Quick Survey

- Your role in your organization
- Already a cloud user
- Running Esri deployment on AWS
- Consider yourself knowledgeable of AWS
Agenda

• Getting Started
• ArcGIS Enterprise on AWS Offerings
  - AMIs & Deployment Tools
  - Support for Native Cloud Storage
  - Upgrade Your Deployments
• Case Study
  - Approach
    - *Enterprise GIS Environment designed to Best Practices*
  - Components / Target Architecture
  - Operational Practices
    - Deployments
    - Costs
    - Monitoring
    - License Updates
    - Upgrades
Getting Started
ArcGIS Enterprise Support for Cloud Providers

- AWS
- Rackspace
- Alibaba Cloud Computing
- Huawei
ArcGIS Enterprise Special Tooling

Cloud deployments

Amazon Web Services

Microsoft Azure
Before Starting

<table>
<thead>
<tr>
<th>On-premise</th>
<th>AWS</th>
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<tbody>
<tr>
<td>Esri authorization files</td>
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Start Deployment

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<tr>
<td>Manually run setups/configurations on all machines or</td>
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<td>Scripting tools, python or powershell</td>
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<td>Esri ArcGIS Cloud Builder CLI for AWS</td>
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<td>Customization</td>
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<td>CloudFormation Templates</td>
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ArcGIS Enterprise Offerings
AMIs

- Windows with SQL Server Express
- Ubuntu with Postgresql
- Available in GovCloud Region
Esri Cloud Formation Templates

CloudFormation templates to deploy ArcGIS Enterprise on Amazon Web Services

The following templates use CloudFormation to create an ArcGIS Enterprise deployment or ArcGIS Server roles on Amazon Web Services (AWS).

Before using a template, read the Readme file for the sample template you want to use. Make sure you follow the directions to set up the required components first.

Click "LAUNCH STACK" to use a template. You will be taken to the AWS Console. Sign in to your Amazon Web Services account, and enter the required parameters for the template.

For more information, see the ArcGIS Enterprise on Amazon help and ArcGIS Enterprise on Windows or ArcGIS Enterprise on Linux.

ArcGIS Enterprise needs to run in a VPC environment. Most Amazon Web Services accounts have a default AWS VPC created. You use this default VPC, create another VPC manually, or use the template described in the next section to create a VPC. However, you create the VPC, it needs to have the following properties set:

- VPC ID: set to "vpc-
- VPC CIDR: set to "10.0.0.0/16"
- VPC DNS support: set to "yes"
- VPC DHCP options set: You must have both domain-name and domain-name-servers set, for example: "domain-name=esri.interna; domain-name-servers=AmazonProvided"

Template for Deploying AWS Services:

GIS Server

Image Server

GeoEvent Server

GeoAnalytics Server

Portal for ArcGIS

Hosting Server

ArcGIS Data Store (relational + tile cache)

ArcGIS Web Adaptor

ArcGIS Data Store

ArcGIS Web Adaptor
Native to AWS Tools

Automate CloudFormation Stack creation using Python

CloudFormation stack creation can be run from command line. You can check Amazon CloudFormation documentation for more details.

Below is a sample python script to create cloudformation stacks. To run it:
- Make sure you have Python installed. Python is also installed with ArcGIS Desktop and ArcGIS Server.
- Download and install AWS SDK for Python (boto). The fastest way is to install via Pip.
- If you don’t have Pip, install Pip following the directions at https://pip.pypa.io/en/stable/installing.html.
- Install Boto by running: pip install boto
- Download the sample python script and run it with the parameters required by your cloudformation templates.

```python
# A sample python script to create cloudformation stacks

aws_region = 'us-west-2'
aws_stack_name = 'cloudformation_stack'
aws_stack_description = 'Sample CloudFormation Stack'
aws_stack_output_key = 'output_key'
aws_stack_output_value = 'output_value'
aws_stack_output_description = 'Sample Output Description'
aws_stack_output_type = 'AWS::CloudFormation::Init

# Create CloudFormation stack
aws_stack = 

# Stack Outputs
aws_stack_output = 

# Deploy CloudFormation stack
aws_stack_resource = 

# Deploy CloudFormation stack
aws_stack_resource.deploy()
```

Automate CloudFormation Stack creation using Powershell

CloudFormation stack creation can also be automated using Powershell. Two sample powershell scripts are provided:

- `arcgis-webgis-na-windows.ps1` to create highly available WebGIS stack on Windows.
- `arcgis-server-ubuntu1604-haconfigstore.ps1` to create Server GIS site using DynamicGIS and S2 as config-store.

Esri-provided sample scripts

Provided by Esri CF templates

- Esri ArcGIS Server Docker through AWS ECS
  - New at 10.5.1

- Stop/Start the whole stack (Lambda function)

- Remotely Applying Esri patches – through AWS “Run command” tool
  - Windows starting at 10.5.1
  - Ubuntu starting at 10.6
Deployment Tools - Cloud Builder Command Line Interface for AWS

- New at 10.6

- One Run to Deploy ArcGIS Enterprise
  - Base + Federated Servers
  - Define in a json file

- Prepare your deployment
Cloud Formation Templates VS. Cloud Builder CLI

- Highly Customizable
- One Run Deployment
- Power
- Simplicity
Demo

Deploy using ArcGIS Enterprise Command Line Interface for AWS
Cloud Storage Support

- ArcGIS Server config-store: DynamoDB & S3
- Portal content store: S3
- Cloud Storage in Server Manager: S3
- Caching: S3
  - Consumption: 10.5.1
  - Generation: 10.6
- ArcGIS Spatial Temporal DataStore backups: S3. New at 10.6
- Webgisdr backups: to S3
- GeoAnalytics Data Input : S3

- All Regions At at 10.6
- User-defined S3 compatible storage
Case Study
Environment | Requirements

• **Deploy an ArcGIS Platform in AWS**
  - *Includes the following server roles:*
    - General purpose GIS Server site
    - GeoEvent
    - GeoAnalytics Server site
    - RasterAnalytics Server site

• **Use ArcGIS Monitor to monitor platform**

• **Develop a plan for License Updates**

• **Develop a plan for future upgrades**
Environment | Best Practices

• Enterprise GIS environment designed to best practices
  - Automation
  - Efficiency, Consistency, Productivity
  - Environment Isolation
  - Reliability and Availability
  - High Availability and Disaster Recovery
  - Workload Separation
Checklist

- Capacity Planning
- Architecture
- Deployment
- Manage Costs
  - Environment Availability
- Monitor
- Update Licenses
- Upgrade
**NEED TO PERFORM CAPACITY PLANNING TO DESIGN PROPER ARCHITECTURE**
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### Architecture | Operating System

![Windows Logo]($$) ![Linux Logo]($$)

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<td>$0.1 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m4.xlarge</td>
<td>4</td>
<td>13</td>
<td>16</td>
<td>EBS Only</td>
<td>$0.2 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m4.2xlarge</td>
<td>8</td>
<td>26</td>
<td>32</td>
<td>EBS Only</td>
<td>$0.4 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m4.4xlarge</td>
<td>16</td>
<td>53.5</td>
<td>64</td>
<td>EBS Only</td>
<td>$0.8 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m4.10xlarge</td>
<td>40</td>
<td>124.5</td>
<td>160</td>
<td>EBS Only</td>
<td>$2 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m4.16xlarge</td>
<td>64</td>
<td>188</td>
<td>256</td>
<td>EBS Only</td>
<td>$5.32 per Hour</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Architecture
• Deployment
• Manage Costs
  - Environment Availability
• Monitor
• Update Licenses
• Upgrade
Operational Practices | Deployments


Operational Practices | Deployments

✓ Create/Validate AWS S3 Bucket with necessary files
  - Portal license file
  - Server license file
  - Optional server roles: GeoAnalytics, GeoEvent, Image
  - SSL Certificate file

✓ Create VPC
  - AWS CLI PREP
  - CloudFormation Template

✓ Allocate Elastic IP addresses
  - Update DNS Entries with Cname

✓ Create Load-Balancer
  - Import/Validate the SSL Certificate exists in the Certificate Manager for the AWS Region
  - Use Load-Balancer Template
  - Update DNS Entries with Cname
Operational Practices | Deployments
### Operational Practices | Deployments

<table>
<thead>
<tr>
<th>Name</th>
<th>DNS Name</th>
<th>State</th>
<th>VPC ID</th>
<th>Availability Zones</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities-dev-ELB-Monitor</td>
<td>onaws.com</td>
<td></td>
<td>vpc-0001</td>
<td>us-west-1b</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-Primary</td>
<td>onaws.com</td>
<td></td>
<td>vpc-0001</td>
<td>us-west-1b</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-Alternate</td>
<td>onaws.com</td>
<td></td>
<td>vpc-0001</td>
<td>us-west-1b</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-WZ0</td>
<td>onaws.com</td>
<td></td>
<td>vpc-0001</td>
<td>us-west-1b</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-10G4</td>
<td>onaws.com</td>
<td></td>
<td>vpc-0001</td>
<td>us-west-1b</td>
<td>classic</td>
</tr>
</tbody>
</table>

- **Launch Templates**
- **Spot Requests**
- **Reserved Instances**
- **Dedicated Hosts**

- **Images**
- **AMIs**
- **Bundle Tasks**

- **Elastic Block Store**
### Operational Practices | Deployments

<table>
<thead>
<tr>
<th>Status</th>
<th>Domain name</th>
<th>Additional names</th>
<th>Type</th>
<th>In use?</th>
<th>Not after</th>
<th>Expires in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issued</td>
<td>*.bd.esri.com</td>
<td>bd.esri.com</td>
<td>Imported</td>
<td>Yes</td>
<td>2018-10-10T12:00:00UTC</td>
<td>230 Days</td>
</tr>
</tbody>
</table>

**Details**

- **Signature algorithm**: SHA256
- **Serial number**: [redacted]
Operational Practices | Deployments

- ArcGIS Enterprise Cloud Builder CLI for AWS
Operational Practices | Deployments

• ArcGIS Enterprise Cloud Builder CLI for AWS
Operational Practices | Deployments

- ArcGIS Enterprise Cloud Builder CLI for AWS
Operational Practices | Deployments

```
{
  "DeploymentDetails": {
    "DeploymentName": "MyDeployment",
    "ArcGISVersion": "10.6",
    "OperatingSystem": "Ubuntu"
  },
  "AWSCredentials": {
    "AWSProfileName": "myprofile",
    "AWSRegion": "us-west-2"
  },
  "CloudFormationParameters": {
    "Default": {
      "VPCCidr": "vpc-11c11111",
      "Subnet1": "subnet-123456",
      "Subnet2": "subnet-98765",
      "DevSizeRoot": "100",
      "DevSizeData": "200",
      "KeyName": "MyAWSKeyName",
      "ASSEnstanceType": "m4.large",
      "ASSEnstanceType": "m4.xlarge",
      "SecondaryInstances": "0",
      "RDSInstanceType": "r4.xlarge",
      "RDSInstances": "9",
      "DBEngine": "none",
      "DBInstanceClass": "db.m4.large",
      "DBAllocatedStorage": "200",
      "DBsecurityBucket": "myBucket",
      "ServerLicenseFile": "server.cep",
      "PortalLicenseFile": "Portal.prvc",
      "StoreType": "FileSystem",
      "SiteAdmin": "admin",
      "SiteAdminPassword": "Password",
      "RunAsUserPassword": "Run_As_Pasword"
    }
  },
  "BaseEnterprise": {
    "siteSIFAllocationID": "eipsalloc-e22222da",
    "SiteDomain": "geoevent.be.earth",
    "ServerLicenseFile": "Server_geoevent.prvc",
    "Federate": "true"
  },
  "SiteAnalytics": {
    "ELBName": "elbname-ELB-123456781111",
    "SiteDomain": "myarcgis.serversite.be.earth",
    "ServerLicenseFile": "server.cep",
    "PortalLicenseFile": "Portal.prvc",
    "StoreType": "FileSystem",
    "SiteAdmin": "admin",
    "SiteAdminPassword": "Password",
    "RunAsUserPassword": "Run_As_PasWord"
  },
  "GeoAnalytics": {
    "ELBName": "elbname-ELB-123456781111",
    "SiteDomain": "geoanalytics.be.earth",
    "ServerLicenseFile": "server_GeoAnalytics.prvc",
    "SecondaryInstances": "1",
    "Federate": "true"
  },
  "RasterAnalytics": {
    "ELBName": "elbname-ELB-123456781111",
    "SiteDomain": "raster.be.earth",
    "CloudStorageBucketPath": "yourbucket/yourfolder",
    "ServerLicenseFile": "server_image.prvc",
    "SecondaryInstances": "1",
    "Federate": "true"
  }
}
```
Operational Practices | Deployments

```json
{
  "DeploymentDetails": {
    "DeploymentName": "MyDeployment",
    "ArcGISVersion": "10.6",
    "OperatingSystem": "Ubuntu"
  },
  "AWSCredentials": {
    "AWSProfileName": "myprofile",
    "AWSRegion": "us-west-2"
  },
  "CloudFormationParameters": {
    "Default": {
      "VPCId": "vpc-123456",
      "Subnet1": "subnet-123456",
      "Subnet2": "subnet-98765",
      "DriveSizeRoot": "100",
      "DriveSizeData": "200",
      "KeyName": "MyAWSKeyName",
      "FSInstanceType": "m4.large",
      "ASInstanceType": "m4.2xlarge",
      "SecondaryInstances": "4",
      "BDInstanceType": "r4.xlarge",
      "BDInstances": "2",
      "BBEngine": "none",
      "DBInstanceClass": "db.m4.large",
      "DBAllocatedStorage": "200",
      "DeploymentBucket": "myS3bucket",
      "ServerLicenseFile": "Server.ecp",
      "PortalLicenseFile": "Portal.prvc",
      "StoreType": "FileSystem",
      "SiteAdmin": "admin",
      "SiteAdminPassword": "Password!",
      "RunAsUserPassword": "Run_As_Pa$$Word!",
      "SSLCertificateFile": "mySSLcertificate.pfx",
      "SSLCertificatePassword": "SSLcertPassword!",
      "SSLCertificateARN": "arn:aws:acm:us-west-2:***:certificate/%%",
      "PostInstallationScript": "none"
    }
  }
}
```
"DeploymentDetails": {
  "DeploymentName": "MyDeployment",
  "ArcGISVersion": "10.6",
  "OperatingSystem": "Ubuntu"
},

"AWSCredentials": {
  "AWSProfileName": "myprofile",
  "AWSRegion": "us-west-2"
},

"CloudFormationParameters": {
  "Default": {
    "VPCId": "vpc-11c11111",
    "Subnet1": "subnet-123456",
    "Subnet2": "subnet-98765",
    "DriveSizeRoot": "100",
    "DriveSizeData": "200",
    "KeyName": "MyAWSKeyName",
    "FSInstanceType": "m4.large",
    "ASInstanceType": "m4.2xlarge",
    "SecondaryInstances": "0",
    "BDInstanceType": "r4.xlarge",
    "BDBInstances": "0",
    "DBEngine": "none",
    "DBInstanceClass": "db.m4.large",
    "DBAllocatedStorage": "200",
    "DeploymentBucket": "myS3Bucket",
    "ServerLicenseFile": "Server.ecp",
    "PortalLicenseFile": "Portal.prvc",
    "StoreType": "FileSync",
    "SiteAdmin": "admin",
    "SiteAdminPassword": "Password!",
    "RunAsUserPassword": "Run_As_Pa$Sw0rd",
    "SSLCertificateFile": "mySSLcertificate.pfx",
    "SSLPassword": "SSLcertPassword",
    "SSLCertificateARN": "arn:aws:acm:us-west-2:****:certificate/**",
    "PostInstallationScript": "none",
  }
}
Operational Practices | Deployments

```json
"DeploymentDetails": {
  "DeploymentName": "MyDeployment",
  "ArcGISVersion": "10.6",
  "OperatingSystem": "Ubuntu"
},
"AWSCredentials": {
  "AWSProfileName": "myprofile",
  "AWSRegion": "us-west-2"
},
"CloudFormationParameters": {
  "Default": {
    "VPCId": "vpc-11c11111",
    "Subnet1": "subnet-123456",
    "Subnet2": "subnet-98760",
    "DriveSizeRoot": "100",
    "DriveSizeData": "200",
    "KeyName": "MyAWSKeyName",
    "FISnstanceType": "m4.large",
    "ASnstanceType": "m4.xlarge",
    "Secondary Instances": "0",
    "BDSnstanceType": "r4.xlarge",
    "BBInstances": "0",
    "DBEngine": "none",
    "DBnstanceClass": "db.m4.large",
    "DBAllocatedStorage": "200",
    "DeploymentBucket": "myS3bucket",
    "ServerLicenseFile": "Server.cep",
    "PortalLicenseFile": "Portal.prvc",
    "StoreType": "FileSystem",
    "SiteAdmin": "admin",
    "SiteAdminPassword": "Password!",
    "RunAsUserPassword": "Run_As_Pa$$Word",
    "SSLCertificateFile": "mySSLcertificate.pfx",
    "SSLCertificatePassword": "SSLcertPassword",
    "SSLCertificateARN": "arn:aws:acm:us-west-2:***:certificate/**",
    "PostInstallationScript": "none"
  }
},
"BaseEnterprise": {
  "SiteEIPAllocationID": "eipalloc-e11111d1",
  "SiteDomain": "mygisserversite ebooks.com",
  "InstanceType": "m4.xlarge",
  "Type": "AllInOne"
},
"Server": {
  "ELBName": "elbname-ELB-1A1B1C1D1E1F1",
  "SiteDomain": "myarcgisserversite ebooks.com",
  "ServerLicenseFile": "Server.cep",
  "SecondaryInstances": "1",
  "Federate": true
},
"GeoEvent": {
  "SiteEIPAllocationID": "eipalloc-e22222d2",
  "SiteDomain": "geoevent ebooks.com",
  "ServerLicenseFile": "Server_GeoEvent.prvc",
  "SecondaryInstances": "1",
  "Federate": true
},
"GeoAnalytics": {
  "ELBName": "elbname-ELB-2A2B2C2D2E2F2",
  "SiteDomain": "geoanalytics ebooks.com",
  "ServerLicenseFile": "Server_GeoAnalytics.prvc",
  "SecondaryInstances": "1",
  "Federate": true
},
"RasterAnalytics": {
  "ELBName": "elbname-ELB-3A3B3C3D3E3F3",
  "SiteDomain": "raster ebooks.com",
  "CloudStore3BucketPath": "yourbucket/yourfolder",
  "ServerLicenseFile": "Server_Image.prvc",
  "SecondaryInstances": "1",
  "Federate": true
},
"DNSParameters": {
  "AWSRegion": "us-west-2"
}
```
<table>
<thead>
<tr>
<th>Stack Name</th>
<th>Created Time</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
</table>
You can add ArcGIS Server sites to your portal to achieve a single-sign-on experience, share items, and optionally host services. A server that has been added to a portal is called a federated server.

**Federated Servers**

Add one or more servers to your portal.

- [ ] Validate Servers
- [ ] Add Server

**Servers**

- https://mysitename.md.esri.com/server
- https://myarcgiserversite.md.esri.com/arcgis
- https://geoanalytics.md.esri.com/arcgis
- https://raster.md.esri.com/arcgis

**Hosting Server**

Optionally choose one of your servers to act as your portal's hosting server. Your portal members will be able to publish services to this server.

ArcGIS Server's Managed Database must be configured on the site before it can be designated as the portal's hosting server.

- mysitename.md.esri.com
Operational Practices | Deployments
### Operational Practices | Deployments

#### Create Load Balancer

<table>
<thead>
<tr>
<th>Name</th>
<th>DNS name</th>
<th>State</th>
<th>VPC ID</th>
<th>Availability Zones</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilities-dev-ELB-1QGAXQ21R14NI</td>
<td>loadbalancer1q0biil01.1q0biil01-east-1.elb.amazonaws.com</td>
<td>available</td>
<td>vpc-20</td>
<td>us-west-1b, us-west-1c</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-PPF12G21R14NI</td>
<td>loadbalancer1p8gil01.1p8gil01-east-1.elb.amazonaws.com</td>
<td>available</td>
<td>vpc-20</td>
<td>us-west-1b, us-west-1c</td>
<td>classic</td>
</tr>
<tr>
<td>Utilities-dev-ELB-V2F12G21R14NI</td>
<td>loadbalancer1v8gil01.1v8gil01-east-1.elb.amazonaws.com</td>
<td>available</td>
<td>vpc-20</td>
<td>us-west-1b, us-west-1c</td>
<td>classic</td>
</tr>
</tbody>
</table>

#### Load Balancer: Utilities-dev-ELB-1QGAXQ21R14NI

**Connection Draining:** Disabled (Edit)

<table>
<thead>
<tr>
<th>Instance ID</th>
<th>Name</th>
<th>Availability Zone</th>
<th>Status</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-00450651</td>
<td>ciUtilitiesDevEnServerStack-primary</td>
<td>us-west-1b</td>
<td>InService</td>
<td>Remove from Load Balancer</td>
</tr>
<tr>
<td>i-00450652</td>
<td>ciUtilitiesDevEnServerStack-secondary</td>
<td>us-west-1c</td>
<td>InService</td>
<td>Remove from Load Balancer</td>
</tr>
</tbody>
</table>

#### Edit Availability Zones

<table>
<thead>
<tr>
<th>Availability Zone</th>
<th>Subnet ID</th>
<th>Subnet CIDR</th>
<th>Instance Count</th>
<th>Healthy?</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>us-west-1b</td>
<td>subnet-12ga188</td>
<td>10.0.0.0/24</td>
<td>1</td>
<td>Yes</td>
<td>Remove from Load Balancer</td>
</tr>
<tr>
<td>us-west-1c</td>
<td>subnet-12ge5681</td>
<td>10.0.1.0/24</td>
<td>1</td>
<td>Yes</td>
<td>Remove from Load Balancer</td>
</tr>
</tbody>
</table>
• Architecture
• Deployment
• Manage Costs
  - Environment Availability
• Monitor
• Update Licenses
• Upgrade
Task Scheduler

```
rem BaseEnterprise
aws ec2 --region us-west-2 start-instances --instance-ids i-0xxxxxax

rem FileServers...
aws ec2 --region us-west-2 start-instances --instance-ids i-1xxxxxbx

rem Spatiotemporal...
aws ec2 --region us-west-2 start-instances --instance-ids i-2xxxxxcx

rem Server Primary...
aws ec2 --region us-west-2 start-instances --instance-ids i-3xxxxxdx

rem Server Secondary...
aws ec2 --region us-west-2 start-instances --instance-ids i-4xxxxxex
```

PowerShell...

```
$client = New-Object Net.Mail.SmtpClient($smtpServer, $smtpPort)
$client.EnableSsl = $true
$client.Credentials = New-Object Net.NetworkCredential($username, $password)
$from = $from
$to = $to
$subject = $subject
$body = $body
$client.Send($msg)
```
Operational Practices | Environment Availability

AWS Lambda

EC2-START

EC2-STOP

Amazon CloudWatch

Function code

Rules > EC2-START-6am-EST

Summary

Schedule

Next 10 Trigger

Targets

EC2-START

Lambda function

Matched event
• Architecture
• Deployment
• Manage Costs
  - Environment Availability
• Monitor
• Update Licenses
• Upgrade
What is ArcGIS Monitor Server?

ArcGIS Monitor Server is a web-based dashboard that allows you to view alerts and visualize historical data for various time periods. Reports with statistics can be used to visualize resource usage and enhance communications among GIS, IT, business owners, and senior management.

Statistics in ArcGIS Monitor

ArcGIS Monitor makes full use of statistics; therefore, administrators should be familiar with the following basic statistics: min, max, average, and percentile. For deployments with many counters and large amounts of historical data, analyzing tabular statistics is more effective than analyzing charts. When the time span of a report is less than 12 hours, charts display real-time data values at the collection interval. When the time span of a report is greater than 12 hours, the chart displays hourly averages. As a result, the chart is flattened and does not show maximum value. Table statistics always display true values for min, max, percentile, and so on, regardless of the time span.
Not just system monitoring but Service performance!
Operational Practices | Monitoring
Operational Practices | Monitoring
Operational Practices | Monitoring

There are two types of emails:
1. A dynamic or immediate email is sent only after a new alert has occurred (historical or pre-existing alerts will not trigger a new email).
2. A static or recurring email sent every 4 hours if conditions are alerting or failing.

Send email from:
mcarton@esri.com

Send email to:

Email:

Name: mcarton@esri.com
Delete:

Save.
• Architecture
• Deployment
• Manage Costs
  - Environment Availability
• Monitor
• Update Licenses
• Upgrade
- Architecture
- Deployment
- Manage Costs
  - Environment Availability
- Monitor
- Update Licenses
- Upgrade
Operational Practices | Upgrades

https://myArcGISportal.com

DNS

Env. A
Current

Env. B
New Release

Seamless
The url for the end user never changes.
Operational Practices | Upgrades

AWS

VPC

SG

Subnet1

AZ

M1

M2

M3

M4

primary

M5

M7

fileserver

arn:aws:acm:us-west-2:*******:certificate/*******

Subnet2

AZ

M6

M8

primary

M9

M11

fileserver

primary

M10

M12

fileserver

secondary

M13

M14

secondary

SG – Server Site

SG - GE

SG – GA Site

SG – Image Site
Operational Practices | Upgrades

Instances need to retain Private IP addresses

Set to Read-Only
Operational Practices | Upgrades

Update DNS to new site
Please Take Our Survey!

Download the Esri Events app and find your event

Select the session you attended

Scroll down to the “Feedback” section

Complete Answers, add a Comment, and Select “Submit”