

# Performance



Tips &  
Tricks

# 1

## Deploying

*Get off to a good start!*

# Deployment Architecture

## Rules of thumb

Activate **multi-worker** to use your fancy hardware!

- + Enforce limits
- + Recycle processes
- + Perform better
- + Sync changes

How many workers processes? 1 per CPU core, x2 for recycling

Min = 6 (typical browser keepalive pool size)

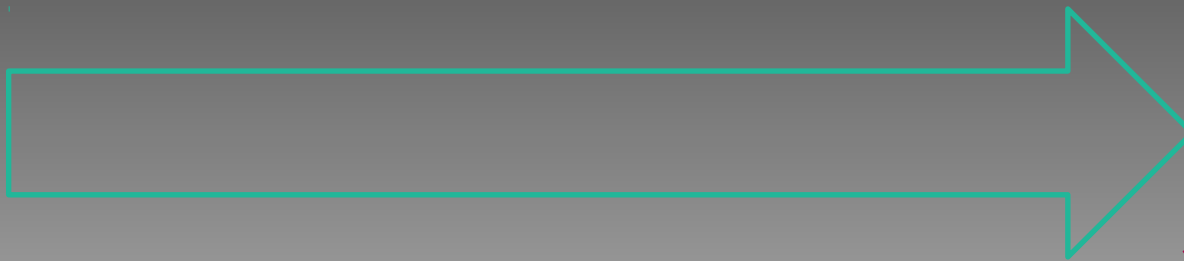
Max =  $\frac{\text{Dedicated RAM}}{\text{Worker soft memory limit}}$  e.g.  $\frac{\text{RAM} = 24\text{GB}}{\text{Soft limit} = 1\text{GB}} = 24$  workers

How many requests/second? ~ 6-7 x Workers e.g. 24 workers = 160 r/s

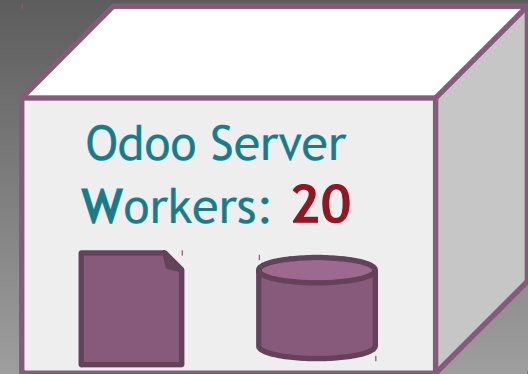
How many users? ~ 5-10 per Worker e.g. 24 active workers = 180 users

# Deployment Architecture

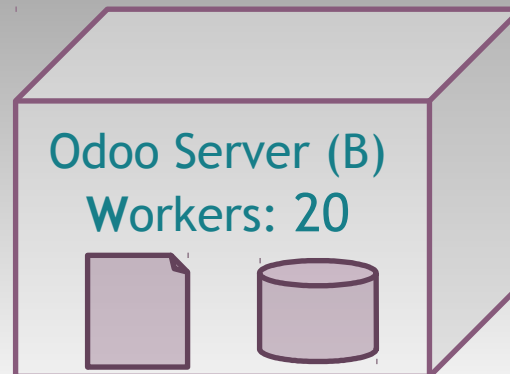
## Scaling: example 1



Backend  
+  
Frontend



replication

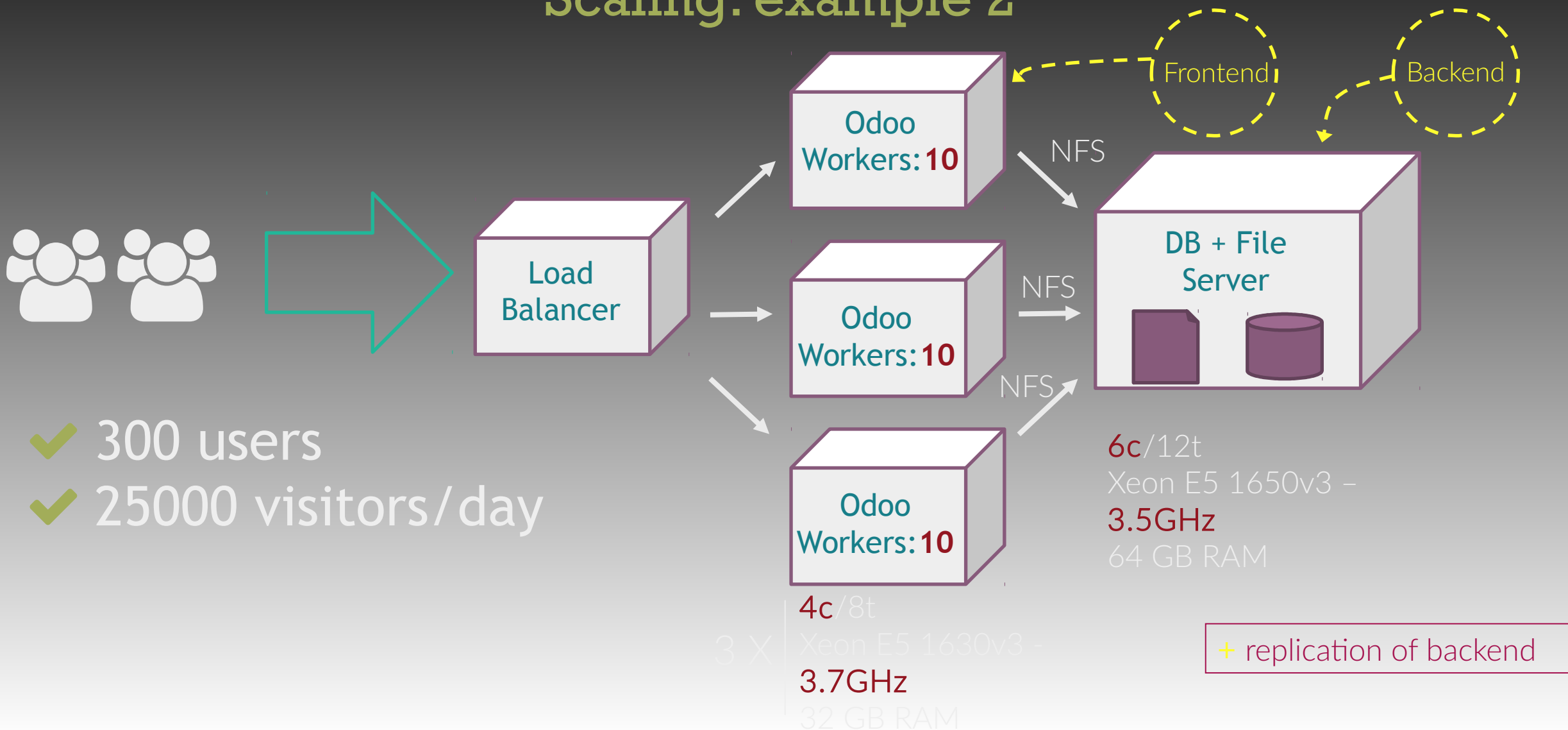


16c/32t  
Xeon E5 2640v3 –  
2.6GHz  
64 GB RAM

- ✓ 100 users
- ✓ 10000 visitors/day

# Deployment Architecture

## Scaling: example 2



- ✓ 300 users
- ✓ 25000 visitors/day

3 X 4c/8t  
Xeon E5 1630v3 -  
3.7GHz  
32 GB RAM

6c/12t  
Xeon E5 1650v3 -  
3.5GHz  
64 GB RAM

+ replication of backend

# Deployment Architecture

## Recommendations

Setup a **reverse proxy** in front of Odoo

- + SSL Termination
- + Gzip
- + Serve static assets
- + Load balancing
- + Block access to DB manager

**Backend (DB): max I/O, RAM and Speed** 64GB + SSD + 3.5GHz Base CPU speed

**Frontend (HTTP): max Speed and # Cores** 6c/12t 3.5GHz Base CPU speed

# 2

## Measuring & Monitoring

*Validate the deployment...*

# Watch your deployment's performance

**PostgreSQL:** transactions / minute

**Odoo:** requests / minute, avg duration

**Disk:** response time, IOPS

**System:** load, I/O wait, memory

**Network:** connections, bandwidth

---

Establish your  
**performance baseline**





# Watch your deployment's performance

**PostgreSQL:** transactions / minute

**Odoo:** requests / minute, avg duration

**Disk:** response time, IOPS

**System:** load, I/O wait, memory

**Network:** connections, bandwidth

---

Establish your  
performance baseline

## Suggested tool: Munin



- ✓ Built-in plugins for most key metrics
- ✓ Writing plugins is trivial
- ✓ Constant storage footprint (rrdtool)
- ✓ Configurable limits/warnings

### Example plugins

- ▶ Nginx times: <https://git.io/vP3Sj>
- ▶ Odoo times: <https://git.io/vP3h9>

# 3

## Optimizing

*Now that you can measure...*



**UPDATE**

your deployment

regularly

# Optimizing your Deployment

## PostgreSQL

Verify the usual server settings: `effective_cache_size`, `work_mem`, `shared_buffers`

- ▶ See also documentation: [https://wiki.postgresql.org/wiki/Performance\\_Optimization](https://wiki.postgresql.org/wiki/Performance_Optimization)

Log slow queries: `log_min_statement_duration = 500`

- ▶ Then watch slow queries in PostgreSQL log file
- ▶ Use `EXPLAIN ANALYZE <query>` to verify the plan See also <https://explain.depesz.com>
- ▶ Verify statistics and vacuuming (autovacuum!)
- ▶ Create missing indexes carefully (composite, order, etc.)
  - ▶ Create missing FK indexes to fix slow deletion

# Sample the system while running PostgreSQL

Install `pg_activity` to watch the database

- + htop-like for PostgreSQL
- + Running/Waiting/Blocking queries
- + Read/Write per second
- + Pause, kill queries, etc.
- + CPU/Memory/Load

```
PostgreSQL 9.5.3 - obl.odoo.com - root@localhost:5432/postgres - Ref.: 2s
Size: 66.87G - 3.95K/s | TPS: 101
Mem.: 19.60% - 12.33G/62.81G | IO Max: 245833/s
Swap: 10.20% - 835.78M/8.00G | Read: 0.00B/s - 0/s
Load: 0.90 1.40 1.71 | Write: 0.00B/s - 0/s

RUNNING QUERIES
PID DATABASE USER CLIENT CPU% MEM% READ/s WRITE/s TIME% % IO% Query
11307 openerp odoo None 0.0 1.0 0.00B 0.00B 01:29.91 N N SELECT * FROM ir_cron WHERE numbercall != 0 AND active AND nextcall <= (now() at time zone 'UTC') AND id=44 FOR UPDATE NOWAIT
11583 openerp odoo 10.0.0.13 0.0 1.7 0.00B 0.00B 0.059303 N N SELECT im_livechat_channel_im_user.user_id, im_livechat_channel_im_user.channel_id FROM im_livechat_channel_im_user, "res_users" LEFT JOIN "res_partner" as "res_users_partner_id" ON ("res_users"."partner_id" = "res_users_partner_id"."id") WHERE ("res_users"."active" = true) AND im_livechat_channel_im_user.channel_id IN (1) AND im_livechat_channel_im_user.user_id = res_users.id ORDER BY "res_users_partner_id"."name", "res_users"."login" OFFSET 0
11306 openerp odoo None 0.5 1.6 0.00B 0.00B 0.032231 N N SELECT "calendar_attendee"."availability" as "availability", "calendar_attendee"."cn" as "cn", "calendar_attendee"."create_date" as "create_date", "calendar_attendee"."write_uid" as "write_uid", "calendar_attendee"."oe_synchro_date" as "oe_synchro_date", "calendar_attendee"."google_internal_event_id" as "google_internal_event_id", "calendar_attendee"."event_id" as "event_id", "calendar_attendee"."id" as "id", "calendar_attendee"."create_uid" as "create_uid", "calendar_attendee"."state" as "state", "calendar_attendee"."email" as "email", "calendar_attendee"."access_token" as "access_token", "calendar_attendee"."partner_id" as "partner_id", "calendar_attendee"."rite_date" as "write_date" FROM "calendar_attendee" WHERE "calendar_attendee".id IN (742344, 742345, 742346, 742347, 742348, 742349, 742350, 742351, 742352) ORDER BY "calendar_attendee"."id"
29663 openerp odoo 10.0.0.11 0.0 1.7 0.00B 0.00B 0.001103 N N SELECT "forum_forum"."karma_gen_answer_accepted" as "karma_gen_answer_accepted", "forum_forum"."allow_question" as "allow_question", "forum_forum"."karma_user_bio" as "karma_user_bio", "forum_forum"."karma_comment_convert_all" as "karma_comment_convert_all", "forum_forum"."karma_edit_all" as "karma_edit_all", COALESCE("forum_forum"."name", "value", "forum_forum"."name") as "name", COALESCE("forum_forum"."description", "value", "forum_forum"."description") as "description", "forum_forum"."karma_comment_convert_own" as "karma_comment_convert_own", "forum_forum"."karma_flag" as "karma_flag", "forum_forum"."allow_bump" as "allow_bump", "forum_forum"."create_uid" as "create_uid", "forum_forum"."karma_gen_answer_downvote" as "karma_gen_answer_downvote", "forum_forum"."karma_post" as "karma_post", "forum_forum"."karma_gen_question_upvote" as "karma_gen_question_upvote", "forum_forum"."karma_moderate" as "karma_moderate", "forum_forum"."karma_edit_own" as "karma_edit_own", "forum_forum"."relevancy_time_decay" as "relevancy_time_decay"
```



# Summary

1 Plan and deploy properly, scale as needed

2 Setup precise monitoring

3 Update, Sample, Optimize

This is the basic checklist for performance investigation!

▶ Tech support @ [www.odoo.com/help](http://www.odoo.com/help)