Get Started with Enterprise Tier

Follow up below instructions to get started with Enterprise Tier in Azure Spring Cloud. Table of content is listed as below.

- Pre-requisite
- Provision Service Instance
- Create and Configure apps
- Use Application Configuration Service
- Use Service Registry
- Deploy Apps
- Real-time app log streaming
- Monitor Apps with Application Insights
- Clean up resources

Pre-prequisite

- You'll need an Azure subscription before you begin. If you don't have one, create an account. For more information, see Marketplace for Enterprise tiers.
- Install the Azure CLI version 2.0.67 or higher
- Install the preview version of Azure Spring Cloud extension for Enterprise tier with command:

```
az extension remove -n spring-cloud
az extension add -s
https://ascprivatecli.blob.core.windows.net/enterprise/spring_cloud-2.7.0a1-
py3-none-any.whl -y
```

Provision Service Instance

- 1. Open the Azure portal.
- 2. From the top search box, search for Azure Spring Cloud.
- 3. Select Azure Spring Cloud from the results.

=	Microsoft Azure (Preview)	👸 Report a bug		Azure Spring Cloud		×
			Azure services	Services See al Azure Spring Cloud Azure Active Directory Caure Cosmos DB Zure Database for MySQL servers CloudAMQP CloudMonix Azure Databricks Azure Databricks Azure Lighthouse Azure Lighthouse Azure Active Directory CloudMonix Azure Active Directory CloudMonix Azure Active Directory CloudMonix Azure Active Directory Azure Active Directory CloudMonix Azure Active Directory CloudMonix Azure Active Directory Azure Active Directory Azure Active Directory Azure Active Directory Azure Active Directory CloudMonix CloudMonix Azure Active Directory Azure Active Directory Azure Active Directory Azure Active Directory Azure Active Directory CloudMonix Azure Active Directory Azure Active Dir	Marketplace Azure Spring Cloud Documentation Introduction to Azure Spring Cloud Microsoft Docs Azure Spring Cloud Microsoft Docs Azure Spring Cloud Microsoft Docs Quickstart - Deploy your first Azure Spring Cloud Resource Groups No results were found.	See all
			Navigate	Resources		

4. On the Azure Spring Cloud page, click + Create.

Home >
Azure Spring Cloud ☆ … Microsoft (microsoft.onmicrosoft.com)
🕂 Create 🐼 Manage view 🗸 🖒 Refresh 🞍 Export to CSV 😚 Open query 🛛 🖉 Assign tags 🛛 ♡ Feedback
Filter for any field Subscription == all Resource group == all Location == all $+_{\nabla}$ Add filter

5. Go to the Azure Spring Cloud Create page. In Pricing option, click Change and choose Enterprise tier.

Home > Azure Spring Cloud …		Choose your pricing tier			
Create		Pricing tier	O Basic	◯ Standard	Enterprise
Basics VMware Tanzu settings D	iagnostic settings Application Insights Networking Tags Review and create		For individual dev/test	For production workloads	For production workloads with VMware Tanzu components
Azure Spring Cloud provides managed infr monitor and operate your Spring Boot app	astructure and application lifecycle management, with built-in capabilities to lications.				
Project Details		reatures			
Select the subscription to manage deploye manage all your resources.	d resources and costs. Use resource groups like folders to organize and	Included vCPU and memory	2 vCPU, 4 Gi	8 VCPU, 16 Gi	16 VCPU, 32 Gi
Subscription * 💿	Azure Spring Cloud Prod Test v3 - TTL = 1 Days	Max app instances	25	500	500
Resource group * ①	enterprise-test V	Spring Support ①		-	~
	Create new	VMware Tanzu components ①			~
Service Details		SLA	-	99.9%	99.9%
Name * 🕡	spring-cloud-enterprise	Custom domains		~	Coming soon
Region * 🕕	East US 2 EUAP	VNET integration		~	~
Pricing * ①	Enterprise tier	Blue/Green deployment		~	Comina soon
	Change	Pricing			
Enterprise tier is in Preview		Estimated Price / month ①	0.00 USD + Overage costs	0.00 USD + Overage costs	Free for private preview
Terms Served the server of the		View pricing details for more informa	tion d'		
Review and create	< Previous Next : VMware Tanzu settings > Download a template for automation	Select			

Check **Terms** checkbox to agree all legal terms and privacy statements of Enterprise tier offering in Azure Marketplace.

Terms

By selecting the checkbox and clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the Azure Marketplace Terms for additional details.

6. Click **Next: VMware Tanzu settings** button at the bottom right of the page to configure VMware Tanzu components.

NOTE

By default, Service Registry and Application Configuration Service is enabled. Suggest to keep the default value. Service Registry and Application Configuration Service cannot be enabled after service instance is provisioned in the current phase.

Basics VMware Tanzu settin	gs Diagnostic settings Application Insights Networking Tags Review and create
Spring Support	
24×7 support for the Spring Ecosy	stem from VMware.
Include Spring Support	Yes
Build Service	
Executes reproducible container b	uilds and keeps images up-to-date using kpack, a Cloud Native Buildpacks Platform.
Enable Build Service	Yes
Allocated Resources (i)	2 vCPU, 4 Gi
Service Registry	
Provides a highly available registry	for your services to dynamically discover and call other services.
Enable Service Registry	
Allocated Resources (i)	1 vCPU, 2 Gi
Application Configuration Sor	ico.
Provides centralized configuration	with Git integration.
Enable Application Configuration	Service 🔽
	1 vCPU, 2 Gi
Anotated Resources	

- 7. On the Application Insights tab, check **Enable Application Insights** checkbox. Application Insights can also be enabled after service instance is provisioned.
 - Choose an existing Application Insights instance or create a new Application Insights instance.

Next : Diagnostic settings >

Download a template for automation

• Give a **Sampling Rate** with range 0-100 or use default value 10.

< Previous : Basics

Note

Review and create

- Please take note of the instance name of Application Insights, which is not shown in portal after provisioning.
- You will pay for the usage from the instance of Application Insights integrated with Azure Spring Cloud. Check more details about Application Insights pricing information at Manage usage and costs for Application Insights.

Home >	Azure Spring Cloud >							
Azure Create	e Spring Cloud							
Basics	VMware Tanzu settings	Diagnostic settings	Application Insights	Networking	Tags	Review and create		
Applicat perform how the data use	Application Insights is the equivalent of call stacks for modern cloud and microservices architectures, with a simple performance profiler thrown in. The application map view aggregates many transactions to show a topological view of how the systems interact, and what the average performance and error rates are. Your bill is based on the amount of data used by Application Insights and your data retention settings.							
Applicat	ion Insights pricing 🗗							
Enable A	Application Insights	\checkmark						
Applicat	ion Insights	(New) insight-ent	erprise-test		```	~		
		Create new						
Samplin	Sampling Rate * 99.5 🗸							
						%		



8. Click **Review and create** button at the bottom left of the page. After validation is completed successfully, click **Create** button to start provisioning service instance.

Home > Create a resource > Marketplace > Azure Spring Cloud > Azure Spring Cloud Create Basics VMware Tanzu settings Diagnostic settings Application Insights Networking Review and create Tags Product details Azure Spring Cloud Pricing * (i) by Microsoft Enterprise tier Terms of use ♂ | Privacy policy ♂ 16 vCPUs, 32 Gi included (12 vCPUs, 24 Gi remaining) Change Terms By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see Azure Marketplace Terms. 🗗 Basics Service Name spring-cloud-enterprise Subscription Azure Spring Cloud Prod Test v3 - TTL = 1 Days Resource group enterprise-test Region East US 2 EUAP VMware Tanzu components Include Spring Support Yes Enable Build Service Yes (Allocated 2 vCPU, 4 Gi) Enable Service Registry Yes (Allocated 1 vCPU, 2 Gi) Enable Application Configuration Service Yes (Allocated 1 vCPU, 2 Gi) Monitoring Enable logs Ves Log Analytics workspace (New) DefaultWorkspace-enterprise-test Enable Application Insights Yes Application Insights insight20210524

Create

< Previous : Tags

Next >

Download a template for automation

9. It takes about 5 minutes to finish the resource provisioning.

Create and Configure Apps

Create apps on Azure Spring Cloud

1. If you didn't run the following commands in the previous quickstarts, set the CLI defaults.

```
az configure --defaults group=<resource group name> spring-cloud=<service
name>
```

2. Create the 2 core microservices for PetClinic: API gateway and customers-service.

```
az spring-cloud app create --name api-gateway --instance-count 1 --memory
2Gi --assign-endpoint
az spring-cloud app create --name customers-service --instance-count 1 --
memory 2Gi
```

Use Application Configuration Service

Precondition

Application Configuration Service should be enabled when service instance is provisioned. It cannot be enabled after provisioning.

1. Open **Application Configuration Service** blade to see the **Overview** tab, which shows the running state and resources allocated to Application Configuration Service.

so Taras Spring Cloud O Directory Microsoft							
<i>P</i> Search (CMI+ <i>j</i>) ≪ (C) Refresh							
Overview	Overview Settings App binding						
Activity log	Provisioning state	Running instance	Total vCPU	Total Memory/Gi			
 Tags 	Succeeded	2/2	1	2			
Diagnose and solve problems							
Settings							
🙏 Apps							
2 Networking							
🐲 Properties							
🔒 Locks							
VMware Tanzu components							
📥 Build Service							
Service Registry							
🕏 Application Configuration Service							

- 2. Open Settings blade, and add a new entry with below information in Repositories section.
 - Name: default
 - Patterns: api-gateway, customers-service
 - URI: https://github.com/leonard520/spring-petclinic-microservices-config
 - Label: master
- 3. Click **Validate** button to validate access to the target URI. After validation is completed successfully, click **Apply** button to update configuration settings.

👷 [] Application Configuration Service							×		
P Search (Ctrl+/) «	< 🗘 Refresh								
Cverview	Overview Settings App binding								
Activity log									
Access control (IAM)	Valuate [] Apply X bacard N Reset								
🔷 Tags	Complete the following form to confi	Implete the following form to configure settings for Application Configuration Service.							
Diagnose and solve problems	Repositories								
Settings	Name 🛈	Patterns 💿	URI ①	Label ①	Search Path 🔘	Authentication			
🙏 Apps	default	api-gateway,customers-service 🗸	https://github.com/leonard520/spring-petclinic-microservices-conf	master	path1, path2, etc.	Public			
Retworking		{application}, (application}/(profile), etc.			path1, path2, etc.				
😂 Properties									
🔒 Locks									
VMware Tanzu components									
📥 Build Service									
III, Service Registry									
5 Application Configuration Service									

- 4. Open **App binding** tab to bind/unbind app to the Application Configuration Service.
 - a. Click **Bind app** button and choose one app in the dropdown. Click **Apply** button to bind.

Azure Spring Cloud	ication Configuration Service
	🕐 Refresh
🚱 Overview	Overview Settings App binding
Activity log	Sind ann
Access control (IAM)	
Tags	At Bind app
Diagnose and solve problems	Nc App name
Settings	api-gateway
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Retworking	
😂 Properties	
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VMware Tanzu components	
📥 Build Service	
III, Service Registry	
Application Configuration Service	

b. The list shows the bound apps with Application Configuration Service:

Azure Spring Cloud Optication: Microsoft							
₽ Search (Ctrl+/) «	C Refresh						
🛃 Overview	Overview Settings App binding						
Activity log Access control (IAM)	S Bind app S Unbind app						
 Tags Diagnose and solve problems 	api-gateway						
Settings	customers-service						
👶 Apps							
Networking							
😂 Properties							
🔒 Locks							
VMware Tanzu components							
📥 Build Service							
👪 Service Registry							
🌧 Application Configuration Service							

- 5. Go to **Apps** blade and choose the pattern(s) to be used by the apps.
 - a. Open **Apps** blade to list all the apps.

Home > MicrosoftAppPlatform >						
Azure Spring Cloud	 rosoft					
	+ Create App 🕐 Refresh 🗢 Feedback					
🛃 Overview	Filter by app name					
Activity log	2 items					
Access control (IAM)	Name	Provisioning state	Running instance			
🗳 Tags	api-gateway	Succeeded	1/1			
Diagnose and solve problems	customers-service	Succeeded	1/1			
Settings						
🙏 Apps						
Networking						
😂 Properties						
🔒 Locks						
VMware Tanzu components						
📥 Build Service						
Service Registry						
Application Configuration Service						

b. Click api-gateway.

c. Open **Configuration** menu and **General settings** tab. Under **Config file patterns** property, choose one or more patterns from the dropdown list. Click **Save** button to save the changes.

Home $>$ Microsoft.AppPlatform $>$ 1_{-1} $>$ $>$ api-gateway							
api-gateway Configuration							
🔎 Search (Ctrl+/) « 🔚 Save 🖒 Refresh							
R Overview	General settings Enviror	nment variables Temporary storage					
Settings	Config file patterns	api-gateway 🗸					
∃							
Configuration							
🗹 Scale up		api-gateway					
🗹 Scale out		customers-service					

d. Apply step b & c to **customers-service** and choose the pattern **customers-service**.

Use Service Registry

Precondition

Service Registry should be enabled when service instance is provisioned. It cannot be enabled after provisioning.

1. Open **Service Registry** blade to see the **Overview** tab, which shows the running state and resources allocated to Service Registry.



2. Open App binding tab to bind/unbind app to the Service Registry.

a. Click **Bind app** button and choose one app in the dropdown. Click **Apply** button to bind.

Azure Spring Cloud Directory: Mi	ice Registry
	🕐 Refresh
🚱 Overview	Overview App binding
Activity log	
Access control (IAM)	B Bind app & Onbind app
🔷 Tags	Ar Bind app
Diagnose and solve problems	Nc App name
Settings	api-gateway
👶 Apps	customers-service
2 Networking	
🔁 Properties	
🔒 Locks	
VMware Tanzu components	
📥 Build Service	
Service Registry	
Application Configuration Service	

b. The list shows the bound apps with Service Registry:

Azure Spring Cloud	vice Registry
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🚱 Overview 🔺	Overview App binding
Activity log	Sind app
Access control (IAM)	
🔷 Tags	App name
Diagnose and solve problems	api-gateway
Settings	customers-service
👶 Apps	
Networking	
😤 Properties	
🔒 Locks	
VMware Tanzu components	
📥 Build Service	
Service Registry	
Application Configuration Service	

Deploy Apps

all.md

Build the microservices apps locally

1. Clone the sample app repository to your Azure Cloud account. Change the directory, and build the project.

```
git clone -b xiading/enterprise https://github.com/leonard520/spring-
petclinic-microservices.git
cd spring-petclinic-microservices
mvn clean package -DskipTests
```

Compiling the project takes 5 - 10 minutes. Once compilation is completed, you will have individual JAR files for each service in their respective folders.

```
Please DON'T include `spring-cloud-starter-config` in the app's pom.xml
<dependency>
<groupId>org.springframework.cloud </groupId>
<artifactId>spring-cloud-starter-config</artifactId>
</dependency>
```

2. Deploy the JAR files built in the previous step.

```
az spring-cloud app deploy --name api-gateway --artifact-path spring-
petclinic-api-gateway/target/spring-petclinic-api-gateway-2.3.6.jar
az spring-cloud app deploy --name customers-service --artifact-path spring-
petclinic-customers-service/target/spring-petclinic-customers-service-
2.3.6.jar
```

3. Query app status after deployments with the following command.

```
az spring-cloud app list -o table
```

Name Location ResourceGroup Public Url Production Deployment Provisioning State CPU Memory Running Instance Registered Instance Persistent Storage Bind Service Registry Bind Application Configuration Service -----_ _ _ _ _ _ _ _ _ _ _ eastus <resource group> https://<service name>api-gateway default api-gateway.asc-test.net 2Gi 1/1Succeeded 1 1/1

-	True		True			
customers-service	eastus	<resource< td=""><td>group></td><td></td><td></td><td></td></resource<>	group>			
default	Succeed	ded	1	2Gi	1/1	
1/1	-		True			True

Verify the microservices

Access the app gateway and customers service from browser with the **Public Url** shown above, in the format of https://<service name>-api-gateway.azuremicroservices.io.

https://p-api-gateway.azuremicroservices	.io/#!/owners			50
💋 spring 🥏)			
Owners			Q ALL	
Search Filter				
Name	Address	City	Tele,	Pets
George Franklin	110 W. Liberty St.	Madison	6085551023	Leo
Betty Davis	638 Cardinal Ave.	Sun Prairie	6085551749	Basil
Eduardo Rodriquez	2693 Commerce St.	McFarland	6085558763	Jewel Rosy
Harold Davis	563 Friendly St.	Windsor	6085553198	lggy
Peter McTavish	2387 S. Fair Way	Madison	6085552765	George
Jean Coleman	105 N. Lake St.	Monona	6085552654	Max Samantha
Jeff Black	1450 Oak Blvd.	Monona	6085555387	Lucky
Maria Escobito	345 Maple St.	Madison	6085557683	Mulligan
David Schroeder	2749 Blackhawk Trail	Madison	6085559435	Freddy
Carlos Estaban	2335 Independence La.	Waunakee	6085555487	Lucky Sly

Real-time app log streaming

Use the following command to get real-time logs from the app.

```
az spring-cloud app logs -n <app-name> -s <service-instance-name> -g <resource-
group> --lines 100 -f
```

This will return logs:

```
2021-07-15 01:54:40.481 INFO [auth-service,,,] 1 --- [main]
o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-07-15 01:54:40.482 INFO [auth-service,,,] 1 --- [main]
org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache
Tomcat/9.0.22]
2021-07-15 01:54:40.760 INFO [auth-service,,,] 1 --- [main] o.a.c.c.C.[Tomcat].
[localhost].[/uaa] : Initializing Spring embedded WebApplicationContext
2021-07-15 01:54:40.760 INFO [auth-service,,,] 1 --- [main]
o.s.web.context.ContextLoader : Root WebApplicationContext: initialization
completed in 7203 ms
```

Monitor Apps with Application Insights

Read more in Monitor Apps with Application Insights

Clean up resources

1. Open the Azure portal. Delete the service instance as below screenshot.



2. Run below command to remove the preview version of CLI extension.

```
az extension remove -n spring-cloud
```

Azure Marketplace

Overview

Azure Spring Cloud Enterprise Tier is optimized for the needs of enterprise Spring developers through advanced configurability, flexibility, portability, and enterprise-ready VMware Spring Runtime 24x7 support. Developers also benefit from proprietary Tanzu components such as Tanzu Build Service, Tanzu Application Configuration Service and Tanzu Service Registry; and access to Spring experts. Customers obtain and pay for a license to Tanzu components through an Azure Marketplace offer. Azure Spring Cloud manages the license acquisition so that you won't have to do it separately. To purchase in the Azure Marketplace, you must meet the following prerequisties:

- Your Azure subscription has a valid payment instrument. Azure credits or free MSDN subscriptions aren't supported.
- Your organization allows Azure Marketplace purchases.
- Your private Azure Marketplace must contain the Azure Spring Cloud Enterprise Tier w/VMware Tanzu offer.

This document guides you how to include Azure Spring Cloud Enterprise Tier w/VMware Tanzu offer to your private Azure Marketplace and how to redirect to Azure Spring Cloud Enterprise tier creation page from Azure

Marketplace.

View Azure Spring Cloud Enterprise Tier w/VMware Tanzu offer from your private Azure Marketplace

Visit Azure Spring Cloud Enterprise Tier w/VMware Tanzu, you can see the offer and read detailed description of the offer.

Click "Plans + Pricing", then you will see the supported plans in your market.



If you see "No plans are available for market '<Location>'", that means none of your Azure subscription can purchase the SaaS offer. See "No plans are available for market '<Location>'" for more details.

Click "Set up + subscribe", it will redirect you to the Enterprise tier creation page.

Ċ	Azure Spring Cloud Enterprise Tier w/VMware Tanzu © Add to Favorites VMware Inc. * 0.0 (0 Azure ratings) * 0.0 (0 external ratings)
	Set up + subscribe
Overview	Plans + Pricing Usage Information + Support Reviews

Azure Spring Cloud Enterprise Tier (with VMware TanzuTM Technology) is a Microsoft managed service for Spring that meets the needs of customers seeking to upgrade from Azure Spring Cloud Standard Tier, customers new to VMware Tanzu & all-in on Azure, and customers using Tanzu & seeking an Azure native experience. Azure Spring Cloud Enterprise Tier is optimized for the needs of enterprise Spring developers through advanced configurability, flexibility, portability, and enterprise-ready VMware Spring Runtime 24x7 support. Developers also benefit from proprietary Tanzu components such as Tanzu Build Service, Tanzu Application Configuration Service and Tanzu Service Registry; and access to Spring experts.

Azure Spring Cloud Enterprise Tier includes all the features of the Standard Tier, but adds:

- Commercial Tanzu products such as Tanzu Build Service, Tanzu Service Registry and more as a managed service
- Portability and flexibility in workload management
- Advanced configuration and integration through customizable buildpacks, native integration with Azure services and more
- 24x7 VMware Spring Runtime support, access to Spring experts and ability to open support tickets while utilizing Spring libraries

Media

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Build Service

Overview

In Azure Spring Cloud, the existing Standard tier already supports compiling user source code into OCI images through kpack - a Kubernetes (K8s) implementation of Cloud Native Buildpacks (CNB) provided by VMware. In Enterprise tier, more functionalities and configurations are exposed. Read more details in the following sections.

Build Agent Pool

Build Service in Enterprise tier will play as the entry point to containerize user application from both source codes and artifacts. There is a dedicated build agent pool that reserves compute resources for a given number of concurrent build tasks. So that there will not be resource contention with your running apps. For now, 2 vCPU and 4 Gi memory are allocated to the build agent pool. In the coming releases after Private Preview, you will be able to configure the amount of the resources allocated to build agent pool to accommodate number of concurrent build tasks you want.

Azure Spring Cloud	Suild Service … ary: Microsoft	
₽ Search (Ctrl+/)	«	
🔂 Overview	General info	
Activity log	Resources allocated to Build Service 2 vCPU, 4 Gi	
Access control (IAM)		
🗳 Tags		
Diagnose and solve problems		
Settings		
👶 Apps		
🔁 Properties		
🔒 Locks		
VMware Tanzu components		
🛓 Build Service		
Service Registry		
🌧 Application Configuration Service		

Tanzu Buildpacks

On top of the open-source Paketo Buildpacks provided in Standard tier, a list of proprietary Tanzu Buildpacks are available by default in Enterprise tier. Tanzu Buildpacks make it easier to integrate with other software like New Relic etc.. They are configured as optional and will only run with proper configuration. More details are explained in Buildpacks Bindings section.

Below is the complete list of all proprietary Tanzu Buildpacks.

- tanzu-buildpacks/apache-skywalking
- tanzu-buildpacks/appdynamics
- tanzu-buildpacks/aspectj
- tanzu-buildpacks/checkmarx
- tanzu-buildpacks/contrast-security
- tanzu-buildpacks/dynatrace

- tanzu-buildpacks/elastic-apm
- tanzu-buildpacks/icu
- tanzu-buildpacks/jacoco
- tanzu-buildpacks/jprofiler
- tanzu-buildpacks/jrebel
- tanzu-buildpacks/new-relic
- tanzu-buildpacks/node-engine
- tanzu-buildpacks/overops
- tanzu-buildpacks/snyk
- tanzu-buildpacks/synopsys
- tanzu-buildpacks/yourkit

You can find details about each of them in https://docs.pivotal.io/tanzu-buildpacks/partner-integrations/partner-integration-buildpacks.html

Real-time Build Logs

A build task will be triggered when an app is deployed from Azure CLI command. Build logs are streamed out in real-time as part of the CLI command output. Each build task consists of the following phases: prepare, detect, restore, analyze, build, export and completion.

Here is a screenshot of sample build logs.

<pre>https://www.communication</pre>
CONFIG:
- Freddars () • Eiddings: • - metadstaff: • - metadstaff: • - mear: pufder:ide:.default.buildpacksbindings.default.type.applicationinsights.metadata • - mear: pufdel:.t-two-fault-1 • - mear: pufdel:.t-two-fault-1 • - inits:
+ cpu: "1"
* menory: 161 * requests: + cpu: **
* nenory: "o"
* DUDU:
T UPC: NCUPS//92/TU02022/40/U030000CT0/.710/CUPC.AIGUUMS.NEV27/00/2007C/2007U0400/2097C/2007U040/2007U040/200 UPU/UPU/UPU/UPU/UPU/UPU/UPU/UPU/UPU/UPU
Loging Secrets for "acried"/05/05/4407a.azurecr.10" from Secret "bocker"kpack"
UUMILUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU
Successfully commodule Sectors/4040a3babbet07.file.core.minuos.me(2f/dedbob4seu449649z9f()ieSourceS/262f061602-306f00a=6c01=4519-ait=099e00a200c0 in path "/Morkspace"
o or 52 buildpacks participation 2.2.0
parte Conditional Andre (and Carl Carl Carl Carl Carl Carl Carl Carl
parte of ultrapacty and the second
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JVMKill Agent 1.16.8: Contributing to layer
Reusing cached download from buildback
Copying to /layers/paketo-buildpacks_azul-zulu/jumkill
Writing env.launch/JAVA_TOOL_OPTIONS.append
Writing env.launch/JAVA_TOOL_OPTIONS.delim
Java Security Properties: Contributing to layer
Writing env.launch/JAVA_SECURITY_PROPERTIES.default
Writing env.launch/JAVA_TOOL_OPTIONS.append
Writing env.launch/JAVA_TOOL_OPTIONS.delim
Paketo Executable JAR Buildpack 5.0.0
https://github.com/paheto-buildpacks/executable-jar
Class Path: Contributing to Layer
WTX1ng env/cLasSwath.deL1n
writing-env/LLassPain.prepeno

Buildpacks Bindings

Kpack Images can be configured with Service Bindings as described in the Cloud Native Buildpacks Bindings specification. We leverage this Binding to integrate with Tanzu Partner Buildpacks. For example, we use Binding to integrate Azure Application Insights by paketo-buildpacks/azure-application-insights.

For integration with Azure Application Insights, see Monitor Apps with Application Insights.

Application Configuration Service

Overview

all.md

Application Configuration Service is one of the proprietary VMware Tanzu components. It enables the management of Kubernetes-native ConfigMap resources that are populated from properties defined in one or more Git repositories. With Application Configuration Service, you have a central place to manage external properties for applications across all environments.

Prerequisites

• An already provisioned Azure Spring Cloud Enterprise tier service instance with Application Configuration Service enabled. See get-started

App	lication Configuration Service …			
	○ Refresh			
Overview	Overview Settings App binding			
Activity log	Provisioning state	Running instance	Total vCPU	Total Memory/Gi
Access control (IAM)	Succeeded	2/2	1	2
Tags				
Diagnose and solve problems				
Settings				
🙏 Apps				
Networking				
🐲 Properties				
🔒 Locks				
VMware Tanzu components				
📥 Build Service				
Service Registry				
🎭 Application Configuration Service				

Manage Application Configuration Service settings

Application Configuration Service supports Azure DevOps, GitHub, GitLab, and Bitbucket for storing you config file.

1. Open **Settings** blade, and add a new entry with below information in **Repositories** section.

	🕐 Refresh					
Overview	Overview Settings App	binding				
Activity log	X					
Access control (IAM)	Validate 🛄 Apply 👗	Discard Keset				
🔶 Tags	Complete the following form to o	configure settings for Application Configuration Service.				
Diagnose and solve problems	Repositories					
Settings	Name ①	Patterns ①	URI ①	Label 🕕	Search Path ③	Authentication
Apps	default	api-gateway,customers-service	https://github.com/leonard520/spring-petclinic-microservices-conf	master	path1, path2, etc.	Public
Networking		(application), (application)/(profile), etc.			path1, path2, etc.	
Properties						
A Locks						
Mware Tanzu components						
L Build Service						
Service Registry						
Service Registry						
applycation (potion/ration Sonico						

Terminology

Property	Required	Explaination
Name	Yes	Unique name to label each git repository.
Patterns	Yes	Use patterns to search in Git repositories. For each pattern, use format like {application} or {application}/{profile} instead of {application}-{profile}.yml, and separate them by comma. See Patterns for more detail explaination.
URI	Yes	Git URI (e.g. https://github.com/Azure-Samples/piggymetrics-config, git@github.com:Azure-Samples/piggymetrics-config)
Label	Yes	branch name to search in the Git repository.

Property	Required	Explaination		
Search	No	Optional search paths separated by comma to search subdirectories of the		
path	NU	Git repository.		

Pattern

Configuration will be pulled from git backends using what it defined in a pattern which is combined of {application}/{profile}.

- {application} The name of an application for which the configuration is being retrieved. If "application", then this is considered the default application and includes configuration shared across multiple applications. Any other value specifies a specific application and will include properties for both the specified application as well as shared properties for the default application.
- {profile} Optional. The name of a profile for which properties may be retrieved. If "default" or empty, then this includes properties that are shared across any all profiles. If any non-default value, then include properties for the specified profile as well as properties for the default profile.

Authentication

Application Configuration Service supports three repository types. Please check the detail below.

Azure Spring Cloud	lication Cont	figuration Service				×
	🕐 Refresh					
Overview	Overview Setti	ngs App binding				
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Diagnose and solve problems	Repositories					
Settings	Name 🕕	Patterns ①	URI 🛈	Label 🛈	Search Path ①	Authentication
🙏 Apps	default	application/default,api-gateway	https://github.com/leonard520/	master	path1, path2, etc.	Public
2 Networking		{application} , {application}/{pro			Edit Authentication	
Se Properties					Authentication type	
🔒 Locks					Public	\checkmark
VMware Tanzu components					Public	
📥 Build Service					HTTP Basic	
Service Registry					SSH	
Application Configuration Service						

• Public repository

You don't need extra Authentication configuration when using a public repository but just select **Public** in the **Authentication** form.

• Private repository with basic authentication

All configurable properties used to set up private Git repository with basic authentication are listed below.

Property	Required	Explaination
username	Yes	The username used to access the repository.

all.md

-

Property	Required	Explaination
password	Yes	The password used to access the repository.

• Private repository with SSH authentication

All configurable properties used to set up private Git repository with SSH are listed in the following table:

Property	Required	Explaination
Private key	Yes	The private key that identifies the Git user. Passphrase-encrypted private keys are not supported.
Host key	No	The host key of the Git server. If you have connected to the server via git on the command line, this is in your .ssh/known_hosts. Do not include the algorithm prefix; this is specified in Host key algorithm.
Host key algorithm	No	The algorithm of hostKey: one of "ssh-dss", "ssh-rsa", "ecdsa-sha2- nistp256", "ecdsa-sha2-nistp384", and "ecdsa-sha2-nistp521". (Required if supplying Host key).
Strict host key checking	No	Whether or not the backend should be ignored it encounters an error when using the provided Host key. (Optional.) Valid values are true and false. Default is true.

2. Click **Validate** button to validate access to the target URI. After validation is completed successfully, click **Apply** button to update configuration settings.



Use Application Configuration Service with Apps

Restriction

There are some restrictions when you use Application Configuration Service with a Git back end.

Please DON'T include `spring-cloud-starter-config` in the app's pom.xml <dependency> <groupId>org.springframework.cloud</groupId> <artifactId>spring-cloud-starter-config</artifactId> </dependency>

You have to bind the app to Application Configuration Service to claim that the app will use the centralized configurations. After that, you will need to configure which pattern to be used by the app.

- 1. Open **App binding** tab to bind/unbind app to the Application Configuration Service.
- 2. Click **Bind app** button and choose one app in the dropdown. Click **Apply** button to bind.

₽ Search (Ctrl+/)	د ک) 🛛	Refresh
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Activity log		Diadapp of Upbindary
Access control (IAM)	D ^a	Bind app of Unbind app
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Diagnose and solve problems	N	C App name
Settings		api-gateway
🙏 Apps		customers-service
🙎 Networking		
😂 Properties		
🔒 Locks		
VMware Tanzu components		
🛓 Build Service		
👪 Service Registry		
Application Configuration Service		

Arure Spring Cloud Directory Microsoft

Note

When you change the bind/unbind status, you have to restart or redeploy the app to take effective.

3. Go to **Apps** blade and choose the pattern(s) to be used by the apps.

a. Open **Apps** blade to list all the apps.

Home > Microsoft.AppPlatform >	e ere		
Azure Spring Cloud	rosoft		
	+ Create App 🕐 Refresh 🛇 Feedback		
🐼 Overview	Filter by app name		
Activity log	2 items		
Access control (IAM)	Name	Provisioning state	Running instance
Tags	api-gateway	Succeeded	1/1
Diagnose and solve problems	customers-service	Succeeded	1/1
Settings			
🙏 Apps			
2 Networking			
😂 Properties			
🔒 Locks			
VMware Tanzu components			
📥 Build Service			
Service Registry			
🏚 Application Configuration Service			

b. Click target app to configure patterns.

c. Open **Configuration** menu and **General settings** tab. Under **Config file patterns** property, choose one or more patterns from the dropdown list. Click **Save** button to save the changes.

Home > Microsoft.AppPlatform > : api-gateway Config App	> api-gatew guration …	ау		
	🖫 Save 💍 Refr	esh		
Overview	General settings	Environmer	nt variables	Temporary storage
Settings	Config file patterns		api-gateway	
			- jacena)	
	JVIVI options			

III Configuration Image: Configuration Image: Scale up Image: Configuration Image: Scale out Image: Configuration

Service Registry

Overview

Service Registry is one of the proprietary VMware Tanzu components. It provides your apps with an implementation of the Service Discovery pattern, one of the key tenets of a microservice-based architecture. Trying to hand-configure each client of a service or adopt some form of access convention can be difficult and prove to be brittle in production. Instead, your apps can use the Service Registry to dynamically discover and call registered services.

Prerequisites

• An already provisioned Azure Spring Cloud Enterprise tier service instance with Service Registry enabled. See get-started

Azure Spring Cloud O Directory: M	vice Registry …			
P Search (Ctrl+/) «	🕐 Refresh			
Cverview	Overview App binding			
Activity log	Provisioning state	Running instance	Total vCPU	Total Memory/Gi
Access control (IAM)	Succeeded	2/2	1	2
 Tags 				
Diagnose and solve problems				
Settings				
 Apps Networking 				
Se Properties				
🔒 Locks				
VMware Tanzu components				
📥 Build Service				
III, Service Registry				
Application Configuration Service				

Use Service Registry with Apps

Before your application can manage service registration and discovery using Service Registry, several dependencies must be included in the application's pom.xml file.

```
<dependency>
    <groupId>org.springframework.cloud</groupId>
        <artifactId>spring-cloud-starter-netflix-eureka-client</artifactId>
</dependency>
```

Finally, add an annotation to the top level class of your application

```
@SpringBootApplication
@EnableEurekaClient
public class DemoApplication {
    public static void main(String[] args) {
        SpringApplication.run(DemoApplication.class, args);
        }
    }
```

1. Open **App binding** tab to bind/unbind app to the Service Registry.

2. Click **Bind app** button and choose one app in the dropdown. Click **Apply** button to bind.

Search (Ctrl+/)	« 🕐 Refresh
Overview	Overview App binding
Activity log	S pindana S Unbindana
Access control (IAM)	Bind app & Unbind app
Tags	^{Ar} Bind app
Diagnose and solve problems	Nc App name
ttings	api-gateway
Apps	customers-service
Networking	
Properties	
Locks	
Mware Tanzu components	
Build Service	
Service Registry	
Application Configuration	

Deploy Azure Spring Cloud in a virtual network

This tutorial explains how to deploy an Azure Spring Cloud instance in your virtual network. Please refer to Deploy Azure Spring Cloud in a virtual network for details.

Note: Please go to this Azure portal to deploy an Azure Spring Cloud Enterprise instance.

The **Networking** tab of Azure Spring Cloud **Create** page is as below:

Home	>	Azure	Spring	Cloud	>

Azure Spring Cloud ... Create Basics VMware Tanzu settings Diagnostic settings Application Insights Networking Review and create Tags Deploy Azure Spring Cloud in your own virtual network (VNet). Two new subnets will be created in your virtual network. Implicit delegation of both subnets will be done to Azure Spring Cloud on your behalf. Deploy in your own virtual network *Virtual network azure-spring-cloud-vnet \sim *Service runtime subnet (i) service-runtime-subnet (10.1.0.0/28) \sim Manage subnet configuration *Spring Boot microservice apps subnet apps-subnet (10.1.1.0/28) \sim Manage subnet configuration

App and Deployment management

- Portal
 - Create Apps
 - App overview and instance list
 - App configuration
 - Scale up and scale out
- Azure CLI

Portal

Create Apps

- 1. Open the Azure portal.
- 2. Go to the Azure Spring Cloud Apps page. Click Create App button to create apps.

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Home	e > contoso > contoso								
4	contoso Apps Azure Spring Cloud 0 Director	 ry: Microso	ft						×
₽ Se	earch (Ctrl+/)	« –	– Create App 💍 Refresh ♡	Feedback					
🛃 O	verview	F	lter by app name						
= A	ctivity log	0 it	ems		Dunning	instance		Desistantian status	
°k A	ccess control (IAM)		Name P	ovisioning state	Kunning	instance		Registration status	
🧳 Ta	ags								
βD	iagnose and solve problems								
Settin	gs								
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😟 N	letworking								
💱 Pi	roperties								
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VMwa	are Tanzu components								
📥 Bi	uild Service			No aj	pp to display				
👪 Se	ervice Registry			c	reate App				
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Monit	toring								
💵 A	lerts	-							

3. Add a new entry in **Create App** blade with app name, vCPU, memory and instance count. You can add more entries by clicking **+ Add app** link to create more apps at one time. Then click **Create** button.

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Hom	e > contoso > contoso >									
Creat	eate App …									×
Choo	se the amount of vCPU and memory tha	t you want to allocate to your new ap	p. You can also increase app in:	stances	s here.					
Ap	p name	vCPU	Memory		Instance of	ount				
ga	teway 🗸	1 ~	1 Gi	\sim	1					Û
+ A	dd app									

Create

App overview and instance list

1. Once the app is created, open the app overview page by clicking the app name in **Apps** blade.

In the app overview page, you can find a set of information of the app, including resource basic information, provisioning state, public endpoint and test endpoint.

You can also make some operations on the app in the overview page, such as stop, start and restart the app, assign public endpoint to the app.

Some general metrics are listed at bottom of the page, you can learn the app health state from the charts.

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Home > contoso > contoso >			
gateway Overview			×
₽ Search (Ctrl+/) «	🗌 Stop 🤇 Restart 🖒 Refresh 📋 Delete ሰ Assig	n endpoint 🛛 💙 Feedback	
R Overview	∧ Essentials		A
Settings	Service instance name contoso	Running app instance 1/1	
I≡ App Instances	App name gateway	VCPU 1	
Configuration	Production deployment	Memory 1Gi	
Scale up	Provisioning state	Create time	
🗹 Scale out	Succeeded	8/13/2021, 3:39:59 PM UTC	
	URL		
	Test endpoint https://primary:uplpJLkztfFm8eRHjtyOs35dEY33DPQ1M		
	See less		
	Show data for last: 1 hour 6 hours 12 hours 1 da	ay 7 days	
	Http Server Errors	Ŕ	
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2. To see all instance of the app, go to **App Instance** page.

	Microsoft Azure (Preview)	Search resources, services	s, and docs (G+/)	D 🛱	Q	ŝ	? ጽ	zhe.li@contoso.com сонтоѕо LTD.		
Home	Home > contoso > contoso > gateway									
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🖲 о	verview	App Instance Name	Status	Discove	ry Status		Sta	art Time		
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i≣ A	pp Instances									
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🗹 S	cale up									
🗹 S	cale out									

App configuration

Configuration blade enables you to update config file patterns, JVM options (if your app is built with Java), environment variables. You can also view temporary storage information in this page.

1. General settings



2. Environment variables

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Overview	General settings Environment variables Tempo	rary storage							
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i≡ App Instances	Environment variables are encrypted at rest and transmitte environment variables.	d over an encry	oted char	nnel. Th	e app r	nust be	restarted after setting new		
Configuration	👁 Reveal all values 🛛 😵 Hide all values								
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3. Temporary storage

\equiv Microsoft Azure (Preview)	Search resources	s, services, and docs (G+/)		Ŗ	Q	ŵ	?	ন্দ	zhe.li@contoso.com
Home > contoso > contoso > gateway									
gateway Configura	ation								×
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Overview	General settings E	General settings Environment variables Temporary storage							
Settings									
I App Instances	lemporary storage is a	utomatically assigned to your ap	p. Don't use te	empora	ry stora	ge tor p	persiste	ent data.	
Configuration	Path	/tmp							
🔀 Scale up	Size	5 GB							
🗹 Scale out									

Scale up and scale out

1. To scale up/down your app by updating vCPU and memory, open **Scale up** blade.

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gateway Scale up											×
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Soverview	Scale your application by adjusting the amount of vCPU and										
Settings	me	mory									
≣ App Instances	vCl	PU * (i)	1	\sim							
Configuration	Me	mory * 🕡	1 Gi	\sim							
🖸 Scale up											
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2. Open **Scale out** blade to change instance count of the app.

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Home > contoso > contoso > gatewa	у						
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Reverview	App Instance Count	 1					
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Azure CLI

Monitor Apps with Application Insights

all.md

This article explains how to monitor apps and microservices by using the Application Insights Java agent in Azure Spring Cloud.

With this feature you can:

- Search tracing data with different filters.
- View dependency map of microservices.
- Check request performance.
- Monitor real-time live metrics.
- Check request failures.
- Check app metrics.
- Check app log.

Application Insights provide many observable perspectives, including:

- Application map
- Performance
- Failures
- Metrics
- Live Metrics
- Log
- Availability

Using the Application Insights feature

When the Application Insights feature is enabled, you can:

Go to the **Overview** page of Application Insights.

• You can see overview of all apps.

Home > panli-e > panli-e-0810-2 >								
Panli-ai-0810-0	\$2 ···· ge Microsoft							
P Search (Ctrl+/)	🛛 ★ Application Dashboard 📣 Getting started 🔎 Search 🧬 Logs. 🎙 Monitor resource group 😳 Feedback 📩 Favorites $ ightarrow$ Rename 📋 Delete							
💡 Overview	Orerview Migrate to alerts-based smart detections (preview) to get your detections as alerts and enjoy all the alerts features. → Activity log 							
Activity log								
Access control (IAM)	Risource group (change) : panli-e instrumentation Key : 130d63c9-29b7-4759-98f4-5f74aaad66fc							
Tags	Location : East US Connection String : InstrumentationKey=130d63:09-29b7-4759-98f4-5f							
Diagnose and solve problems	Subscription (change) : Azure Spring Cloud Dogfood Test v3 - TTL = 1 Days							
Investigate	Subscription ID : 0753feba e8f1-4242-aff1-27938fb04531							
Application map	Tags (zhunge) : Click here to add tags							
Smart detection								
4 Live metrics	😵 Migrate this resource to Workspace-based Application Insights to gain support for all of the capabilities of Log Analytics, including Cuntomer-Managed Keys, Commitment Tiers, and Inster data ingestion. Click here to learn more and migrate in a few clicks. $ ightarrow$							
Transaction search								
🎐 Availability								
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Performance	Failed requests Server response time Server requests Availability Server							
Troubleshooting guides	<u></u>							
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Usage								

• Click the **Application Map** to see the status of calls between apps.



• Click the testdb to see all the apps connecting to database.

Home > panli-e > panli-e-0810-2 >	panti-4 > panti-40810-0	
panli-ai-0810-0 A Application Insights Last 12 hours -	pplication map se … pelisi0100 ● Directory Monosh	
P Search (Ctrl+/) *	🔆 Dehreh 😳 Feedback 🖸 suggest an idea 🕫 Learn more 🕜 Troublechooting 🧮 Try preview	
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Access control (IAM)		🧬 View in Logs
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Diagnose and solve problems		SLOWEST CALLS BY NAME
Investigate	CONNECT OTHER	NAME DURATION (AVG)
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Smart detection	1 instance B 13 mm	SQL: select pets0_owner_id as owner_id 0 ms
4 Live metrics	2.1 ms 2.5 v citie	SQL: select specialtie0_vet_id as vet_id1 0 ms
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🌻 Availability	admin-server	
Failures		
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🧬 Logs	(instance)	
Workbooks	0.1 ms 1 instance	
Usage		
🎍 Users	visits-service	
Sessions		
Events	instance 0.8 ms	
😇 Funnels	724k calls	
I User Flows		
Retention	0 mms /	
Impact	690K çatıs / O <u>pre</u>	
📸 Cohorts		
··· More		
Configure		
III Properties		
Smart detection settings		
Network Isolation		
O Usage and estimated costs	testdb SQL	

• Click an endpoint to see all apps requesting to the endpoint.



• In the left navigation pane, click **Live Metrics** to see the real time metrics of all apps' in last 60 seconds..

Home > panti-e >									
Application Insights	Application Insights I Directory: Microsoft								
₽ Search (Ctrl+/) «	🔹 🔢 Pause 🍤 Reset 🛛 Learn more 🏚 View in Logs 💿 Feedb	ack Y							
💡 Overview	Last 60 seconds (Live) Role = All					5 servers online			
Activity log	Incoming Requests								
Access control (IAM)	Request Rate	Request Duratio 3sec	n	Request Failure Rat 1/3	e	* *			
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Diagnose and solve problems	100/s	Isec		0.5/s					
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Performance									
Troubleshooting guides	Committed Memory	🐂 CPU Total (%)		* Exception Rate		÷			
(preview)		100.00%							
Monitoring	16	50.00%							
Alerts									
Metrics	0 60s 50s 40s 30s 20s	0.00%	50s 40s 30s	20s 10s 0 60s	50s 40s 30s	20s 10s 0			
护 Logs									
Workbooks	Servers (10s avg)				s	elect columns V			
Usage	SERVER NAME & ROLE NAME	↑↓ REQUESTS	14 REQUEST DURATION 14 FAILED REQUESTS	↑↓ DEPENDENCIES ↑↓ FAILED DEPENDENCIES ↑↓	CPU TOTAL 10 COMMITTED MEN	IORY 1 EXCEPTIONS 1			
🎍 Users	admin-server-default-12-7c56d9fd49-zp8tx admin-server	0/sec	N/A 0/sec	0.5/sec 0.3/sec	0% 1434 MB	0.3/sec			
Sessions	api-gateway-default-11-7b577bcf99-vnc6d api-gateway				1% 1457 MB				
📮 Events	customers-service-default-17-6956988d9d customers-service								
😇 Funnels	vets-service-default-12-697d5fccd-r444q vets-service								
User Flows	visits-service-default-14-6b5fdcf9f5-rg4jh visits-service								

• In the left navigation pane, click **Failures** to see if something unexpected of dependencies from your apps.

Home > parke > parke > parke > parke +>								
panli-ai-0810-0 Fa	ailures & … y Microsoft							
P Search (Ctrl+/) «	: 💍 Refresh 🖆 View in Logs 🗸 🧧 Analyze with Workbooks 🗸 🗈 Copy link 😳 Feesback 🗸							
Overview	Server Browner Local Time: Last 12 hours Roles = All T				» Select a sample dependency			
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🔷 Tags	Failed dependency count							
Diagnose and solve problems	4			Top 10 response codes	<undefined></undefined>			
Investigate				 vundefined> 11 	Suggested			
> Application map					8/11/2021, 6/02/01 AM			
Smart detection					ApiGatewayApplication.lambda Duration:1ms Response code:			
4 Live metrics	10k				Dependency name: ApiGatewayApplication.lambda			
Transaction search					Sout he B			
Availability	1000 PM 1100 PM Wed 11 0100 AM 0200 AM 0200 AM 0400 AM 6500 AM 6500 AM	H 07:00 AM 00:00 AM	08:00 AM		All Relevance V			
4 Failures	💿 на обла министра и сово и с		09:00 AM		8/11/2021, 6:02:01 AM			
Performance			STREET		ApiGatewayApplication.lambda Duration:1ms Response code:			
Troubleshooting guides	Select operation				Dependency name: ApiGatewayApplication.lambda			
(preview)	DEPENDINCY NAME	COUNT (FAILED)	* COUNT *6 (5) PIN		8/11/2021, 12:53:01 AM			
Monitoring	Overall	94.29k	20.96M		Duration: 1 ms Response code:			
Alerts	HTTP (localhost9411): HTTP POST		85.59k \$7		ApiGatewayApplication.lambda			
Metrics	HTTP (Http): HTTP GET				8/11/2021, 12:53:01 AM Apjointmen/Application_lembde			
🧬 Logs	Other CONNECT				Duration: 1 ms Response code:			
Workbooks	InProc. HitemgWebHandlerJuardie		2.13M		ApiGatewayApplication.lambda			
Usage	нитос. АрхавемауАррісавон калода				8/11/2021,9-47:01 AM ApiGatewayApplication.lambda			
🛓 Users					Duration: 2 ms Response code:			
😼 Sessions					ApiGatewayApplication.lambda			
📮 Events					8/11/2021,7:2601 AM ApiGatewayApplication.lambda			
🐨 Funnels					Duration: 1 ms Response code: Dependency name:			
User Flows					ApiGatewayApplication.lambda			
Retention					ApiGatewayApplication.lambda			
O Impact					Duration: 1 ms Kesponse code: Dependency name:			
📫 Cohorts					AprGatewayApplicationLlambda			
··· More					ApiGatewayApplication.lambda			
Configure					Dependency name: AniGateuroAndication Jambda			
11 Properties					8/11/2021, 4:59:02 AM			
Smart detection settings					ApiGatewayApplication.lambda Duration:1 ms Response code:			
Network Isolation					Dependency name: ApiGatewayApplication.lambda			
O Usage and estimated costs				Drill into	8/11/2021, 2:20:01 AM			

• In the left navigation pane, click **Failures** to see if something unexpected of exceptions from your apps.

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panli-ai-0810-0 Fa	ailures 🖈 … - Microsoft			
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📌 Logs	java.util.concurrent.TimeoutException at reactor.core.publisher.PlurTimeout\$Timeout\$AinSubscriber.handleTimeout{PlurTimeoutJava289)			od)
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• In the left navigation pane, click **Performance** to see the performance data of all apps' operations.

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• In the left navigation pane, click **Performance** to see the performance data of all apps' dpendencies.

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O Network Isolation 502, Instance Structure (County) (INO) MICOMATCINg Sciel/MICINg Sciel/M	Smart detection settings	SQL (testdb): SQL: select specialtie0_vet_id as vet_id1_1_0_ specialtie0_specialty_id as specialt2_1_0_ specialty1_id as id1_0_1_ specialty1_name as name2_0_1_ from vet_specialtie.		4.34M						
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• In the left navigation pane, click Metrics and select the namespace, you will see both Spring Boot metrics and custom metrics, if any.

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• In the left navigation pane, click **Log** to check logs of one(filter by cloud_RoleName) or all apps.

Home > panli-e > panli-e-0810-2 >									
a pani-ai-0810-0] Logs ≠									
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4 Live metrics	Application Insights	Completed. Showing results from	n the last 24 hours.				© 00:00.7 🔚 430 records 🛛 👻		
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🌻 Availability	▶ 目 browserTimings	> 8/10/2021, 5:48:51.480 PM	Loaded RoutePredicateFactory [Weight]		trace	{"LoggerName":"org.springframework.cloud.gateway.route.Rou	PC		
💶 Failures	▶ 目 customEvents	> 8/10/2021, 5:48:51.568 PM	Loaded RoutePredicateFactory [CloudFoundryRouteService]		trace	{"LoggerName": "org.springframework.cloud.gateway.route.Rou	PC		
Performance	El customMetrics	> 8/10/2021, 5:49:04.571 PM	Exposing 19 endpoint(s) beneath base path 'Jactuator'		trace	{"LoggerName":"org.springframework.boot.actuate.endpoint.w	PC		
Troubleshooting guides	El dependencies	> 8/10/2021, 5:49:09.369 PM	Eureka HTTP Client uses Jersey		trace	{"LoggerName": "org.springframework.cloud.netflix.eureka.conf			
(preview)	El pageViews	> 8/10/2021, 5:49:11.882 PM	Check result of the [RestTemplateSender[http://localhost:9411/.	_ 2	trace	{"LoggerName":"org.springframework.cloud.sleuth.zipkin2.Zip	ĸ		
Monitoring	▶ 目 performanceCounters	> 8/10/2021, 5:49:14.277 PM	Spring Cloud LoadBalancer is currently working with the defaul		trace	{"LoggerName": "org springframework.cloud.loadbalancer.confi			
Alerts	III requests	> 8/10/2021, 5:49:16.276 PM	Setting initial instance status as: STARTING		trace	{"LoggerName":" org.springframework.cloud.netflix.eureka.Inst	ĸ		
and Metrics	▲ 目 traces	> 8/10/2021, 5:49:17.071 PM	Initializing Eureka in region us-east-1		trace	{"LoggerName": "com.netflix.discovery.DiscoveryClient", "Loggi	PC .		
🧬 Logs	G timestamp (datetime)	> 8/10/2021, 5:49:18.476 PM	Using JSON encoding codec LegacyJacksonJson		trace	{"LoggerName": "com.netflix.discovery.provider.DiscoveryJersey			
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Likers	0 customDimensions (dynamic)	> 8/10/2021, 5:49:20.475 PM	Using XML decoding codec XStreamXml		trace	{"LoggerName": "com.netflix.discovery.provider.DiscoveryJersey			
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T Suppele	t operation_Id (string)	> 8/10/2021, 5:49:22.972 PM	Single vip registry refresh property : null		trace	{"LoggerName": "com.netflix.discovery.DiscoveryClient", "Loggi			
"Il Uner Flower	t operation_ParentId (string)	> 8/10/2021, 5:49:22.973 PM	Application is null : false		trace	{"LoggerName": "com.netflix.discovery.DiscoveryClient", "Loggi			
Retention	t operation_SyntheticSource (s	> 8/10/2021, 5:49:22.973 PM	Force full registry fetch : false		trace	{"LoggerName":"com.netflix.discovery.DiscoveryClient","Loggi			
Impart	# session_Id (string)	> 8/10/2021, 5:49:22.974 PM	Application version is -1: true		trace	{"LoggerName":"com.netflix.discovery.DiscoveryClient","Loggi	ĸ		
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··· Men	t user_AuthenticatedId (string)	> 8/10/2021, 5:49:22.975 PM	Getting all instance registry info from the eureka server		trace	{"LoggerName":"com.netflix.discovery.DiscoveryClient","Loggi			
more	t user_Accountid (string)	> 8/10/2021, 5:49:26.082 PM	The response status is 200		trace	{"LoggerName":"com.netflix.discovery.DiscoveryClient","Loggi	PC		
Configure	r application_Version (string)	> 8/10/2021, 5:49:26.173 PM	Starting heartbeat executor: renew interval is: 30		trace	{"LoggerName":"com.netflix.discovery.DiscoveryClient","Loggi			
1.1 Properties	t client_type (string)	> 8/10/2021, 5:49:26.184 PM	InstanceInfoReplicator onDemand update allowed rate per min		trace	{"LoggerName":"com.netflix.discovery.InstanceInfoReplicator"			
Smart detection settings	t client OS (string)	> 8/10/2021, 5:49:26.275 PM	Discovery Client initialized at timestamp 1628588966273 with i.		trace	{"LoggerName";"com.netflix.discovery.DiscoveryClient","Loggi			
Network Isolation	t client_IP (string)	> 9/10/2021 5:49:26 291 DM	Registering application &PI-GATEWAY with oursks with status I	10 1	traco	/*LooperMame***oro coriooframework cloud petflix euroka serv	er.		
O Usage and estimated costs									

Use Azure CLI to manage settings of Application Insights

We use Buildpacks Binding to integrate Azure Application Insights with type ApplicationInsights.

• Create Application Insights buildpacks binding.

```
az spring-cloud build-service buildpacks-binding create --name {your-
binding-name} \
    --type ApplicationInsights \
    --properites sampling-rate={your-sampling-rate} \
    --secrets connection-string={your-connection-string} \
    -s ${asc-resource-name} -g ${resource-group-name}
```

• Replace Application Insights buildpacks binding.

```
az spring-cloud build-service buildpacks-binding set --name {your-binding-
name} \
    --type ApplicationInsights \
    --properites sampling-rate={your-sampling-rate} \
    --secrets connection-string={your-connection-string} \
    -s ${asc-resource-name} -g ${resource-group-name}
```

• Get Application Insights buildpacks binding.

```
az spring-cloud build-service buildpacks-binding show --name {your-binding-
name} \
    -s ${asc-resource-name} -g ${resource-group-name}
```

• Delete Application Insights buildpacks binding.

```
az spring-cloud build-service buildpacks-binding delete --name {your-
binding-name} \
   -s ${asc-resource-name} -g ${resource-group-name}
```

Concept mapping between Azure Spring Cloud and Application Insights

Azure Spring Cloud	Application insights				
	* Application Map/Role				
A rese	* Live Metrics/Role				
Арр	* Failures/Roles/Cloud Role				
	* Performance/Roles/Could Role				
	* Application Map/Role Instance				
Ann Instance	* Live Metrics/Service Name				
App instance	* Failures/Roles/Cloud Instance				
	* Performance/Roles/Could Instance				

Application Incideta

The name App Instance from Azure Spring Cloud will be changed or generated in the following scenarios:

• You create a new app.

A-ura Carina Claud

- You deploy a JAR file or source code to an existing app.
- You initiate a blue/green deployment.
- You restart the app.
- You stop the deployment of an app, and then restart it.

When data is stored in Application Insights, it contains the history of Azure Spring Cloud app instances created or deployed since the Java agent was enabled. This means that, in the Application Insights portal, you

can see app data created yesterday, but then deleted within a specific time range, like the last 24 hours. The following scenarios show how this works:

- You created an app around 8:00 AM today from Azure Spring Cloud with the Java agent enabled, and then you deployed a JAR file to this app around 8:10 AM today. After some testing, you change the code and deploy a new JAR file to this app at 8:30 AM today. Then, you take a break, and when you come back around 11:00 AM, you check some data from Application Insights. You will see:
 - Three instances in Application Map with time ranges in the last 24 hours, as well as Failures, Performance, and Metrics.
 - One instance in Application Map with a time range in the last hour, as well as Failures, Performance, and Metrics.
 - One instance in Live Metrics.
- You created an app around 8:00 AM today from Azure Spring Cloud with the Java agent enabled, and then you deployed a JAR file to this app around 8:10 AM today. Around 8:30 AM today, you try a blue/green deployment with another JAR file. Currently, you have two deployments for this app. After a break around 11:00 AM today, you want to check some data from Application Insights. You will see:
 - Three instances in Application Map with time ranges in the last 24 hours, as well as Failures, Performance, and Metrics.
 - Two instances in Application Map with time ranges in last hour, as well as Failures, Performance, and Metrics.
 - Two instances in Live Metrics.

Frequently Asked Questions

Fail to deploy apps

az spring-cloud app deploy --name <app name> <app.jar>

112404: Failed to wait for deployment instances to be ready. Please check the application log (see https://aka.ms/azure-spring-cloud-doc-log), and try again later.

Please check if the below error messages in the application log.

1. Spring Boot 2.4 and higher versions

Application failed to start due to an exception org.springframework.cloud.commons.ConfigDataMissingEnvironmentPostProcessor\$ ImportException: No spring.config.import set

2. Spring Boot 2.3 and earlier versions

WARN c.c.c.ConfigServicePropertySourceLocator : Could not locate PropertySource: I/O error on GET request for "http://localhost:8888/application/default": Connection refused: connect; nested exception is java.net.ConnectException: Connection refused: connect

It is probably caused by adding spring-cloud-starter-config starter by mistake. Please remove the dependency and try again.

112034: Failed to provision resource.

When failed to create Azure Spring Cloud Enterprise tier instance with error message "112034: Failed to provision resource.". Check whether your Azure subscription's billing account address is in the supported location. See "No plans are available for market '<Location>'" for more details.

If that doesn't help, you can contact support team with the following info.

```
AZURE_TENANT_ID=<your Azure Tenant Id which host the Azure subscription>
AZURE_SUBSCRIPTION_ID=<your Azure subscription Id which is used to create Spring
Cloud instance>
SPRING_CLOUD_NAME=<the failed instance name>
```

No plans are available for market '<Location>'

When you visit SaaS offer Azure Spring Cloud Enterprise Tier w/VMware Tanzu in Marketplace, it may say "No plans are available for market '<Location>'" like the following image.



Azure Spring Cloud Enterprise tier needs customers to pay for a license to Tanzu components through an Azure Marketplace offer. To purchase in Azure Marketplace, the billing account's country or region for your Azure subscription should be in the SaaS offer's support geographic locations.

Azure Spring Cloud Enterprise Tier w/VMware Tanzu now supports all geographic locations that Azure Marketplace supports. See Supported geographic locations.

You can view your billing account for your subscription if you have admin access, see view billing accounts.

Azure Spring Cloud Enterprise tier is free for private preview.

Azure CLI Command Reference

This reference is part of the spring-cloud extension for Azure CLI and requires version 2.0.67 or higher. Install extension by running az extension add -s https://ascprivatecli.blob.core.windows.net/enterprise/spring_cloud-2.7.0a1-py3none-any.whl -y

Commands to manage Azure Spring Cloud Enterprise tier.

Commands

az spring-cloud

- **az spring-cloud list** List all Azure Spring Cloud in the given resource group, otherwise list the subscription's.
- az spring-cloud show Show the details for an Azure Spring Cloud.
- az spring-cloud delete Delete an Azure Spring Cloud.

az spring-cloud app

- az spring-cloud app create Create a new app with a default deployment in the Azure Spring Cloud.
- az spring-cloud app delete Delete an app in the Azure Spring Cloud.
- **az spring-cloud app deploy** Deploy source code or pre-built binary to an app and update related configurations.
- az spring-cloud app list List all apps in the Azure Spring Cloud.
- **az spring-cloud app logs** Show logs of an app instance, logs will be streamed when setting '-f/-- follow'.
- az spring-cloud app restart Restart instances of the app, default to production deployment.
- az spring-cloud app scale Manually scale an app or its deployments.
- az spring-cloud app show Show the details of an app in the Azure Spring Cloud.
- az spring-cloud app start Start instances of the app, default to production deployment.
- az spring-cloud app stop Stop instances of the app, default to production deployment.
- az spring-cloud app update Update configurations of an app.

az spring-cloud test-endpoint

- az spring-cloud test-endpoint disable Disable test endpoint of the Azure Spring Cloud.
- az spring-cloud test-endpoint enable Enable test endpoint of the Azure Spring Cloud.
- az spring-cloud test-endpoint list List test endpoint keys of the Azure Spring Cloud.
- **az spring-cloud test-endpoint renew-key** Regenerate a test-endpoint key for the Azure Spring Cloud.

az spring-cloud build-service buildpacks-binding

- az spring-cloud build-service buildpacks-binding create Create a buildpacks binding.
- az spring-cloud build-service buildpacks-binding set Set a buildpacks binding.
- az spring-cloud build-service buildpacks-binding show Show a buildpacks binding, the secrets will be masked.
- az spring-cloud build-service buildpacks-binding delete Delete a buildpacks binding.

az spring-cloud application-configuration-service

- **az spring-cloud application-configuration-service clear** Reset all Application Configuration Service settings.
- **az spring-cloud application-configuration-service git repo add** Add an item of git property to Application Configuration Service settings.
- **az spring-cloud application-configuration-service git repo update** Update an existing item of git property to Application Configuration Service settings.
- **az spring-cloud application-configuration-service git repo list** List all git settings of Application Configuration Service.
- **az spring-cloud application-configuration-service git repo remove** Delete an existing item of git property to Application Configuration Service settings.
- **az spring-cloud application-configuration-service show** Show provisioning status, runtime status and settings of Application Configuration Service.
- **az spring-cloud application-configuration-service bind** Bind app to Application Configuration Service.
- **az spring-cloud application-configuration-service unbind** Unbind app to Application Configuration Service.

az spring-cloud service-registry

- **az spring-cloud service-registry show** Show provisioning status and runtime status of Service Registry.
- az spring-cloud service-registry bind Bind app to Service Registry.
- az spring-cloud service-registry unbind Unbind app to Service Registry.