Effective Geodatabase Programming

Craig Cleveland & Kevin Sigwart

About the presenters

- Craig Cleveland

Knows nothing about programming…BUT

- Kevin Sigwart

He’s the man.

Agenda

- Effective geodatabase programming via a “problem of the day”

Setting the problem

- Geo-enable non-spatial data (RSS)
- Publish that data to a service
- Update that data at a regular interval

Original Solution

RSS

Geography

(File GDB)

ArcGIS Server

Challenges

- Updating the service – ArcGIS Server locked the feature class
  - Had to stop the ArcGIS Server service…
  - Delete the original feature class…
  - Restart the service…

Had to be a better way…

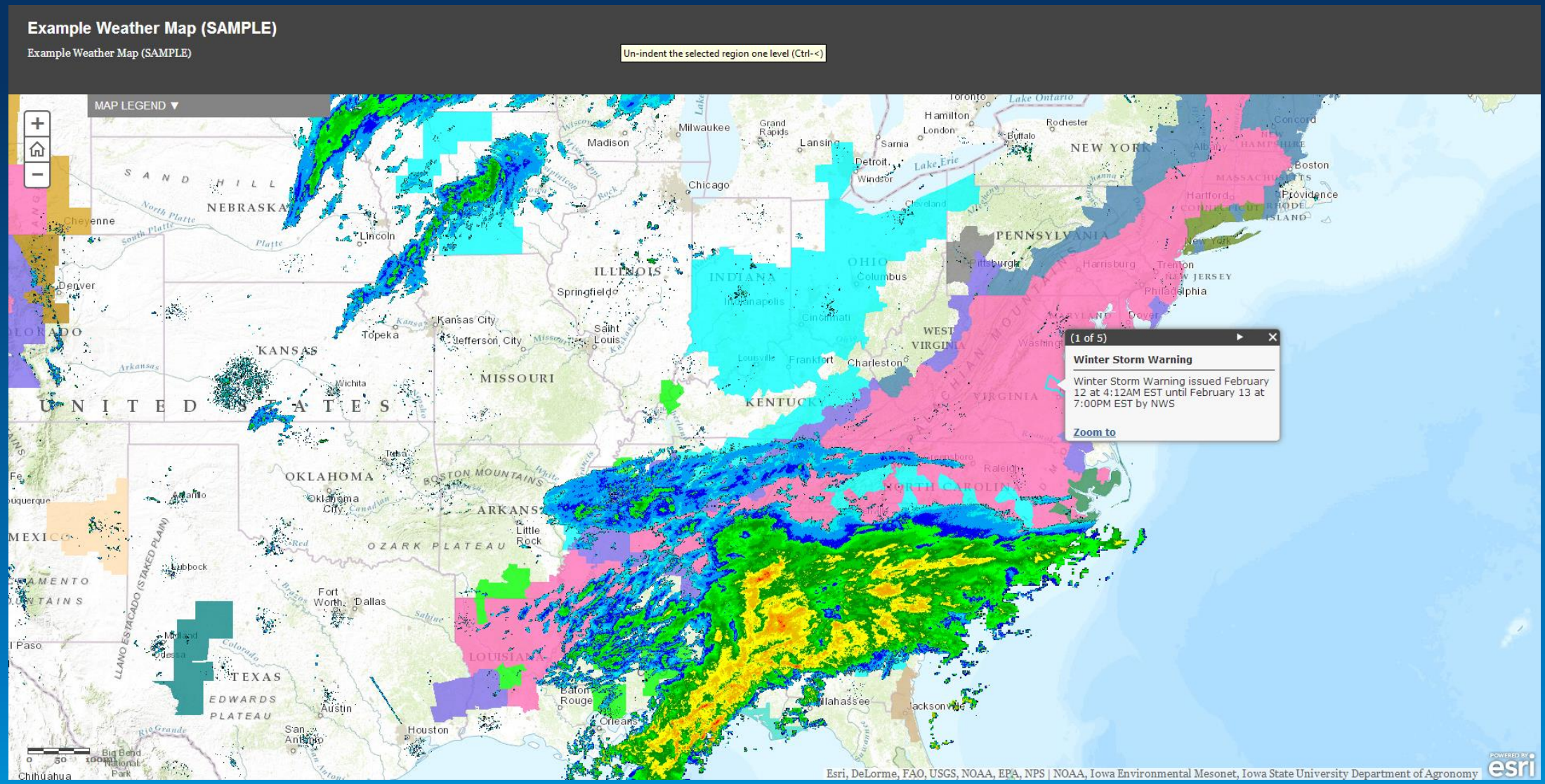
And there was.

Weather Warnings Script

Kevin Sigwart

```
67      '(UTC+10:00) Brisbane, Melbourne, Gu
68      '(UTC+11:00) Magadan, Solomon Islanc
69      '(UTC+12:00) Fiji, Marshall Islands
70              }
71
72  #***************************  Script Erro
73  class CustomError(Exception):
74      def __init__(self, value):
75          self.parameter = value
76      def __str__(self):
77          return repr(self.parameter)
78
79  #***************************  Script Fu
80
81  class ObservationPoint:
82      def __init__(self):
83          # Get centroid of input for obse
84          desc = arcpy.Describe(inFC)
85          sourceSR = desc.spatialReference
86          newSR = arcpy.SpatialReference()
87          newSR.factoryCode = sourceSR.fac
88          newSR.create()
89          self.SR = newSR
90          self.X = desc.extent.XMin + ((de
91          self.Y = desc.extent.YMin + ((de
92          self.ObservationPoint()
93
94      def ObservationPoint(self):
```

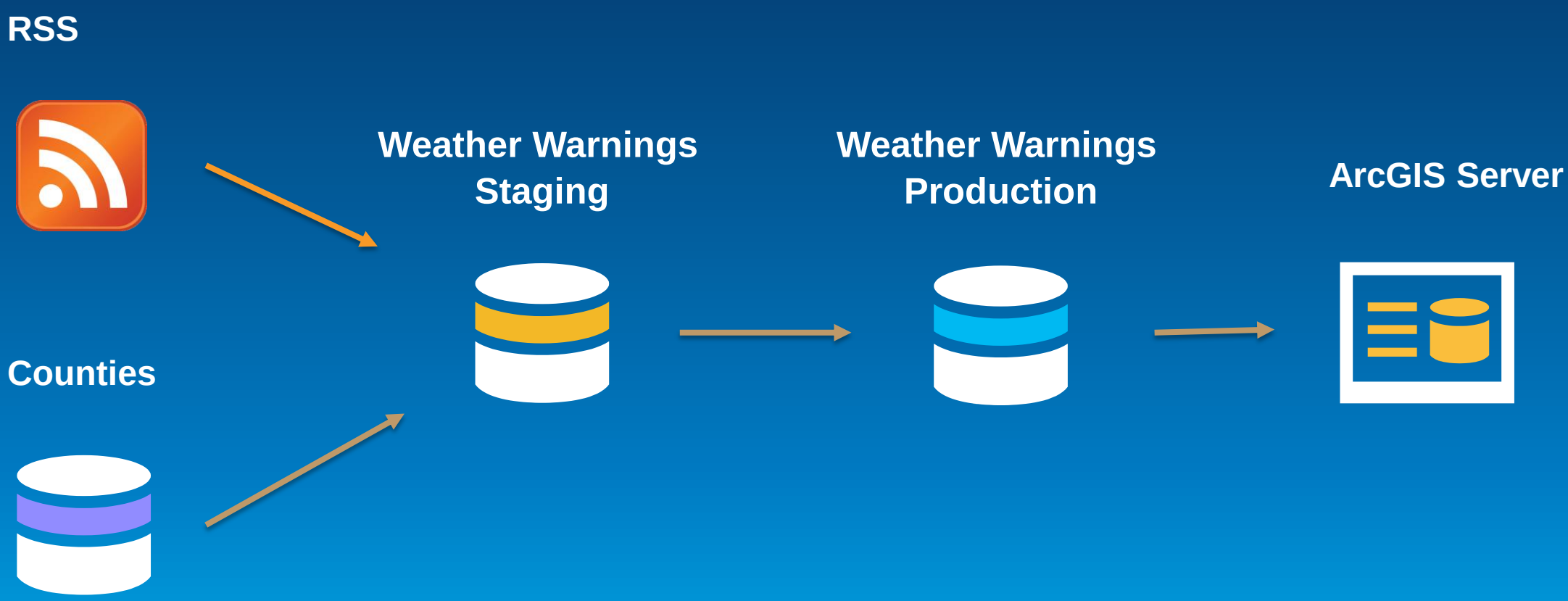
Python file



Result

Near Real Time Weather Feeds As A Service

Architecture



Steps

- Connect to Staging Database
- Remove Old Features
- Get Alerts
- Get Counties Associated with Alert
- Insert Alerts\Counties into Feature Class
- Synch Changes with Replicated Database
- Clean up workspace

Pseudo Code

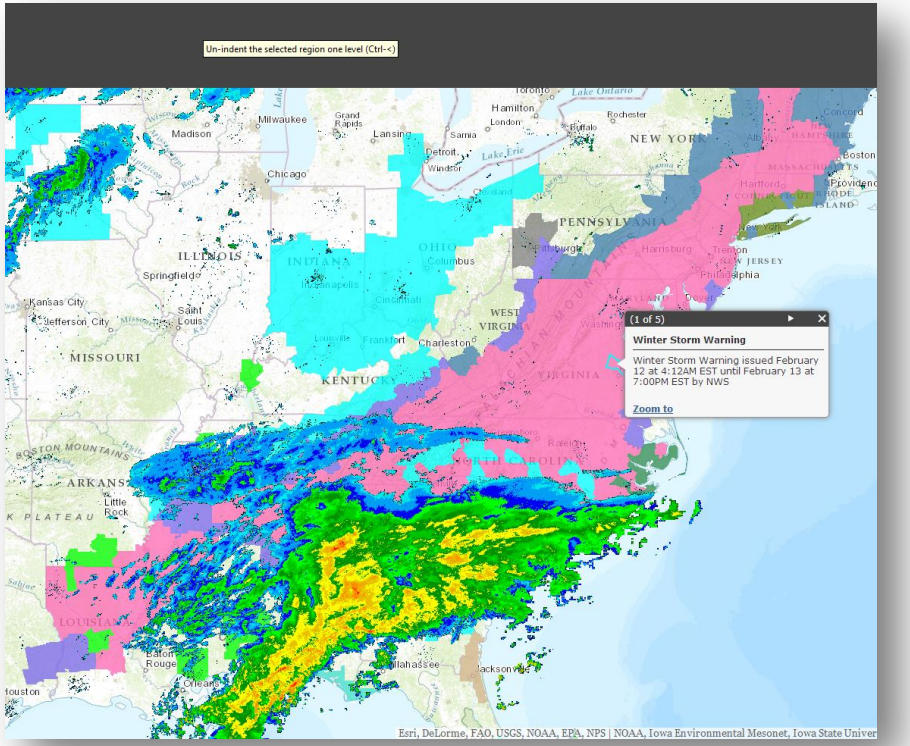
- ConnectToStaggingDB()
- DeleteOldRecords()
- GetAlerts()
- AddAlertsToFeatureClass (alerts)
  - For each alert
    - For each County
      - GetCountyShape (FIPS)
      - InsertRecord (alert, shape)

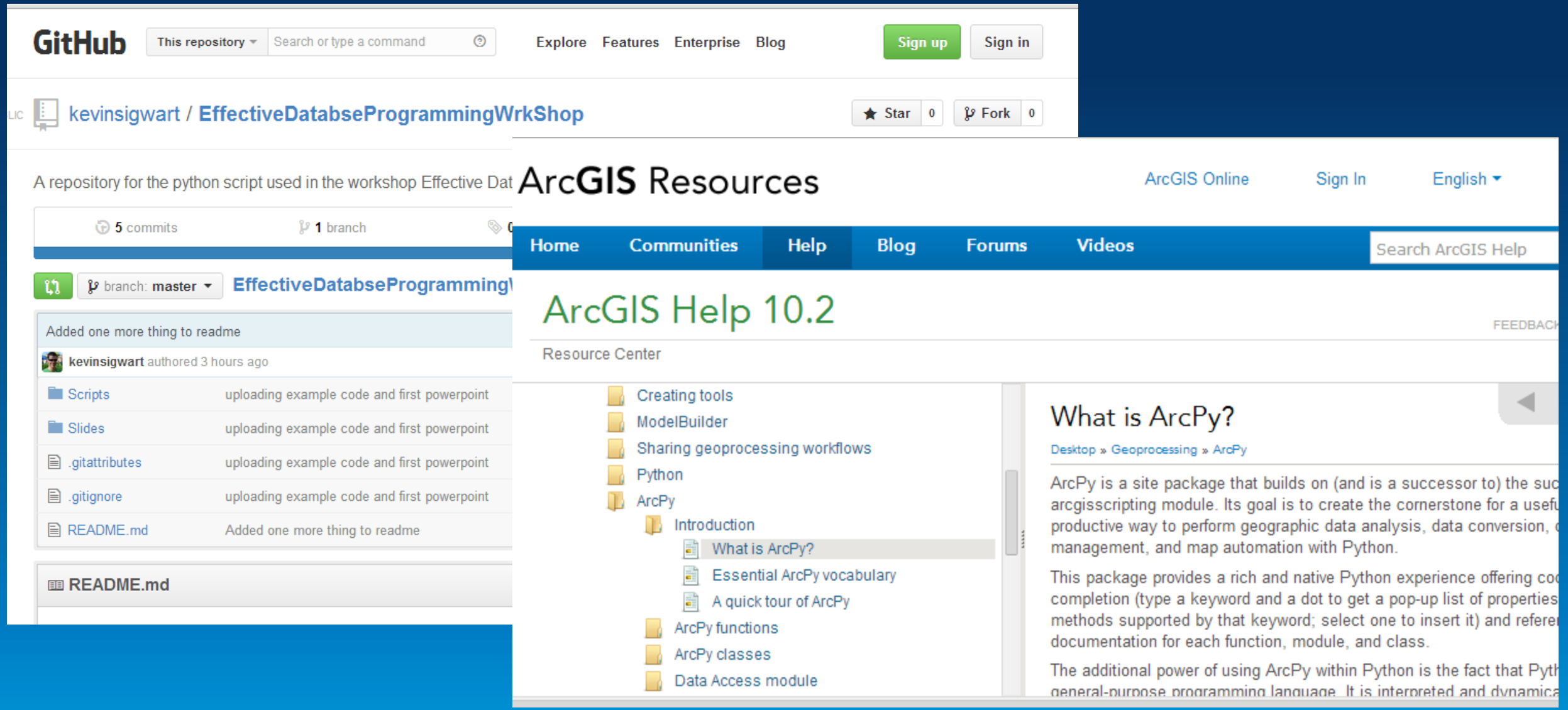
Pseudo Code (Continue)

- SynchChanges()
  - ConnectToProductionDatabase()
  - SynchtonizeChanges()
- DataCleanUp()

Demo

Kevin Sigwart





Resources

GitHub, ArcGIS Resource Center

Understanding our world.