



DevOps After Dark

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**We will encourage you to develop
the three great virtues of a
programmer: *laziness, impatience,*
and *hubris*.**

- Larry Wall
Programming Perl (1st edition)



First Thing in the Morning...

```
$ ansible-playbook -i hosts site.yaml
```

```
....
```

```
jump.stage.example.com :ok=16 changed=15 unreachable=0 failed=0  
db-1.stage.example.com :ok=93 changed=10 unreachable=0 failed=0  
db-2.stage.example.com :ok=82 changed=21 unreachable=0 failed=0  
db-3.stage.example.com :ok=82 changed=21 unreachable=0 failed=0  
stargate-1.stage.example.com :ok=36 changed=32 unreachable=0 failed=0  
stargate-2.stage.example.com :ok=51 changed=17 unreachable=0 failed=0  
stargate-3.stage.example.com :ok=51 changed=17 unreachable=0 failed=0  
stargate-4.stage.example.com :ok=51 changed=17 unreachable=0 failed=0
```



By Mid-Day...

```
$ terraform workspace select us-east-1-prod-1
```

```
$ terraform plan
```

...

Plan: **5** to add, **9** to change, **1** to destroy.

I DON'T KNOW WHO YOU ARE, YET

**BUT I WILL FIND YOU
AND ROTATE YOUR KEYS**

imgflip.com

<https://imgflip.com/i/261j6f>

There is No Place like

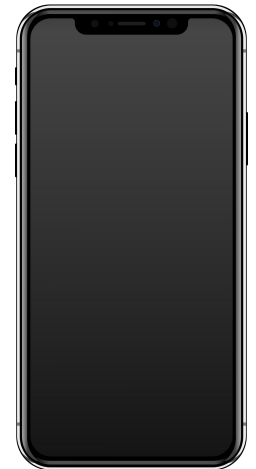
127.0.0.1 || ::1

—

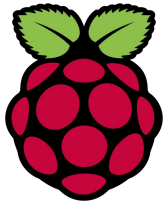


127.0.0.1 → 192.168.0.0/24

ROKU



PHILIPS
hue



PLEX


KODI





127.0.0.1 → 192.168.0.0/16

- Infrastructure
 - Device count approaches $n!$
 - Network and bandwidth requirements
 - Ever Changing landscape (kids, guests, etc)
- Security
 - IoT
 - Personal Information
- Configuration
 - Different personas
 - You are not root!



An Opinionated Approach to DevOps @ Home





Trade Offs

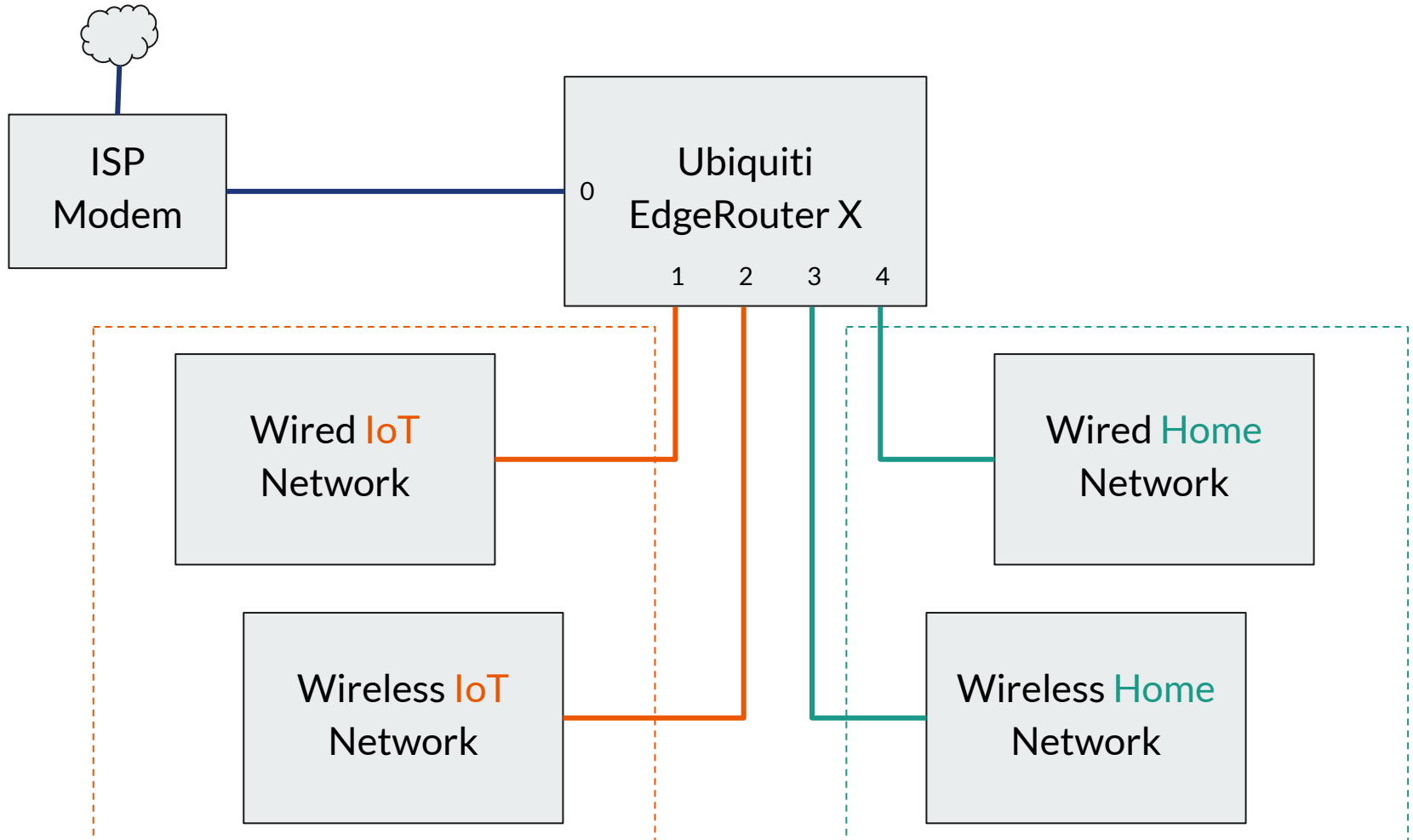
- Security
- Convenience
- Usability
- Hackability
- Software License



Home Network

- Ubiquiti EdgeRouter X
- Wifi Routers, either:
 - Two access points
 - One access point with support for multiple *isolated* networks

Network Topology





Features of This Setup

- Ubiquiti EdgeRouter X
 - < \$50
 - 2 Isolated wired networks
 - 2 Isolated wireless networks
- Home Networks are semi-isolated
- IoT Networks are semi-isolated
- ✓ Traffic from Home → IoT
- ✗ Traffic from IoT ↗ Home

- Reference: <https://github.com/mjp66/Ubiquiti/>



Configuration Management

- OS Configuration
- DNS

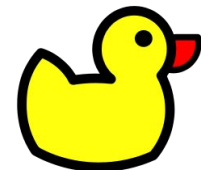
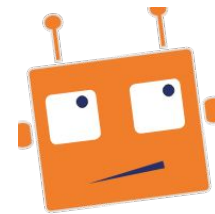
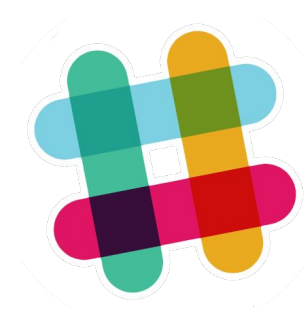


Configuration Management - OS



PlaaS - Personal IaaS

- Provisioning: **Terraform**
- Orchestration: **Ansible**
- Dynamic DNS: **DuckDNS.org**
- Alerting: **Slack (via slacktee)**
- Chatbot: **ErrBot**



<https://github.com/alghanmi/my-debian-box>

SlackTee Alerts

```
#!/bin/bash
if [ -f /var/run/reboot-required ]; then
    echo "Reboot Required on $(hostname) since
        $(stat --format=%z /var/run/reboot-required)" | \
        ~/bin/slacktee.sh -c "alerts" -a "danger" -t "Reboot Required"
fi
```



wolf-bot APP 12:00 AM

Reboot Required

Reboot Required on wolf since 2018-02-26 18:26:48.235104938 -0800

apt-listchanges



From root@mamba.raminoid.com Sun Mar 04 14:43:04 2018
Received: from root by mamba with local (Exim 4.90_1)
 (envelope-from <root@mamba.raminoid.com>)
 id 1esclQ-0000Uk-Ab
 for root@mamba.raminoid.com; Sun, 04 Mar 2018 14:43:04 -0800
Auto-Submitted: auto-generated
Subject: =?utf-8?q?apt-listchanges=3A_news_for_mamba?
To: root@mamba.raminoid.com
MIME-Version: 1.0
Content-Type: text/plain; charset="utf-8"
Content-Transfer-Encoding: 7bit
Message-Id: <E1esclQ-0000Uk-Ab@mamba>
From: root <root@mamba.raminoid.com>
Date: Sun, 04 Mar 2018 14:43:04 -0800

apt (1.6~alpha8) UNRELEASED; urgency=medium

APT now verifies that the date of Release files is not in the future. By default, it may be 10 seconds in the future to allow for some clock drift.

Two new configuration options can be used to tweak the behavior:
Acquire::Check-Date
Acquire::Max-DateFuture

These can be overridden in sources.list entries using the check-date and date-future-max options. Note that disabling check-date also disables checks on valid-until: It is considered to mean that your machine's time is not reliable.

-- Julian Andres Klode <juliank@ubuntu.com> Mon, 12 Feb 2018 12:53:18 +0100

[Show less](#)



Errbot



Rami Al-Ghanmi 📅 7:55 AM

ticker



bb8 APP 7:55 AM

Cryptocurrency Market Tickers

Bittrex market ticker @ 2018-01-18 15:55

BTC-ADA

5.895E-5

USD-ETH

1078.35

BTC-ETH

0.0915228

USD-BTC

11750.01





Dotfiles

Yet Another Dotfile Manager
(yadm)

- vim
- tmux
- ssh
- gpg
- zsh
-





Yet Another Dotfile Manager (YADM)

- A wrapper around git designed for dotfiles
- Git syntax
- Single Repository
- Host-aware
- Encrypt and track confidential files

- Reference: <https://thelocihiliosan.github.io/yadm/>



Yadm in a Nutshell

```
$ yadm init
```

```
$ yadm add ~/.vimrc
```

```
$ yadm commit
```

```
$ yadm remote add origin git@github.com:<username>/dotfiles
```

```
$ yadm push -u origin master
```

Example: <https://github.com/alghanmi/dotfiles>



How it Works

```
antigen-update:4: file exists: /Users/rami_alghanmi/.antigen/antigen.log
Updating joel-porquet/zsh-dircolors-solarized@master... Done. Took 1s.
Updating mafredri/zsh-async@master... Done. Took 0s.
Updating robbyrussell/oh-my-zsh@master... Done. Took 1s.
Updating rupa/z@master... Done. Took 1s.
Updating sindresorhus/pure@master... Done. Took 1s.
Updating supercrabtree/k@master... Done. Took 0s.
Updating zlsun/solarized-man@master... Done. Took 1s.
Updating zsh-users/zsh-autosuggestions@master... Done. Took 0s.
Updating zsh-users/zsh-history-substring-search@master... Done. Took 1s.
Updating zsh-users/zsh-syntax-highlighting@master... Done. Took 1s.
Bootstrapping Vim
Bootstrapping tmux
Already up to date.
```

~ 20s

~

yadm status

On branch master

Your branch is up to date with 'origin/master'.

nothing to commit (use -u to show untracked files)

~

~





YADM Bootstrap File

<https://github.com/alghanmi/dotfiles/blob/master/.yadm/bootstrap>



Autobooks

Borrow Audiobooks from the
Public Library



Overdrive Books

- Part of Public Library membership
- Borrow Audio-books and eBooks
- Convert Audio-books into Podcasts



- <https://github.com/alghanmi/PodcastFeedGenerator>



Advise

- Use **gpg-agent** instead of **ssh-agent**
 - Key signing party @ SCaLE
- Enable 2FA and FIDO
 - YubiKey in the Expo Hall
- Consider and **Anti-Malware** and **Storage Security** solution
 - Symantec Cloud Workload Protection in Expo Hall

TeenOps

—



TeenOps

- Agile methodology for completing responsibilities
- Homework
- Chores
- Rewards
- Visibility
- For the record, I like **Kanban** more than **Scrum**



Homework

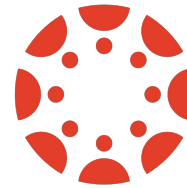
Calendaring

Todos

Tracking



Homework Intake Flow



canvas



Google



todoist



Homework Intake Flow

IFTTT:

<https://ifttt.com/applets/215303p-automatically-turn-your-google-calendar-events-into-todoist-tasks>

Mosab Homework 🗨️ 👤 2 ✖️

- Science Energy Diagram Monday 📅
- Pg. 239 # 7 - 20 Tuesday 📅
- Read Giver Ch. 18 Thursday 📅

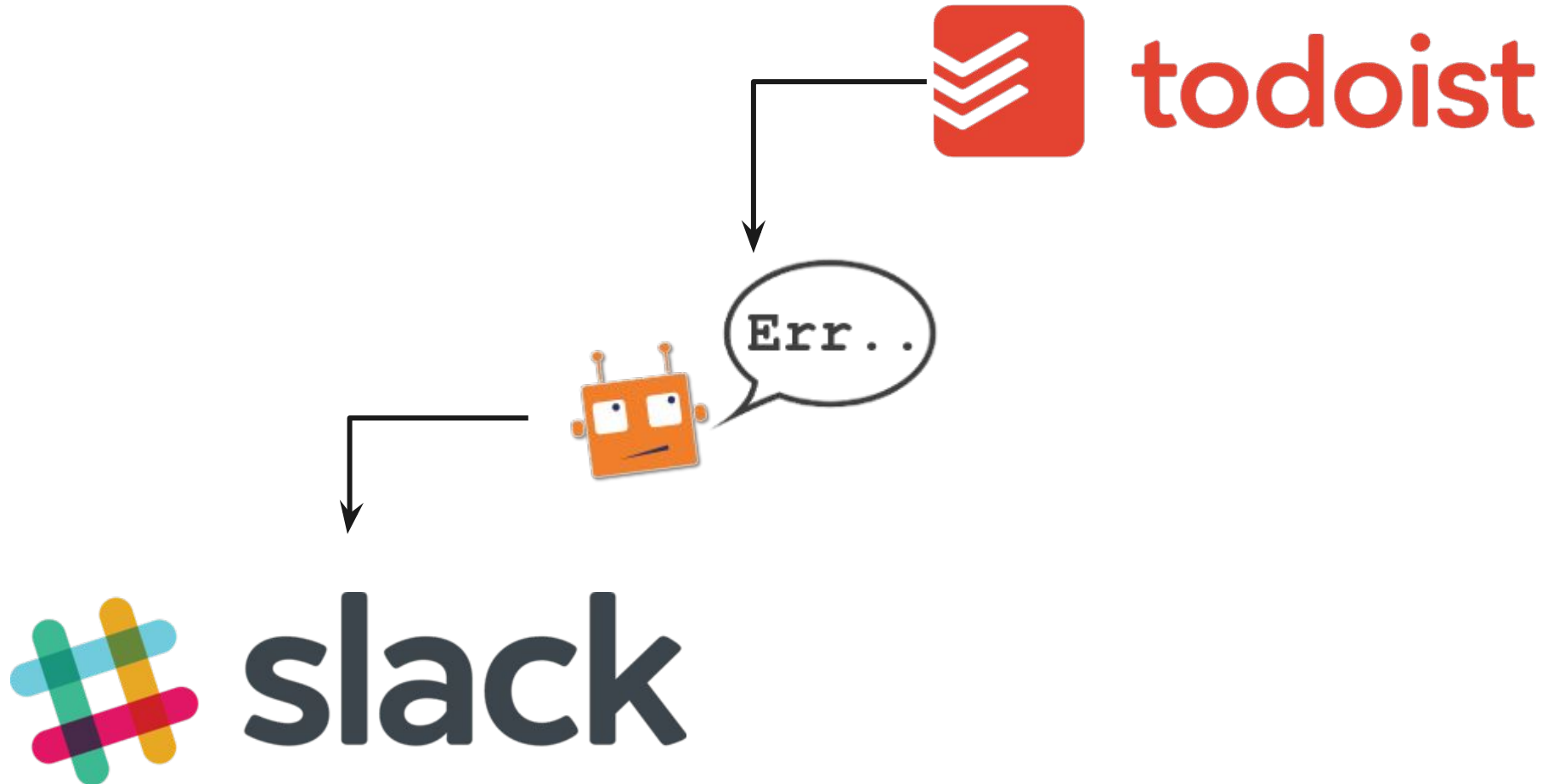
Schedule 📅

Add Task Cancel ☰ 🚩 🗨️ ⋮

+ Add Task 🔄



Homework & Chore Completion Flow





Future Work

- Parent Portal does not have API support
- Use Errbot for calculating rewards
- Switch to Discord



Thank You