



(../..)

Purpose of this lab

- How to use the `app-autoscaler` service
- Estimated Time: 25 minutes

Setup

1. Ensure the `articulate` application has one application instance running.

```
cf scale articulate -i 1
```

Provision and Bind an Autoscaler Service Instance

1. Read the documentation about App Autoscaling (<http://docs.pivotal.io/pivotalcf/appsman-services/autoscaler/using-autoscaler.html>).
2. Review what's in the marketplace.

```
cf marketplace
```

3. Create a autoscaler service instance.

```
cf create-service app-autoscaler standard autoscaler
```

4. Bind the service to `articulate`.

```
cf bind-service articulate autoscaler
```

You can ignore the "TIP: Use 'cf restage articulate' to ensure your env variable changes take effect" message at this time.

5. Restart the application.

```
cf restart articulate
```

Configuring Autoscaling Service Instance

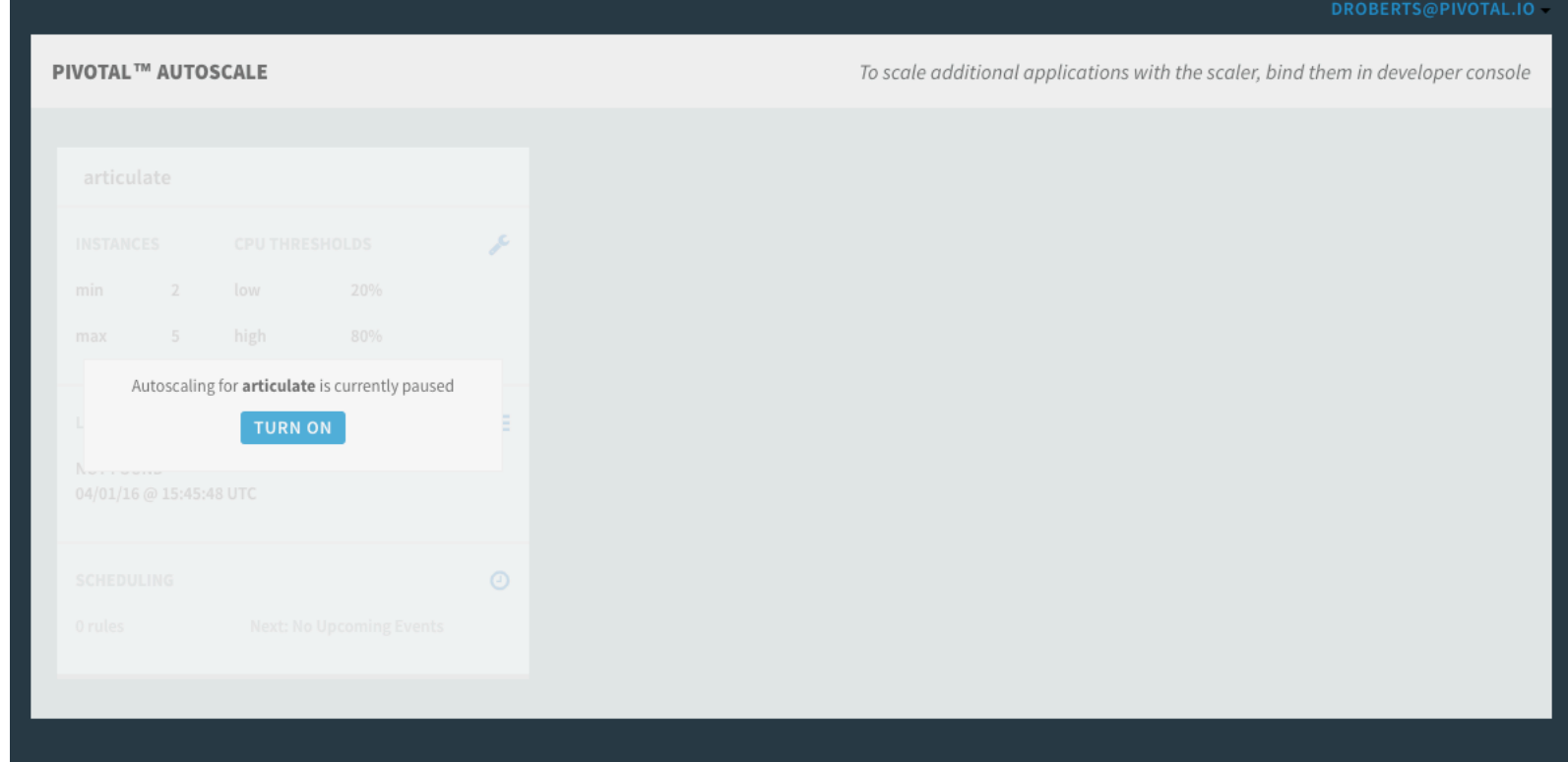
1. View `articulate` in Apps Manager.
2. Navigate to the `Services` tab.
 1. Click the `Manage` link for the autoscaler (this will open a new tab).

The screenshot shows the Pivotal Apps Manager interface. The left sidebar contains navigation links: ORG (dave), SPACES (dev), Marketplace, Docs, Support, and Tools. The main content area displays the 'articulate' app configuration. The 'CONFIGURATION' section shows 'Instances' set to 1, 'Memory Limit' at 1 GB, and 'Disk Limit' at 1 GB. The 'STATUS' section shows a table with one instance running. The 'ABOUT' section provides details about the buildpack, start command, and stack. The 'Services' tab is active, showing a list of bound services: 'attendee-service' and 'autoscaler'. A blue arrow points to the 'Manage' link for the 'autoscaler' service.

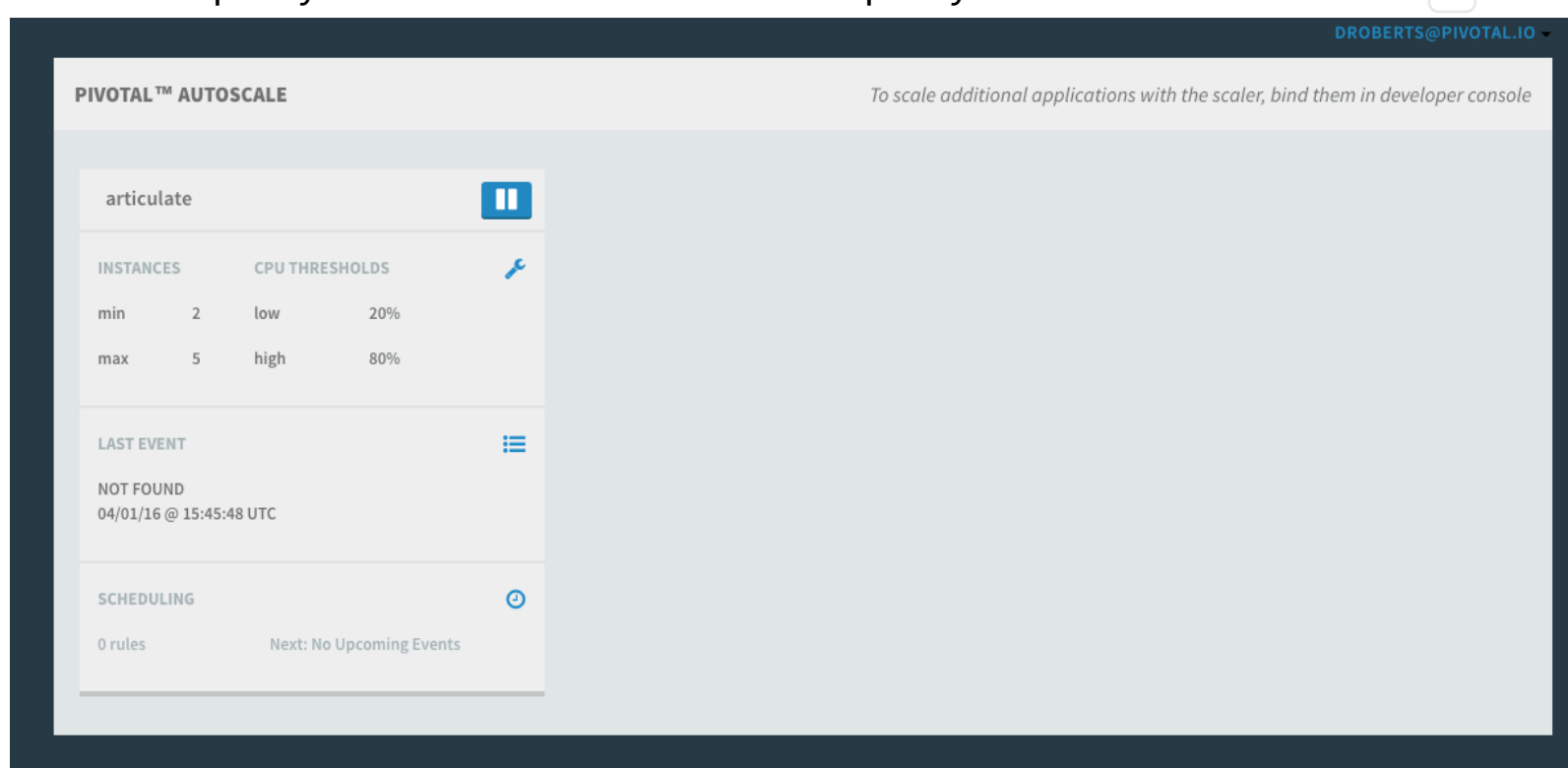
#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	453 MB	157 MB	1 min

Service	Provider	Actions
attendee-service	User Provided	Show credentials, Unbind
autoscaler	App Autoscaler Gold	Show credentials, Manage, Support, Docs, Unbind

2. Turn on autoscaling for `articulate`.



We will use policy defaults. Note that the default policy for minimum instances is **2**.



3. Return to Apps Manager and observe the number of instances increase from **1** to **2**.

Generate Load and Observe the Results

1. Download Apache JMeter (http://jmeter.apache.org/download_jmeter.cgi). It will be used to generate load. Review the JMeter getting started (<http://jmeter.apache.org/usermanual/get-started.html>) directions.

Helpful hints for **Linux** and **Mac** :

2. Add execute permissions to the jmeter script

```
chmod +x $WHERE_YOU_EXTRACTED_THE_ZIP/bin/jmeter.sh
```

3. Start Jmeter by executing

```
$WHERE_YOU_EXTRACTED_THE_ZIP/bin/jmeter.sh
```

Helpful hints for Windows : Start Jmeter by double clicking the following file in Windows Explorer


```
$WHERE_YOU_EXTRACTED_THE_ZIP/bin/jmeter.bat
```


4. Download the load-gen.jmx (load-gen.jmx) file.
5. Open the load-gen.jmx file with the JMeter GUI.
6. Expand the content of the JMeter test plan by:
7. Selecting the Load Generator test plan on the left pane.
8. Going to the menu: Options → Expand All.
9. Edit the test plan to point to the /service endpoint on your application. For example, if your application was deployed to articulate.example.com you would set the *Server Name or IP* field on the *HTTP Request Defaults* item to articulate.example.com/service.
10. Save the test plan: File → Save.
11. Run the test plan: Run → Start.
12. Use Apps Manager and the cf CLI to observe your service scale up and back down based on load.

NOTE: You may see articulate crash when placing load on it in this scenario. This is okay. We are running the application with a lower memory setting so that we can scale within quota limits.
13. Stop the test plan: Run → Stop.
14. Review Autoscale history.



PIVOTAL™ AUTOSCALE

To scale additional applications with the scaler, bind them in developer console

articulate 

INSTANCES		CPU THRESHOLDS		
min	2	low	20%	
max	5	high	80%	


LAST EVENT

NOT FOUND

04/01/16 @ 15:45:48 UTC

SCHEDULING



0 rules

Next: No Upcoming Events

Clean up

1. Unbind the `autoscaler` service instance.

```
cf unbind-service articulate autoscaler
```

2. Delete the `autoscaler` service instance.

```
cf delete-service autoscaler
```

3. Scale `articulate` back to original settings.

```
cf scale articulate -i 1
```

4. Restart `articulate`.

```
cf restart articulate
```

Questions

- How do you handle autoscaling today?
- What 12 factor principles are important when it comes to scaling?
- How do you handle scaling at the data layer?

(<https://pivotal.io>)

course version: 1.5.3