



# Инфраструктура и процесс разработки

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Отмечайтесь на лекции!

# Сегодня

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- Инфраструктура
- Система контроля версий
- Работа в команде
- Раскладка
- Мониторинг

# Инфраструктура

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- Linux
- Веб-сервер
- ~~База данных и кэш~~
- Приложение
- Очередь

# Почему Linux?

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- Программное обеспечение
- Бесплатность
- История
- Безопасность
- Открытый код

# SSH

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- Безопасное соединение
- Как происходит аутентификация?
- *> ssh-keygen -t rsa*
- *> ssh remote\_username@remote\_host*

# Процессы

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- Процессы и треды
- Состояния процесса
- Синхронизация процессов
- Переключение контекста и scheduler

# Процессы

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- top, ps
- stdin/stdout, pipes
- daemons, init.d/systemd
- /proc/, /var/run/



# Пакеты

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- Установка пакетов
- Репозитории
- yum/aptitude/порты/brew

# Сеть

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- Интерфейсы, сокеты
- curl, wget
- ping, traceroute
- netstat, tcpdump
- /etc/hosts

# Полезные команды

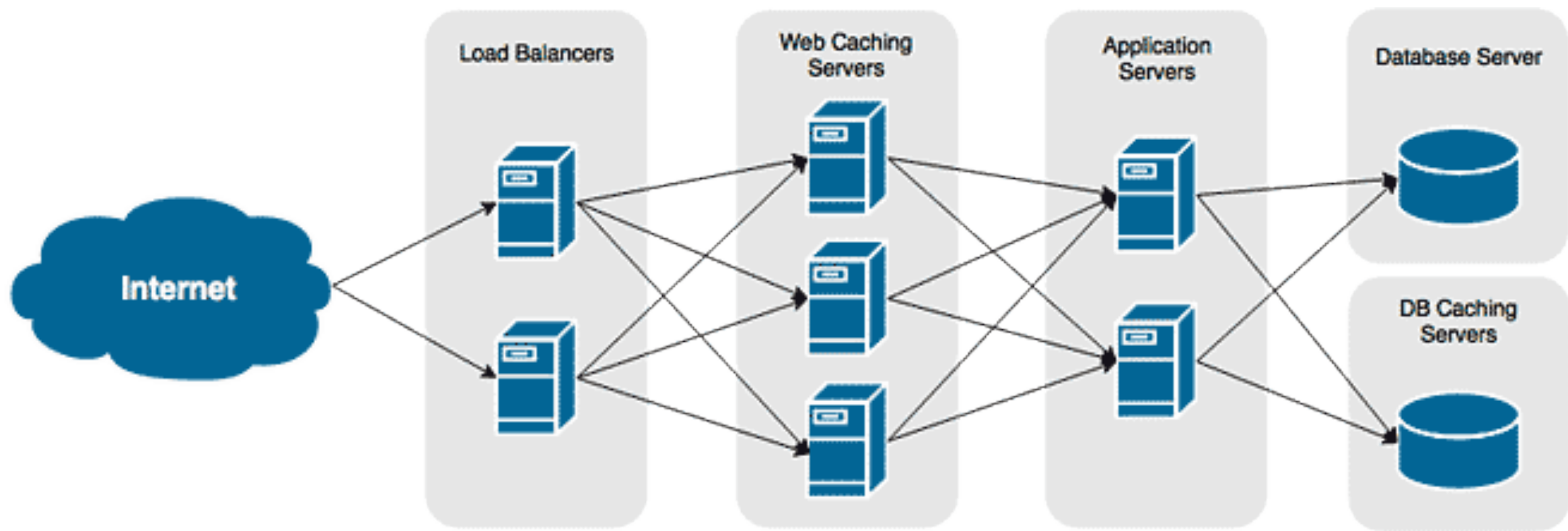
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- grep
- cat, tail, less
- alias

# Архитектура

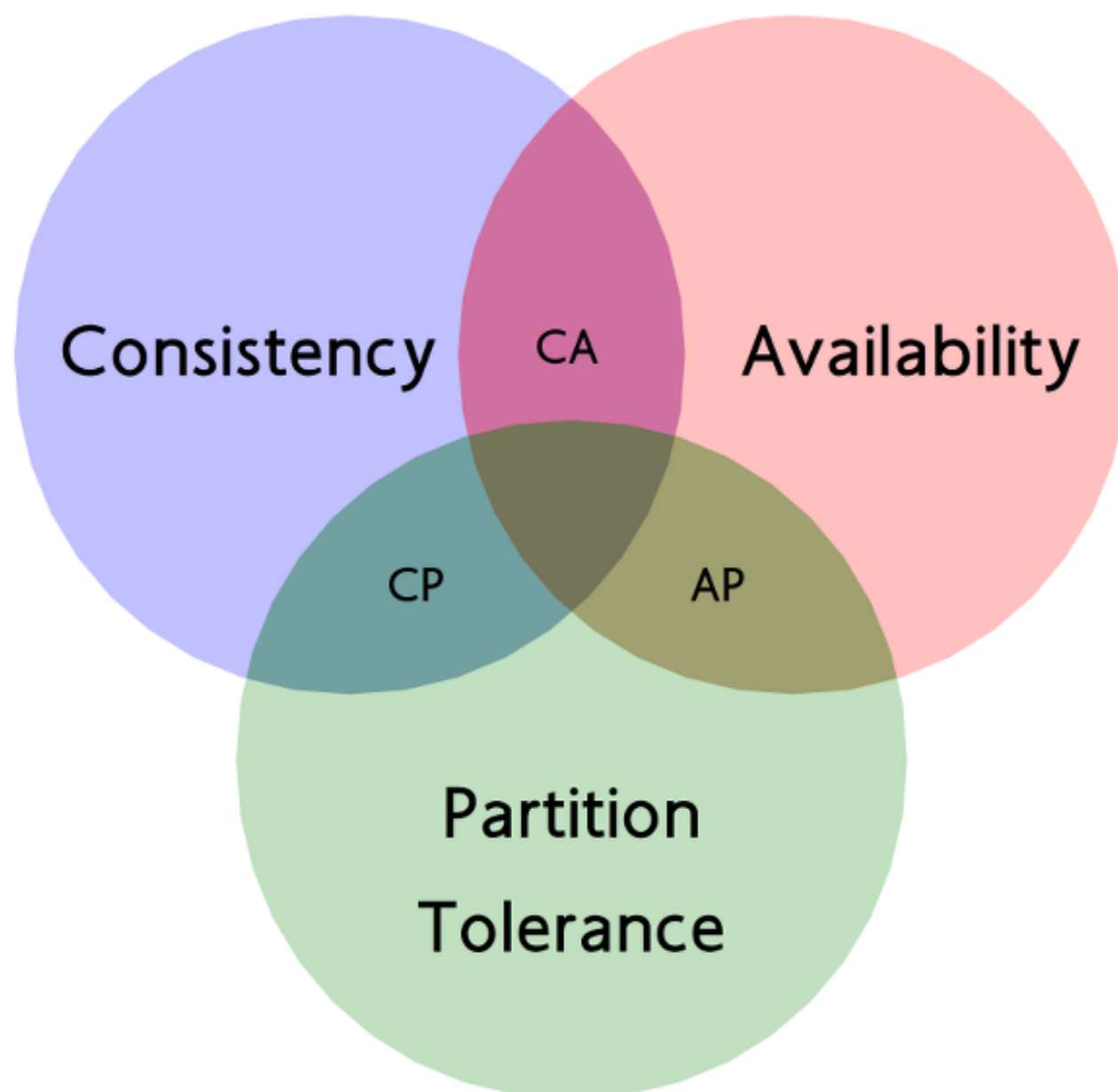
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Масштабирование: вертикальное, горизонтальное

# CAP

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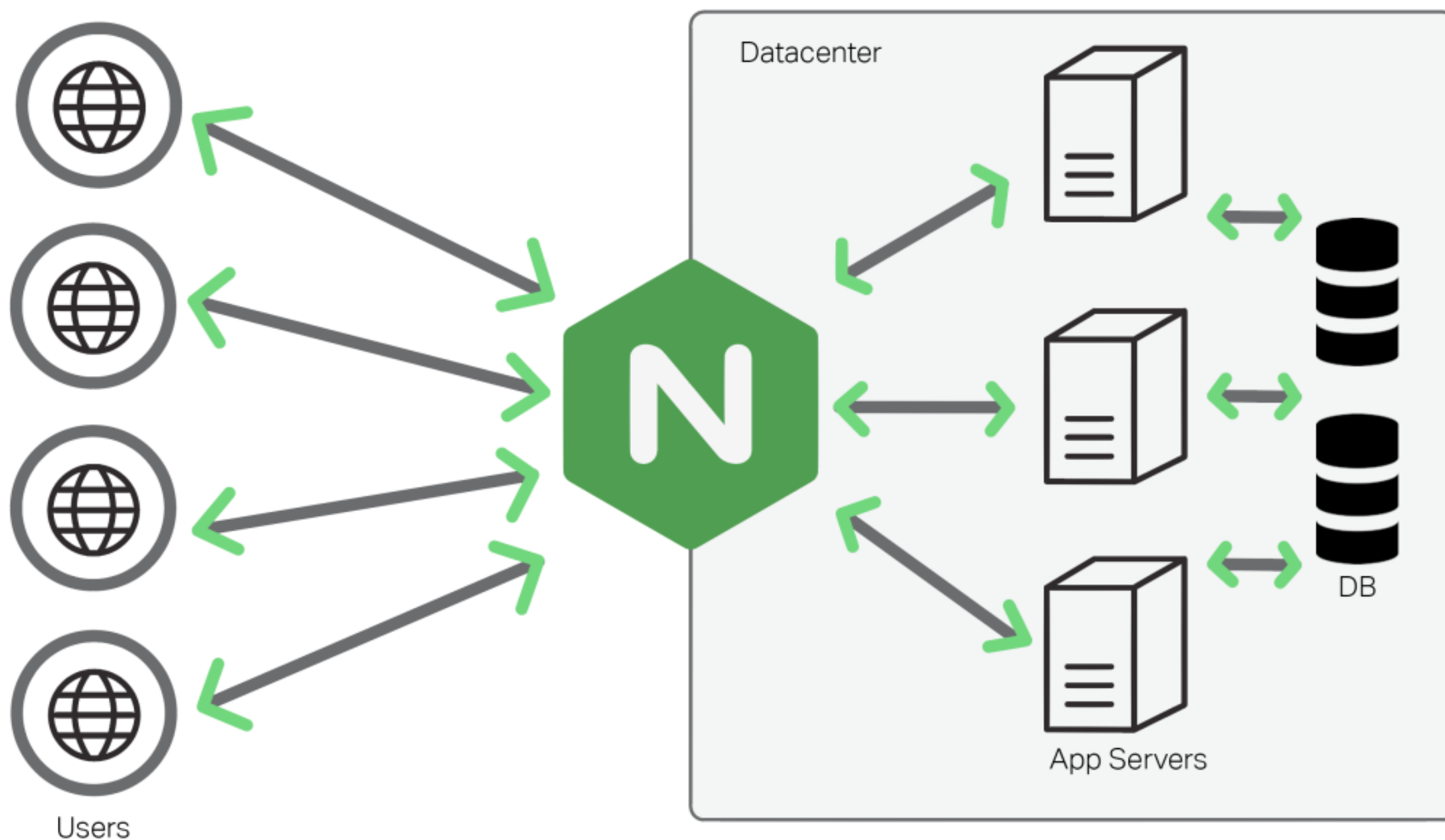
# Заблуждения

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- The network is reliable.
- Latency is zero.
- Bandwidth is infinite.
- The network is secure.
- Topology doesn't change.
- There is one administrator.
- Transport cost is zero.
- The network is homogeneous.

# Веб-сервер



# uWSGI



```
alex@zhebrak:~$ cat /etc/uwsgi/sites/zhebrak.ini
[uwsgi]
project = zhebrak
base = /home/alex

chdir = %(base)/%(project)
home = %(base)/zenv
module = app.wsgi:application

master = true
processes = 5
vacuum=True
max-requests=5000

socket=/tmp/%(project).sock
pidfile=/tmp/%(project).pid
daemonize=/var/log/%(project)/uwsgi.log
chmod-socket = 664
```

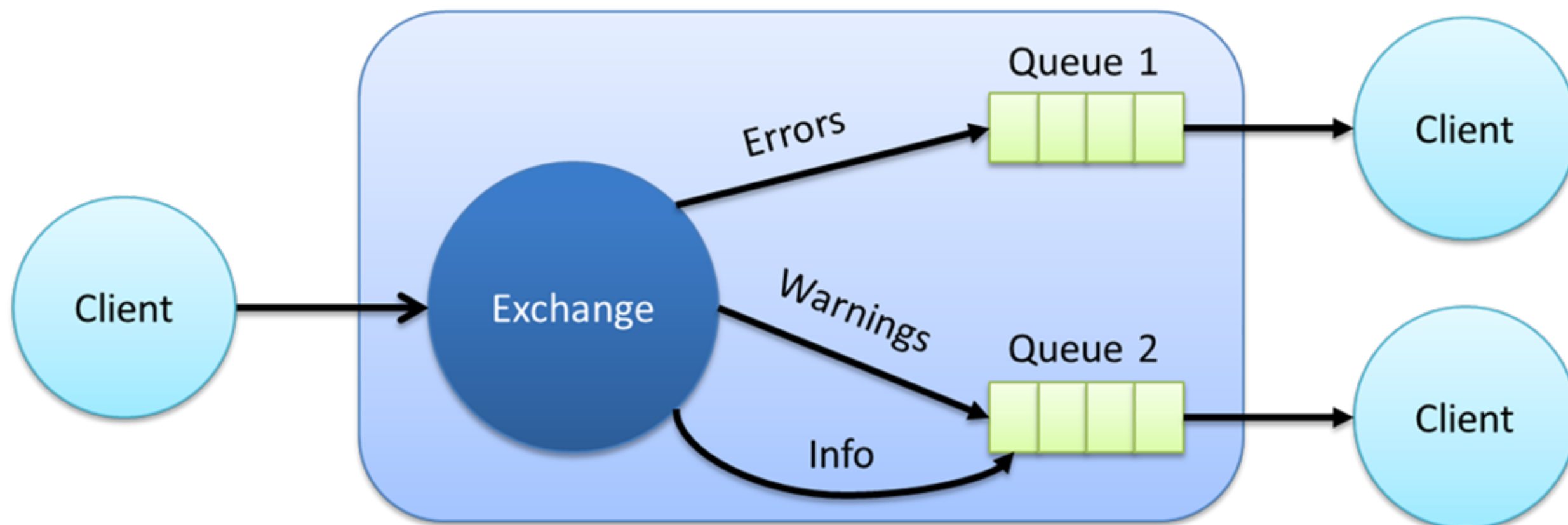
> service uwsgi start



# Очередь



Broker Service



Celery / ZeroMQ, Redis / RabbitMQ, Kafka

# git

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- DVCS
- Ветки
- clone, pull, commit, push, merge

# GitHub

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- Зачем?
- fork-branch-commit-pullrequest-merge
- Issues
- travis-ci, coveralls, shields.io
- GitHub Pages
- Markdown


# git workflow



# GitLab



INTDEV / Intranet ▾




This project

Search

🔍

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+



▾

⚙️ ▾

Project

Activity

Repository

Pipelines

Graphs

Merge Requests 6

✅ passed

58156376

Merge branch '6369\_\_notifications\_refactoring' into 'dev' · 27 minutes ago by [Лихобабин Сергей](#)


All


Push events

Merge events

Comments

Team






**Лихобабин Сергей deleted branch 6369\_\_notifications\_refactoring**

cd068763 · rm debug case, oops

27 minutes ago



**Лихобабин Сергей pushed to branch dev**

58156376 · Merge branch '6369\_\_notifications\_refactoring' into 'dev'

cd068763 · rm debug case, oops

... and 3 more commits. Compare 40da57df...58156376

27 minutes ago

# Работа в команде



# Работа в команде

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- Project manager
- Product manager
- Team leader
- Task tracker



# JIRA



The screenshot shows the JIRA web interface. At the top is a dark blue header with the JIRA logo, navigation tabs (Dashboards, Projects, Issues, Agile, Remote Apps), and a 'GOT FEEDBACK?' button. Below the header is a sub-header for the project 'Angry Nerds / ANGRY-56'. The issue title is 'Level 6 looks the same as level 5'. A toolbar contains buttons for 'Edit', 'Assign', 'Assign To Me', 'Comment', 'More Actions', 'Back to Todo', 'Back to In Progress', 'Workflow', 'Share', and 'Views'. The main content area is divided into two columns. The left column contains sections for 'Details' (Type: Bug, Priority: Major, Affects Version/s: 1.2, Component/s: Nerd Actions, Status: Done, Resolution: Fixed), 'Description' (Can you make a new background for level 6? Maybe a different sky color.), 'Issue Links' (a list of links to other issues), and 'Activity' (a list of recent actions). The right column contains sections for 'People' (Assignee: Bryan Rollins, Reporter: Bryan Rollins), 'Dates' (Created: 02/Jun/11 8:53 PM, Updated: Today 2:10 PM, Resolved: Today 11:28 AM), and 'Time Tracking' (Estimated: 6h, Remaining: 6h, Logged: Not Specified).

**JIRA** GOT FEEDBACK? Log In

Dashboards Projects Issues Agile Remote Apps + Create Issue Quick Search

Angry Nerds / ANGRY-56

## Level 6 looks the same as level 5

Edit Assign Assign To Me Comment More Actions Back to Todo Back to In Progress Workflow Share Views

### Details

Type: Bug  
Priority: Major  
Affects Version/s: 1.2  
Component/s: Nerd Actions  
Status: Done (View Workflow)  
Resolution: Fixed  
Fix Version/s: None

### Description

Can you make a new background for level 6? Maybe a different sky color.

### Issue Links

Get Satisfaction Topic [Get Satisfaction] I have a question about that one thing  
Salesforce.com Account [Salesforce.com] GenePoint  
Sauce Labs Bug [Sauce Labs] A bug in Firefox 5 (edited in JIRA)  
Zendesk Ticket [Zendesk] 233 - There seems to be an issue

### Activity

All Comments Work Log History Activity Test Sessions Builds

Christina Bang created a link from ANGRY-56 - Level 6 to ANERDS-62 (JAC) 3 hours ago

Christina Bang changed the status to Done on ANGRY-56 - Level 6 with a resolution of 'Fixed' 3 hours ago

### People

Assignee: Bryan Rollins  
Reporter: Bryan Rollins  
Vote (0) Watch (0)

### Dates

Created: 02/Jun/11 8:53 PM  
Updated: Today 2:10 PM  
Resolved: Today 11:28 AM

### Time Tracking

Estimated: 6h  
Remaining: 6h  
Logged: Not Specified



# Раскладка

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- Процесс раскладки
- Continuous Integration (CI)
- Контейнеры и виртуальные машины

# Jenkins



|  |  |                               |   |   |                    |  |
|--|--|-------------------------------|---|---|--------------------|--|
|  |  | <a href="#">Contractors</a>   | 6 дней 2 часа - <a href="#">#26</a>     | 13 дней - <a href="#">#11</a>           | 2 минуты 1 секунда |  |
|  |  | <a href="#">Corfu</a>         | 1 месяц 29 дней - <a href="#">#114</a>  | 2 месяца 6 дней - <a href="#">#112</a>  | 3 минуты 8 секунд  |  |
|  |  | <a href="#">corpse</a>        | 11 дней - <a href="#">#761</a>          | 1 месяц 15 дней - <a href="#">#749</a>  | 5 минуты 40 секунд |  |
|  |  | <a href="#">Exchanged</a>     | 7 месяцев 12 дней - <a href="#">#24</a> | 2 года 8 месяцев - <a href="#">#14</a>  | 1 минута 48 секунд |  |
|  |  | <a href="#">feedback</a>      | 2 часа 58 минут - <a href="#">#103</a>  | 17 дней - <a href="#">#87</a>           | 8 минут 2 секунды  |  |
|  |  | <a href="#">find_ssh_keys</a> | 8 месяцев 3 дня - <a href="#">#4</a>    | 8 месяцев 3 дня - <a href="#">#2</a>    | 25 секунд          |  |
|  |  | <a href="#">gocheckers</a>    | 4 месяца 15 дней - <a href="#">#102</a> | 6 месяцев 0 дней - <a href="#">#81</a>  | 6.3 секунд         |  |
|  |  | <a href="#">Ideas</a>         | 6 дней 3 часа - <a href="#">#354</a>    | 10 дней - <a href="#">#350</a>          | 9 минут 21 секунд  |  |
|  |  | <a href="#">Intranet</a>      | 11 часов - <a href="#">#3998</a>        | 1 день 11 часов - <a href="#">#3997</a> | 16 минут           |  |

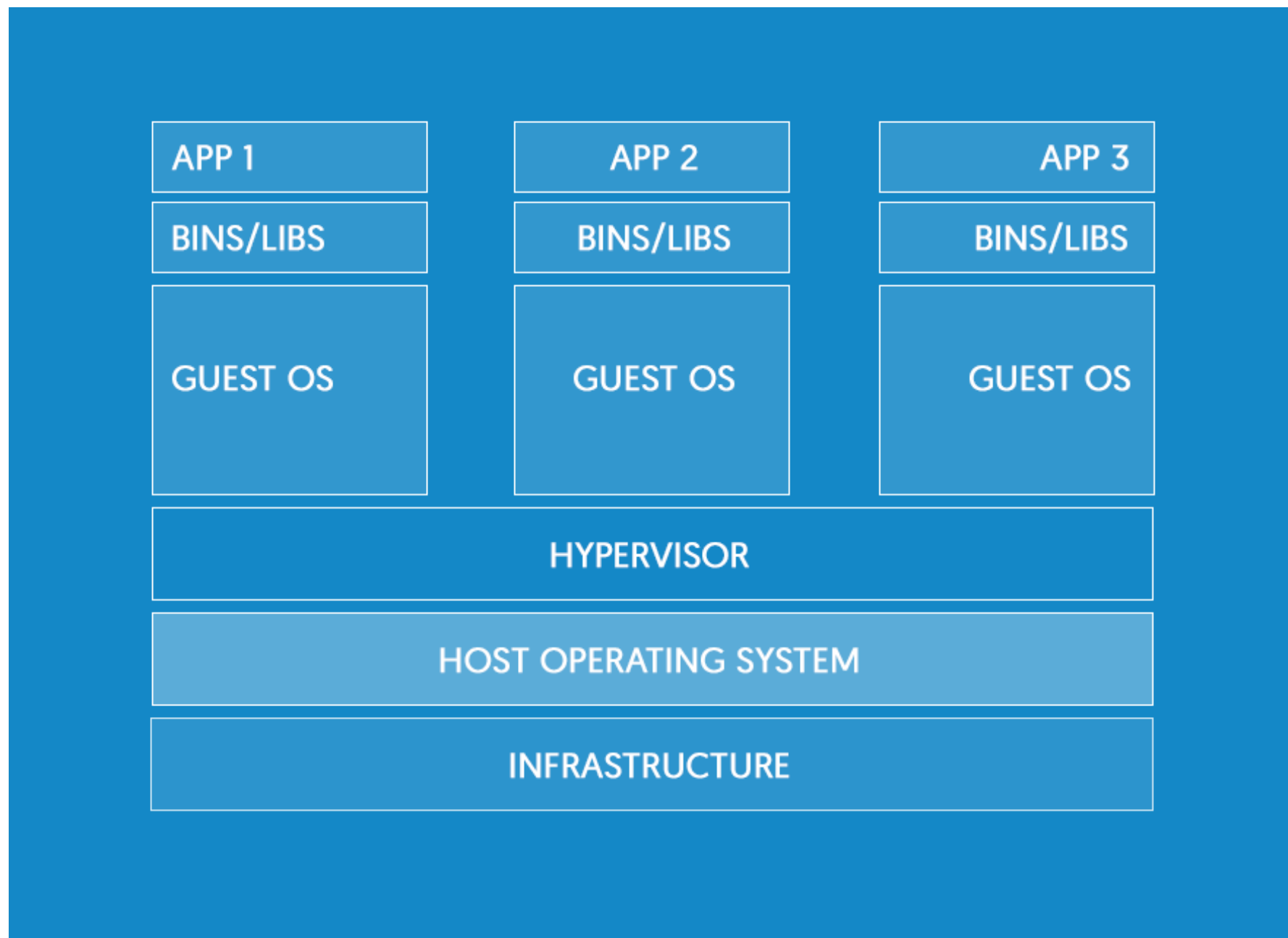
# GitLab CI

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|        |                   |   |  |                       |  |
|--------|-------------------|---|--|-----------------------|--|
| passed | #42044 by  latest | v3.69.51  c492fb59<br>Revision updated v3.69.51 ... |  | 00:12:13<br>1 day ago |  |
| passed | #42043 by  latest | master  c492fb59<br>Revision updated v3.69.51 ...   |  | 00:09:37<br>1 day ago |  |
| passed | #42038 by         | dev  d60fd323<br>Merge branch 'INTDEV-740...        |  | 00:09:18<br>1 day ago |  |

# VM



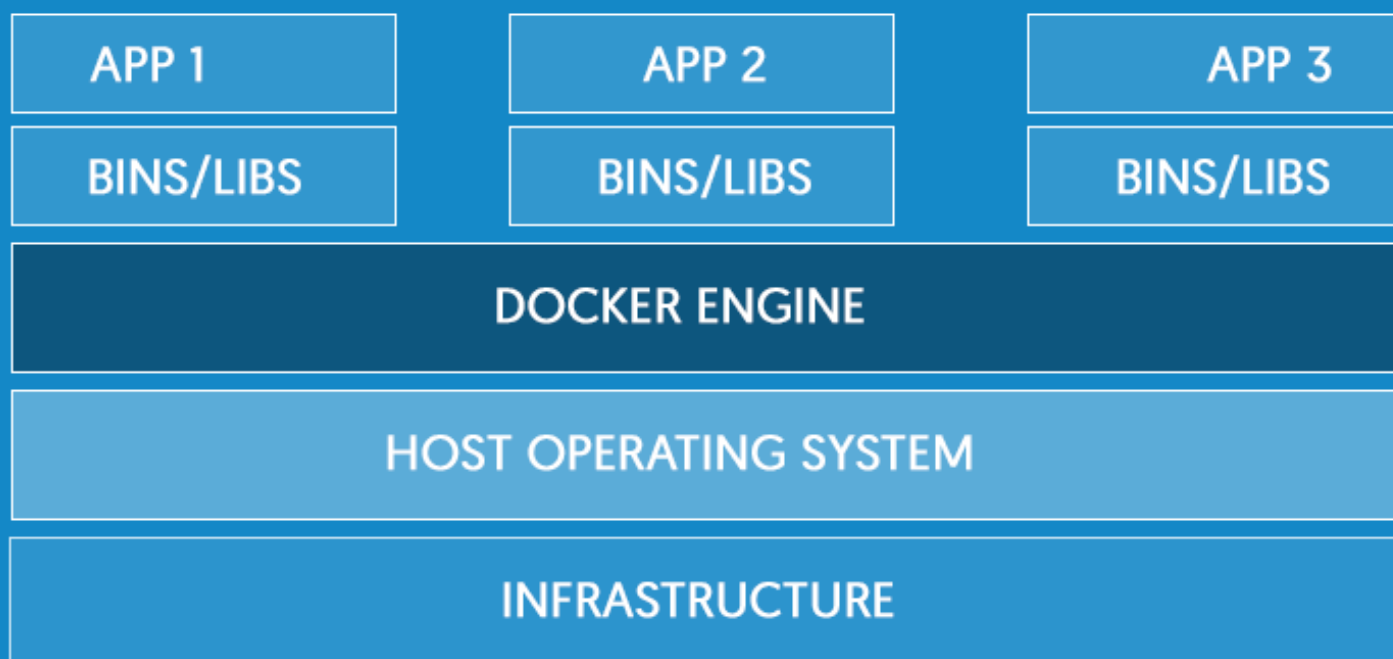
# Контейнеры

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- Что такое контейнер?
- *Хм... на моей машине работает...*
- Docker, Kubernetes, Vagrant
- \*.rpm, \*.deb

# Контейнеры



# Мониторинг





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- Отслеживание ошибок
- Логирование
- Графики


# Sentry









**Captain Planet / Heart** 

ISSUES **EVENTS** OVERVIEW USER FEEDBACK RELEASES


















★ Star  Subscribe ⚙ Settings

**Unresolved Issues** 

Sort by: Last Seen    

☐ ☒ ☒ ☒ ☒ ☒

GRAPH: **24H** 14D EVENTS USERS

|   |   |   |    |   |
|---|---|---|----|---|
| <b>Error</b>  <b>TypeError</b> poll(../sentry/scripts/views.js)<br>Object [object Object] has no method 'updateFrom'<br>HEART-1D  6 days ago — 4 months old  1 |   |  | 26 | 1 |
| <b>Error</b> ★ <b>javax.servlet.ServletException</b> org.hsquidb.jdbc.Util in throwError<br>Something bad happened<br>HEART-1G  6 days ago — 4 months old  | <div>Filter people<br/> Chris Jennings</div>   |  | 26 | 1 |
| <b>Error</b> <b>script-src</b> example.com<br>Blocked 'script' from 'example.com'<br>HEART-1K  6 days ago — 4 months old   |   |  | 26 | 1 |
| <b>Error</b> <b>ZeroDivisionError</b> bin/raven in <main><br>divided by 0<br>HEART-1H  6 days ago — 4 months old   |   |  | 26 | 1 |



# Логирование

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- Зачем?
- import logging
- *syslog*
- logstash, fluentd

# Графики





# Вопросы?



Оставляйте обратную  
связь!

# Домашнее задание

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- развернуть проект на сервере
- автоматизировать раскладку
- автоматизировать тестирование и/или  
добавить логирование