



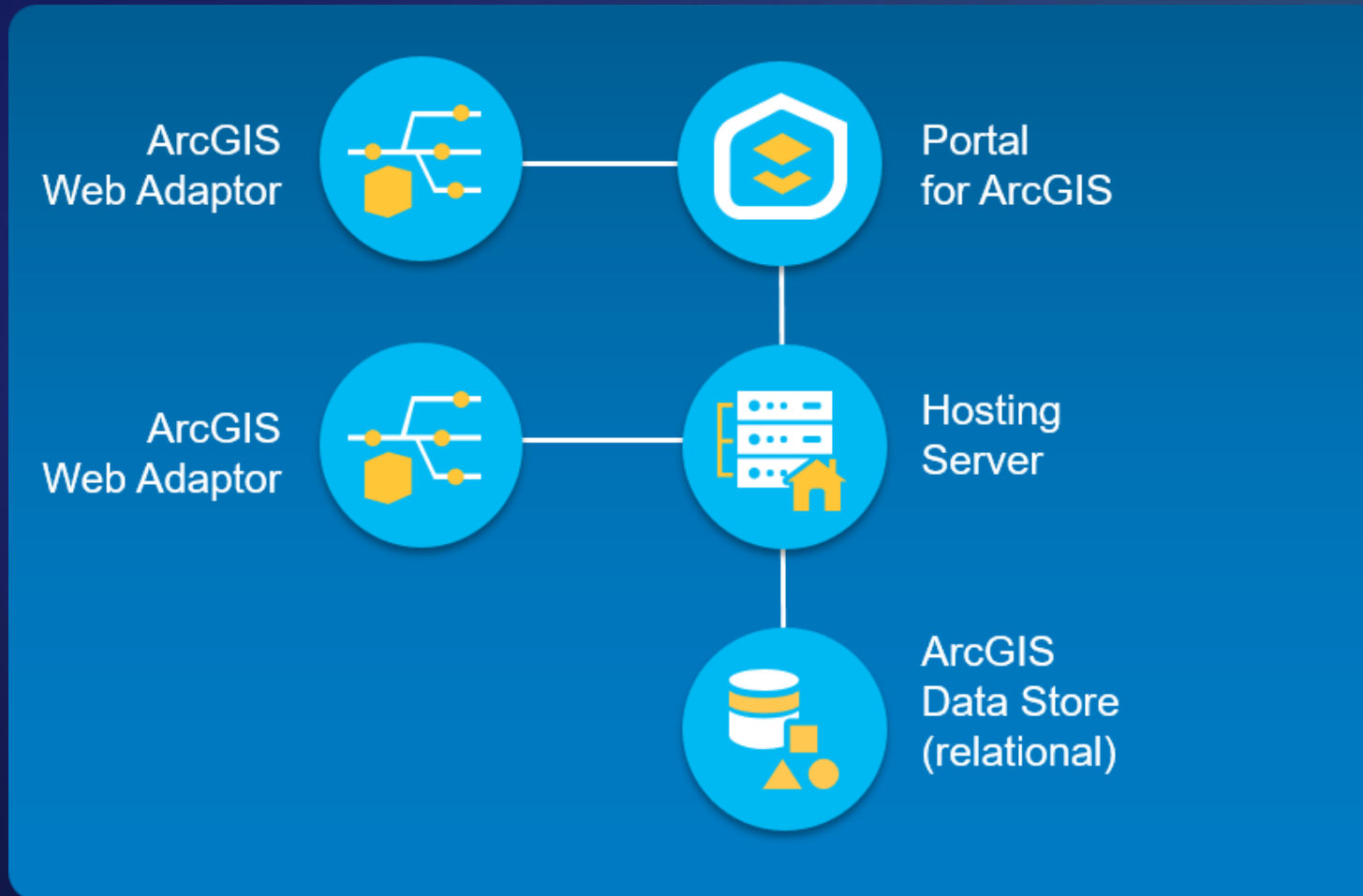
ArcGIS Enterprise

Architect your deployment using Chef

Cherry Lin and Scott MacDonald

**GIS
INSPIRING
WHAT'S
NEXT**

ArcGIS Enterprise base deployment



Why automate your ArcGIS Enterprise deployment?

Efficiency

- Get up and running faster
- Handle systems of any size
- Schedule install and upgrade

Consistency

- Avoid long list of manual steps
- Install/upgrade workflows generally same
- Dependable, testable results

Productivity

- Save yourself the time and effort
- No need to fear upgrades!
- Run off-peak hours, start working sooner

What other automation tools do we offer?



ArcGIS Enterprise Builder

A complete Enterprise base deployment on one machine

Perfect for testing environments and small-scale operations, but doesn't allow customization



ArcGIS Enterprise cloud builders

Guided setups for a range of deployments on AWS and Microsoft Azure

Easy to understand and implement – the optimal way to get started on cloud infrastructure



PowerShell DSC for ArcGIS

Module with JSON files to install or upgrade single or multi-machine deployments

A great option for those who prefer using a PowerShell environment

What is Chef and what do we offer for it?

- **Third-party IT automation toolkit**
- **Server and client components**
 - Server hosts files and invokes actions
 - Client performs automation tasks
- **Chef Solo and Chef Server options**
- **ArcGIS Automation team offers a range of resources for you to use:**



Cookbooks

A full set of files to install a software product, such as:

- ArcGIS Enterprise
- ArcGIS Desktop
- Insights for ArcGIS

Recipes

An individual JSON file in a cookbook for a specific task:

- Install ArcGIS Server
- Federate a server
- Apply an authorization file

Roles

Our custom sets of recipes pulled to set up a machine:

- Base deployment
- ArcGIS Image Server
- ArcGIS (Big) Data Store

Why use Chef?

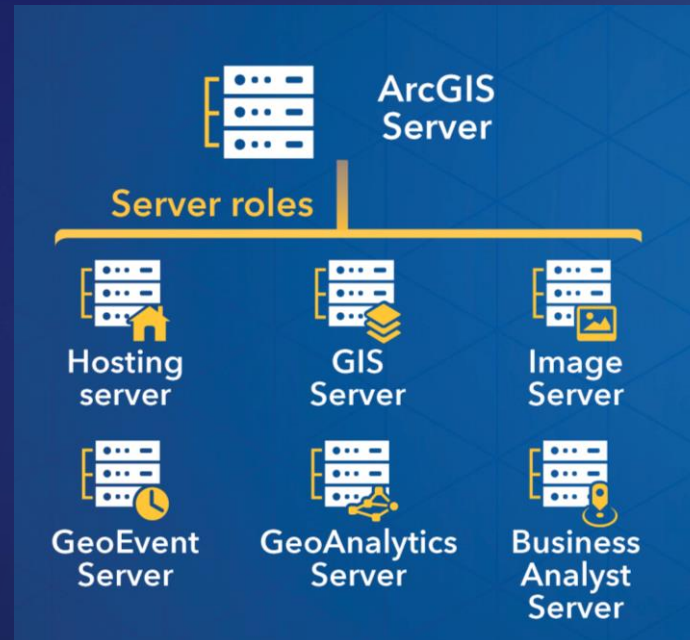
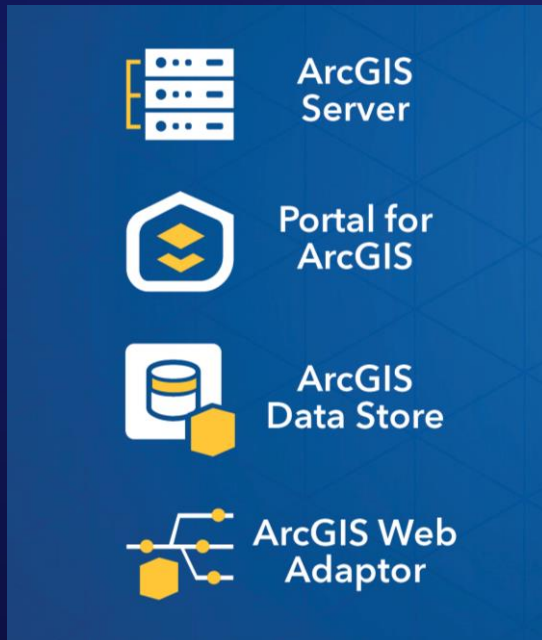
- It's easy
- It's flexible
- It's customized
- It's repeatable
- It's forward-thinking



The Chef install experience

Plan your deployment


Base deployment, or extend with server roles?



One or many machines?



downloads.chef.io/chef

CHEF DOWNLOADS more from  CHEF >

Chef Client 14.2.0

Stable Release | [Current Release](#)


The Chef client automates your infrastructure by bringing nodes to their desired states with policies you provide as recipes.

Read the Release Notes >

JUMP TO OS:
[IBM AIX](#) | [Debian](#) | [Red Hat Enterprise Linux](#) | [FreeBSD](#) | [Mac OS X/macOS](#) | [SUSE Linux Enterprise Server](#)
| [Oracle Solaris](#) | [Ubuntu](#) | [Windows](#)

PREVIOUS VERSIONS (STABLE)


14.2.0
14.1.12
14.1.1
14.0.202
14.0.190
13.9.4
13.9.1
13.8.5
13.8.3

 **IBM AIX**

IBM AIX 7.1
[License Information](#)

Architecture: **powerpc**
SHA256: 5c6930598e1af303e8676592d994a3aaf161d3f5f91d6a0e22005ec56e1af504
URL: <https://packages.chef.io/files/stable/chef/14.2.0/aix/7.1/chef-14.2.0-1.powerpc.bff>

Download


 **Debian**


Debian 9
[License Information](#)

Architecture: **x86_64**
SHA256: 4e22af059e1d87452eb76680a665b2d96bc80b3731f03e381e27f04498f3a976

Download

supermarket.chef.io/users/Esri



Esri





months ago.

0 Collaborations0 Follows

Esri's Cookbooks


CookbooksTools & Plugins




OwnsCollaboratesFollows

arcgis-desktop  3.2.1  63% Updated July 6, 2018 

Installs and configures ArcGIS Desktop




cookbook 'arcgis-desktop', '~> 3.2.1'




SUPPORTED PLATFORMS  0 FOLLOWERS [Follow](#)

arcgis-enterprise  3.2.1  63% Updated July 6, 2018 

Installs and configures ArcGIS Enterprise

cookbook 'arcgis-enterprise', '~> 3.2.1'

SUPPORTED PLATFORMS    0 FOLLOWERS [Follow](#)

arcgis-geoevent  3.2.1  63% Updated July 6, 2018 

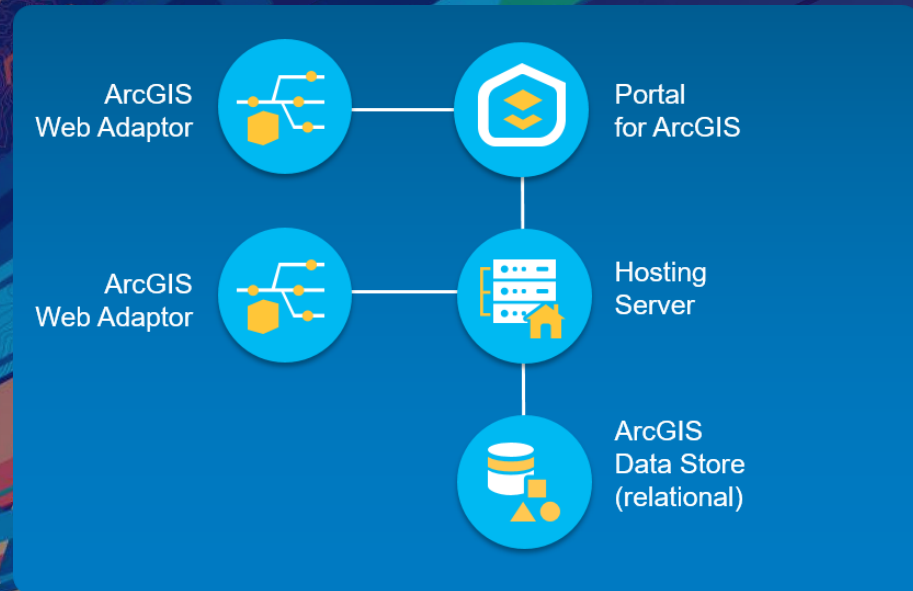
Install steps for Chef Solo

1. Install Chef Client on machine and download Esri's cookbooks
2. Open our JSON file and edit it with your own parameters
3. Run chef-solo in your command prompt.
4. Start using ArcGIS Enterprise!

What's being automated?

- Install ArcGIS Server, authorize it, create a site and enable HTTPS in Server Admin.
- Install IIS on Windows or Tomcat and Java on Linux, if not installed.
- Import CA certificate if it's defined, or generate a self-signed certificate for the web server.
- Install and configure Web Adaptor for ArcGIS Server.
- Install Portal for ArcGIS, authorize it, and create the initial admin account.
- Install and configure Web Adaptor for Portal for ArcGIS.
- Install ArcGIS Data Store and register it with ArcGIS Server.
- Federate ArcGIS Server with Portal, and set it as the hosting server.

```
> chef-solo -j myConfig.json
```



A fresh ArcGIS Enterprise install using Chef Solo

Cherry

The Chef upgrade experience

Scott

The advantage of repeatable upgrades

- Chef allows you to upgrade using the same process as installation
- Download new cookbooks from GitHub
- You can modify any parameters now
- But at minimum, just change:
 - version number
 - setup file locations
 - authorization files

```
1  {
2    "arcgis":{
3      "run_as_user":"arcgis",
4      "run_as_password":"Run_As_Pa$$w0rd",
5      "version":"10.5",
6      "iis":{
7        "keystore_file":"C:\\keystore\\mydomain_com.pfx",
8        "keystore_password":"changeit"
9      },
10     "web_adaptor":{
11       "setup":"C:\\ArcGIS\\10.5\\WebAdaptorIIS\\Setup.exe",
12       "admin_access":true
13     },
14     "data_store":{
15       "setup":"C:\\ArcGIS\\10.5\\DataStore\\Setup.exe"
16     },
17     "server":{
18       "admin_username":"admin",
19       "admin_password":"changeit",
20       "setup":"C:\\ArcGIS\\10.5\\Server\\Setup.exe",
21       "authorization_file":"C:\\ArcGIS\\10.5\\Authorization_Files\\Server.prvc",
22       "keystore_file":"C:\\keystore\\mydomain_com.pfx",
23       "keystore_password":"changeit"
24     },
25   }
```

Using Chef puts you on an “upgrade track”

10.6

10.6.1

10.7



An abstract graphic on the left side of the slide. It features a dark blue background with a complex arrangement of overlapping, semi-transparent geometric shapes in various colors including shades of blue, teal, green, orange, red, and purple. These shapes are mostly rectangular and triangular, creating a sense of depth and movement. In the center of this graphic, there is a small, semi-transparent map fragment showing a grid of streets and some green areas, possibly representing a city or a specific geographical region. The overall effect is a modern, tech-oriented aesthetic.

Upgrading an existing deployment using Chef Solo

Cherry



Expanding Chef

Scott

Chef Server

- **One central Chef Server component**
 - Hosts repository of all your files
 - Communicates between workstation and clients
- **Three options for Chef Server**
 - Open source on your own infrastructure
 - Subscribe to Hosted Chef Server (SaaS)
 - Subscribe to Chef Automate (full-stack software)

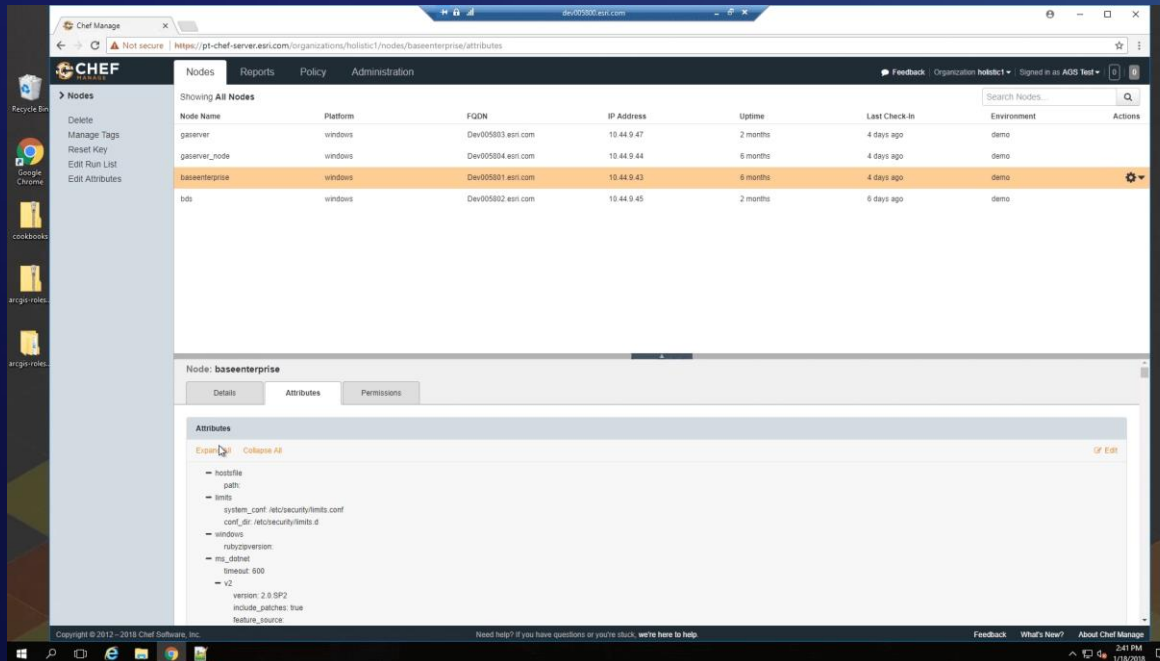


Chef Server

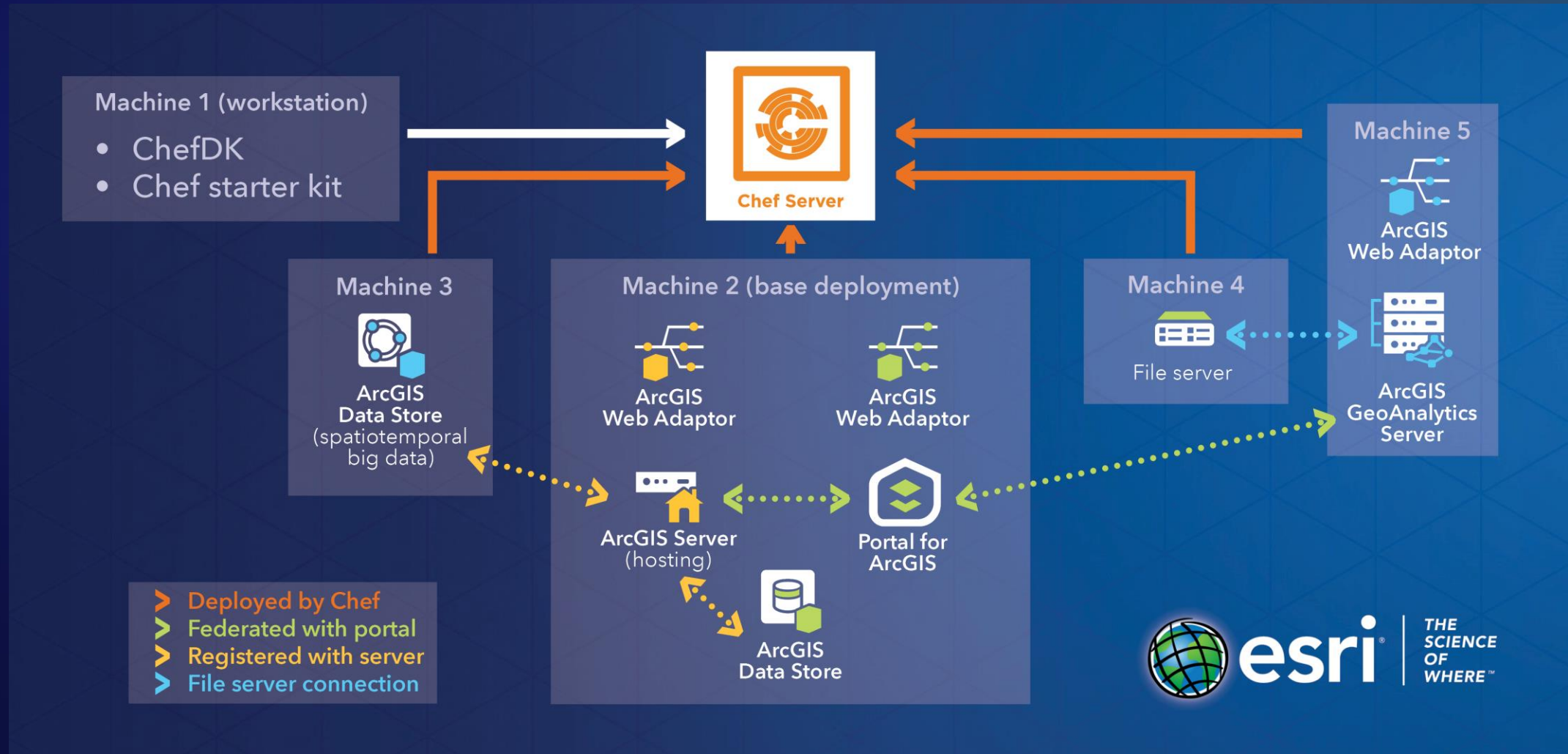
- **Chef Client** gets installed remotely on each of your machines
 - Will perform the work of installing and configuring software
 - Receives necessary files from Chef Server
- **Chef Manage** in browser
 - Monitor status and review components



Chef Server

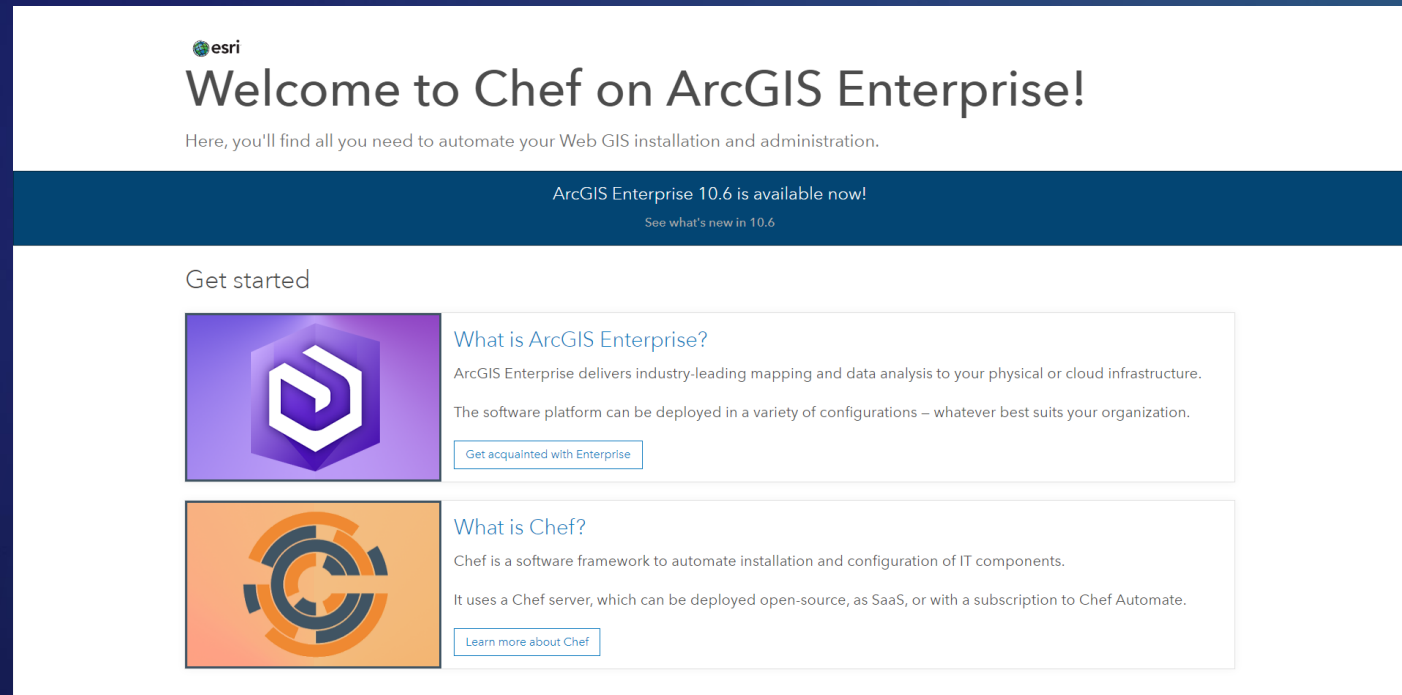


Chef Server – a typical multi-machine deployment




Resources for Chef + ArcGIS Enterprise

esri.github.io/arcgis-cookbook



The screenshot shows the landing page of the esri.github.io/arcgis-cookbook repository. At the top, the Esri logo is followed by the heading "Welcome to Chef on ArcGIS Enterprise!" and a subtext "Here, you'll find all you need to automate your Web GIS installation and administration." Below this is a dark blue banner with the text "ArcGIS Enterprise 10.6 is available now!" and a link "See what's new in 10.6". The main content area is titled "Get started" and contains two cards. The first card, for ArcGIS Enterprise, features a purple hexagonal icon with a white 'G' and text explaining that it delivers industry-leading mapping and data analysis to physical or cloud infrastructure, with a link to "Get acquainted with Enterprise". The second card, for Chef, features an orange circular icon with a white 'C' and text explaining that it is a software framework to automate installation and configuration of IT components, with a link to "Learn more about Chef".

 **Welcome to Chef on ArcGIS Enterprise!**
Here, you'll find all you need to automate your Web GIS installation and administration.

ArcGIS Enterprise 10.6 is available now!
[See what's new in 10.6](#)

Get started



What is ArcGIS Enterprise?
ArcGIS Enterprise delivers industry-leading mapping and data analysis to your physical or cloud infrastructure.
The software platform can be deployed in a variety of configurations – whatever best suits your organization.
[Get acquainted with Enterprise](#)



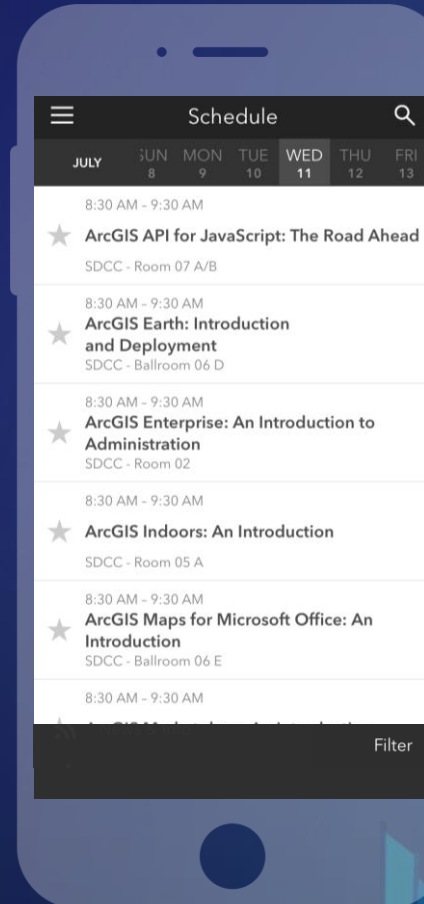
What is Chef?
Chef is a software framework to automate installation and configuration of IT components.
It uses a Chef server, which can be deployed open-source, as SaaS, or with a subscription to Chef Automate.
[Learn more about Chef](#)

Please take our survey on the app

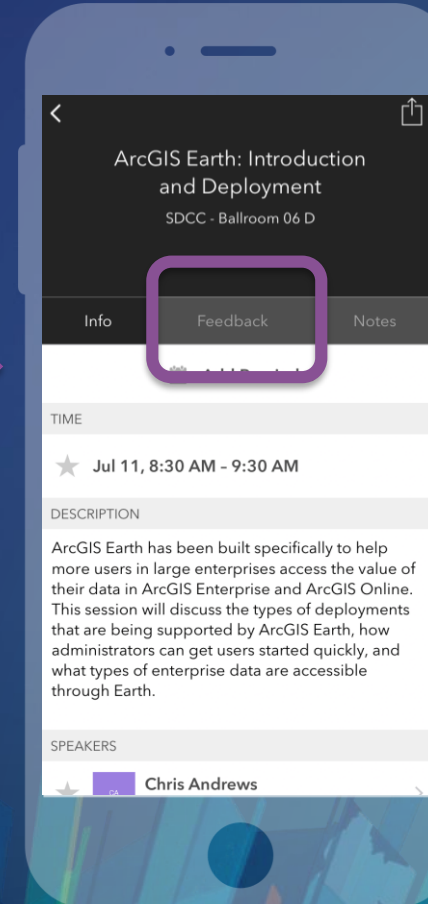
Download the Esri Events app and find your event



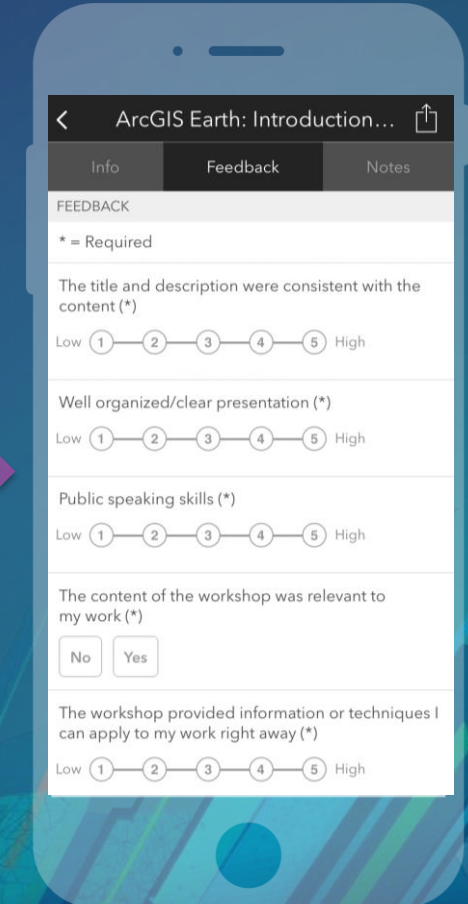
Select the session you attended



Select the Feedback tab



Complete answers and select "Submit"



See Us Here

WORKSHOP	LOCATION	TIME FRAME
<ul style="list-style-type: none">• Building a base ArcGIS Enterprise deployment• ArcGIS Enterprise: Architecting your deployment• ArcGIS Enterprise security: Securing content• Best Practices: Supporting your ArcGIS Enterprise deployment• ArcGIS Enterprise: The road ahead	<ul style="list-style-type: none">• Demo Theater 13 (this room)• Room 02• Room 17 A• Room 05 B• Ballroom 06 A	<ul style="list-style-type: none">• Wednesday, 11:15 a.m. – 12 p.m.• Wednesday, 2:30 – 3:30 p.m.• Thursday, 8:30 – 9:30 a.m.• Thursday, 2:30 – 3:30 p.m.• Friday, 9:00 – 10:00 a.m.



esri

THE
SCIENCE
OF
WHERE