

# Terraforming the world

Ain't no such thing as halfway DevOps..

# Please support our sponsors



NDC { Sydney }  
17-21 September 2018

#dddbne

# Jeremy Cade

Chief Troublemaker

... and some other things\*

[www.jeremycade.com](http://www.jeremycade.com)

@jcade83 #dddbne

\*I build stuff



WARNING  
STRONG OPINIONS  
THIS WAY COMES

# A Recipe for Automation

**1 half-cup of “Continuous  
Integration”**



# Jenkins

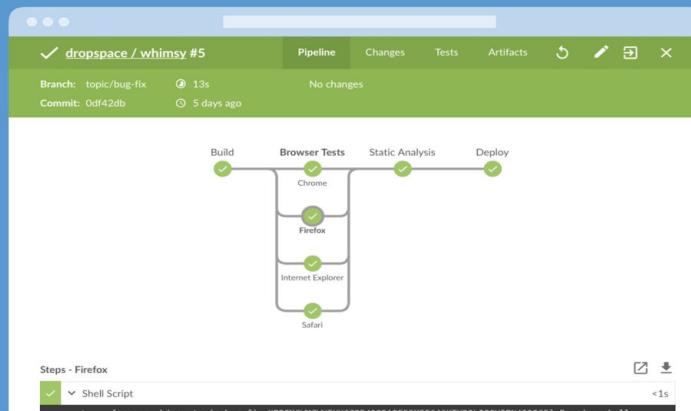
Build great things at any scale

The leading open source automation server, Jenkins provides hundreds of plugins to support building, deploying and automating any project.

[Documentation](#)[Download](#)

## Say “hello” to Blue Ocean

Blue Ocean is a new user experience that puts Continuous Delivery in reach of any team — without sacrificing the power and sophistication of Jenkins.

[Get started](#)

### Continuous Integration and Continuous Delivery

As an extensible automation server, Jenkins can be used as a simple CI server or turned into the continuous delivery hub for any project.



### Easy installation

Jenkins is a self-contained Java-based program, ready to run out-of-the-box, with packages for Windows, Mac OS X and other Unix-like operating systems.



### Easy configuration

Jenkins can be easily set up and configured via its web interface, which includes on-the-fly error checks and built-in help.

A screenshot of the Visual Studio Code interface, showing the Jenkinsfile in the main editor and the Explorer sidebar.

**EXPLORER**

- OPEN EDITORS
  - Jenkinsfile
- LUP.HECTORTHEBULLDOG
  - .vscode
  - artifacts
  - infrastructure
    - azure
    - terraform
  - scripts
  - src
  - test
  - tools
  - .gitignore
  - build.cake
  - build.ps1
  - build.sh
  - GitVersion.yml
  - Jenkinsfile
- Lup.HectorTheBulldog.sln
- NuGet.config
- README.md
- run.ps1
- run.sh
- setup.ps1
- setup.sh

**Jenkinsfile**

```
6 node {  
7     slackSend channel: '#dev-builds', message: "Started - ${env.JOB_NAME} ${env.BUILD_NUMBER}. See ${env.RUN_DISPLAY_URL} for more details."  
8     try {  
9         stage ("Checkout") {  
10             checkout scm  
11  
12             if (!env.BRANCH_NAME.startsWith("pr")) {  
13                 if(isUnix()) {  
14                     sh "git checkout ${env.BRANCH_NAME}"  
15                 }  
16                 else {  
17                     bat "git checkout ${env.BRANCH_NAME}"  
18                 }  
19             }  
20         }  
21  
22         stage ("Setup") {  
23             echo 'Checking for Build Dependencies'  
24  
25             if (isUnix()) {  
26                 sh './setup.sh'  
27             }  
28             else {  
29                 bat 'powershell .\\setup.ps1'  
30             }  
31         }  
32  
33         stage ("Build") {  
34             if(isUnix())  
35             {  
36                 sh './build.sh'  
37             }  
38             else  
39             {  
40                 bat 'powershell .\\build.ps1'  
41             }  
42         }  
43  
44         stage ("Unit Testing") {  
45             // Publish Test Results  
46             step([$class: "XUnitPublisher",  
47                   tools: [  
48                       [$class: "XUnitDotNetTestType", pattern: "test/**/TestResult.xml", skipNoTestFiles: false, stopProcessingIfError: true]  
49                   ]  
50               ])  
51         }  
52  
53         stage ("Archive") {  
54             if (env.BRANCH_NAME == 'master') {  
55                 // Archive Packages on Jenkins  
56                 archiveArtifacts "artifacts/"  
57             }  
58         }  
59  
60         slackSend channel: '#dev-builds', color: 'good', message: "Succeeded - ${env.JOB_NAME} ${env.BUILD_NUMBER}. See ${env.RUN_DISPLAY_URL} for more details."  
}
```

**Page-Footer**

8 develop ⌂ ⌃ 0 ▲ 0 0 4 ⌂ groovy | Jenkinsfile Jeremy Cade, 10 months ago Ln 21, Col 1 Spaces: 4 UTF-8 LF Groovy

Branch: develop

① 1m 37s

Commit: 3681a58

① 16 hours ago

Changes by Jeremy Cade

Branch event



## Steps Archive

✓	> Send Slack Message		1s
✓	> Delete workspace when build is done		<1s

# A sprinkling of “Clouds\*”

\*Yes.. Plural

Microsoft Azure Cloud Compute

Secure | https://azure.microsoft.com/en-au/

SALES 1-800-765-471 ▾ MY ACCOUNT PORTAL Search

Microsoft Azure

Why Azure? Solutions Products Documentation Pricing Training Marketplace Partners Blog Resources Support FREE ACCOUNT >

Your vision, your results, your cloud



Amazon Web Services (AWS) - X

Secure | https://aws.amazon.com

Menu Contact Sales Products Solutions Pricing Getting Started Documentation More English My Account Sign Up

The Next Generation of AWS Compute

EC2 bare metal instances, Elastic Container Service for Kubernetes & new pricing model for EC2 Spot

Learn more >



11

# 500g of “Infrastructure as Code”



Write, Plan, and Create Infrastructure as Code

[GET STARTED](#)[DOWNLOAD 0.11.1](#)[FIND MODULES](#)

## SIMPLE AND POWERFUL

Terraform enables you to safely and predictably create, change, and improve infrastructure. It is an open source tool that codifies APIs into declarative configuration files that can be shared amongst team members, treated as code, edited, reviewed, and versioned.

[WRITE](#)[PLAN](#)[CREATE](#)

EXPLORER

OPEN EDITORS

TOP

- az.appservice.apps.tf infrastructure/t...

CENTER

- az.appservice.tf infrastructure/terrafo...

BOTTOM

- az.resourcegroup.tf infrastructure/ter...

LUP.HECTORTHEBULLDOG

- .vscode
- artifacts
- infrastructure
  - azure
  - terraform
    - aws.data.tf
    - aws.route53.au.production.tf
    - aws.route53.au.staging.tf
    - az.appservice.apps.tf
    - az.appservice.tf
    - az.resourcegroup.tf
    - backend.tf
    - providers.tf
    - variables.tf
  - .terraform
- scripts
- src
- test
- tools
  - .gitignore
  - build.cake
  - build.ps1
  - build.sh
  - GitVersion.yml
  - Jenkinsfile
  - Lup.HectorTheBulldog.sln
  - NuGet.config
  - README.md
  - run.ps1
  - run.sh
  - setup.ps1
  - setup.sh

az.appservice.apps.tf

```
Jeremy Cade, 22 hours ago | 1 author (Jeremy Cade)
1 resource "azurerm_app_service" "hectorthebulldog" {
2   name          = "${var.application_name}"
3   location      = "${azurerm_resource_group.hectorthebulldog.location}"
4   resource_group_name = "${azurerm_resource_group.hectorthebulldog.name}"
5   app_service_plan_id = "${azurerm_app_service_plan.hectorthebulldog.id}"
6   client_affinity_enabled = false
7
8   site_config {
9     dotnet_framework_version = "v4.0"
10    always_on                = true
11    use_32_bit_worker_process = false
12  }
13
14   app_settings {
15     "ASPNETCORE_ENVIRONMENT" = "Production"
16   }
17 }
18
```

az.appservice.tf

```
Jeremy Cade, 22 hours ago | 1 author (Jeremy Cade)
1 resource "azurerm_app_service_plan" "hectorthebulldog" {
2   name          = "${var.application_name}"
3   location      = "${var.az_location}"
4   resource_group_name = "${azurerm_resource_group.hectorthebulldog.name}"
5
6   sku {
7     tier = "Standard"
8     size = "S1"
9   }
10 }
11
```

az.resourcegroup.tf

```
Jeremy Cade, 22 hours ago | 1 author (Jeremy Cade)
1 resource "azurerm_resource_group" "hectorthebulldog" {
2   name          = "${var.application_name}"
3   location      = "${var.az_location}"
4 }
```

EXPLORER

OPEN EDITORS

TOP

- aws.data.tf infrastructure/terraform

CENTER

- aws.route53.au.production.tf infrast...

BOTTOM

- aws.route53.au.staging.tf infrastruct...

LUP.HECTORTHEBULLDOG

- .vscode
- artifacts
- infrastructure
  - azure
  - terraform
    - .terraform
    - aws.data.tf
    - aws.route53.au.production.tf
    - aws.route53.au.staging.tf
    - az.appservice.apps.tf
    - az.appservice.tf
    - az.resourcegroup.tf
    - backend.tf
    - providers.tf
    - variables.tf
- scripts
- src
- test
- tools
  - .gitignore
  - build.cake
  - build.ps1
  - build.sh
- GitVersion.yml
- Jenkinsfile
- Lup.HectorTheBulldog.sln
- NuGet.config
- README.md
- run.ps1
- run.sh
- setup.ps1
- setup.sh

aws.data.tf

```
Jeremy Cade, 22 hours ago | 1 author (Jeremy Cade)
1 # Existing .lup.com.au Route53 Zone
2 data "aws_route53_zone" "lupcomau" {
3   name = "lup.com.au"
4 }
```

aws.route53.au.production.tf

```
Jeremy Cade, 17 hours ago | 1 author (Jeremy Cade)
1 # Authentication (Hector the Bulldog)
2 resource "aws_route53_record" "production_login" {
3   zone_id = "${data.aws_route53_zone.lupcomau.zone_id}"
4   name    = "login.${data.aws_route53_zone.lupcomau.name}"
5   type    = "CNAME"
6   ttl     = "300"
7
8   records = ["${var.application_name}.azurewebsites.net"]
9 }
10
11 # Authentication (Hector the Bulldog)
12 resource "aws_route53_record" "production_security" {
13   zone_id = "${data.aws_route53_zone.lupcomau.zone_id}"
14   name    = "security.${data.aws_route53_zone.lupcomau.name}"
15   type    = "CNAME"
16   ttl     = "300"
17
18   records = ["${var.application_name}.azurewebsites.net"]
19 }
20
```

aws.route53.au.staging.tf

```
Jeremy Cade, 17 hours ago | 1 author (Jeremy Cade)
1 # Authentication (Hector the Bulldog)
2 resource "aws_route53_record" "staging_login" {
3   zone_id = "${data.aws_route53_zone.lupcomau.zone_id}"
4   name    = "login.staging.${data.aws_route53_zone.lupcomau.name}"
5   type    = "CNAME"
6   ttl     = "300"
7
8   records = ["${var.application_name}-staging.azurewebsites.net"]
9 }
10
11 # Authentication (Hector the Bulldog)
12 resource "aws_route53_record" "staging_security" {
13   zone_id = "${data.aws_route53_zone.lupcomau.zone_id}"
14   name    = "security.staging.${data.aws_route53_zone.lupcomau.name}"
15   type    = "CNAME"
16   ttl     = "300"
17
18   records = ["${var.application_name}-staging.azurewebsites.net"]
```

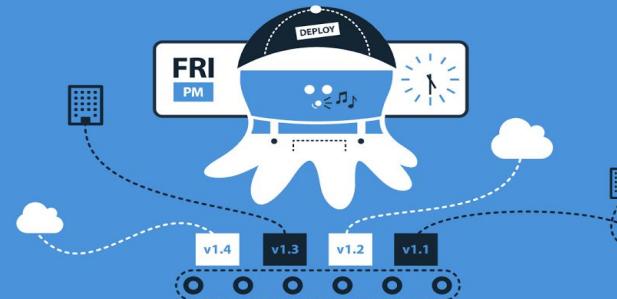
Jeremy Cade, 17 hours ago • GID-994 - Update Domains

# 500g of a “Friendly Deployment Automation Tool\*”

\*If you don't know.. You better ask somebody.

## Fast, repeatable, reliable deployments

Octopus takes over where your Continuous Integration server ends, enabling you to easily automate even the most complicated application deployments, whether on-premises or in the cloud.

[Download](#)[Watch video](#)

New! Octopus 4.0 is production ready and you can start using it today. Learn what's new.

## Promote releases between environments

Octopus takes care of your dev, QA, acceptance testing and production deployments. Limit who can deploy to production, ensure releases have been tested first, schedule deployments for later tonight, or block promotion of broken releases.



Release	Dev	Test	Production
3.3.2690	✓ 3.3.2690 November 20th 2017	✓ 3.3.2690 November 20th 2017	DEPLOY
3.3.2689	✓ 3.3.2689 November 20th 2017	✓ 3.3.2689 November 20th 2017	DEPLOY
3.3.2616	✓ 3.3.2616 November 17th 2017	✓ 3.3.2616 November 17th 2017	✓ 3.3.2616 November 17th 2017
3.3.2126	✓ 3.3.2126 October 27th 2017	✓ 3.3.2126 October 27th 2017	✓ 3.3.2126 October 27th 2017

Task Progress	Task Name	Environment
100% complete 23 minutes ago and ran for 48 seconds	Deploy OctoFX release 3.3.2692 to Test	Dev
		Test
		Production

## Repeatable & reliable deployments

For each release, you'll build your binaries once, but deploy and promote them many times, ensuring that what goes to production is exactly what you just tested. The way we model your deployment process ensures that deployments are as consistent as possible between environments, so that

Dashboard	Projects	Infrastructure	Library	Tasks	Configuration	Jeremy Cade
 Pepe Le Pew	 <b>0.1.2-ci0007</b> November 29th 2017	 <b>0.1.1</b> November 22nd 2017				
 Theodore Tasmanian	 <b>0.1.4-ci0474</b> November 30th 2017	 <b>0.1.4-ci0466</b> November 29th 2017				
 Theodore Tasmanian API	 <b>0.1.0-ci0037</b> November 29th 2017	 <b>0.1.0-ci0027</b> November 27th 2017				
02. Looney Tunes Azure	Staging	Production				
 Cecil Turtle	 <b>0.1.2-ci0001</b> September 26th 2017	 <b>0.1.2-ci0001</b> September 26th 2017				
 Daffy Duck	 <b>0.1.1-ci0006</b> October 26th 2017	 <b>0.1.1-ci0006</b> October 26th 2017				
 Hector The Bulldog	 <b>0.8.15</b> December 1st 2017	 <b>0.8.15</b> December 1st 2017				
 Hubie	 <b>0.3.9-ci0034</b> November 29th 2017	 <b>0.3.9-ci0022</b> November 22nd 2017				
 Marvin The Martian	 <b>0.1.0-ci0018</b> November 30th 2017					
 Peter Puma	 <b>0.1.6-ci0004</b> October 26th 2017	 <b>0.1.6-ci0004</b> October 30th 2017				
 Tweety Bird	 <b>0.2.10-ci0004</b> November 16th 2017	 <b>0.2.10-ci0004</b> October 24th 2017				
 Witch Hazel	 <b>0.1.5</b> September 26th 2017	 <b>0.1.5</b> October 3rd 2017				
 Yosemite Sam	 <b>0.5.6-ci0015-b</b> November 29th 2017	 <b>0.5.5</b> November 14th 2017				
05: Expo News AWS	Staging	Production				
 Event App Service	 <b>1.1.5-ci0011</b> October 18th 2017					

## Projects



## Hector The Bulldog

[CREATE RELEASE](#)

Overview

Process

Variables

Triggers

Channels

Releases

Settings

Authentication and  
Authorisation as a Service

## Process

[REORDER STEPS](#)[ADD STEP](#)

## 1. Swap Deployment Slot

Run a PowerShell script using an Azure subscription with Azure modules loaded on behalf of targets in role  AppService Production

## 2. Deploy to App Service

Deploy an Azure Web App **Lup.HectorTheBulldog.Service** from **Octopus Server (built-in)** on behalf of targets in role  AppService

## 3. Slack - Detailed Notification

Run a script on the Octopus Server on behalf of targets in role  AppService

## Lifecycle

Lifecycles can be defined in the [Library](#)

## Lüp Implicit Deployment

 QA / Staging Staging Production

## CHANGE

## Script modules

No script modules have been included

Modules can be created in the [Library](#)

## INCLUDE

**1 `tbl` spoon of an “Application”**



## Login to Lüp

Email

Password

Log in

[Forgot your password?](#)

2017 © Lüp  
Production RD0003FF6F0CE2 0.8.15.0  
Last deployed: 16 hours ago

Add “Cake” to bind it all together.

# What is Cake?

Cake (C# Make) is a cross platform build automation system with a C# DSL to do things like compiling code, copy files/folders, running unit tests, compress files and build NuGet packages.

[Get Started »](#)

## Familiar

Cake is built on top of the Roslyn compiler which enables you to write your build scripts in C#.

## Cross platform

Cake is available on Windows, Linux and macOS.

## Reliable

Regardless if you're building on your own machine, or building on a CI system such as AppVeyor, TeamCity, TFS, VSTS or Jenkins, Cake is built to behave in the same way.

## Batteries included

Cake supports the most common tools used during builds such as MSBuild, MSTest, xUnit, NUnit, NuGet, ILMerge, WiX and SignTool out of the box.

## Open source

We believe in open source and so should you. The source code for Cake is [hosted on GitHub](#) and includes everything needed to build it yourself.

The screenshot shows a terminal window and a PowerShell window. The terminal window displays build logs for a 'CoreCompile' target, showing tasks like 'Copy-File', 'sts.csproj', 'Package', and 'Create-NuGet-Packages'. It also shows a warning about skipping the target because its outputs are up-to-date. The PowerShell window shows detailed build statistics for a 'Default' task, listing various sub-tasks and their execution times. The total duration for the build was 00:00:35.913013.

Task	Duration
Clear	00:00:00.006879
Restore-NuGet-Packages	00:00:00.246577
Patch-Assembly-Info	00:00:00.0074312
Build	00:00:00.1255977
Run-Unit-Tests	00:00:31.1255977
Copy-Files	00:00:00.0504735
Create-NuGet-Packages	00:00:00.8015971
Package	00:00:00.0012033
Default	00:00:00.0009068
Total:	00:00:35.913013

The screenshot shows a Visual Studio Code interface with the following details:

- EXPLORER**: Shows the file structure of the project "Lup.HectorTheBulldog". The file "build.cake" is currently selected.
- Editor**: Displays the contents of the "build.cake" file. The code is a Cake build script. It includes regions for namespaces, tools, and variables, along with Terraform infrastructure setup steps. A comment at the bottom indicates a task named "Default" that runs a target.
- Status Bar**: Shows the current file is "csharp | build.cake", with status indicators for tabs, git, and build.

```
build.cake x
Jeremy Cade, 18 hours ago | 2 authors (Jeremy Cade and others)
1  *****
2  * I DONT LIKE REGIONS... BUT... DEMO READABILITY!
3  *****
4
5 #region Namespaces, Tooling & Cake Addins
6 *****
7 * Namespaces, Tooling & Cake Addins
8 *****
9
10 // Tools
11 #tool "nuget:?package=GitVersion.CommandLine"
12 #tool "nuget:?package=OctopusTools"
13
14 // Cake Addins
15 #addin nuget:https://coyote.lup.com.au/nuget?package=Cake.Terraform&version=0.1.1
16
17 // Namespaces
18 using System.Xml;
19 using System.Xml.Linq;
20 #endregion
21
22 #region Variables, Environment, Setup stuffs. Jeremy Cade, 24 hours ago • GID-966 - Add Terraform & Setup steps to Cake & Jenkinsfile
23
24
25 #region Application Build & Test
26
27 #region Terraform Infrastructure
28
29
30
31
32
33
34 *****
35 * Default Build Target
36 *****
37 Task("Default")
38     .IsDependentOn("Clean")
39     .IsDependentOn("Apply")
40     .IsDependentOn("Build")
41     .IsDependentOn("Test")
42     .IsDependentOn("Release")
43     .Does(() => {
44         Information("Finished building version: {0}", nugetVersion);
45     });
46
47 RunTarget(target);
```

EXPLORER

OPEN EDITORS

build.cake

LUP.HECTORTHEBULLDOG

.vscode

artifacts

infrastructure

scripts

src

test

tools

.gitignore

build.cake

build.ps1

build.sh

GitVersion.yml

Jenkinsfile

Lup.HectorTheBulldog.sln

NuGet.config

README.md

run.ps1

run.sh

setup.ps1

setup.sh

build.cake x

Jeremy Cade, 18 hours ago | 2 authors (Jeremy Cade and others)

```
1 //*****  
2 /* I DONT LIKE REGIONS... BUT... DEMO READABILITY!  
3 *****  
4  
5 #region Namespaces, Tooling & Cake Addins  
6  
7 #region Variables, Environment, Setup stuffs.  
8 //*****  
9 /* Variables, Environment, Setup stuffs.  
10 //*****  
11  
12 //Build Configuration  
13 var configuration = Argument("configuration", "Release");  
14  
15 //Targets  
16 var target = Argument("target", "Default");  
17  
18 //Git Version \\\(^_^\)//  
19 var gitVersionInfo = GitVersion(new GitVersionSettings {  
20     ... OutputType = GitVersionOutput.Json  
21 });  
22  
23 //Local Variables..  
24 var isMasterBranch = gitVersionInfo.BranchName == "master" ? true : false;  
25 var isContinuousIntegrationBuild = !BuildSystem.IsLocalBuild;  
26  
27 //Package Version Jeremy Cade, 6 months ago * Migrated to .NET 1.1 CLI and Updated to IdSrv4 1.5.2  
28 var nugetVersion = gitVersionInfo.NuGetVersion;  
29  
30 //Octopus API Key & Server Url  
31 var octopusDeployApiKey = EnvironmentVariable("OCTOPUS_API") ?? "NO BUENOS";  
32 var octopusDeployServer = EnvironmentVariable("OCTOPUS_SERVERURL") ?? "NO BUENOS";  
33  
34 //Artifacts Directory  
35 EnsureDirectoryExists("./artifacts");  
36  
37 //Projects that are going to be published.  
38 var projectsToPublish = new[] { "Lup.HectorTheBulldog.Service" };  
39  
40 #endregion  
41  
42 #region Application Build & Test  
43  
44 #region Terraform Infrastructure  
45  
46 //*****  
47 Task("Default")  
48     ... .IsDependentOn("Clean")  
49     ... .IsDependentOn("Apply")  
50     ... .IsDependentOn("Build")  
51     ... .IsDependentOn("Test")  
52     ... .IsDependentOn("Release")  
53     .Does(() => {  
54         ...  
55     })  
56  
57 #endregion  
58  
59 #endregion  
60  
61 #endregion  
62  
63 //*****  
64  
65 Task("Default")  
66     ... .IsDependentOn("Clean")  
67     ... .IsDependentOn("Apply")  
68     ... .IsDependentOn("Build")  
69     ... .IsDependentOn("Test")  
70     ... .IsDependentOn("Release")  
71     .Does(() => {  
72         ...  
73     })  
74  
75 #endregion  
76  
77 //*****  
78  
79 Task("Default")  
80     ... .IsDependentOn("Clean")  
81     ... .IsDependentOn("Apply")  
82     ... .IsDependentOn("Build")  
83     ... .IsDependentOn("Test")  
84     ... .IsDependentOn("Release")  
85     .Does(() => {  
86         ...  
87     })  
88  
89 #endregion  
90  
91 #endregion  
92  
93 //*****  
94  
95 Task("Default")  
96     ... .IsDependentOn("Clean")  
97     ... .IsDependentOn("Apply")  
98     ... .IsDependentOn("Build")  
99     ... .IsDependentOn("Test")  
100    ... .IsDependentOn("Release")  
101    .Does(() => {  
102        ...  
103    })  
104  
105 #endregion  
106  
107 //*****  
108  
109 Task("Default")  
110     ... .IsDependentOn("Clean")  
111     ... .IsDependentOn("Apply")  
112     ... .IsDependentOn("Build")  
113     ... .IsDependentOn("Test")  
114     ... .IsDependentOn("Release")  
115     .Does(() => {  
116         ...  
117     })  
118  
119 #endregion  
120  
121 //*****  
122  
123 Task("Default")  
124     ... .IsDependentOn("Clean")  
125     ... .IsDependentOn("Apply")  
126     ... .IsDependentOn("Build")  
127     ... .IsDependentOn("Test")  
128     ... .IsDependentOn("Release")  
129     .Does(() => {  
130         ...  
131     })  
132  
133 #endregion  
134  
135 //*****  
136  
137 Task("Default")  
138     ... .IsDependentOn("Clean")  
139     ... .IsDependentOn("Apply")  
140     ... .IsDependentOn("Build")  
141     ... .IsDependentOn("Test")  
142     ... .IsDependentOn("Release")  
143     .Does(() => {  
144         ...  
145     })  
146  
147 #endregion  
148  
149 //*****  
150  
151 Task("Default")  
152     ... .IsDependentOn("Clean")  
153     ... .IsDependentOn("Apply")  
154     ... .IsDependentOn("Build")  
155     ... .IsDependentOn("Test")  
156     ... .IsDependentOn("Release")  
157     .Does(() => {  
158         ...  
159     })  
160  
161 #endregion  
162  
163 //*****  
164  
165 Task("Default")  
166     ... .IsDependentOn("Clean")  
167     ... .IsDependentOn("Apply")  
168     ... .IsDependentOn("Build")  
169     ... .IsDependentOn("Test")  
170     ... .IsDependentOn("Release")  
171     .Does(() => {  
172         ...  
173     })  
174  
175 #endregion  
176  
177 //*****  
178  
179 Task("Default")  
180     ... .IsDependentOn("Clean")  
181     ... .IsDependentOn("Apply")  
182     ... .IsDependentOn("Build")  
183     ... .IsDependentOn("Test")  
184     ... .IsDependentOn("Release")  
185     .Does(() => {  
186         ...  
187     })  
188  
189 #endregion  
190  
191 //*****  
192  
193 Task("Default")  
194     ... .IsDependentOn("Clean")  
195     ... .IsDependentOn("Apply")  
196     ... .IsDependentOn("Build")  
197     ... .IsDependentOn("Test")  
198     ... .IsDependentOn("Release")  
199     .Does(() => {  
200         ...  
201     })  
202  
203 #endregion  
204  
205 //*****  
206  
207 Task("Default")  
208     ... .IsDependentOn("Clean")  
209     ... .IsDependentOn("Apply")  
210     ... .IsDependentOn("Build")  
211     ... .IsDependentOn("Test")  
212     ... .IsDependentOn("Release")  
213     .Does(() => {  
214         ...  
215     })  
216  
217 #endregion  
218  
219 //*****  
220  
221 Task("Default")  
222     ... .IsDependentOn("Clean")  
223     ... .IsDependentOn("Apply")  
224     ... .IsDependentOn("Build")  
225     ... .IsDependentOn("Test")  
226     ... .IsDependentOn("Release")  
227     .Does(() => {  
228         ...  
229     })  
230  
231 #endregion  
232  
233  
234 //*****  
235  
236  
237  
238  
239  
240  
241  
242  
243
```

Jeremy Cade, 6 months ago

Ln 42, Col 11

Spaces: 4

UTF-8

LF

C#

Switch projects

EXPLORER

OPEN EDITORS 1 UNSAVED

- build.cake
- LUP.HECTORTHEBULLDOG
  - .vscode
  - artifacts
  - infrastructure
  - scripts
  - src
  - test
  - tools
  - .gitignore
- build.cake
- build.ps1
- build.sh
- GitVersion.yml
- Jenkinsfile
- Lup.HectorTheBulldog.sln
- NuGet.config
- README.md
- run.ps1
- run.sh
- setup.ps1
- setup.sh

#region Application Build & Test

```
57 #region Application Build & Test
58 //***** Application Build & Test *****
59 /* Application Build & Test
60 *****/
61
62 [Task("Clean") ...
63 ];
64
65 [Task("Build") ...
66 ];
67
68 [Task("SetVersion") ...
69 ];
70
71 [Task("Test") ...
72 ];
73
74 Task("Release")
75     .IsDependentOn("Publish")
76     .WithCriteria(isContinuousIntegrationBuild)
77     .WithCriteria(isMasterBranch)
78     .Does(() =>
79     {
80         foreach(var project in projectsToPublish)
81         {
82             string path = string.Format("./src/{0}/bin/{1}/netcoreapp1.1/publish", project, configuration);
83             string artifact = string.Format("./artifacts/{0}.{1}.zip", project, nugetVersion);
84
85             Zip(path, artifact);
86
87             OctoPush(octopusDeployServer, octopusDeployApiKey, artifact, new OctopusPushSettings
88             {
89                 ReplaceExisting = true
90             });
91         }
92     });
93
94 Task("Publish")
95     .WithCriteria(isContinuousIntegrationBuild)
96     .WithCriteria(isMasterBranch)
97     .Does(() =>
98     {
99         DotNetCorePublish("./", new DotNetCorePublishSettings
100         {
101             Configuration = configuration
102         });
103     });
104 }
105
106 #endregion Terraform Infrastructure...
```

Ln 188, Col 3 Spaces: 4 UTF-8 LF C# Switch projects

26

EXPLORER

OPEN EDITORS 1 UNSAVED

- build.cake
- LUP.HECTORTHEBULLDOG
  - .vscode
  - artifacts
  - infrastructure
  - scripts
  - src
  - test
  - tools
  - .gitignore
- build.cake
- build.ps1
- build.sh
- GitVersion.yml
- Jenkinsfile
- Lup.HectorTheBulldog.sln
- NuGet.config
- README.md
- run.ps1
- run.sh
- setup.ps1
- setup.sh

# build.cake

```
56
57 #region Application Build & Test...
58
59 #region Terraform Infrastructure
60 /*****  
* Infrastructure  
*****/  
61 // Working Directories For Terraform  
62 var terraformDirectory = "./infrastructure/terraform";  
63
64 // Where do we want to output the plan to  
65 var terraformPlan = "luphectorthebulldog.plan";  
66
67 // We need to apply changes to the infrastructure  
var terraformHasChanges = false;  
68
69 Task("Plan")  
    .Does(() =>  
    {  
        TerraformInit(new TerraformInitSettings {  
            WorkingDirectory = terraformDirectory  
        });  
        terraformHasChanges = TerraformPlan(new TerraformPlanSettings {  
            WorkingDirectory = terraformDirectory,  
            OutFile = terraformPlan  
        });  
    });
70
71 Task("Apply")  
    .WithCriteria(isContinuousIntegrationBuild)  
    .WithCriteria(isMasterBranch)  
    .IsDependentOn("Plan")  
    .Does(() =>  
    {  
        if (terraformHasChanges) {  
            TerraformApply(new TerraformApplySettings {  
                WorkingDirectory = terraformDirectory,  
                Plan = terraformPlan,  
                AutoApprove = true  
            });
        }
    });
72
73 #endregion
74
75 /*****  
* Default Build Target  
*****/  
76
77 Task("Default")  
    .IsDependentOn("Clean")  
    .IsDependentOn("Apply")  
    .IsDependentOn("Build")  
    .IsDependentOn("Test")
```

Ln 57, Col 33 Spaces: 4 UTF-8 LF C# Switch projects

27

**Place in a fan forced oven at 150°C  
for 20 mins**

```

1   provider "azurerm" {
2     version = "2.8.0"
3     features {}
4   }
5
6   terraform {
7     required_providers {
8       azurerm = {
9         source = "hashicorp/azurerm"
10        version = "2.8.0"
11      }
12    }
13  }
14
15  # Terraform has been successfully initialized!
16  # Refreshing Terraform state in-memory prior to plan...
17  # The refreshed state will be used to calculate this plan, but will not be
18  # persisted to local or remote state storage.
19
20
21  data.aws_route53_zone.lupcomau: Refreshing state...
22  azurerm_resource_group.hectorthebulldog: Refreshing state... (ID: /subscriptions/a2a4c602-8e91-4c47-b21c-...50/resourceGroups/lup-hectorthebulldog)
23  azurerm_app_service_plan.hectorthebulldog: Refreshing state... (ID: /subscriptions/a2a4c602-8e91-4c47-b21c-...t.Web/serverfarms/lup-hectorthebulldog)
24  aws_route53_record.production_security: Refreshing state... (ID: ZCJ72SX4JKFW0_security.lup.com.au._CNAME)
25  aws_route53_record.staging_login: Refreshing state... (ID: ZCJ72SX4JKFW0_login.staging.lup.com.au._CNAME)
26  aws_route53_record.staging_security: Refreshing state... (ID: ZCJ72SX4JKFW0_security.staging.lup.com.au._CNAME)
27  aws_route53_record.production_login: Refreshing state... (ID: ZCJ72SX4JKFW0_login.lup.com.au._CNAME)
28  azurerm_app_service.hectorthebulldog: Refreshing state... (ID: /subscriptions/a2a4c602-8e91-4c47-b21c-...crosoft.Web/sites/lup-hectorthebulldog)
29
30
31  -----
32
33  An execution plan has been generated and is shown below.
34  Resource actions are indicated with the following symbols:
35  -/+ destroy and then create replacement
36
37  Terraform will perform the following actions:
38
39  -/+ azurerm_app_service.hectorthebulldog (new resource required)
40    + id: "/subscriptions/a2a4c602-8e91-4c47-b21c-247ea7a8f950/resourceGroups/lup-hectorthebulldog/providers/Microsoft.Web/sites/lup-hectorthebulldog" => <computed>
41    + (forces new resource)
42    + app_service_plan_id: "/subscriptions/a2a4c602-8e91-4c47-b21c-247ea7a8f950/resourceGroups/lup-hectorthebulldog/providers/Microsoft.Web/serverfarms/lup-hectorthebulldog" =>
43    "/subscriptions/a2a4c602-8e91-4c47-b21c-247ea7a8f950/resourceGroups/lup-hectorthebulldog/providers/Microsoft.Web/serverfarms/lup-hectorthebulldog"
44    + app_settings.%:
45      + "1": "1"
46    + app_settings ASPNETCORE_ENVIRONMENT: "Production" => "Production"
47    + client_affinity_enabled: "true" => "false" (forces new resource)
48    + connection_string.#: "0" => <computed>
49    + enabled: "true" => "true"
50    + location: "australiaeast" => "australiaeast"
51    + name: "lup-hectorthebulldog" => "lup-hectorthebulldog"
52    + resource_group_name: "lup-hectorthebulldog" => "lup-hectorthebulldog"
53    + site_config.#: "1" => "1"
54    + site_config.0.always_on: "true" => "true"
55    + site_config.0.default_documents.#: "1" => "0"
56    + site_config.0.default_documents.0: "hostingstart.html" => ""
57    + site_config.0.dotnet_framework_version: "v4.0" => "v4.0"
58    + site_config.0.local_mysql_enabled: "false" => <computed>
59    + site_config.0.remote_debugging_enabled: "false" => "false"
60    + site_config.0.use_32_bit_worker_process: "false" => "false"
61    + site_config.0.websockets_enabled: "false" => <computed>
62    + tags.%: "0" => <computed>
63
64
65  Plan: 1 to add, 0 to change, 1 to destroy.
66  Finished executing task: Plan
67
68  =====
69  Apply
70  =====
71  Skipping task: Apply
72
73  =====
74  SetVersion
75  =====
76  Executing task: SetVersion
77  Version Prefix is present, Setting 0.9.0
78  Version Suffix is present, Setting unstable.175
79  Finished executing task: SetVersion
80
81  =====
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
```

Ok Cool..  
Where's the pain?  
Well.. I'm glad you asked..

# AZURE SUCKS\*!

\*With Terraform (Today)

> azurerm_postgresql_server
> azurerm_sql_database
> azurerm_sql_elasticpool
> azurerm_sql_firewall_rule
> azurerm_sql_server
> DNS Resources
> azurerm_dns_a_record
> azurerm_dns_aaaa_record
> azurerm_dns cname_record
> azurerm_dns_mx_record
> azurerm_dns_ns_record
> azurerm_dns_ptr_record
> azurerm_dns_srv_record
> azurerm_dns_txt_record
> azurerm_dns_zone
> Key Vault Resources
> azurerm_key_vault
> azurerm_key_vault_certificate
> azurerm_key_vault_key
> azurerm_key_vault_secret
> Load Balancer Resources
> azurerm_lb
> azurerm_lb_backend_address_pool
> azurerm_lb_rule
> azurerm_lb_nat_rule
> azurerm_lb_nat_pool
> azurerm_lb_probe
> Messaging Resources
> azurerm_eventgrid_topic
> azurerm_eventhub
> azurerm_eventhub_authorization_rule

## Argument Reference

The following arguments are supported:

- **name** - (Required) Specifies the name of the App Service.
- **resource\_group\_name** - (Required) The name of the Resource Group in which to create the App Service Plan component.
- **location** - (Required) Specifies the supported Azure location where the resource exists. Changing this forces a new resource to be created.
- **app\_service\_plan\_id** - (Required) The ID of the App Service Plan within which to create this App Service. Changing this forces a new resource to be created.
- **app\_settings** - (Optional) A key-value pair of App Settings.
- **connection\_string** - (Optional) An connection\_string block as defined below.
- **client\_affinity\_enabled** - (Optional) Should the App Service send session affinity cookies, which route client requests in the same session to the same instance? Changing this forces a new resource to be created.
- **enabled** - (Optional) Is the App Service Enabled? Changing this forces a new resource to be created.
- **site\_config** - (Optional) A site\_config object as defined below.
- **tags** - (Optional) A mapping of tags to assign to the resource. Changing this forces a new resource to be created.

No Slots..  
No Domains..

Changing this forces a new resource to be created.

connection\_string supports the following:

- **name** - (Required) The name of the Connection String.
- **type** - (Required) The type of the Connection String. Possible values are APIHub, Custom, DocDb, EventHub, MySQL, NotificationHub, PostgreSQL, RedisCache, ServiceBus, SQLAzure and SQLServer.
- **value** - (Required) The value for the Connection String.

site\_config supports the following:

- **always\_on** - (Optional) Should the app be loaded at all times? Defaults to false.
- **default\_documents** - (Optional) The ordering of default documents to load, if an address isn't specified.

# Base64

```
96
97 ~ aws_autoscaling_group.production_web_asg
98     launch_configuration:          "Production - Launch Configuration2017112906474228020000001" => "${aws_launch_configuration.production-web.name}"
99
100 ~ aws_elb_public
101     tags.Version:                "0.1.0-ci0266" => "0.1.1-beta0002"
102
103 -/+ aws_instance.db02 (new resource required)
104     id:                          "i-0a8a266ccce658db9" => <computed> (forces new resource)
105     ami:                         "ami-8e4849ed" => "ami-8e4849ed"
106     associate_public_ip_address:  "false" => <computed>
107     availability_zone:           "ap-southeast-2a" => <computed>
108     disable_api_termination:    "true" => "false"
109     ebs_block_device.#:          "2" => <computed>
110     ephemeral_block_device.#:   "0" => <computed>
111     instance_state:             "running" => <computed>
112     instance_type:              "m4.2xlarge" => "m4.2xlarge"
113     ipv6_address_count:         "0" => <computed>
114     ipv6_addresses.#:          "0" => <computed>
115     key_name:                  "Lup_Production" => "Lup_Production"
116     monitoring:                "true" => "true"
117     network_interface.#:       "0" => <computed>
118     network_interface_id:      "eni-ee68ba4" => <computed>
119     placement_group:            "" => <computed>
120     primary_network_interface_id: "eni-ee68ba4" => <computed>
121     private_dns:               "ip-10-1-1-6.ap-southeast-2.compute.internal" => <computed>
122     private_ip:                "10.1.1.6" => "10.1.1.6"
123     public_dns:                "" => <computed>
124     public_ip:                 "" => <computed>
125     root_block_device.#:      "1" => <computed>
126     security_groups.#:        "0" => <computed>
127     source_dest_check:        "false" => "false"
128     subnet_id:                "subnet-cb109dbd" => "subnet-cb109dbd"
129     tags.%:                   "5" => "5"
130     tags.Environment:          "Production" => "Production"
131     tags.Management:           "Terraform" => "Terraform"
132     tags.Name:                "Production - DB02" => "Production - DB02"
133     tags.Role:                 "Database" => "Database"
134     tags.Version:              "0.1.0-ci0266" => "0.1.1-beta0002"
135     tenancy:                  "default" => <computed>
136     user_data:                "facb6297ce569111d583c48c33108df4c6452de5" => "fdb165e7b9dbb095575208d2e52d099f329a0622" (forces new resource)
137     volume_tags.%:            "0" => <computed>
138     vpc_security_group_ids.#: "1" => "1"
139     vpc_security_group_ids.3443277935: "sg-fa3ee79d" => "sg-fa3ee79d"
140
141 -/+ aws_instance.management (new resource required)
142     id:                          "i-0dac70cf50a0d0ff" => <computed> (forces new resource)
143     ami:                         "ami-b07375d3" => "ami-b07375d3"
144     associate_public_ip_address:  "true" => "true"
145     availability_zone:           "ap-southeast-2a" => <computed>
146     ebs_block_device.#:          "1" => <computed>
147     ephemeral_block_device.#:   "0" => <computed>
148     instance_state:             "running" => <computed>
149     instance_type:              "t2.small" => "t2.small"
150     ipv6_address_count:         "0" => <computed>
151     ipv6_addresses.#:          "0" => <computed>
152     key_name:                  "Lup_Production" => "Lup_Production"
153     monitoring:                "true" => "true"
154     network_interface.#:       "0" => <computed>
155     network_interface_id:      "eni-fd6a3eb7" => <computed>
156     placement_group:            "" => <computed>
157     primary_network_interface_id: "eni-fd6a3eb7" => <computed>
158     private_dns:               "ip-10-1-2-211.ap-southeast-2.compute.internal" => <computed>
159     private_ip:                "10.1.2.211" => <computed>
160     public_dns:                "ec2-13-54-249-85.ap-southeast-2.compute.amazonaws.com" => <computed>
161     public_ip:                 "13.54.249.85" => <computed>
```

You can blow away Production.

**REALLY!!!**  
**DON'T SHOOT YOURSELF IN THE**  
**FOOT**

# Fill out your feedback

Developer!  
DeveloperDeveloper!  
Brisbane

To go into the draw for prizes, please remember  
to complete your feedback at:

<http://www.dddbrisbane.com/feedback>

No feedback = No Prizes!



#dddbne

MOAR COFFEE!  
[www.jeremycade.com](http://www.jeremycade.com)  
@jcade83  
#dddbne