

Automating Flow Installs





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Abley

I Spy.....

How many zipsters and lizards can you find?

Come tell me at Lunch and there might be a prize for
you....

Scenario One

Azure – Multiple Environments



New Zealand Petroleum and Minerals Geodata Catalogue

- Collection of free geoscience exploration data and reports
- Spatially enabled
- Open source (CKAN)
- Hosted on Azure

<https://geodata.nzpam.govt.nz/>



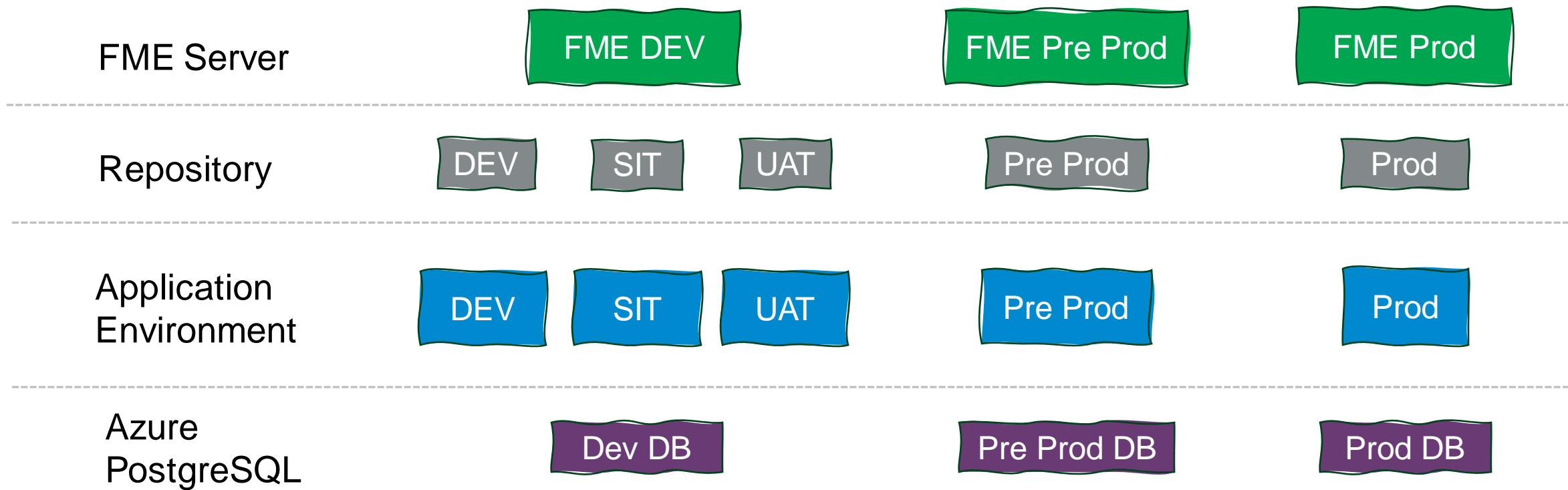
Geodata
Catalogue



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FME Platform

Safe Software Inc

★ 4.8 (16 ratings)

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The cost of running this product is a combination of the selected software plan charges plus the Azure infrastructure costs for the virtual machines. Azure infrastructure price might vary if you have enterprise agreements or other discounts.

To view pricing in a different currency, [change the billing country/region](#). Costs might vary by deployment region.

Select a software plan

FME Platform (2023.2) for Windows	BYOL	▼
FME Form and FME Flow pre-configured on a single Virtual Machine.		
FME Platform (2023.2) for Windows	BYOL	
FME Form and FME Flow pre-configured on a single Virtual Machine.		
FME Platform (2023.1) for Windows	BYOL	
FME Form and FME Flow pre-configured on a single Virtual Machine.		
FME Platform (2022.2.8) for Windows	BYOL	
FME Desktop and FME Server pre-configured on a single Virtual Machine.		
FME Platform (2022.0.0.2) for Windows	BYOL	
FME Desktop and FME Server pre-configured on a single Virtual Machine.		

Instance	Category	RAM	Disk Space	Drive Type	Infrastructure Cost ↓
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Scenario Two

Fault Tolerant - Onsite

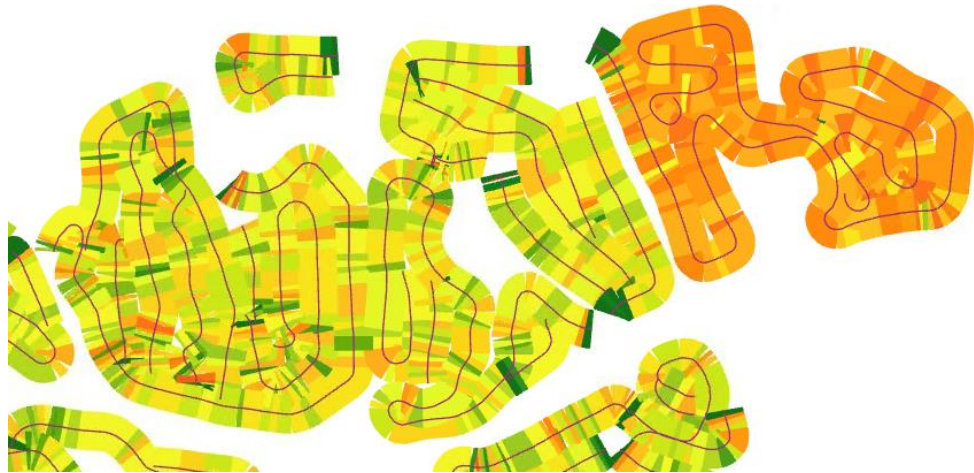
Ballance Agri-Nutrients

- Leading provider of Agri-Tech in New Zealand
- Commitment to sustainable agriculture
- Abley – Ballance partnership since 2018
 - Custom integration of SAP, Esri and FME
 - Manage Enterprise GIS and FME
 - Custom development of tools and applications

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Proof Of Application

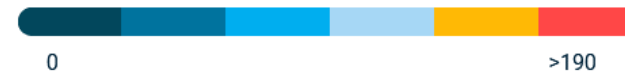


Nitrogen Loss Management



Nitrogen Range Key

(kg N/ha)



Fault Tolerant - On Site

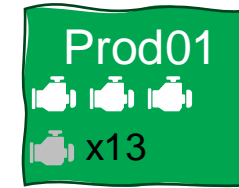
Dev



QAS



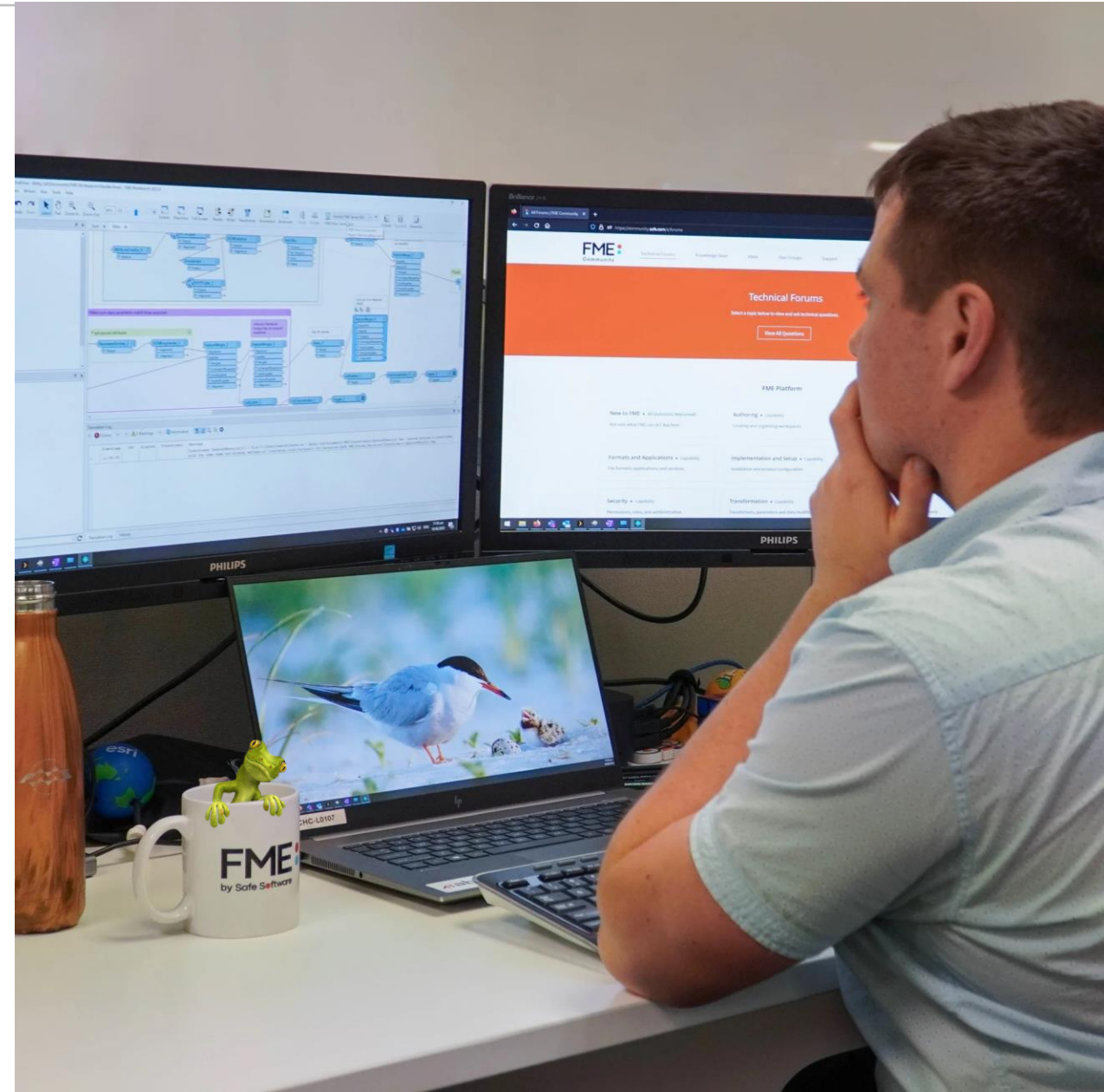
Prod



Into the Details

What is it?

- ~700 lines of PowerShell
- Configuration driven
- User interactions
- Four Scripts
 - Initialization
 - Extract Installer
 - Install and configure Flow
 - Post Install configuration



```
{
  "Installer":{
    "installerPath": "C:\\\\Install\\fme-flow-2023.2.1-b23774-win-x64(1).exe",
    "tempExtractPath": "C:\\\\temp\\FMEFlowinstall"
  },
  "Install":{
    "installLocation": "C:\\\\FMEFlow",
    "sharedResources": "C:\\\\FMEFlowShare",
    "PGData": "C:\\\\FMEFlowDatabase",
    "hostnameFMEFlow": "fmeflow-001",
    "URLFMEFlow": "devfme.com",
    "fmeUser": "fmeflow@domain.local",
    "servletPort": "80",
    "httpsPort": "443"
  },
  "PostInstall":{
    "admin2UserName": "admin2",
    "tomcatKeystore": "C:\\\\Install\\tomcat.keystore",
    "tomcatPass": "ILoveFME"
  },
  "waitTime": 30
}
```

```
2024/04/19 13:19:32 Getting passwords
```

```
Enter the password for fmefflow@domain.local: *****  
Confirm the password: *****
```

```
Enter the password for Postgres Database: *****  
Confirm the password: *****
```

```
Enter the password for Password for Admin: ***  
Confirm the password: ***
```

```
Enter the password for Password for admin2: *****  
Confirm the password: *****  
Passwords do not match. Please try again.  
Enter the password for Password for admin2: *****  
Confirm the password: *****
```

- Passwords can also be read from external sources
 - Azure Key Vault
 - AWS Key Management Service

```
~~~~~  
~~~~~  
~~~~~  
Please restore system encryption key  
Please restore backup  
~~~~~  
~~~~~  
~~~~~  
Press Enter once the above is complete...
```

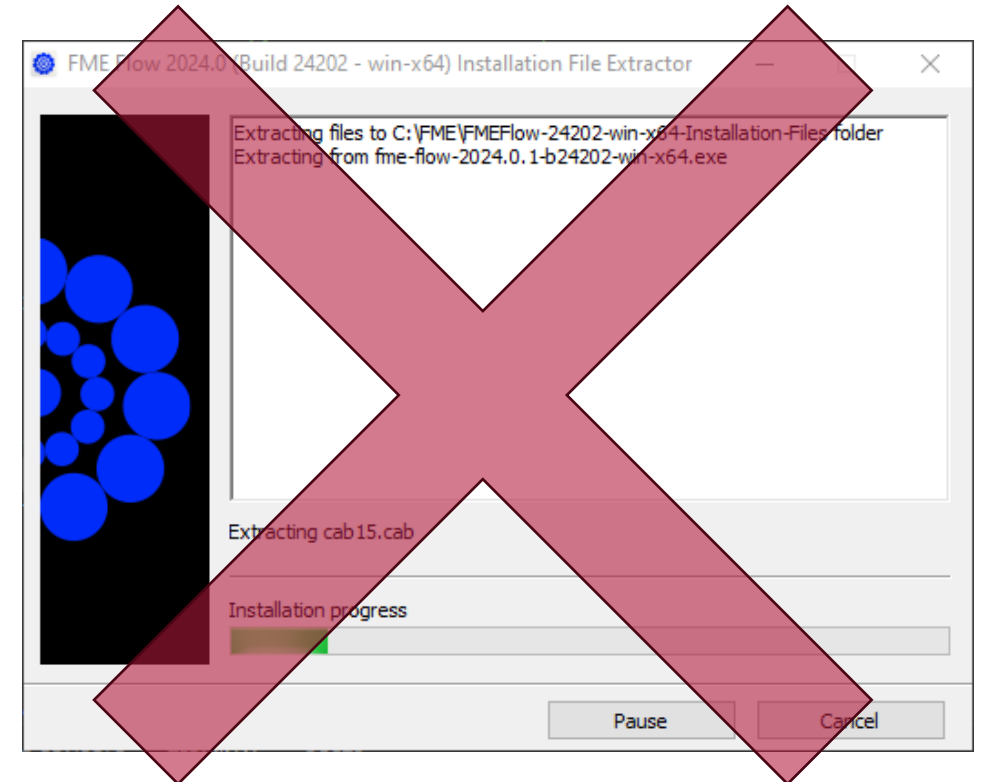
- Still in development

- Prompts for user interaction at key stages

```
~~~~~  
~~~~~  
~~~~~  
Please check Job Queues  
Please check Schedules  
Please check System Clean-Up  
Please fetch from GIT  
Please setup licensing  
~~~~~  
~~~~~  
~~~~~  
Press Enter once the above is complete...
```


Extracting the Installer

- Silent extraction
- Deletes existing extracts
- Cleans itself up

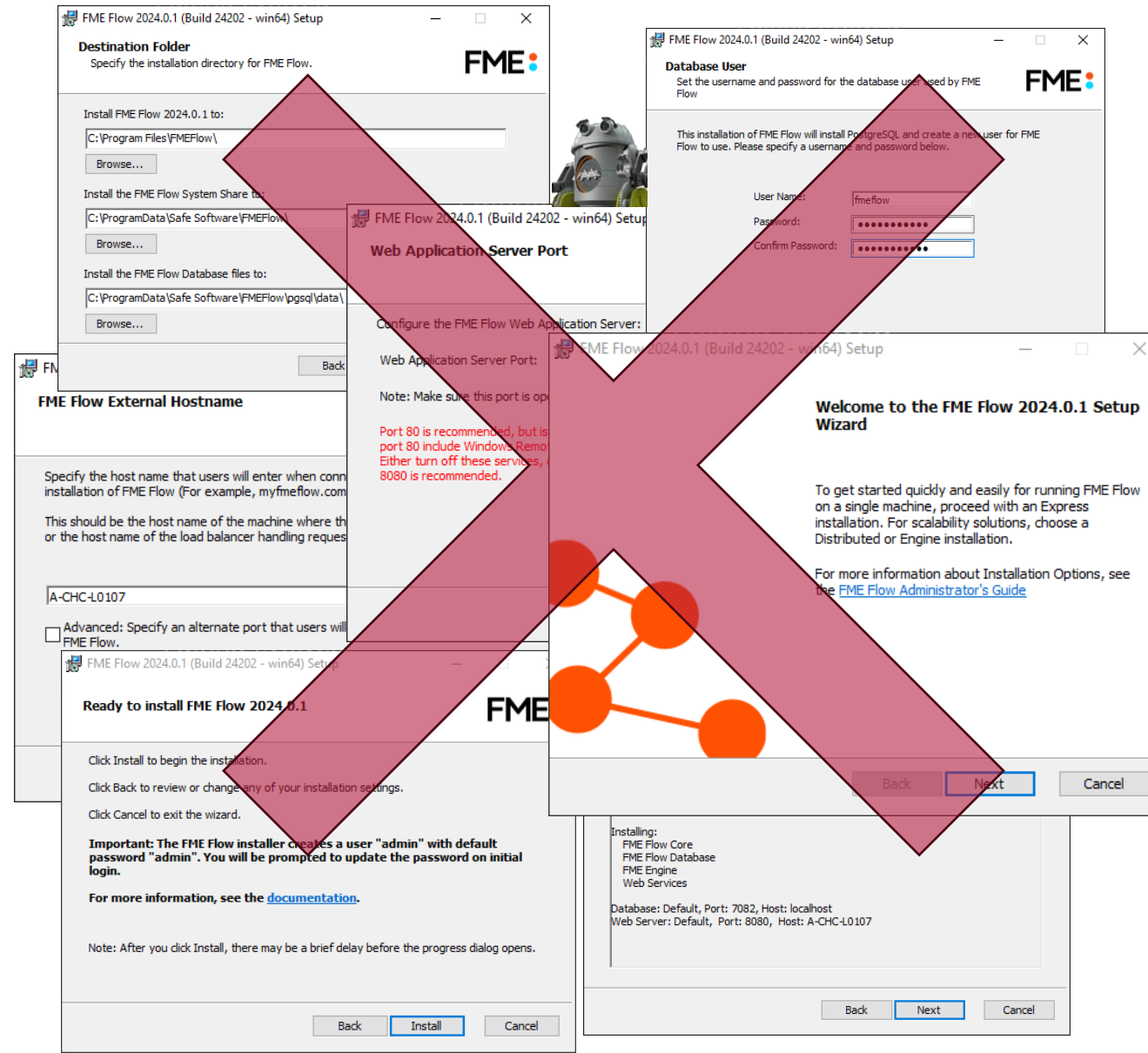


```
# Start the extraction process using Start-Process  
Start-Process -FilePath $installFile -ArgumentList "-d$tempExtractPath -s -sp$extractFlags" -Wait
```

Installing Flow

- Default as Express, can also do distributed
- Silent, no clicking 'next'

```
$installArgs = @(
  "/norestart",
  "/l*v `"$($installLogLoc)`"',
  "/qb",
  "INSTALLDIR=`"$installLocation`"',
  "FMESERVERSHAREDDATA=`"$sharedResources`"',
  "PGDATA=`"$PGData`"',
  "FMESERVERUSER=$fmeUser",
  "FMESERVERUSERPASSWORD=$plainTextfmeFlowPw",
  "FMESERVERHOSTNAME=$hostnameFMEFlow",
  "SERVLETPORT=$servletPort",
  "DATABASEPASSWORD=$plainTextdbPw"
)
```



Post Install Configuration

- Change admin passwords

```
$response = Invoke-WebRequest -Uri
"http://localhost:$port/fmerest/v3/security/accounts/admin/password/reset"
  -Method PUT -Headers $headers -Body $body
if ($response.StatusCode -ine 204){
  Log 'Failed to change admin password'
  throw 'Error updating password'
}
Log 'Successfully changed admin password'
```

Post Install Configuration

- Change admin passwords
- **Link with Active Directory**

```
# Set Active Directory
Log 'Setting AD'

$response = Invoke-WebRequest -Uri
"http://localhost:$port/fmerest/v3/security/ldap/servers"
-Method "POST" -Headers $headers -Body $body
if ($response.StatusCode -ine 201){
    throw 'Error setting AD'
}

Log 'Successfully setup AD'
```

Post Install Configuration

- Change admin passwords
- Link with Active Directory
- **Update Service URLs**

```
#update services
$services =
@("fmedatadownload","fmedatastreaming","fmedataupload","fmejobsubmitter","fmekmlink","fmenotification")

foreach ($s in $services){
    Log "Updating $s"
    $response = Invoke-WebRequest -Uri
"http://localhost:$port/fmerest/v3/services/$s" -Method
"PUT" -Headers $headers -Body $body
```

Post Install Configuration

- Change admin passwords
- Link with Active Directory
- Update Service URLs
- **Backup Config Files**

```
# Backup Configs before changing them
Backup-Config $fmeServerConfig
Backup-Config $fmeEngineConfig
Backup-Config $serverXML
Backup-Config $webXML
Backup-Config $contextXML
```

Post Install Configuration

- Change admin passwords
- Link with Active Directory
- Update Service URLs
- Backup Config Files
- **Enable HTTPS**

```
Log "Updating $serverXML"
$replacePattern = 'SSLEngine="on"'
$newString = 'SSLEngine="off"'
Update-PropertyText $serverXML $replacePattern $newString

$replacePattern = "<Connector port=`"$port`"
protocol=`"org[^\>]*>«
Update-PropertyText $serverXML $replacePattern $newString

$replacePattern = "(?smi)</welcome-file-list>.*</web-app>"
Update-PropertyText $webXML $replacePattern $newString

$replacePattern = "(?smi)<Manager pathname.*</Context>"
Update-PropertyText $contextXML $replacePattern $newString
```

Post Install Configuration

- Change admin passwords
- Link with Active Directory
- Update Service URLs
- Backup Config Files
- Enable HTTPS
- **Set custom response messages**

```
# Update fmeEngineConfig.txt
$replacePattern = "SUCCESS_RESPONSE 0:Translation
Successful\|(.+\|)*Not"
$newString = "SUCCESS_RESPONSE 0:Translation
Successful|ResultPrefix=https://$URLFMEFlow|Not"
Update-PropertyText $fmeEngineConfig $replacePattern $newString
```


Post Install Configuration

- Change admin passwords
- Link with Active Directory
- Update Service URLs
- Backup Config Files
- Enable HTTPS
- Set custom response messages
- **Configure SMTP information for email notifications**

```
foreach ($item in $json.items)
{
    if ($item.subscriberName -eq "email")
    {
        #iterate through and update smtp details for each
        connection
        $name = $item.name

        $response = Invoke-WebRequest -Uri
            "http://localhost:$port/fmerest/v3/notifications/"
            +"subscriptions/$name"
            -Method "PUT" -Headers $headers -Body $body
        Log "Updated $name"
    }
}
```

Post Install Configuration

- Can do more - I just haven't had time to implement!



Conclusion



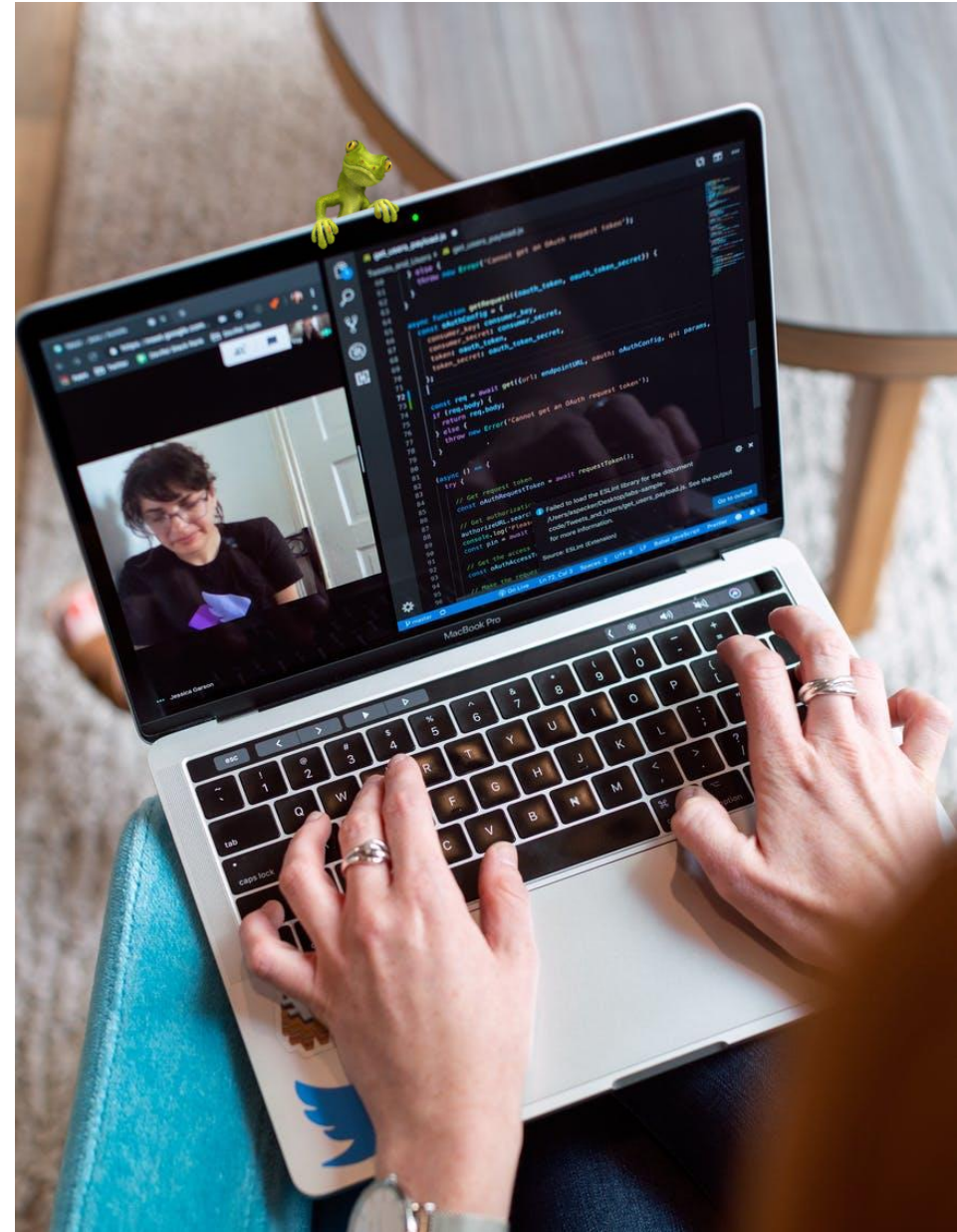
Benefits

- Repeatable
- Parameter driven
- Self documenting
- Quick!



Considerations

- Not a universal, OOTB solution
- Will need configuration for environment specifics
- Still some manual steps



FME Data Solutions - Fireside chat

Scripted FME Installs

<https://youtu.be/bBZMLiTAHg8>

Thank You

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