Data Science
DataOps
In the Microsoft Cloud

strategy insight engineering cloud

endjin

work smarter

ACCELERATE BUSINESS INNOVATION WITH THE MICROSOFT CLOUD

For EXAMPLE:

- Innovation and New Product Development Consultancy
- Application Proof of Concept & Prototyping
- Cloud Systems Architecture Guidance & Support

➡Big Data, Advanced Analytics & Visualization

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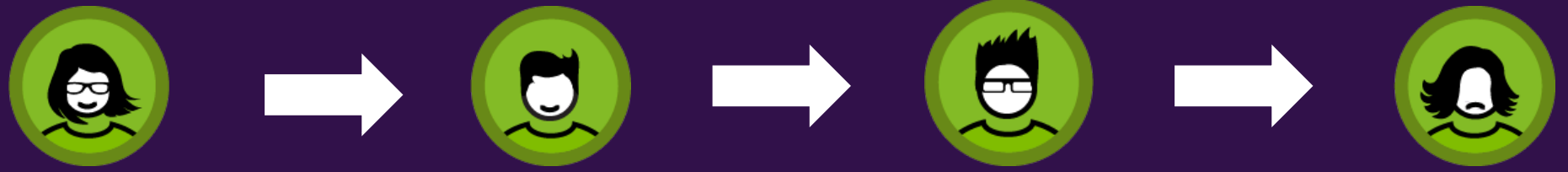
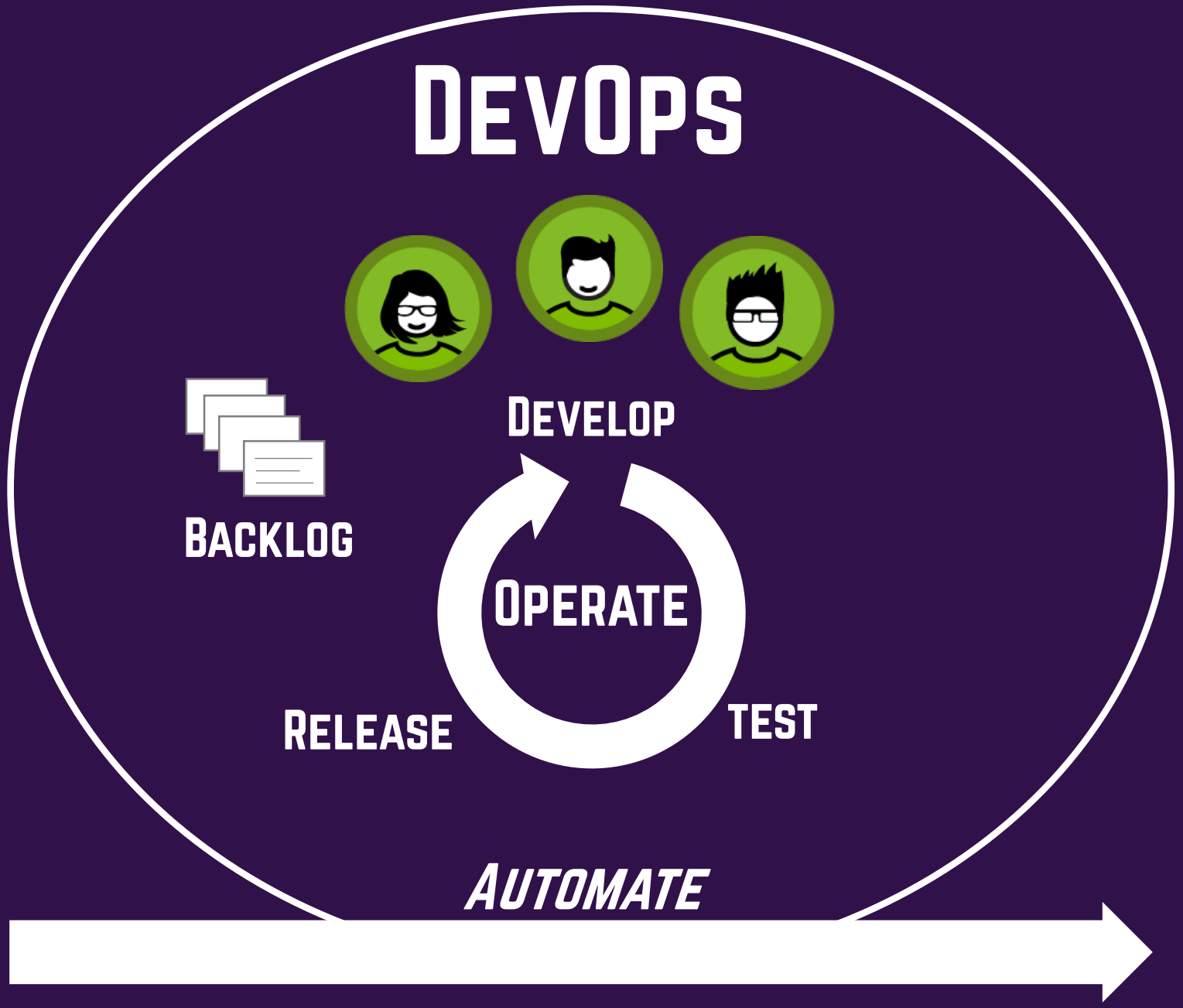
How it was...



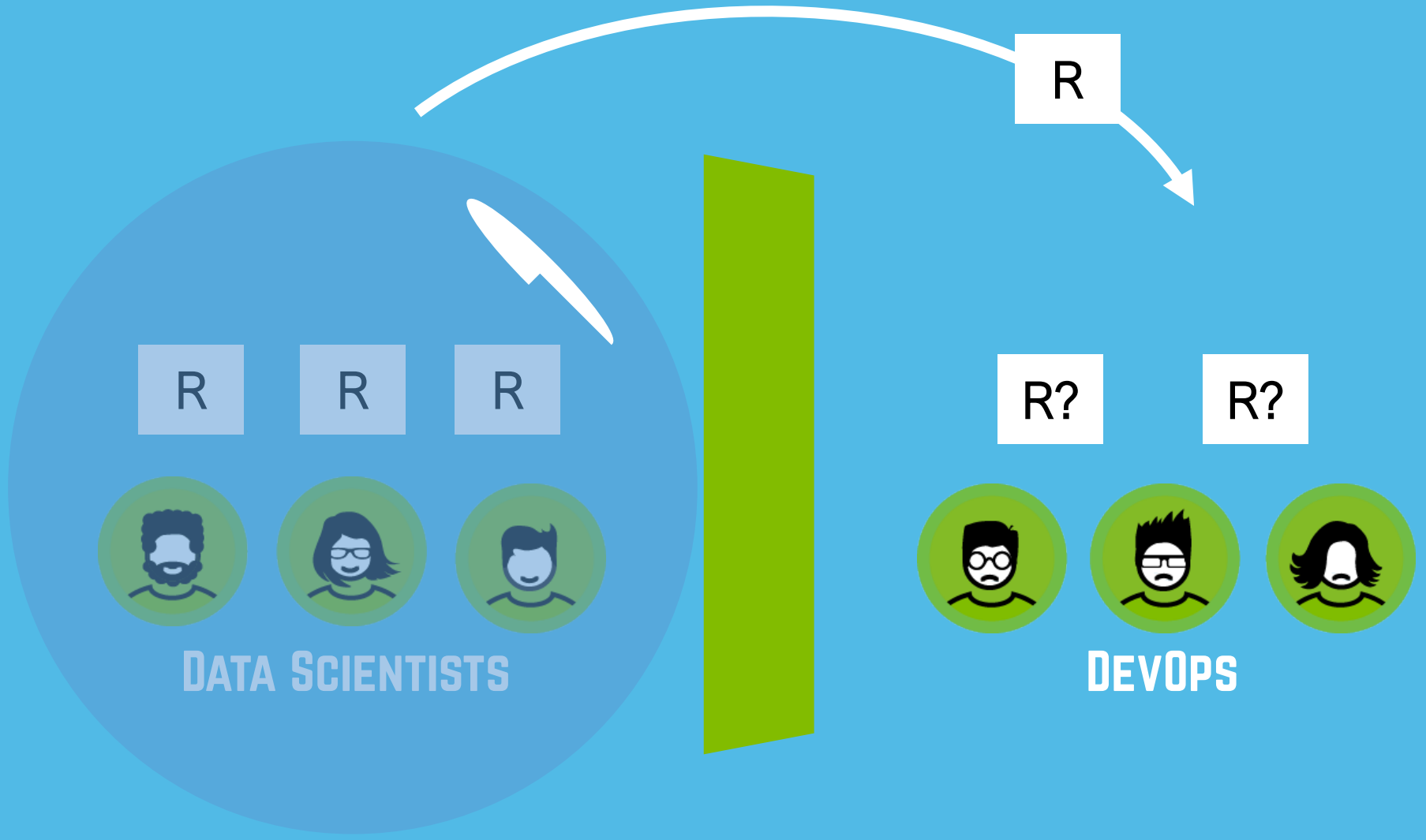
No feedback
Big releases
No accountability
Lack of Agility
Waste

Solved!



VSTS

The Data Science Problem today....



Backlog?
Version Control?
Quality?
Performance?
Release?
Auth?

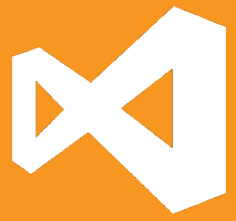
What if....

R
Development

Version Control
Test
Release

Operate

Azure Machine Learning
Microsoft R Server
R Tools for Visual Studio
R Studio



VSTS

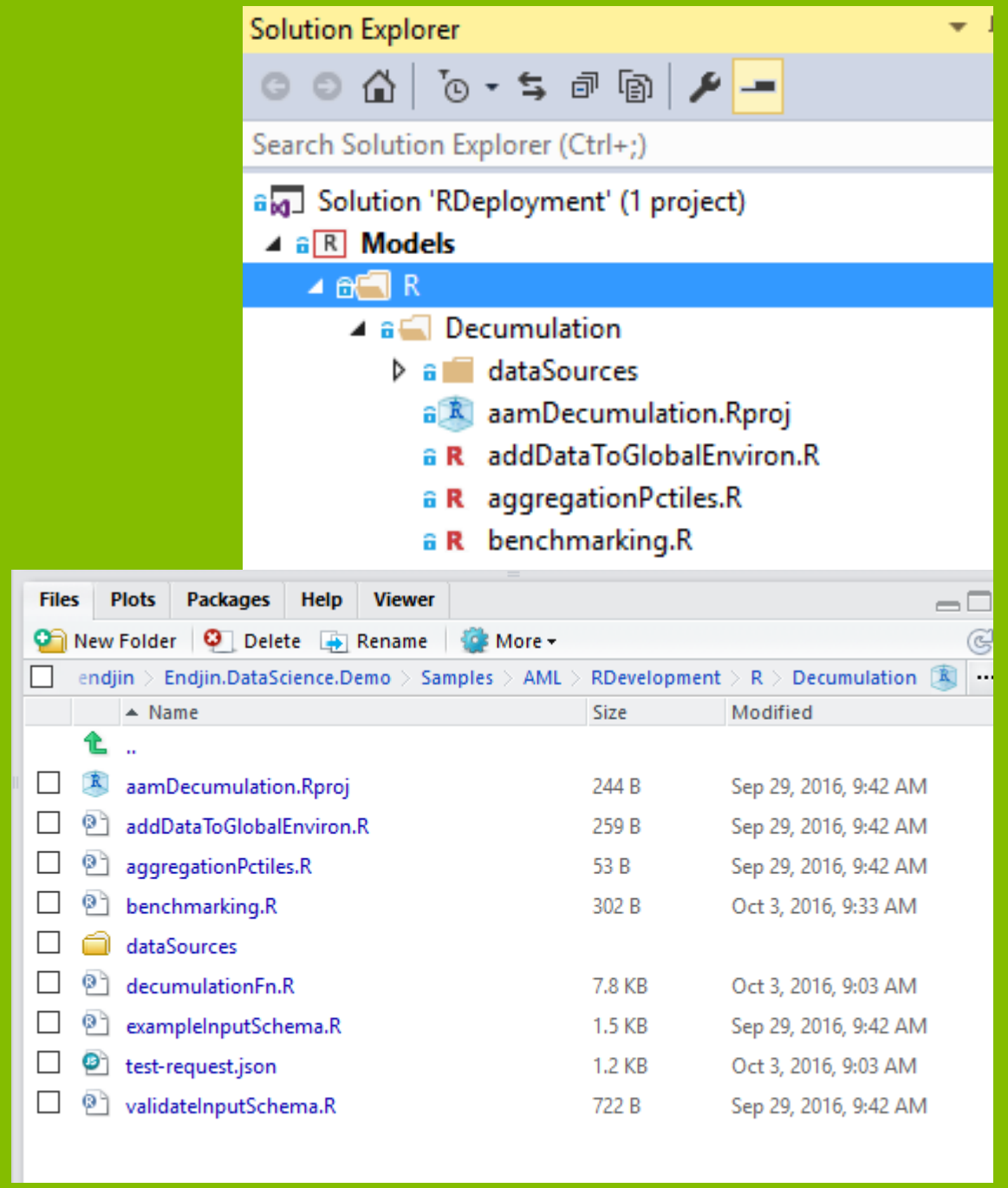
Azure Machine Learning
Deploy R
API Management
Active Directory

DEMO

Automated R deployments with VSTS:
https://vimeo.com/159813974

Automated R unit tests with VSTS:
https://vimeo.com/167279100

Take an R model in R Studio or Visual Studio...



Add some tests...

test-sum.R

```
context("sum")

test_that("sum adds positive numbers correctly", {
    expect_equal(sum(1, 1), 2)
    expect_equal(sum(1, 2), 3)
    expect_equal(sum(2, 2), 4)
    expect_equal(sum(2, 3), 5)
})
```

Add a deployment definition file...

deploy.json

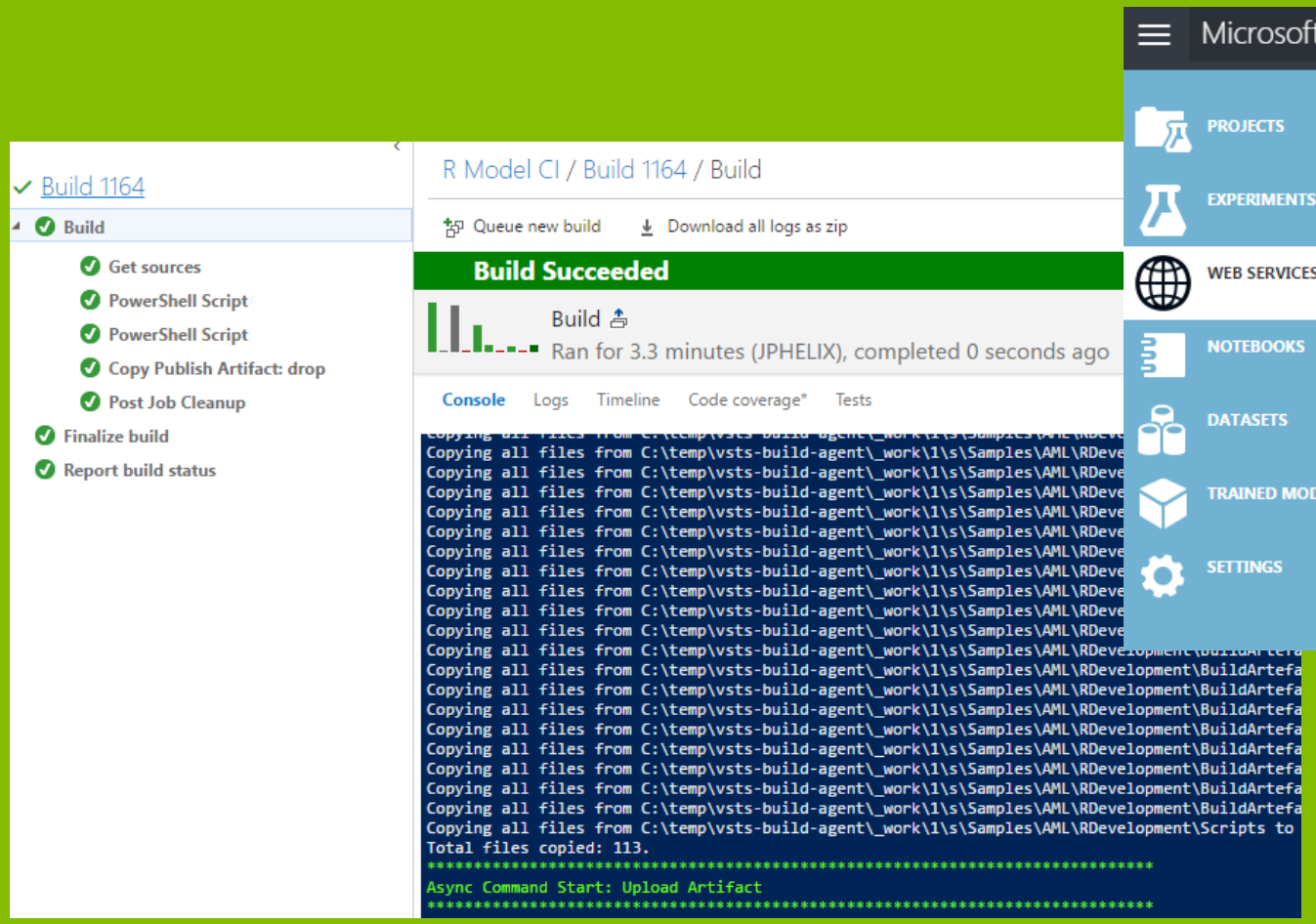
Schema: <No Schema Selected>

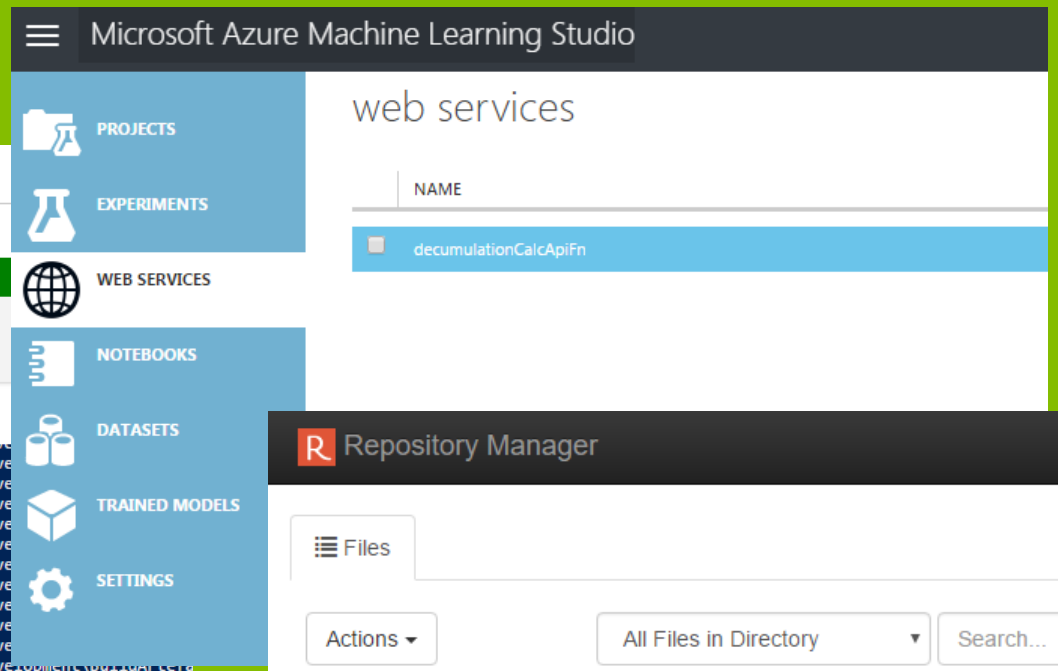
```
1  [
2    {
3      "script": "R/Decumulation/decumulationFn.R",
4      "function": "decumulationCalcApiFn",
5      "inputSchema": {
6        "input": "string"
7      },
8      "outputSchema": {
9        "result": "string"
10     },
11     "packages": [ "dplyr" ]
12   }
13 ]
```

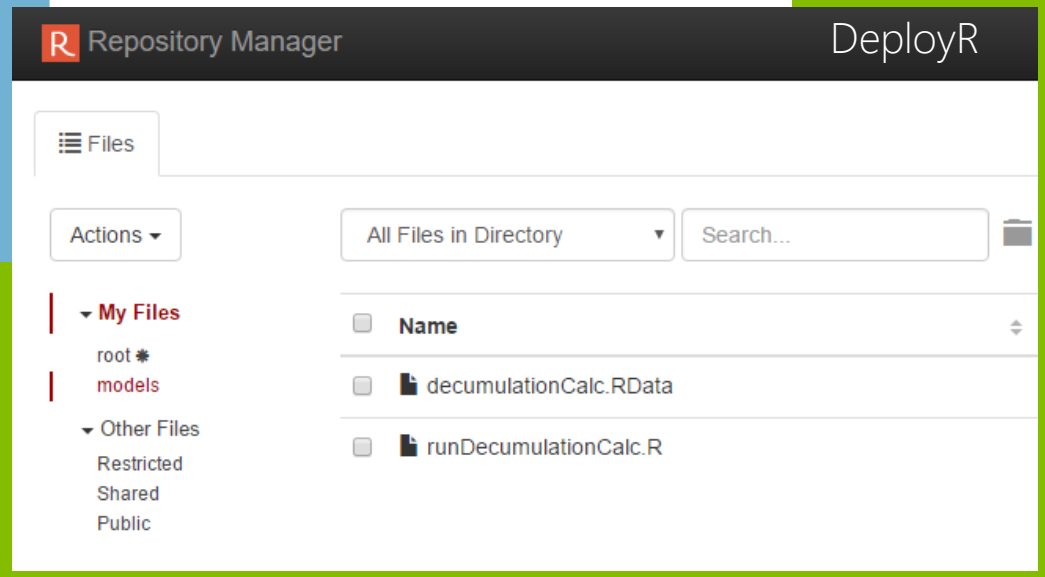
Add Model to version control...

```
> git add -A
> git commit -m "Adding model"
> git push
```

Continuous integration and deployment for R with VSTS...







Data Science DataOps

Project Management	Development	Quality Assurance	Release Management	Operations
Manage Priorities Work Item Tracking Progress Reporting	R Models R Packages AML Experiments	Unit Testing Model Validation Performance Testing	Model deployment Package Management Policies Audit	Hosting Scale Authentication Metering Throttling Monitoring

VSTS

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Azure Machine Learning

DeployR

+

API Management

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