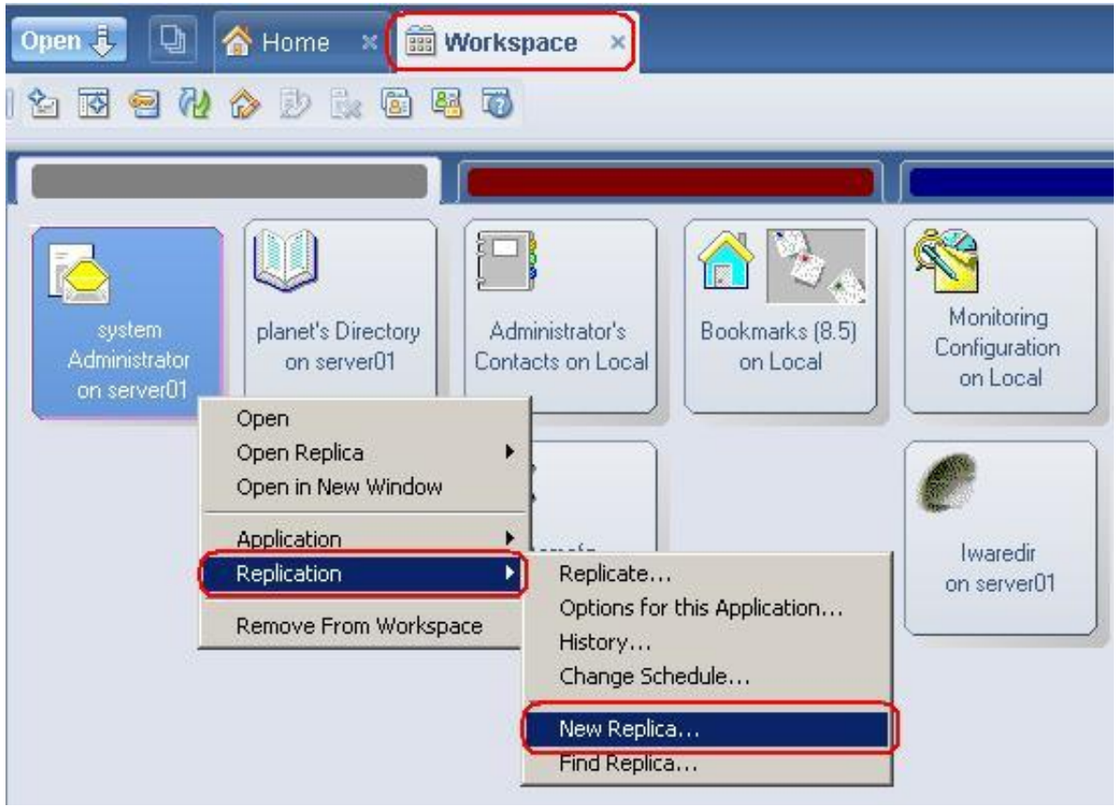
Continuous delivery with Azure Web Apps

Vidar Kongsli

Øredev 2017

bredvid

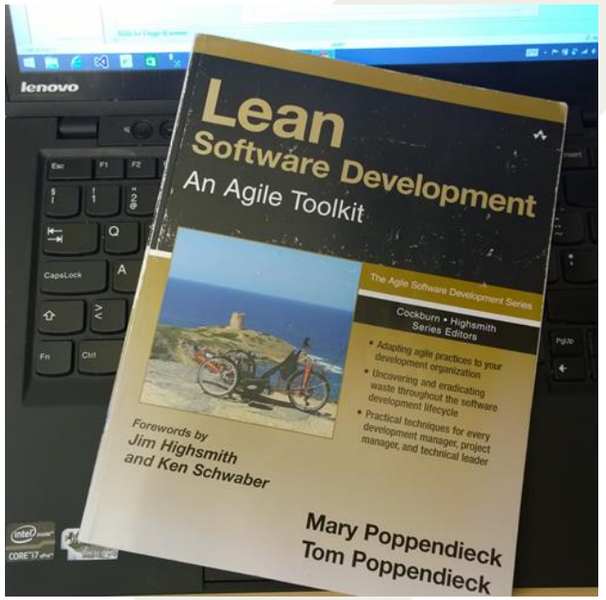
Deployment in the nineties



By Magnus Fröderberg/norden.org, CC BY 2.5 dk, https://commons.wikimedia.org/w/index.php?curid=2501580

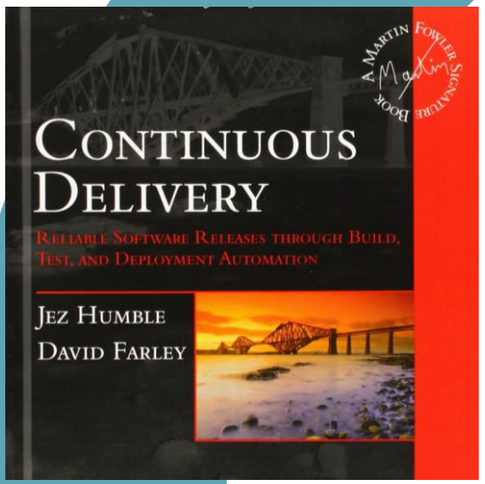
Lean software developent

- Deliver as fast as possible
  - *Rapid delivery allows some customers to delay decisions, and for others rapid delivery means quicker gratification. For customers of software development, rapid delivery often translates to increased business flexibility*
- Build integrity in
  - *The way to build a system with high [...] integrity is to have excellent information flows both from customer to development team and between the upstream and the downstream processes of the development team*



Principles of software delivery*

1. Create a repeatable, reliable process for releasing software
2. Automate almost everything
3. Keep everything in version control
4. If it hurts, do it more frequently, and bring the pain forward
5. Build quality in
6. Done means released
7. Everybody is responsible for the delivery process
8. Continuous improvement



* Humble & Farley: Continuous delivery, Addison-Wesley, 2010

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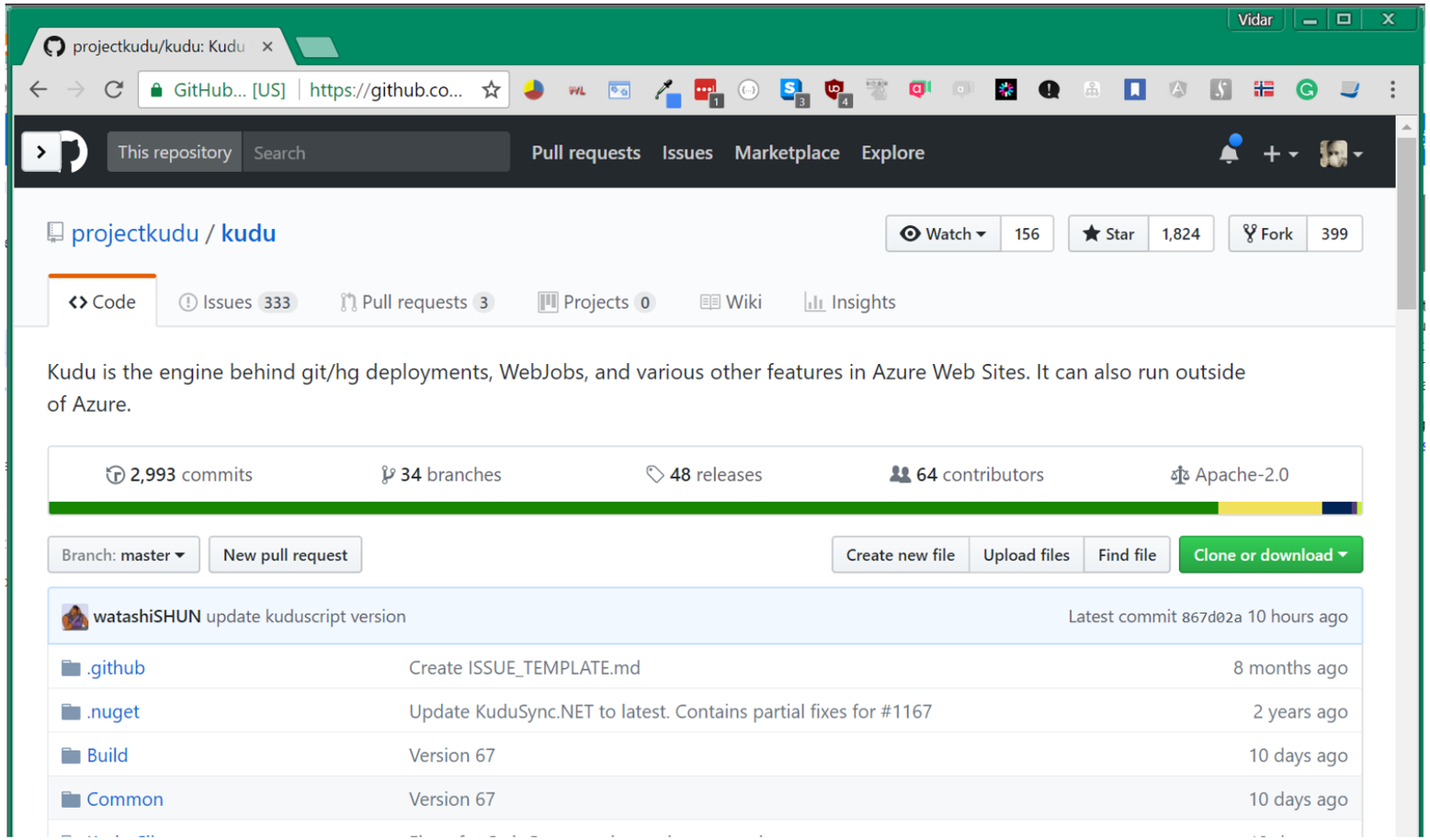
Kudu


projectkudu/kudu: Kudu
Vidar
GitHub... [US] https://github.co...
This repository
Search
Pull requests
Issues
Marketplace
Explore
projectkudu / kudu
Watch 156
Star 1,824
Fork 399
Code
Issues 333
Pull requests 3
Projects 0
Wiki
Insights
Kudu is the engine behind git/hg deployments, WebJobs, and various other features in Azure Web Sites. It can also run outside of Azure.
2,993 commits
34 branches
48 releases
64 contributors
Apache-2.0
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download
watashiSHUN update kuduscript version
Latest commit 867d02a 10 hours ago
.github Create ISSUE_TEMPLATE.md 8 months ago
.nuget Update KuduSync.NET to latest. Contains partial fixes for #1167 2 years ago
Build Version 67 10 days ago
Common Version 67 10 days ago

Tools

- **Project Kudu**
  - https://github.com/projectkudu/kudu
- **Azure CLI 2.0**
  - http://bit.ly/az-cli
- **Kuduscript**
  - npm install –g kudusync
- **Visual Studio Code**
  - https://code.visualstudio.com/
- **Iwr-tests** (PowerShell script)
  - http://bit.ly/iwr-tests
- **Kudu-to-slack-relay** (Azure function)
  - http://bit.ly/kudu2slack

In this talk

Auto deploy

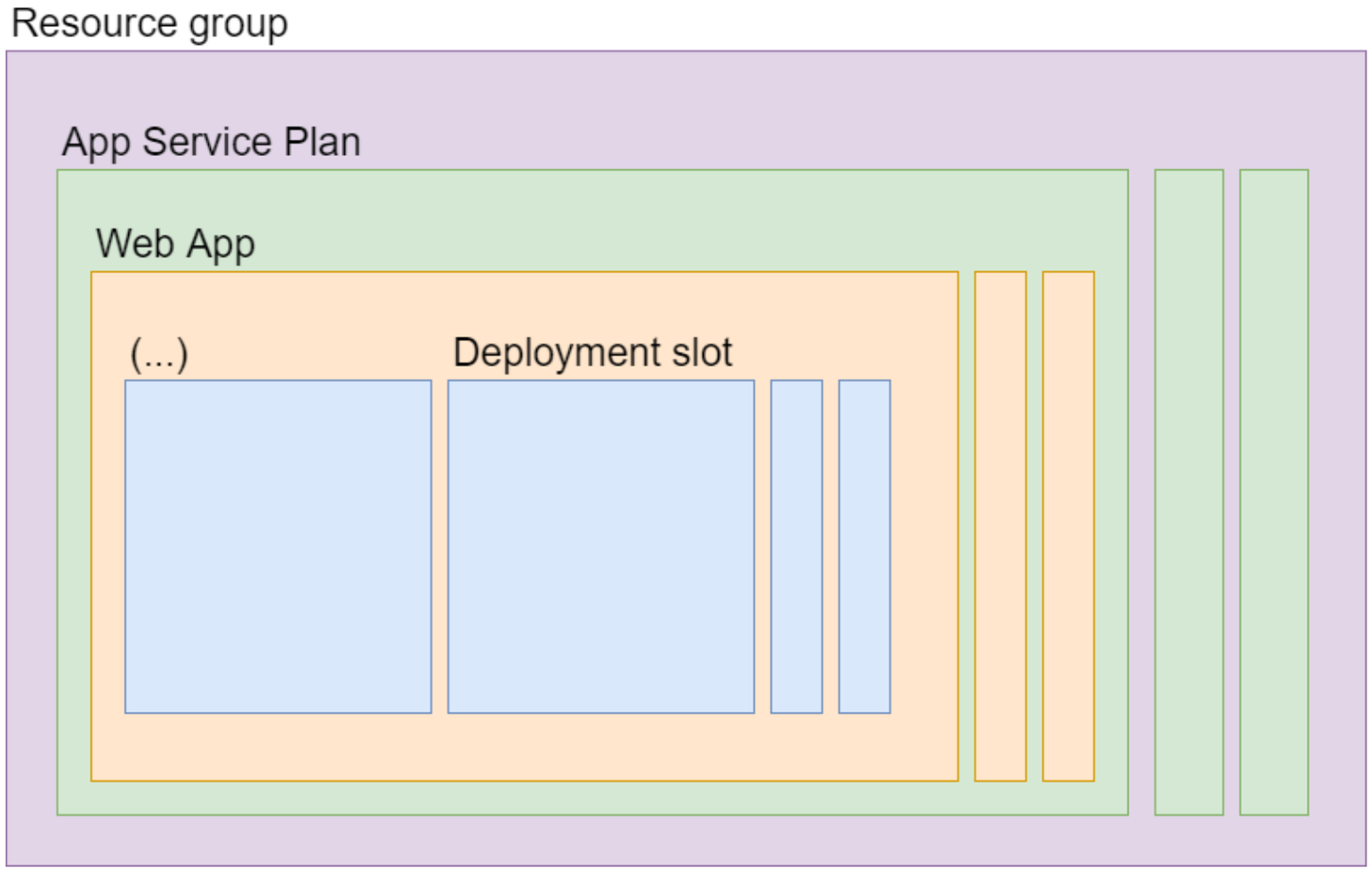
- ✓ Provision Web App
- ✓ Connect to repository.

Deploy script

Pipeline

Environments

Azure web resources



Windows PowerShell
~ $

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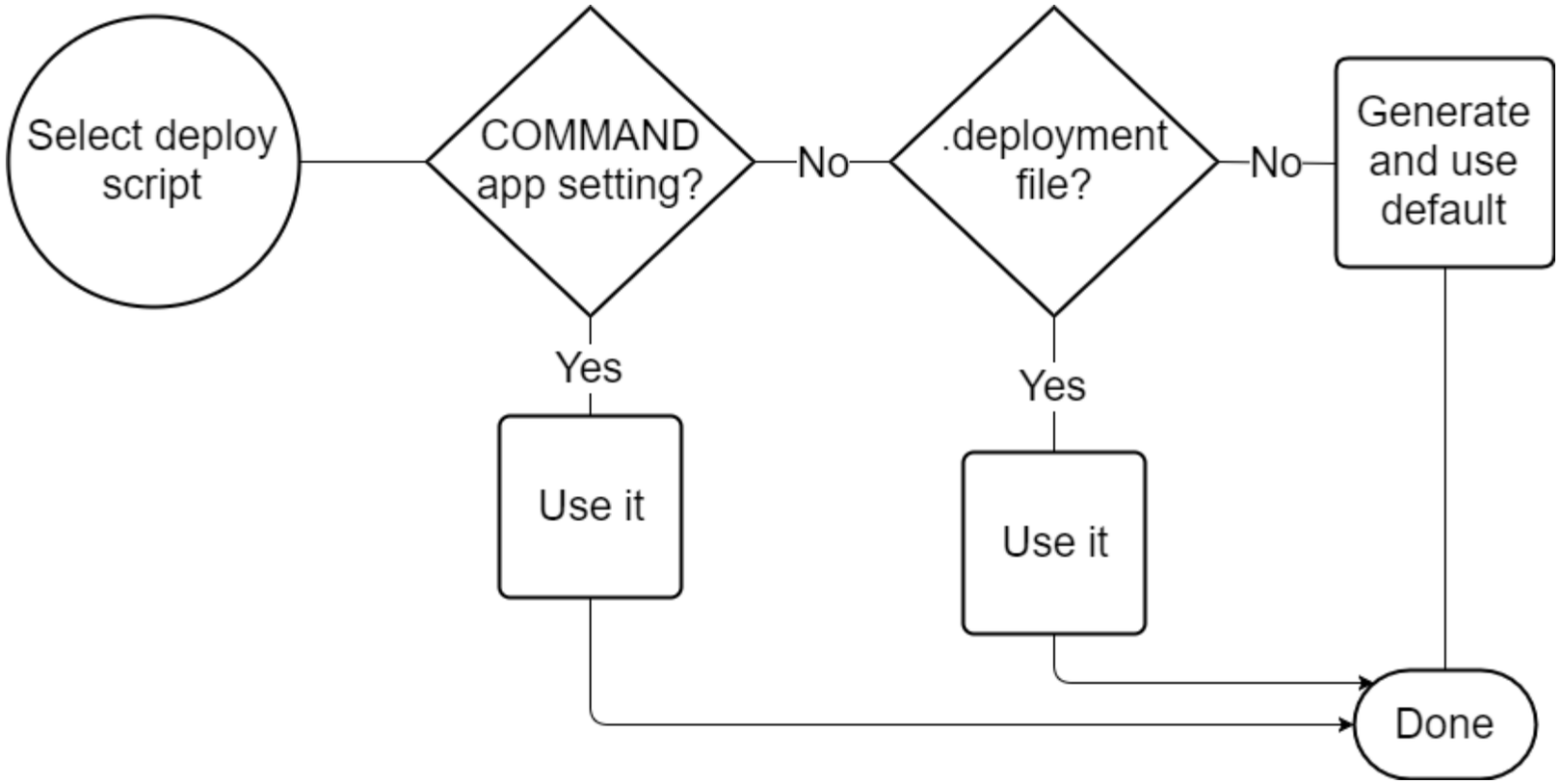
Deployment script in use

STATUS	TIME	ACTIVITY	LOG
✓	Sun...	Updating submodules.	
✓	Sun...	Preparing deployment for commit id 'bb178fdf90'.	
✓	Sun...	Generating deployment script.	View Log
✓	Sun...	Running deployment command...	View Log
✓	Sun...	Running post deployment command(s)...	
✓	Sun...	Deployment successful.	

DEMO

Select deployment script



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- ✓ Automated tests
- ✓ Smoke tests
- ✓ Slack reporting.

Environments

DEMO

DEMO

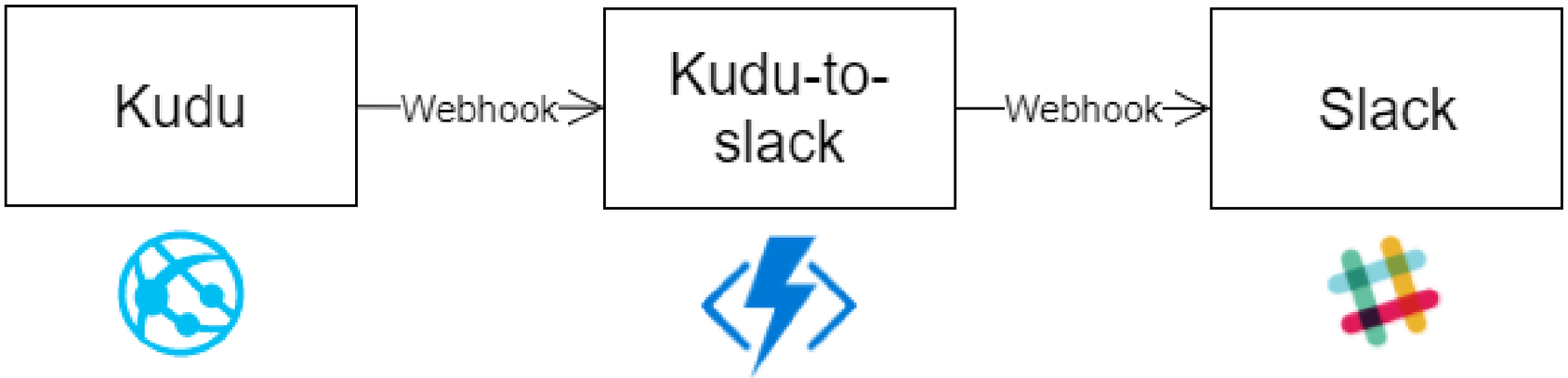
Post deploy webhook payload


```
{
  "id": "982843aff56d37f2bfb9f532a9c0465031f4172d",
  "status": "success",
  "statusText": "",
  "authorEmail": "someone@somewhere.com",
  "author": "Someone",
  "message": "My fix",
  "deployer": "Someone",
  "receivedTime": "2015-12-16T00:52:07.7240633Z",
  "startTime": "2016-02-27T17:44:25.8567966Z",
  "endTime": "2016-02-27T17:45:06.2016537Z",
  "lastSuccessEndTime": "2016-02-27T17:45:06.2016537Z",
  "complete": true,
  "siteName": "MySite",
  "hostName": "MySite(-soltName).scm.azurewebsites.net"
}
```

Slack message


```
{
   "channel": "channel",
   "icon_emoji": ":shipit:",
   "text": "Initiated by: Someone at Sat, 27 Feb 2016 17:45:06
GMT\r\n<https://MySite(-soltName).scm.azurewebsites.net|MySite> Id:
982843aff56d37f2bfb9f532a9c0465031f4172d\r\n```My fix```",
   "username": "Published: MySite"
}
```

Deployment status handling



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- ✓ Connect repo to slot
- ✓ Slot swap.

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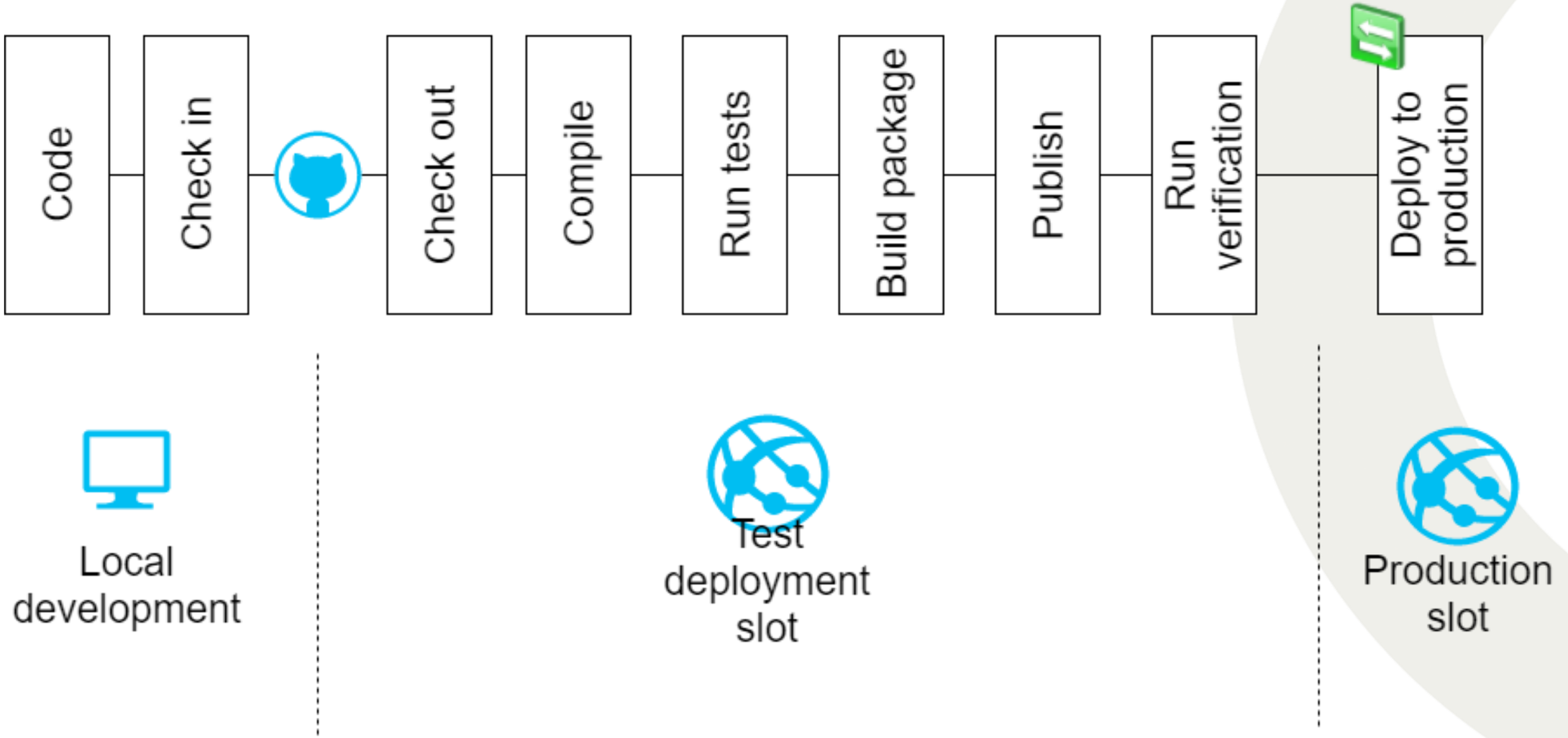
Build and deploy pipeline



Thank you

Contact

- @vidarkongsli
- https://vidar.kongs.li
- https://bredvid.no

Stuff

- This presentation on Github
  - http://bit.ly/azureweb-oredev17
- Invoke-WebRequest assertions
  - http//bit.ly/iwr-tests
- Kudu-to-slack-relay (Azure function)
  - http://bit.ly/kudu2slack