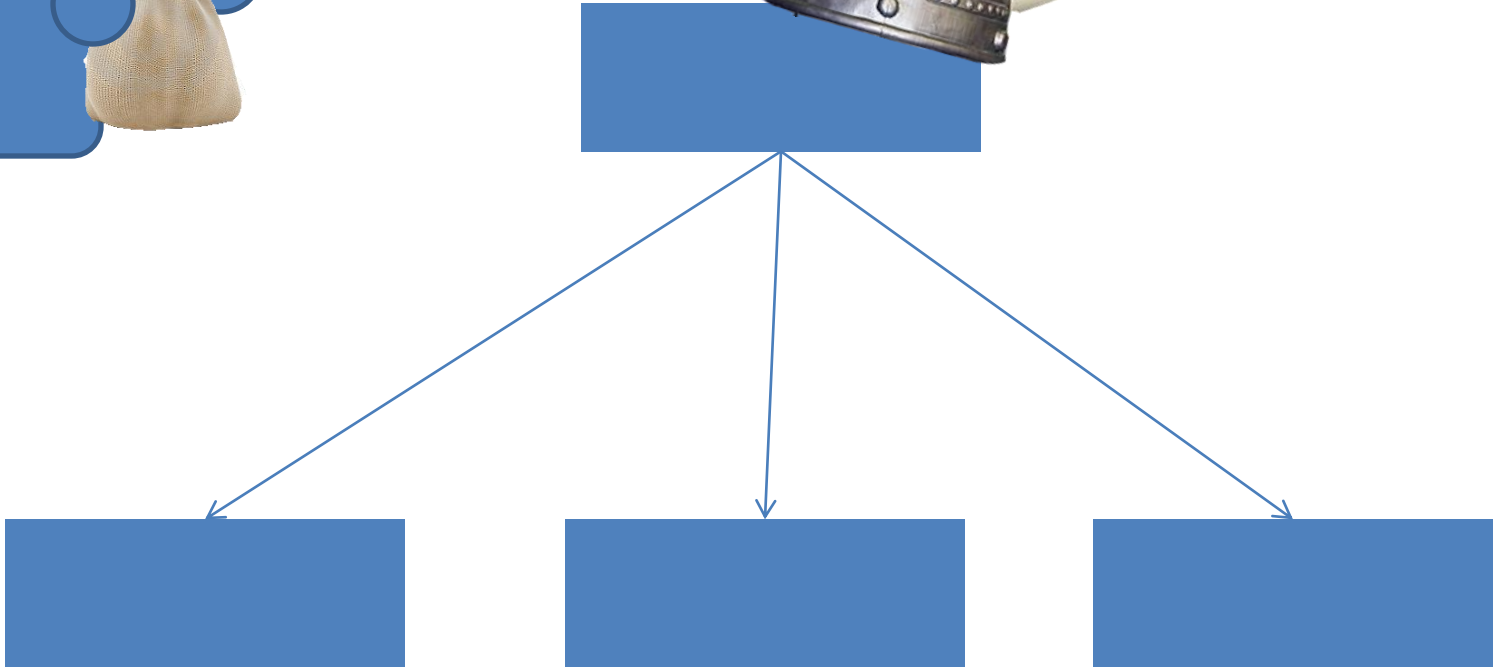


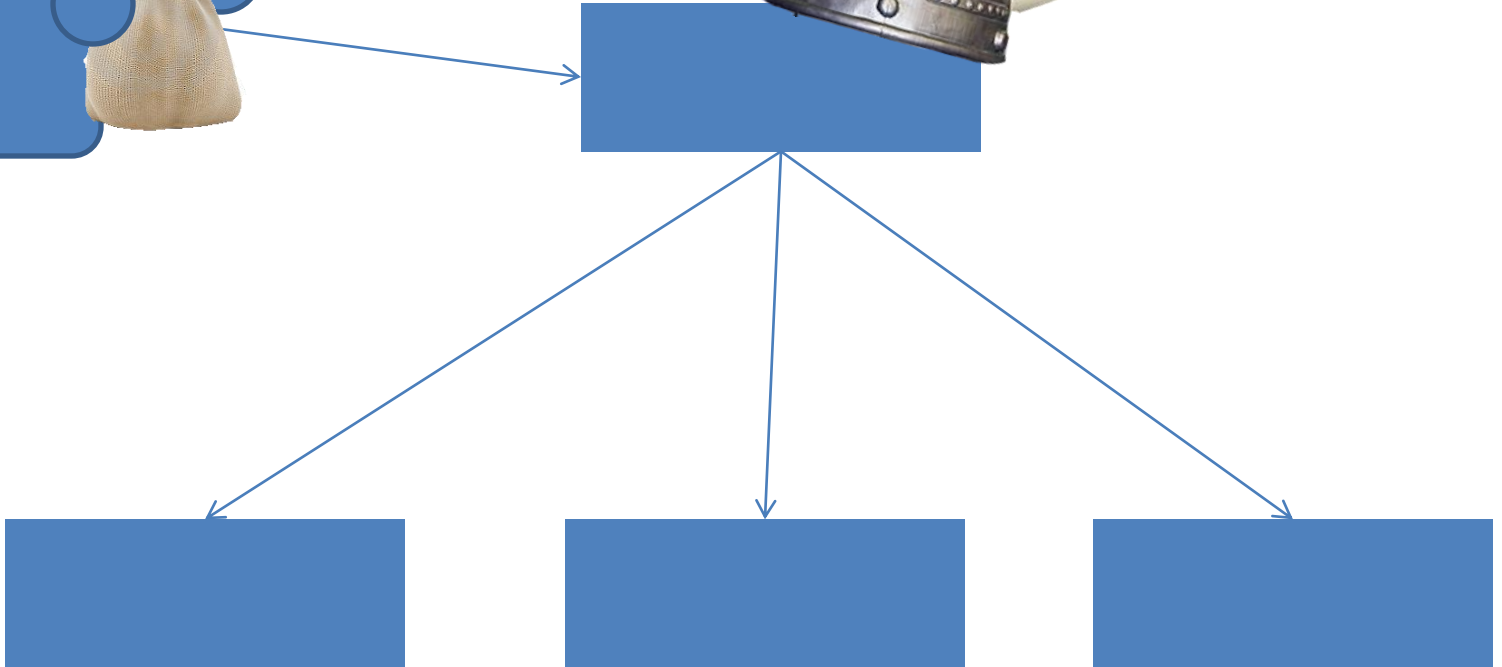
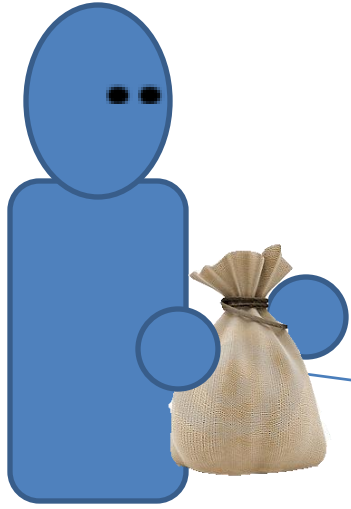
I'll still take reads.

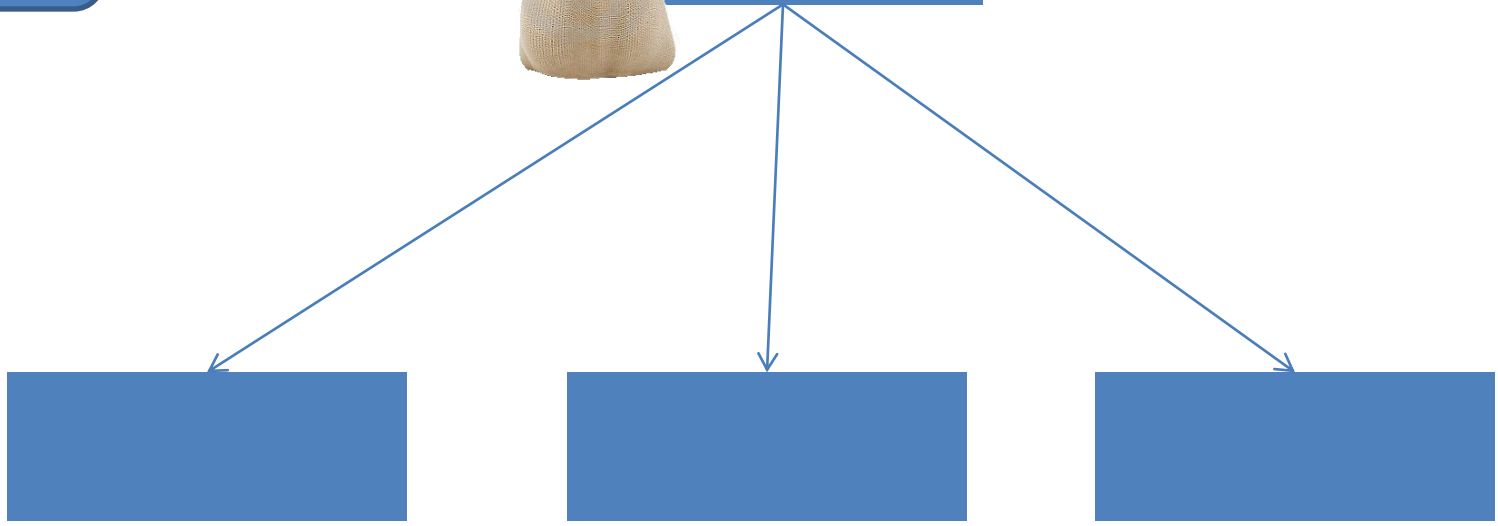
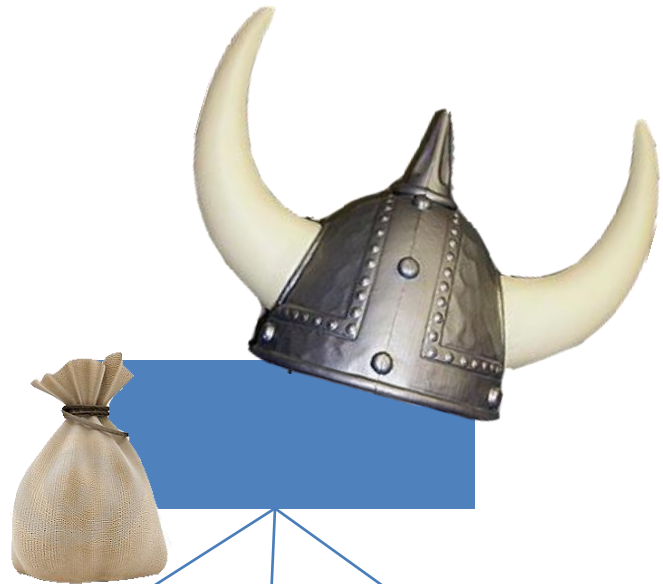
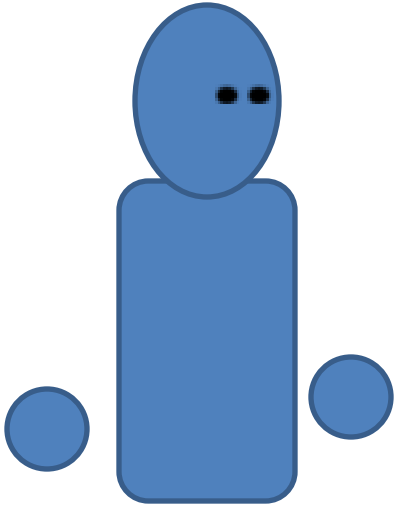


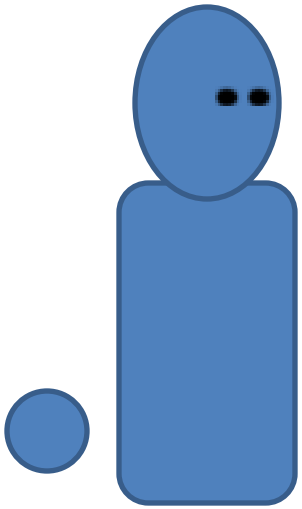
passive



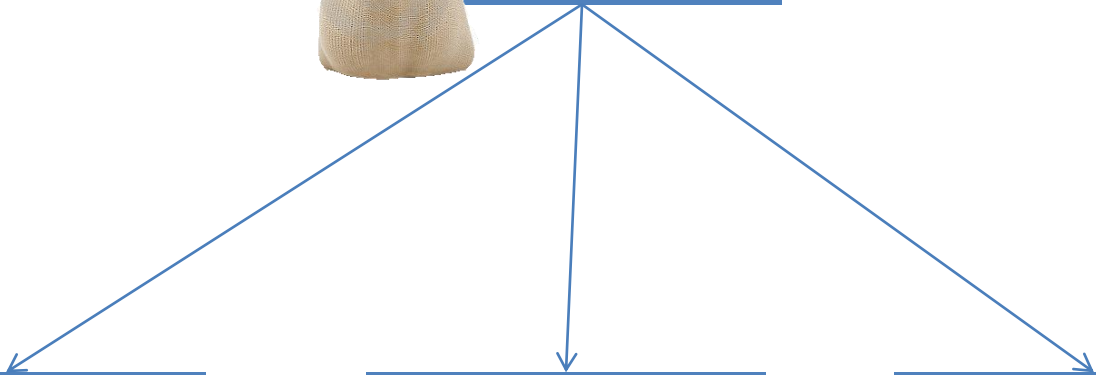


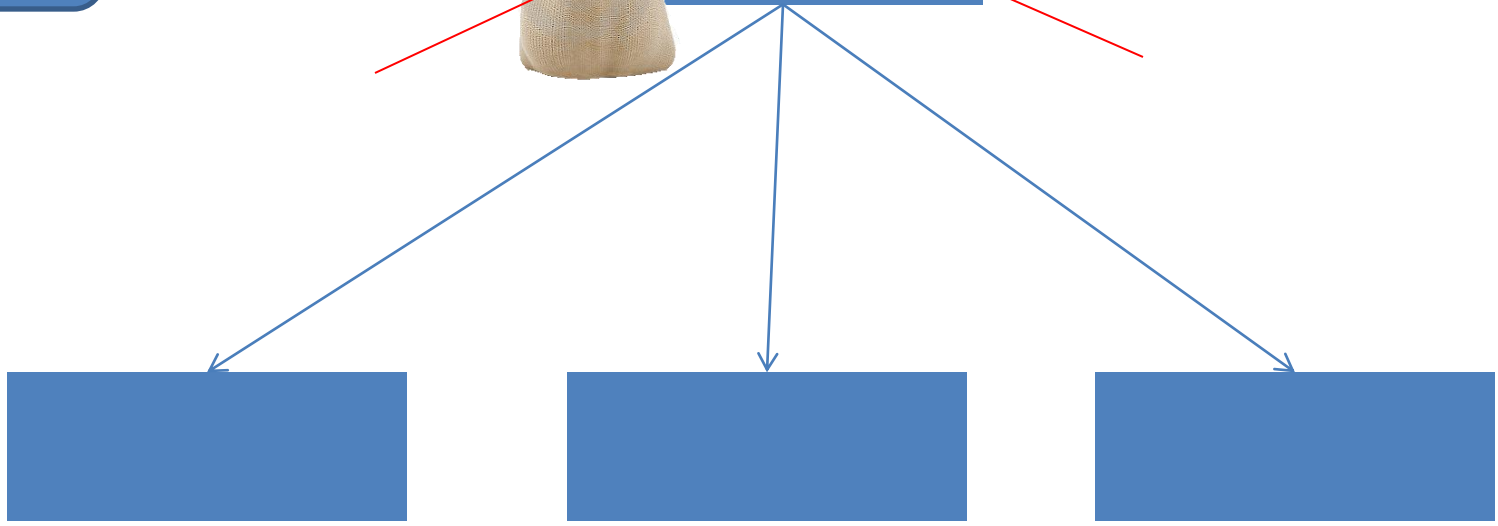
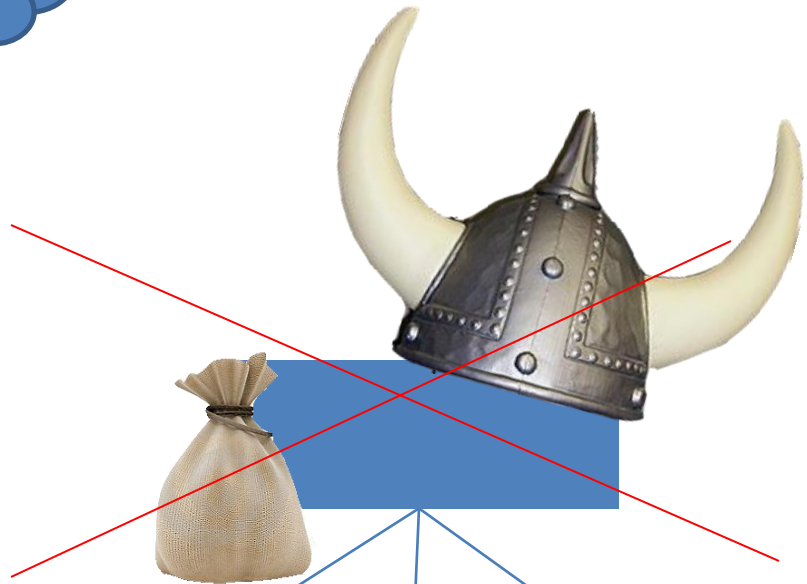
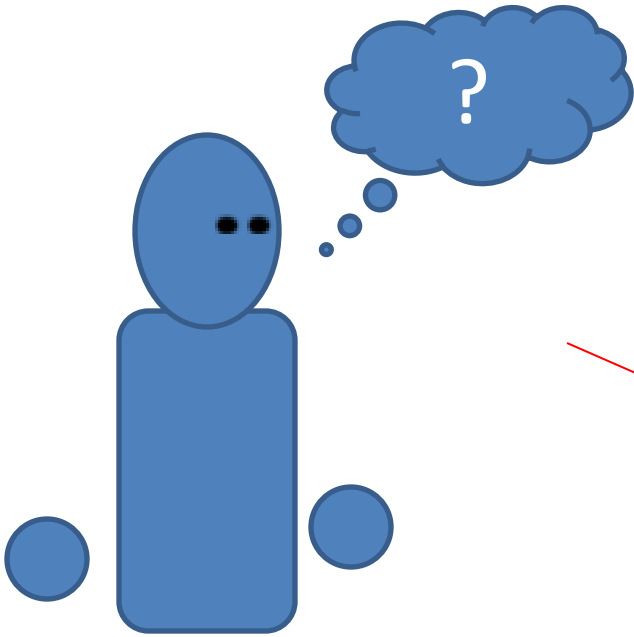




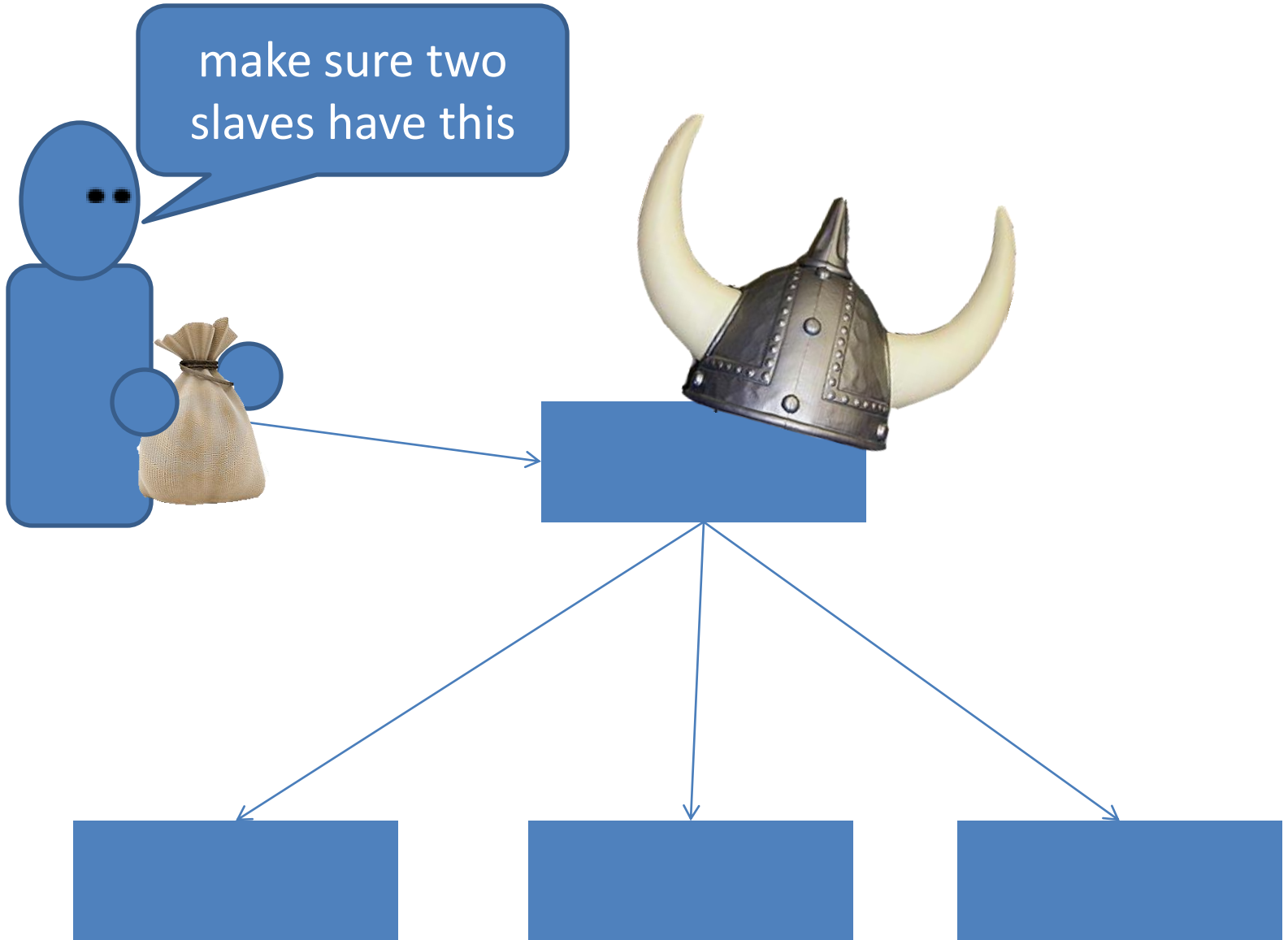
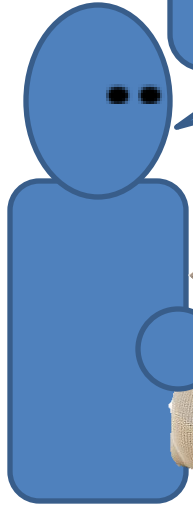


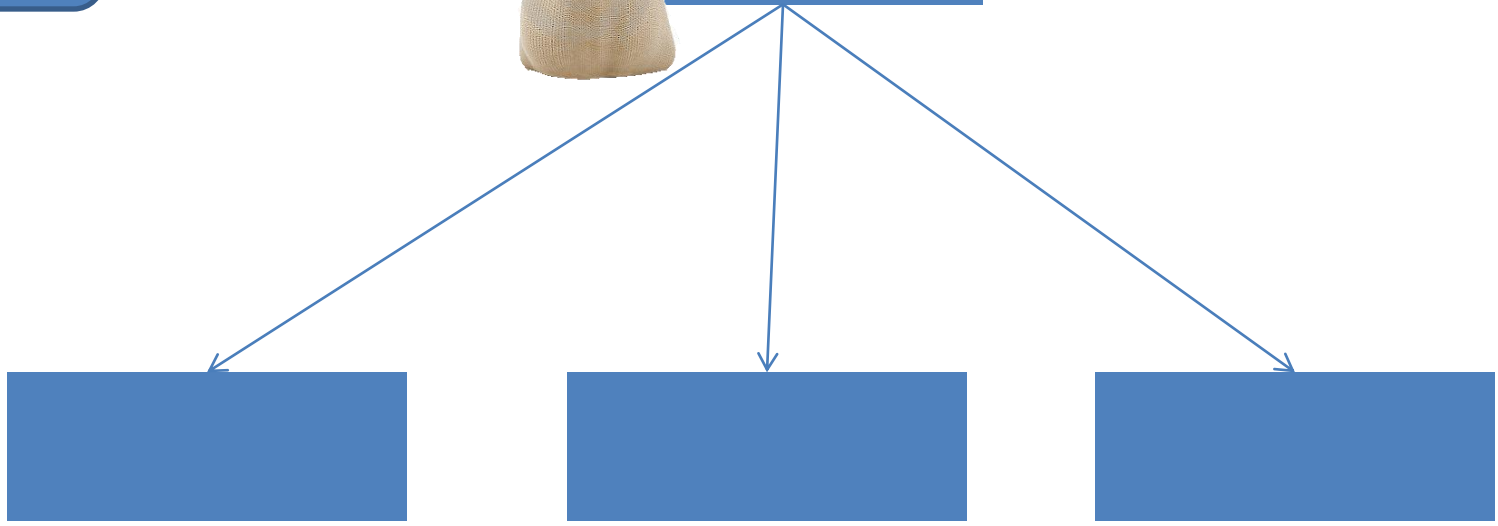
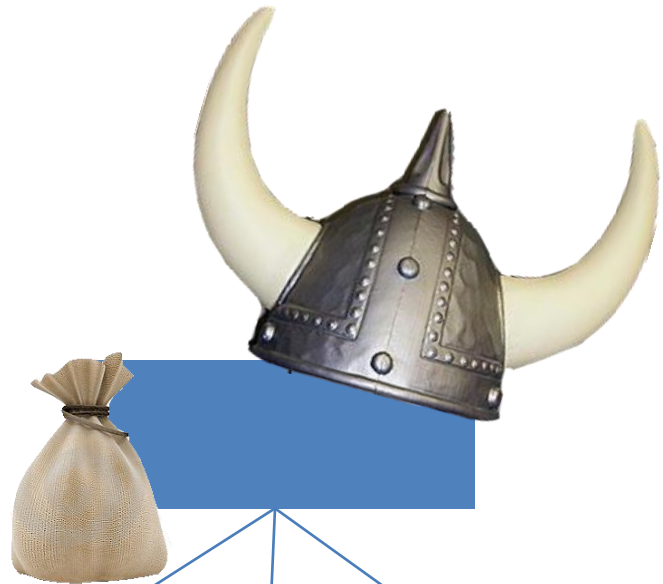
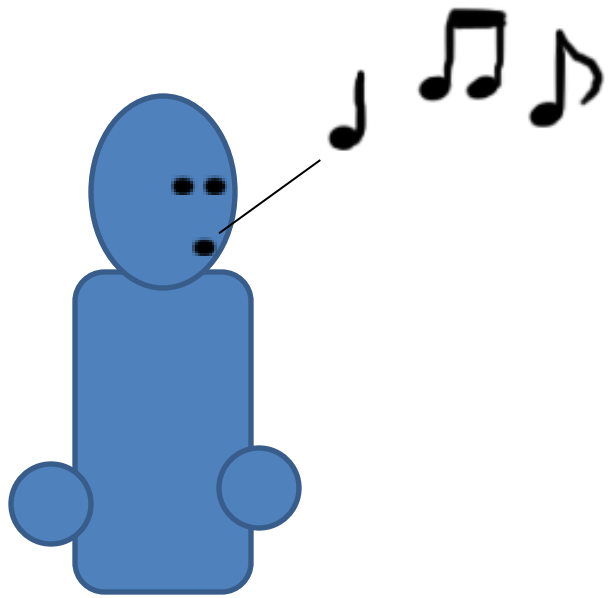
okay

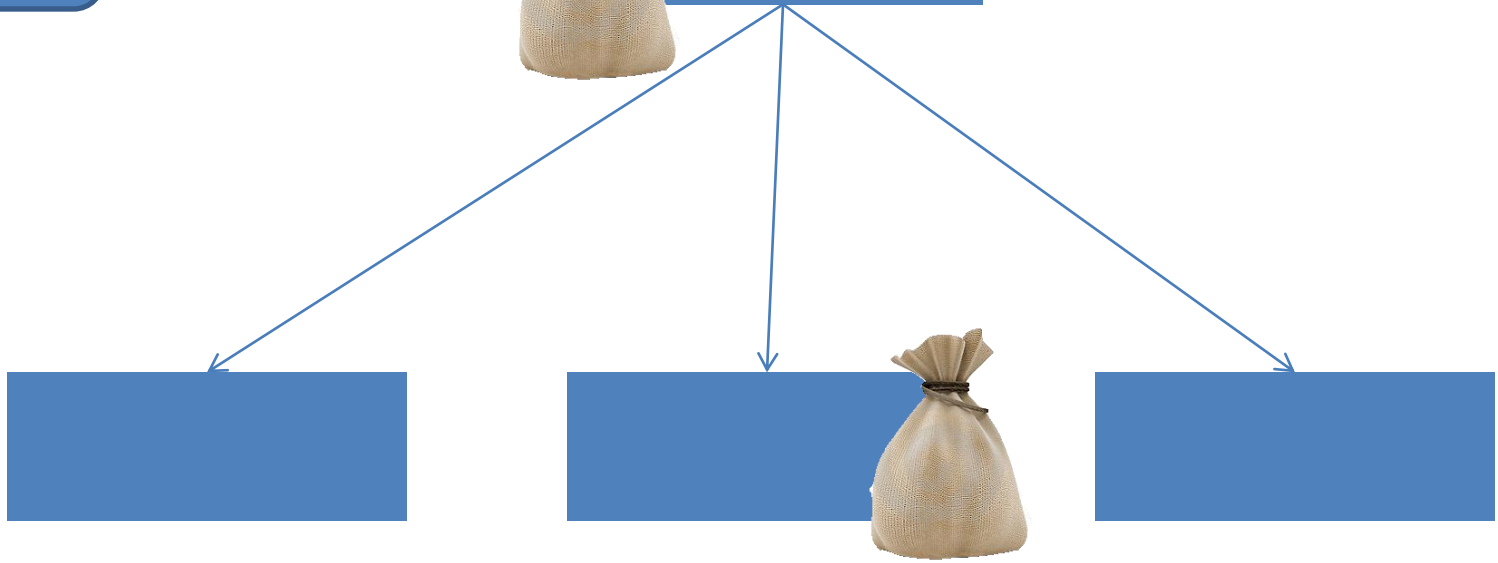
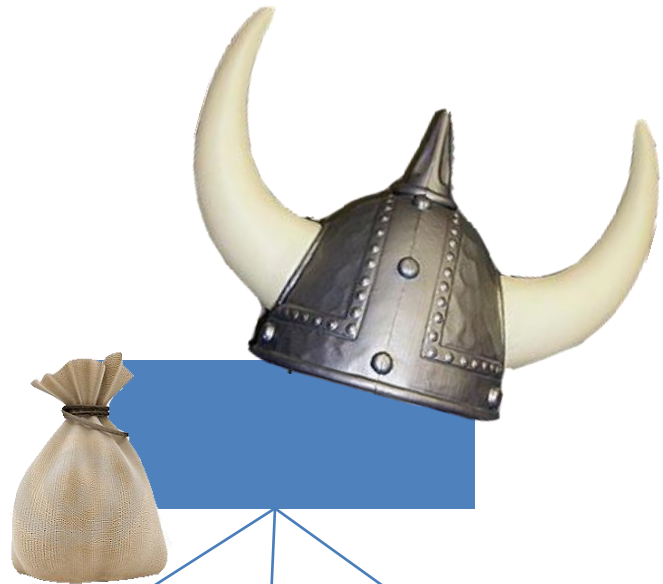
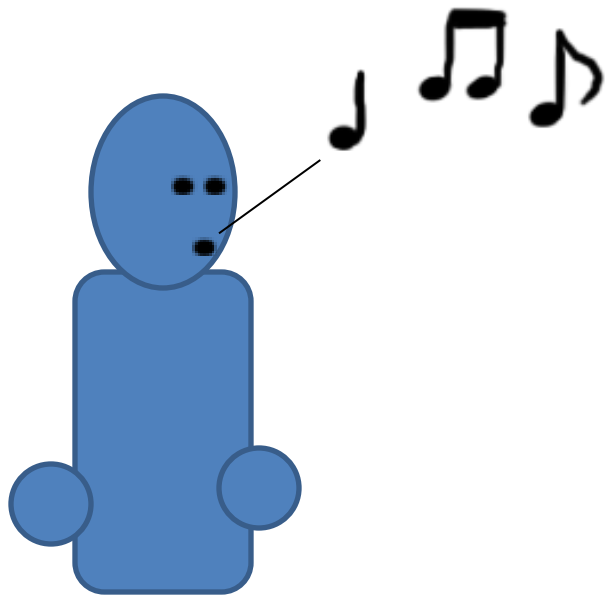


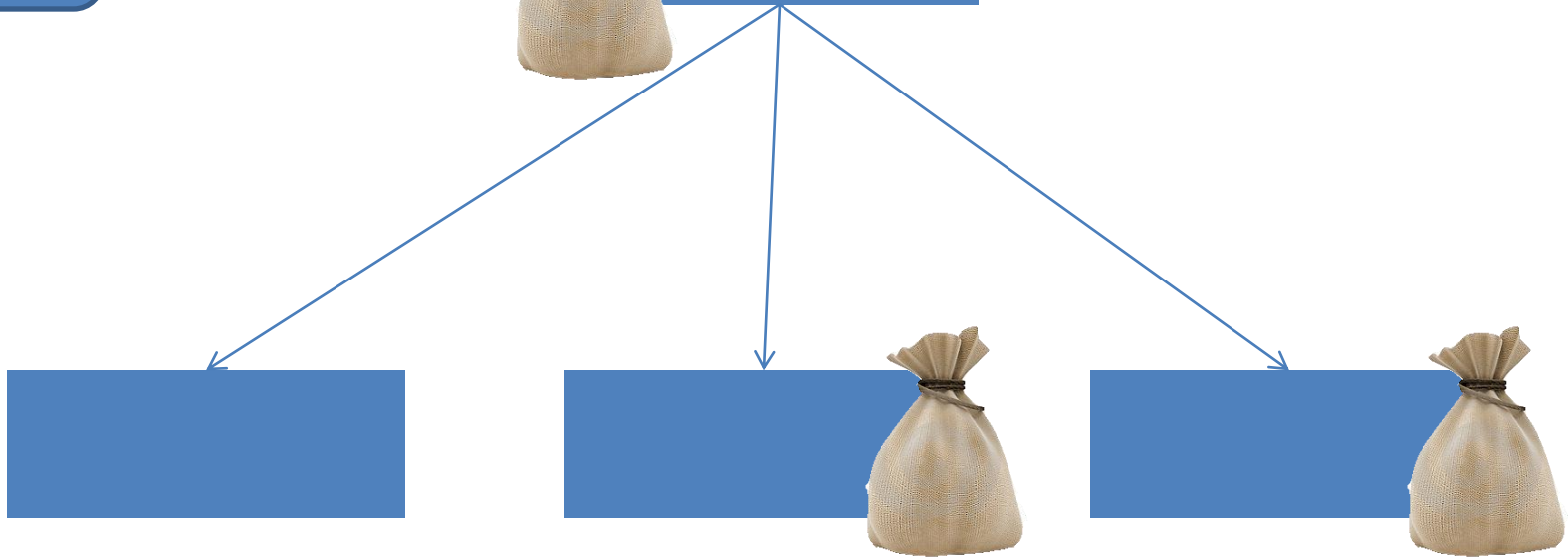
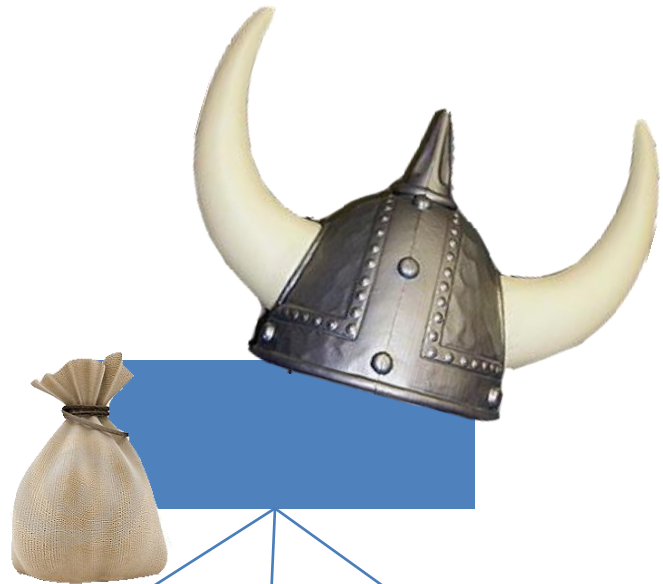
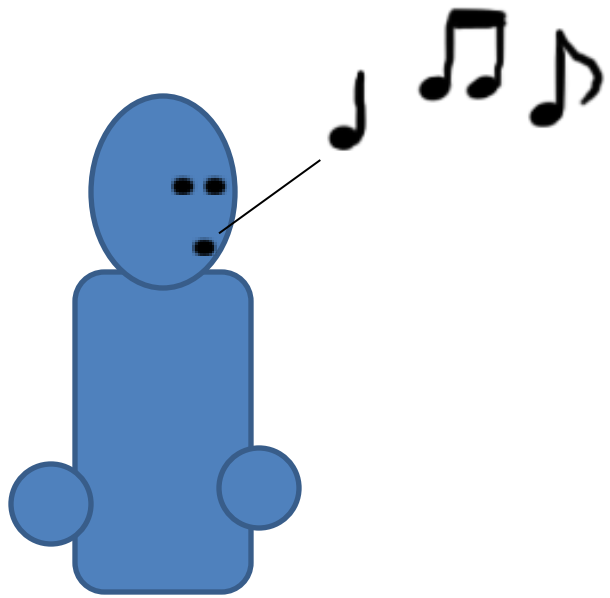


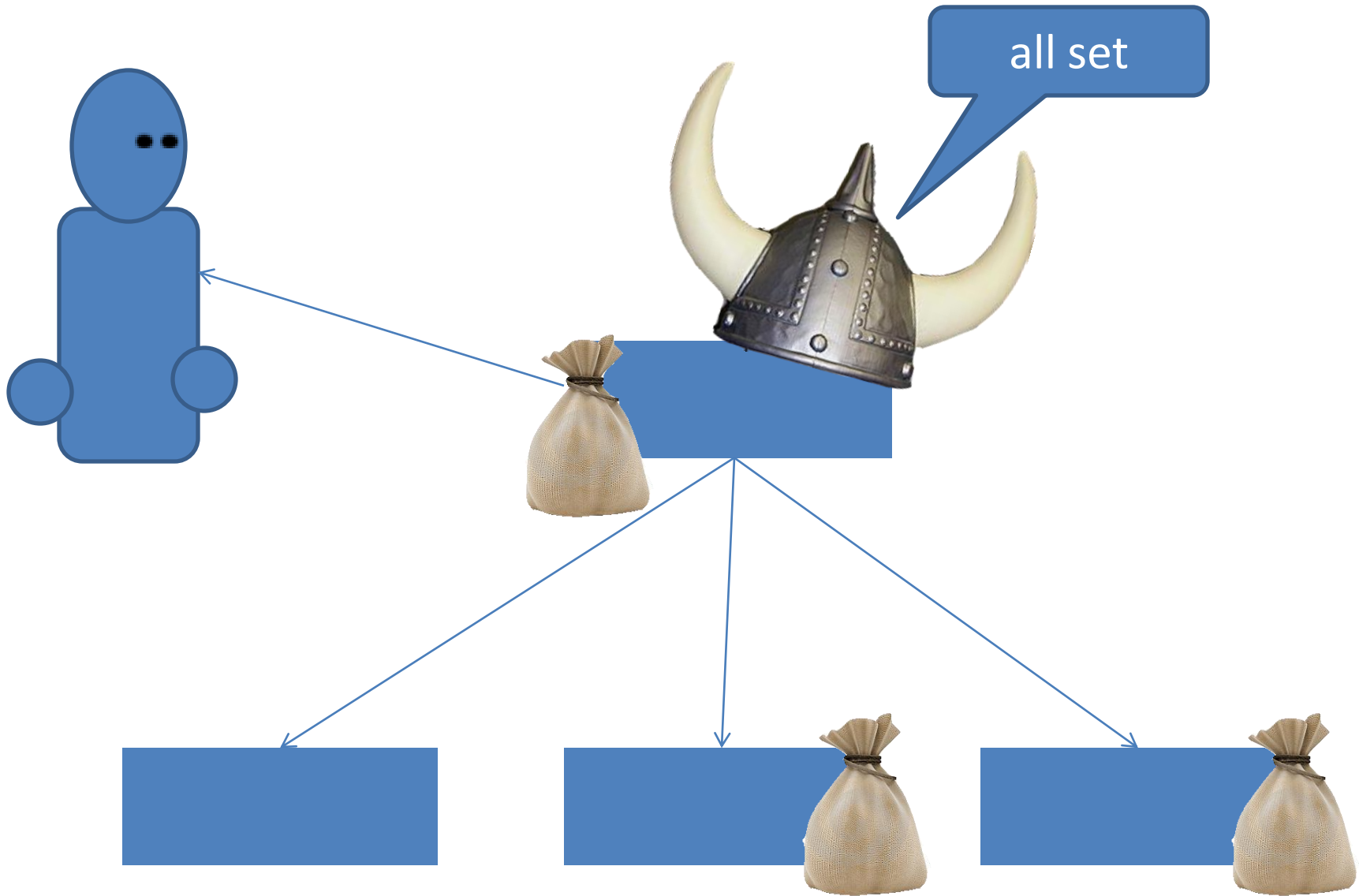
make sure two slaves have this

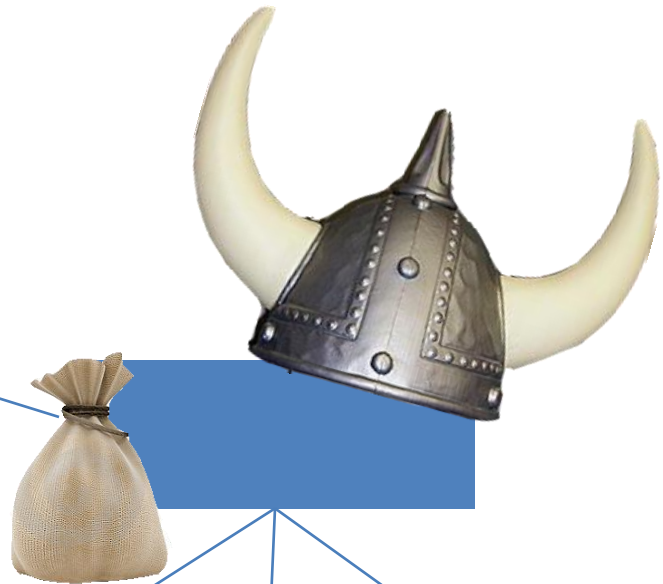
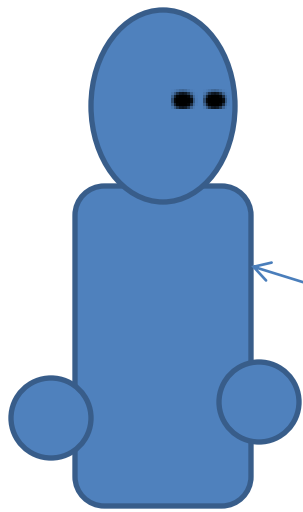


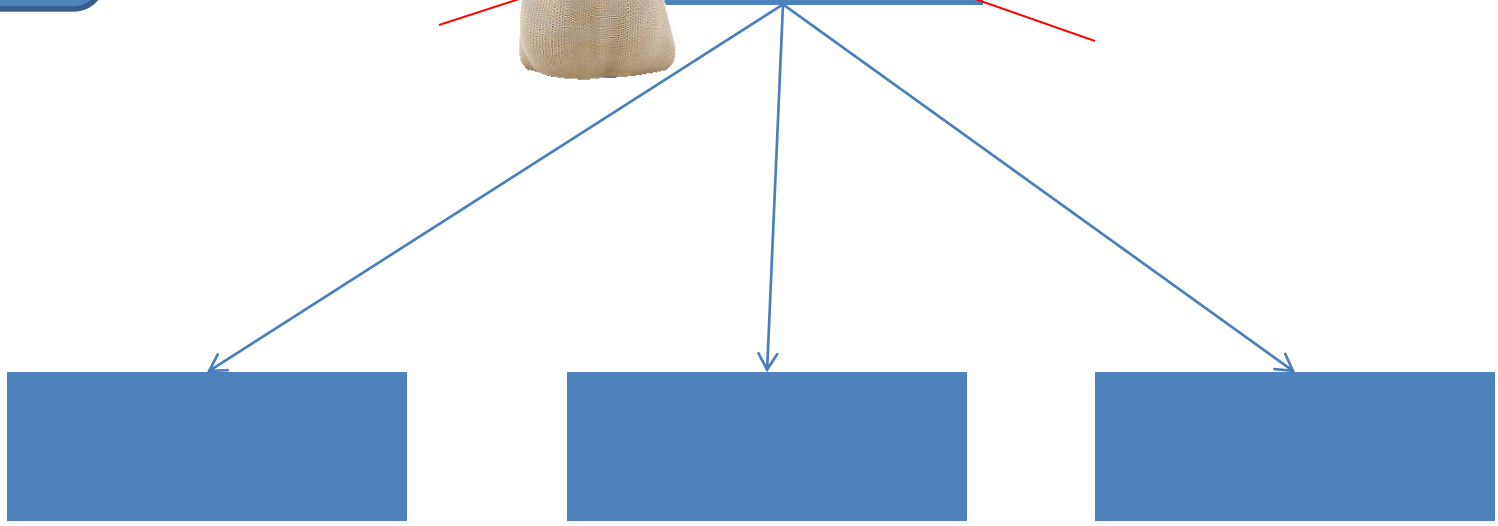
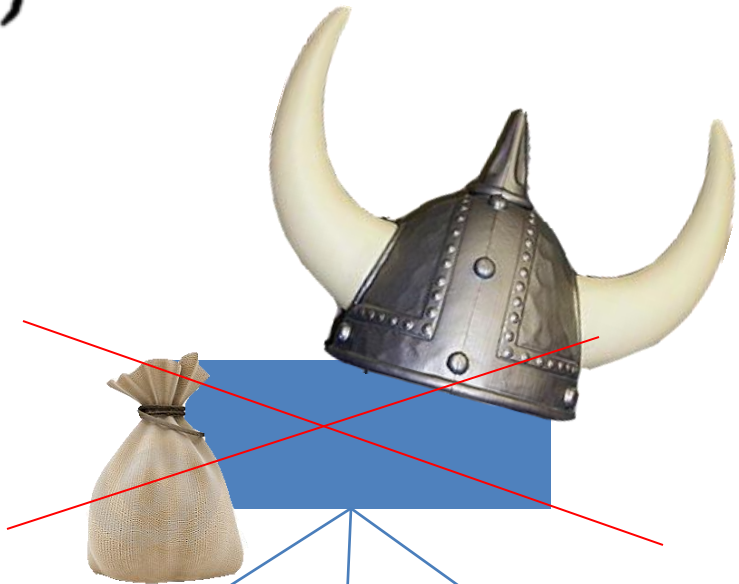
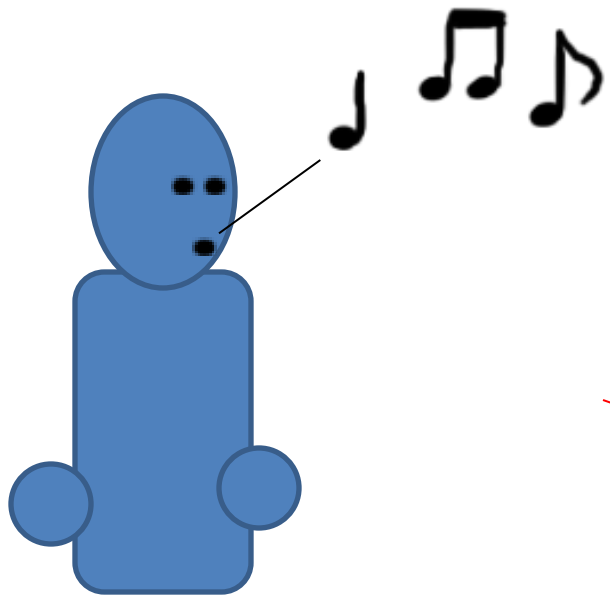




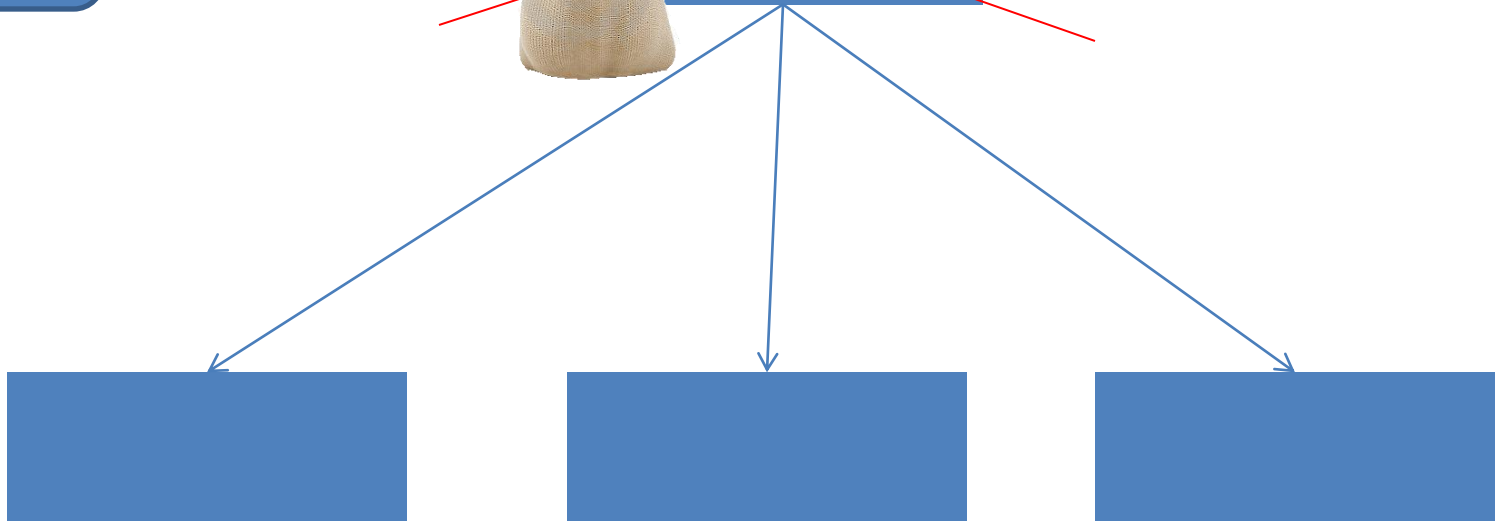
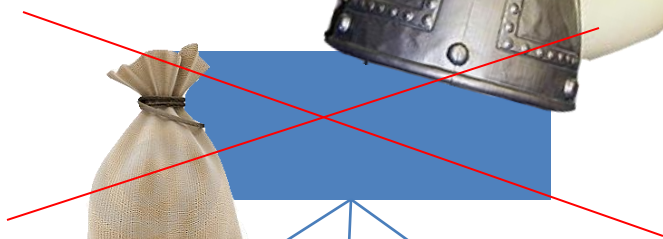
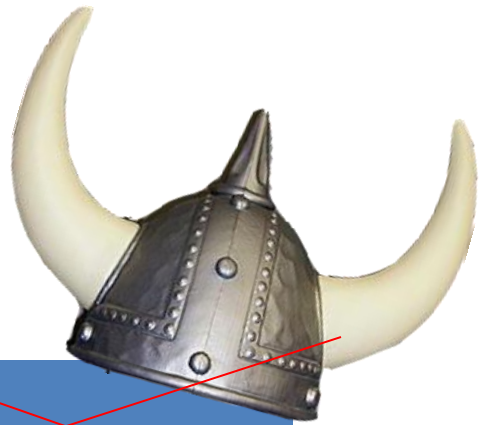




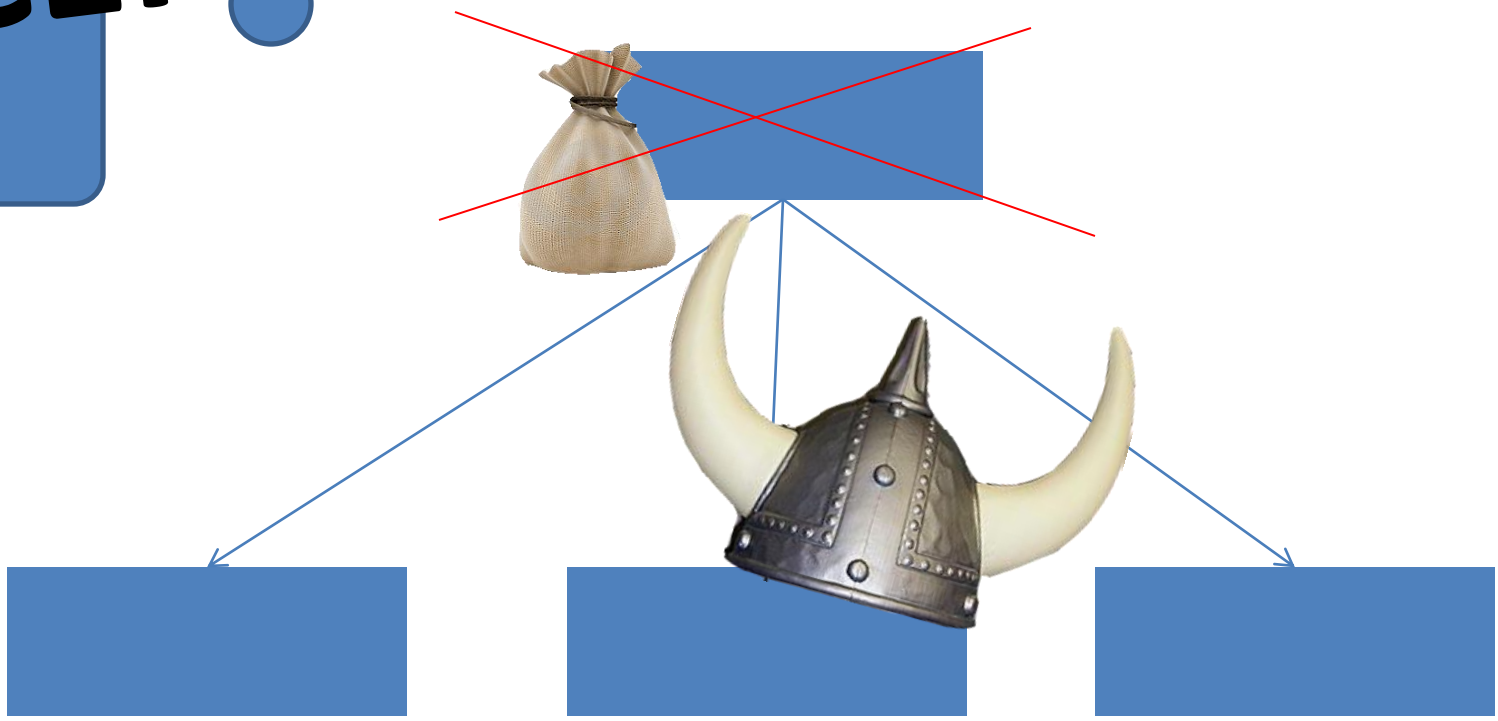
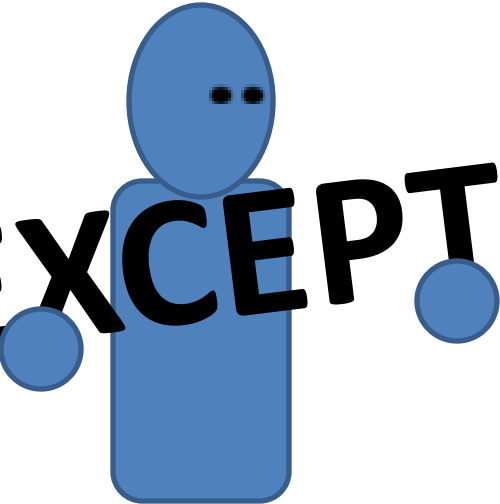




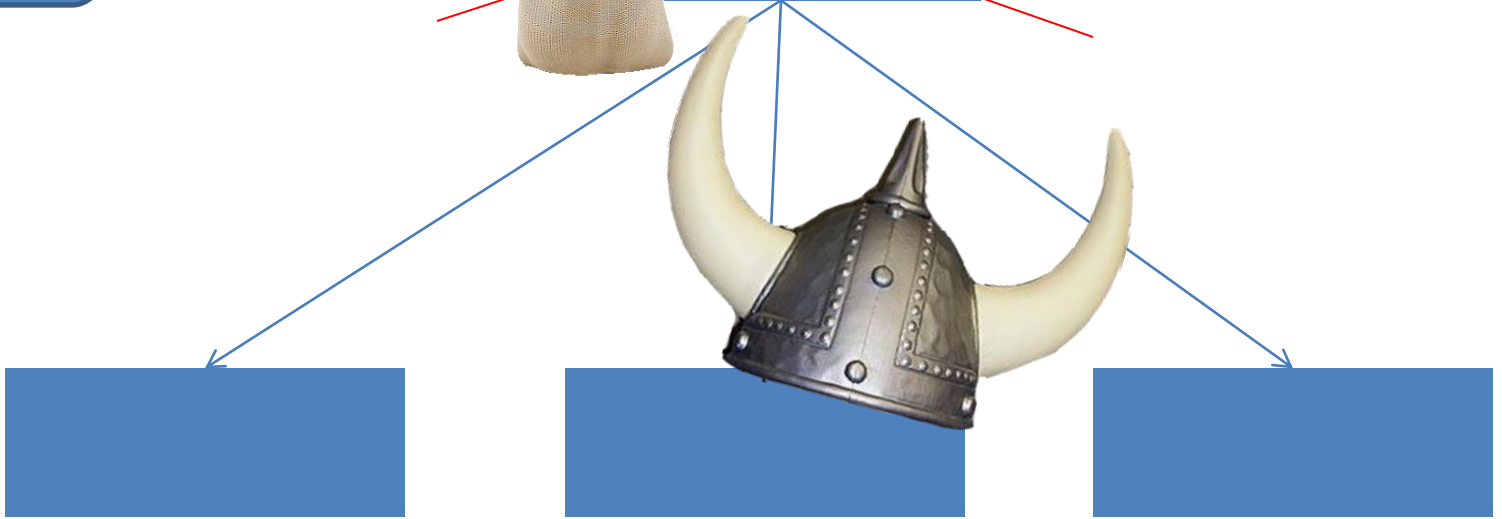
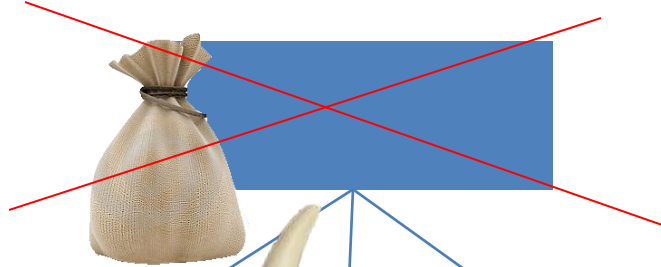
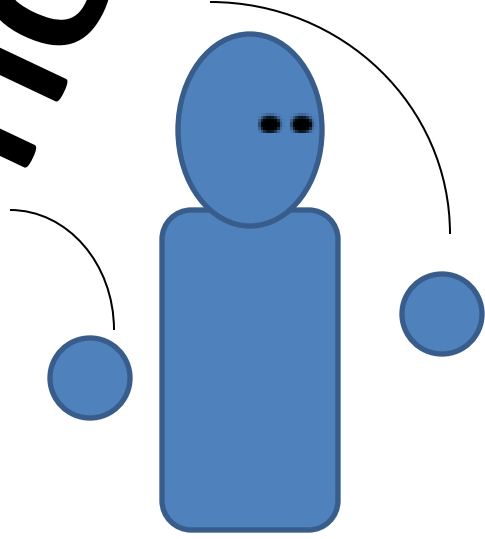
EXCEPTION

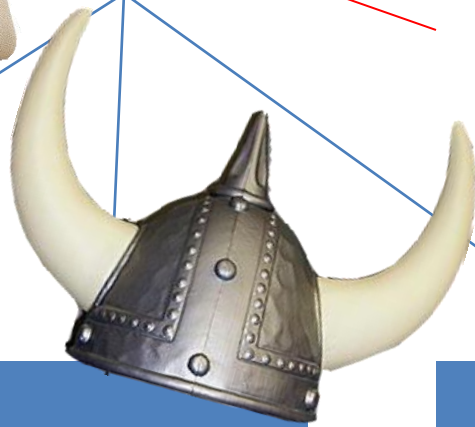
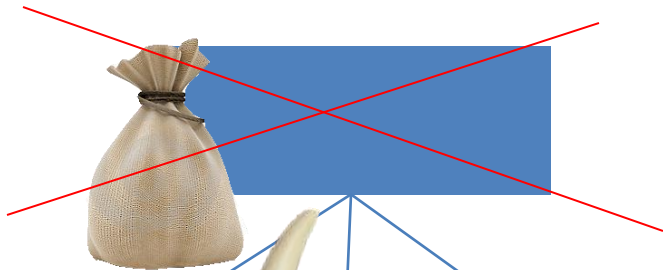


EXCEPTION



NOTION





scaling

Google™

amazon®

Google™

amazon®

(rdbms)

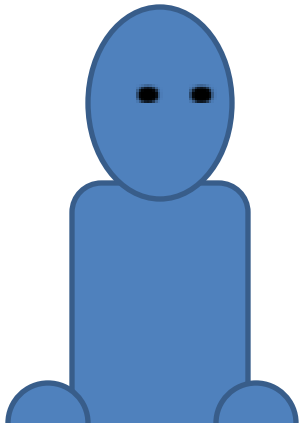
A - E

F - J

K - O

P - T

U - Z



A - E

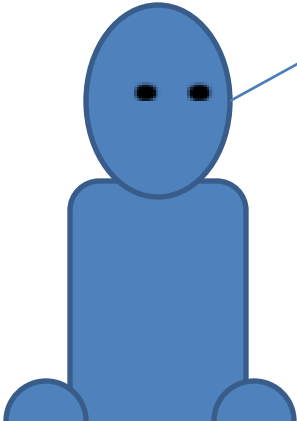
F - J

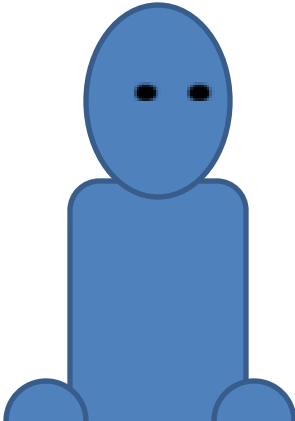
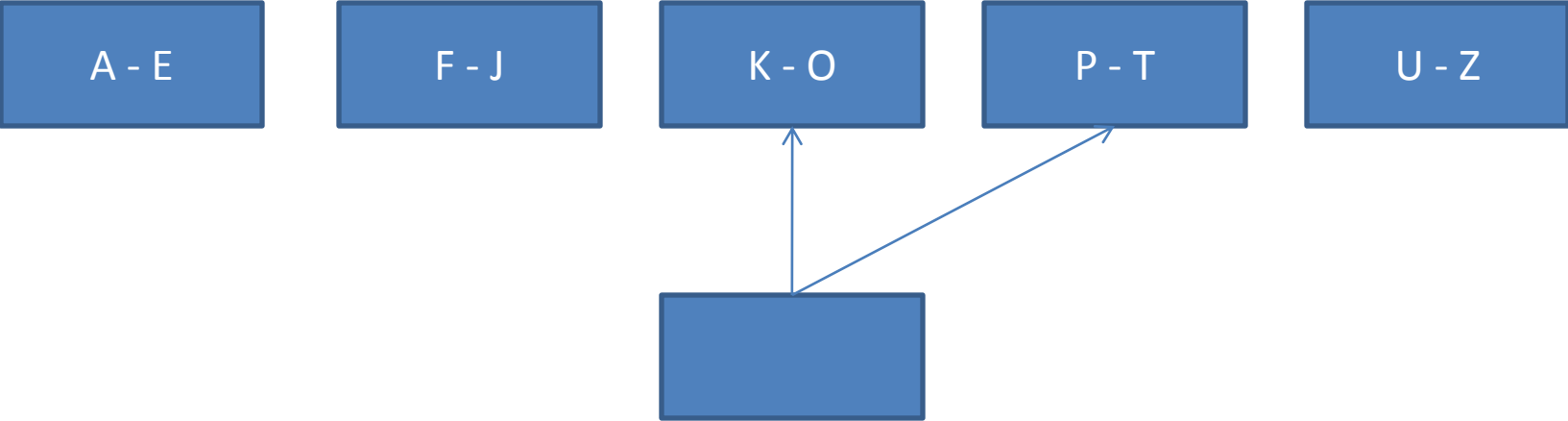
K - O

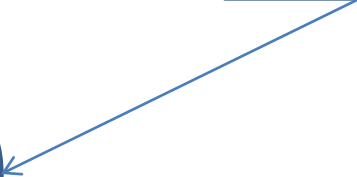
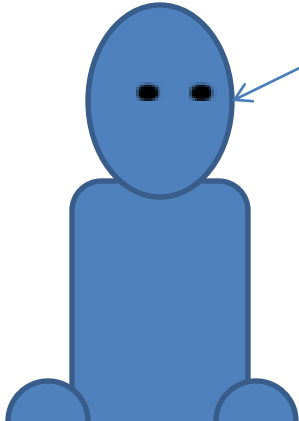
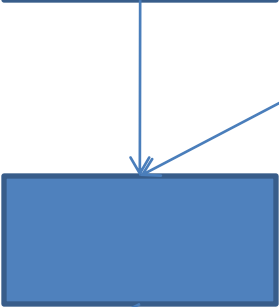
P - T

U - Z

I want Mark through Sarah.







A - E

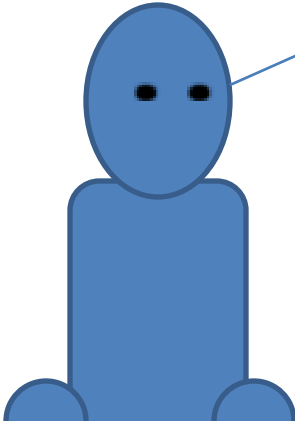
F - J

K - O

P - T

U - Z

Insert Linus



A - E

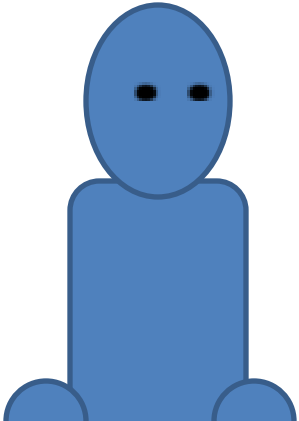
F - J

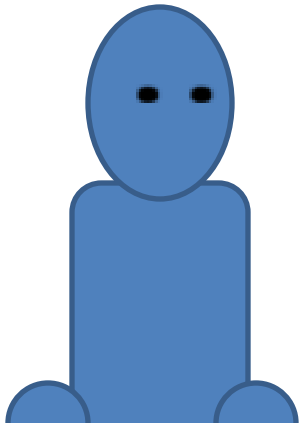
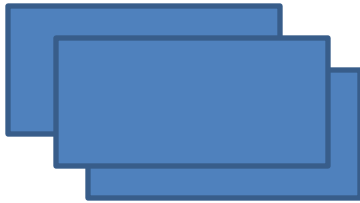
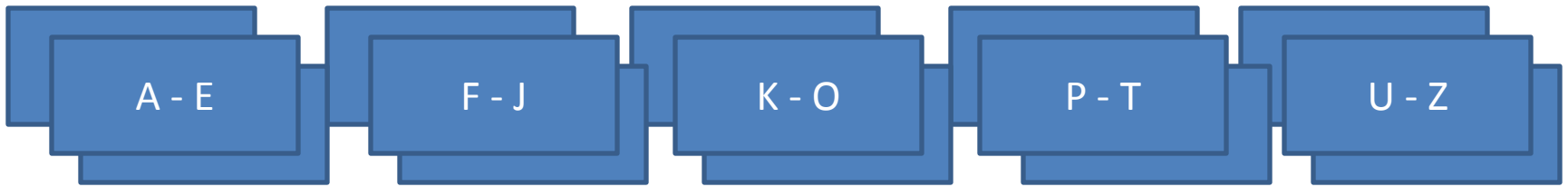
K - O

P - T

U - Z

Insert Linus





```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
>
```

```
$ mongo
MongoDB shell version 1.5.5
url: test
connecting to: test
type "help" for help
> db.foo.insert({x:1})
```

thank you!

@kchodorow

<http://www.snailinaturtleneck.com>

