GlobalLogic EDUCATION

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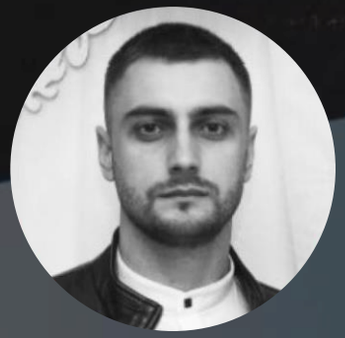
A piece of Cake (C# Make)



Roman Marusyk,
Lead Software Engineer

For the next hour

- What is Cake?
- Why Cake?
- How does Cake work?
- How to “bake” a Cake?

WHAT IS CAKE?

=

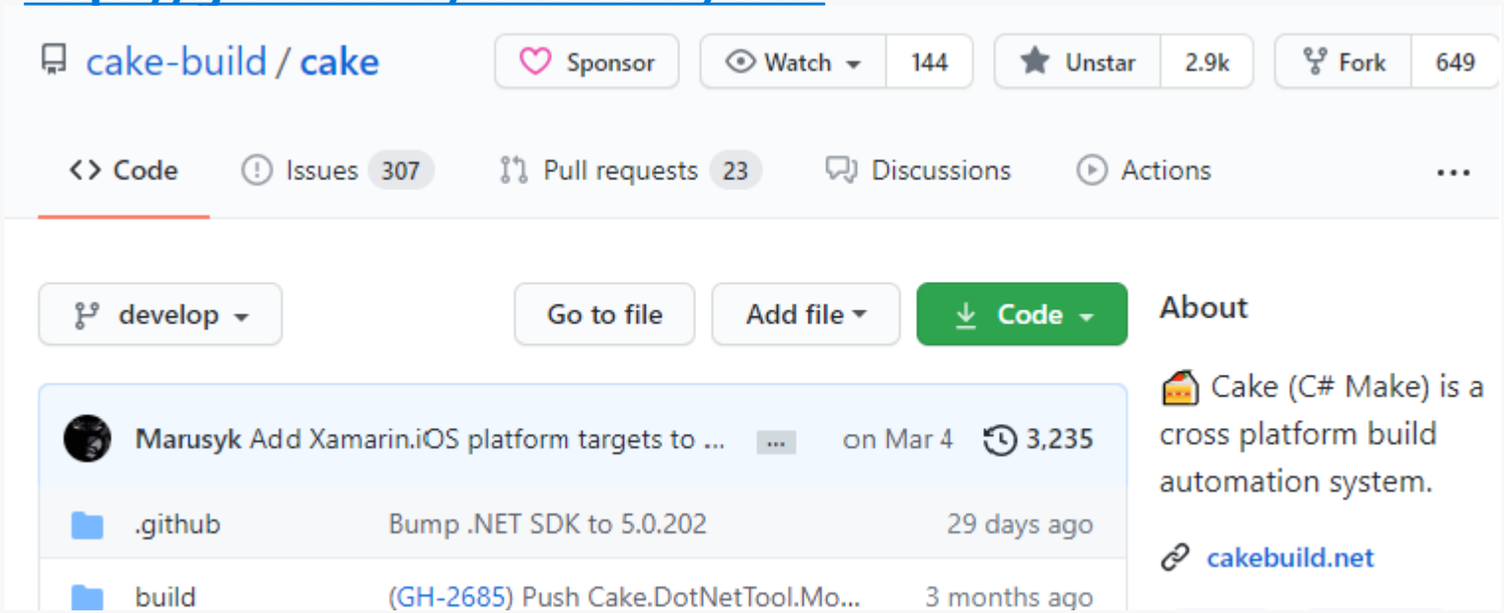
+ C#

Cake (C# Make) is free and open source cross-platform build automation system with a C# DSL for tasks such as compiling code, copying files and folders, running unit tests, compressing files and building NuGet packages.

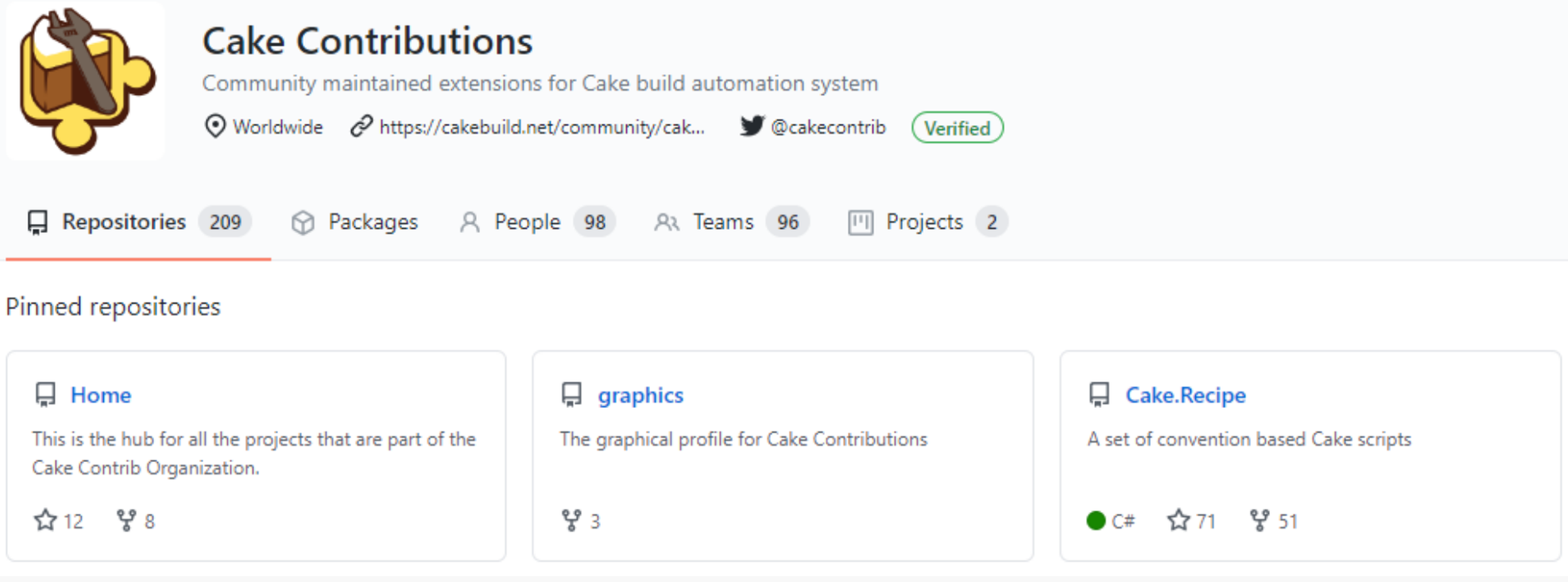
from cakebuild.net

- Build automation system
- Uses Roslyn to run a C# DLS
- OSS project since 2014
- Part of the .NET foundation since 2016

https://github.com/cake-build/cake



https://github.com/cake-contrib



Option 1: Ask somebody

- Error-prone process
- Is NOT 24/7 service
- After 6 months you cannot repeat everything

Option 2: Configure process on CI server

- Lock-in on CI's definition language
- Configuration is not under version control system*
- There is no link between solution and build definition

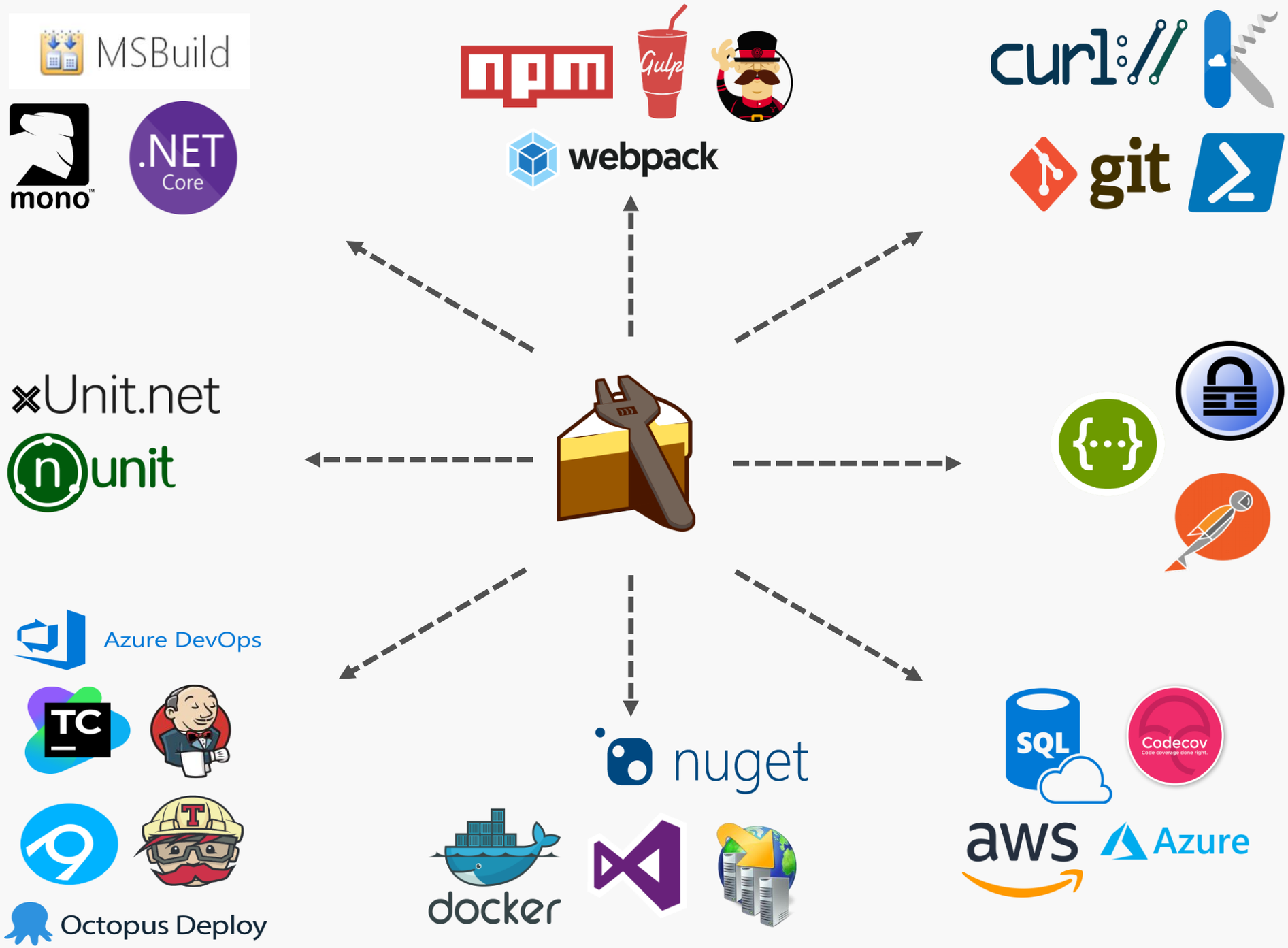
Option 3: Use MSBuild/PowerShell

- Complex syntax
- Debugging process is a rocket science
- Limited set of features out of the box

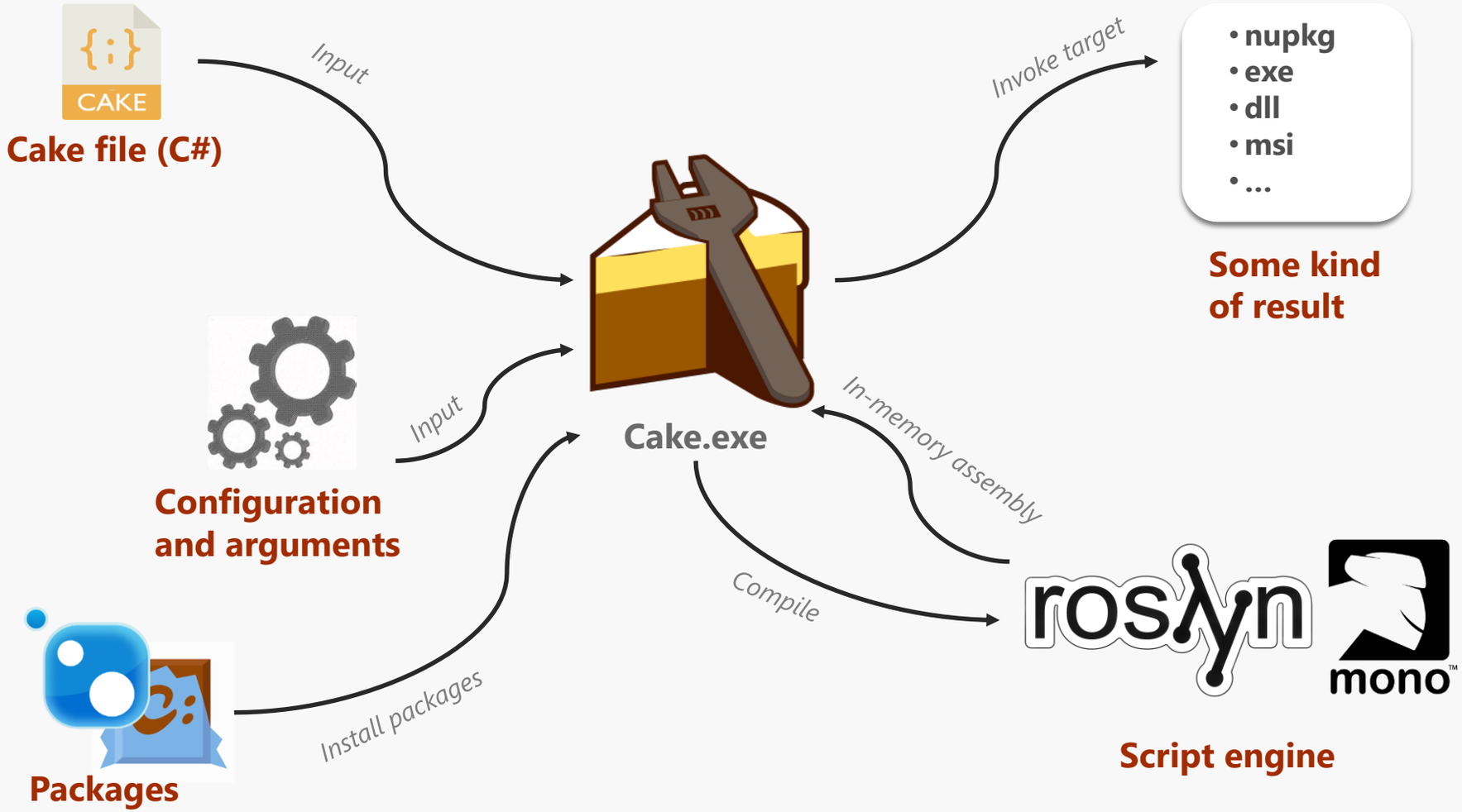
WHY CAKE?

C#

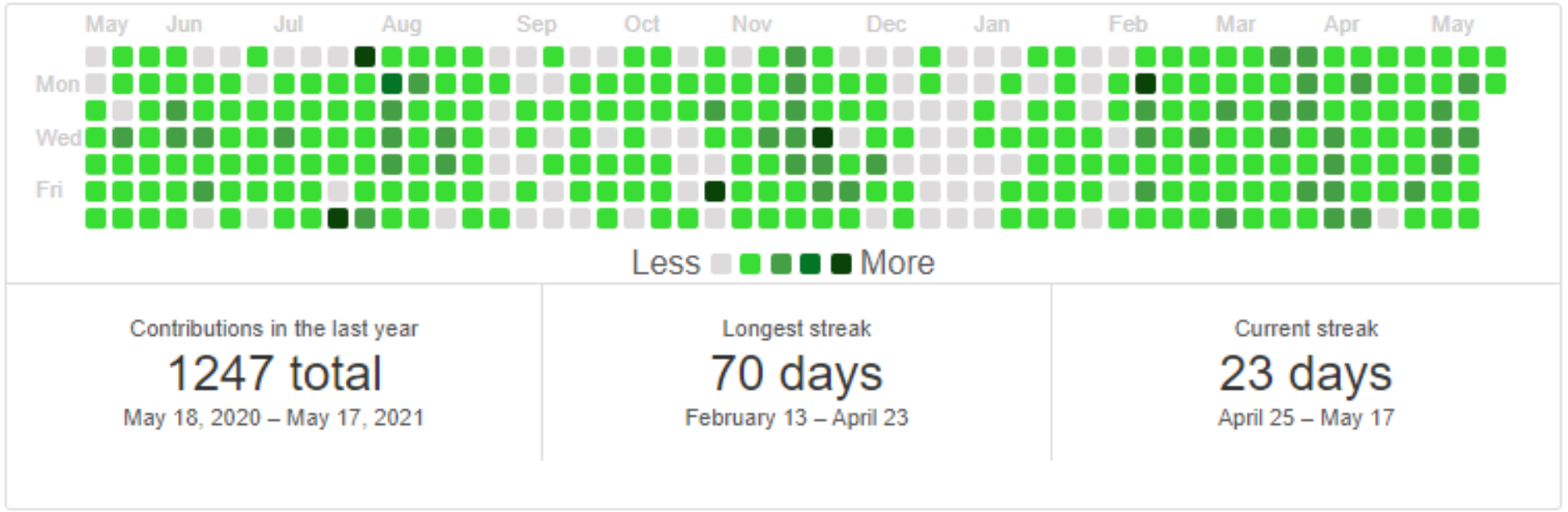
- Is not PowerShell
- Cake can use tools and add-ins as NuGet packages
- Cross platform / environment / CI / runtime
- IDE integration
- Version controlled

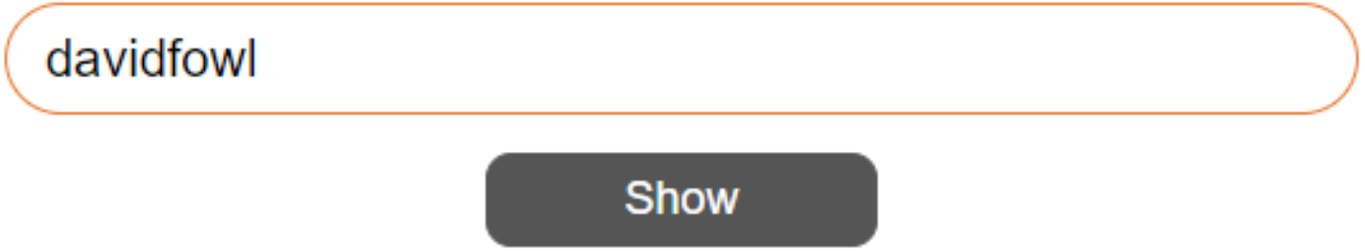

MSBuild
mono
.NET Core
npm
Gulp
webpack
curl://
git
xUnit.net
nunit
{...}
Azure DevOps
TC
nuget
docker
SQL
Codecov
Code coverage done right.
aws
Azure
Octopus Deploy

HOW DOES CAKE WORK?



GitHub Calendar

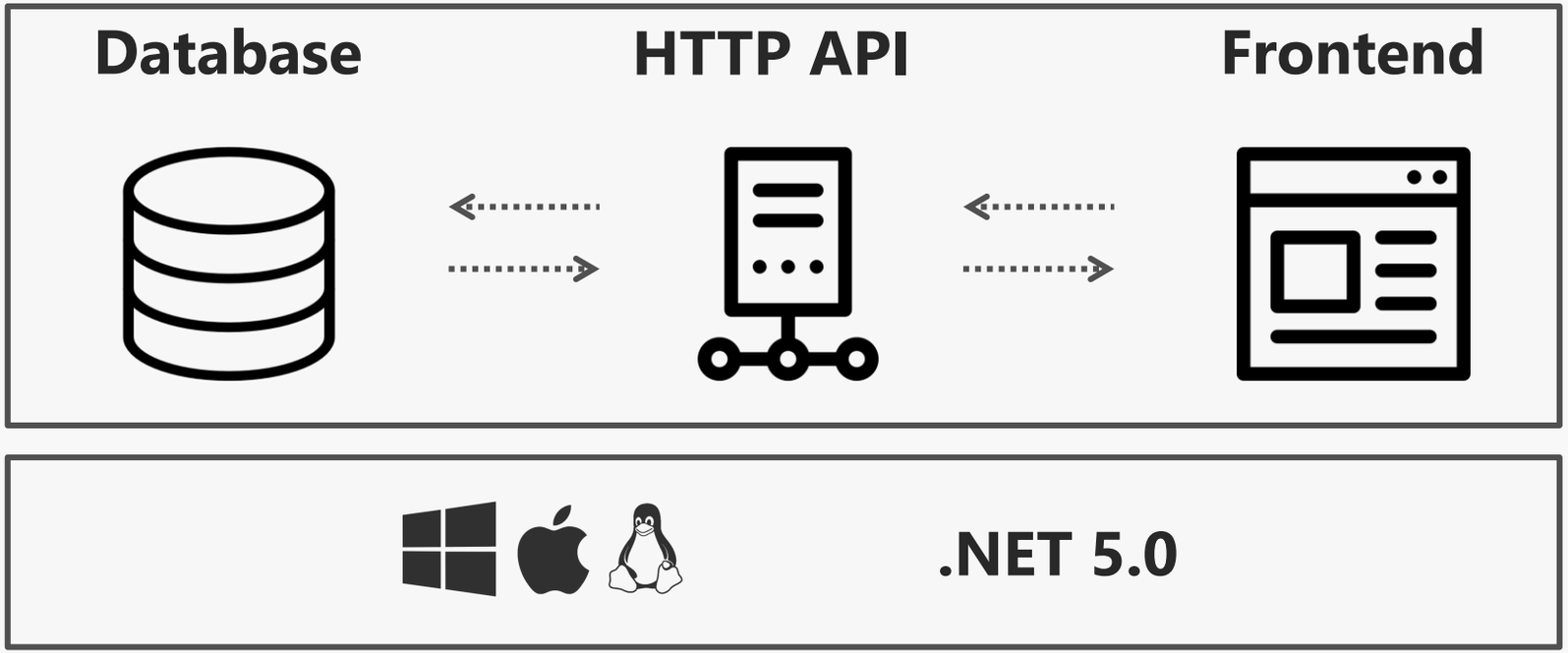




More: https://github.com/davidfowl

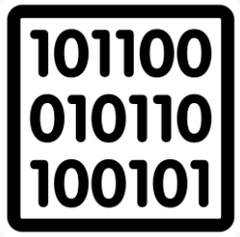
Source: https://github.com/Marusyk/GitHubCalendar

Architecture



The Pipeline

Compile

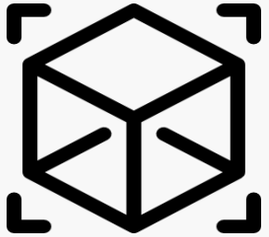


`dotnet build`

Test

`dotnet test`

Package



`dotnet publish`

Deploy

`kudu`

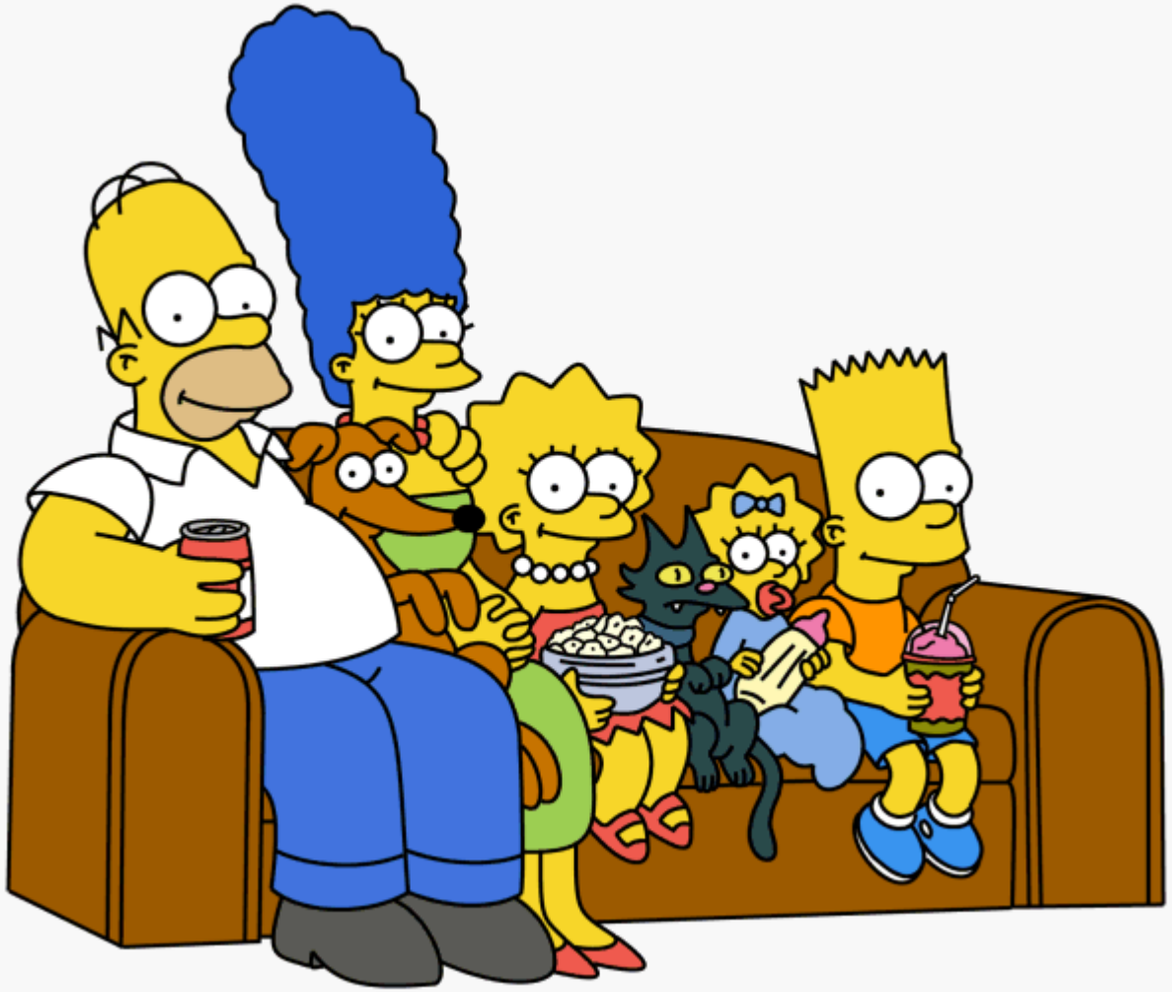
HOW TO “BAKE” A CAKE?

- **build.cake**
  - Actual build script
- **Cake.Tool**

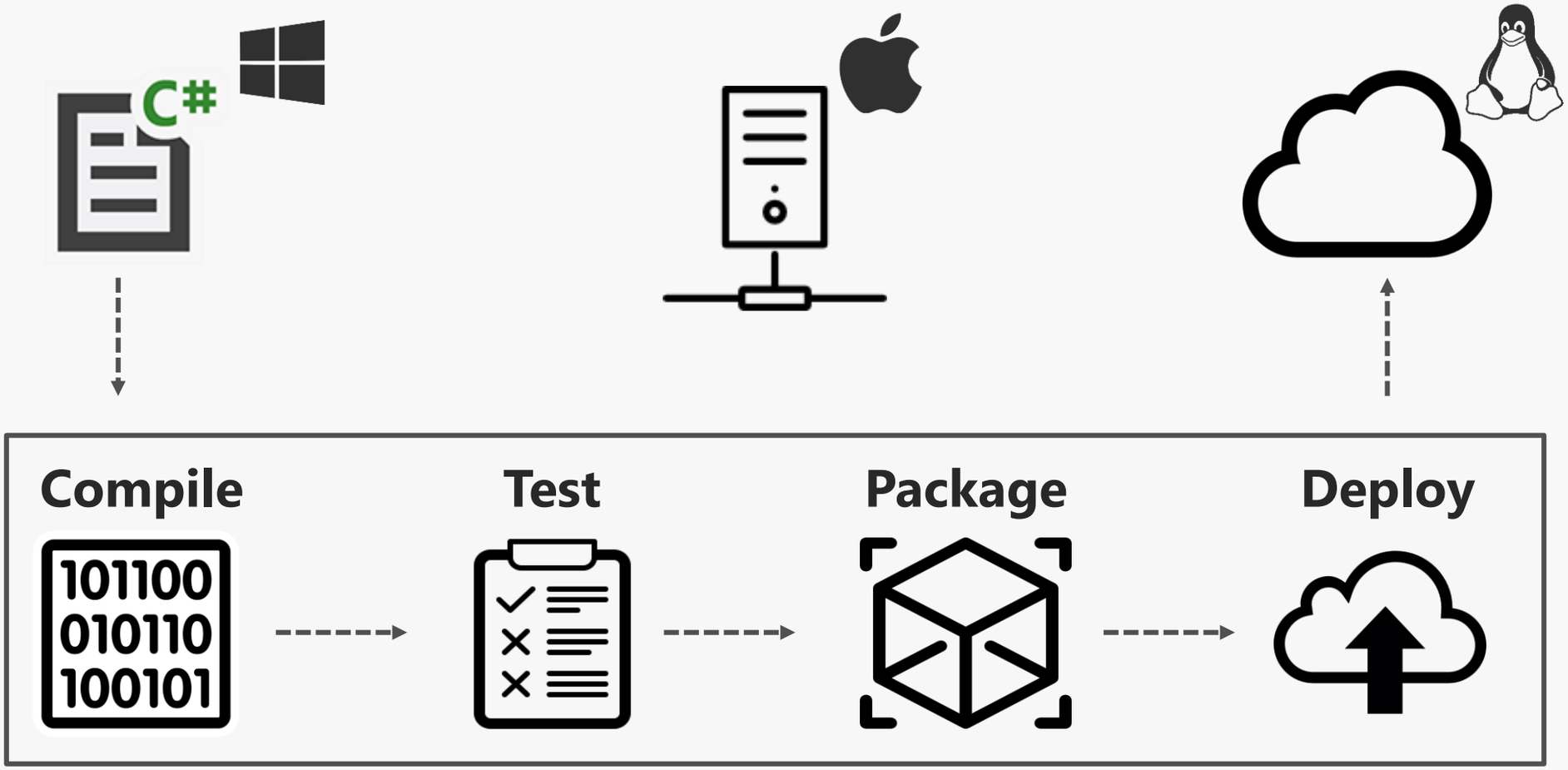
```
// Run from root of your project
// Only required to be run once
dotnet new tool-manifest
dotnet tool install Cake.Tool

dotnet tool restore
dotnet cake --info
```

The demo



Summary



Summary

- It is C#
- Unify your build process
- Versioning the build script with the source code of the application
- Being able to run a build where you want
- Coming with almost all tools, addins you need for your build process
- Open source and great responsive community
- No need to version binaries
- Syntax highlighting and debug mode

Build Cake with Cake on …

Continuous integration

Build server	Platform	Build status	Integration tests
Azure Pipelines	MacOS	Azure Pipelines succeeded	
Azure Pipelines	Windows	Azure Pipelines succeeded	
Azure Pipelines	Debian	Azure Pipelines succeeded	
Azure Pipelines	Fedora	Azure Pipelines succeeded	
Azure Pipelines	Centos	Azure Pipelines succeeded	
Azure Pipelines	Ubuntu	Azure Pipelines succeeded	
AppVeyor	Windows	build passing	build passing
Travis	Ubuntu / MacOS	build passing	
TeamCity	Windows	build passing	
Bitrise	MacOS	bitrise ✕	bitrise ✕
Bitrise	Debian	bitrise ✓	bitrise ✕
Bitbucket Pipelines	Debian	build passing	
GitLab	Debian	pipeline passed	
GitHub Actions	Windows / Ubuntu/ macOS	Build passing	

Thanks!

Q&A

romamarusyk@gmail.com

@MarusykRoman

Marusyk

rmarusyk