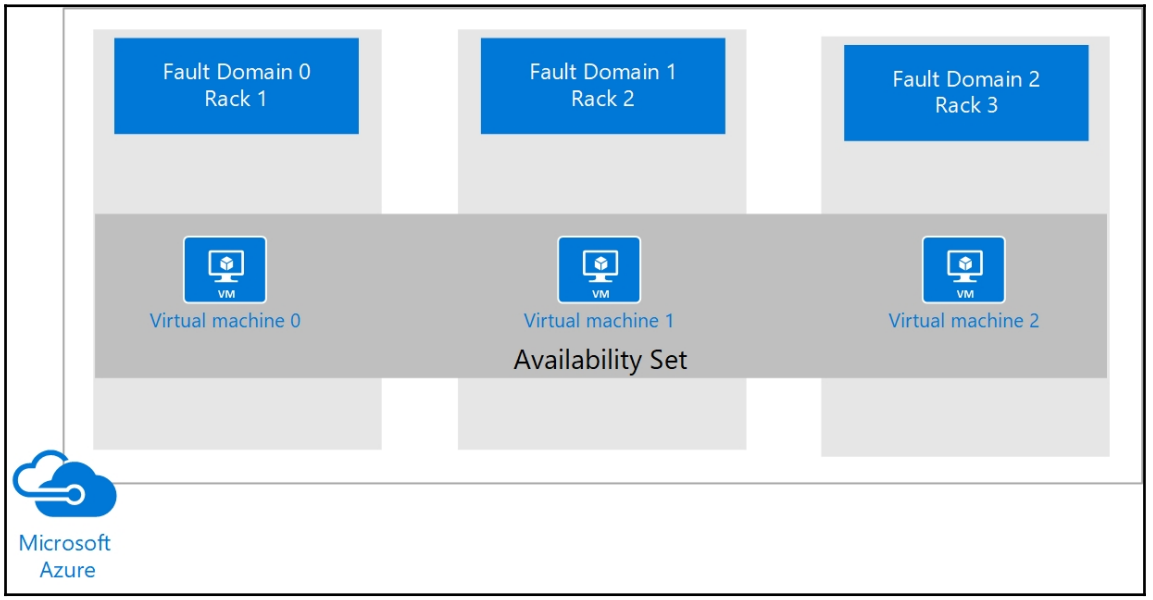
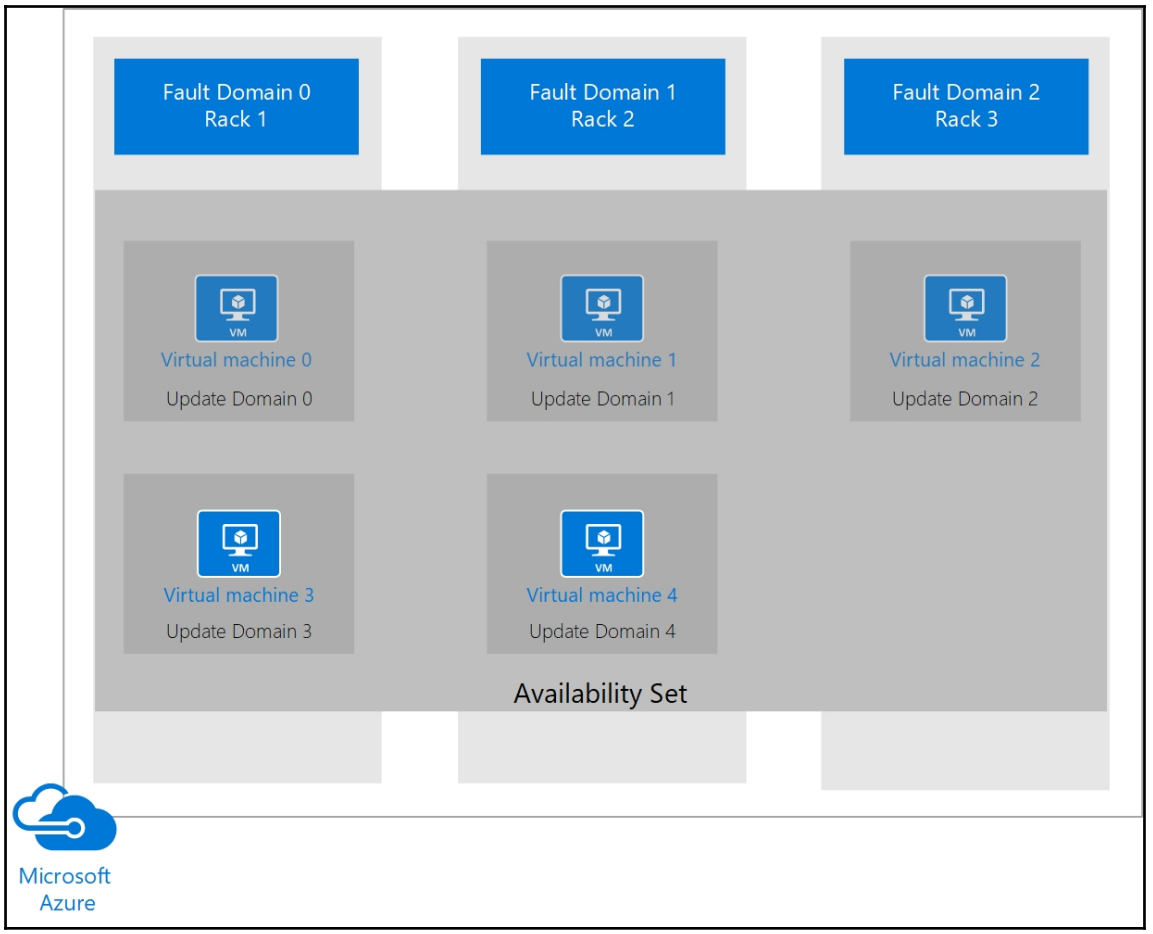
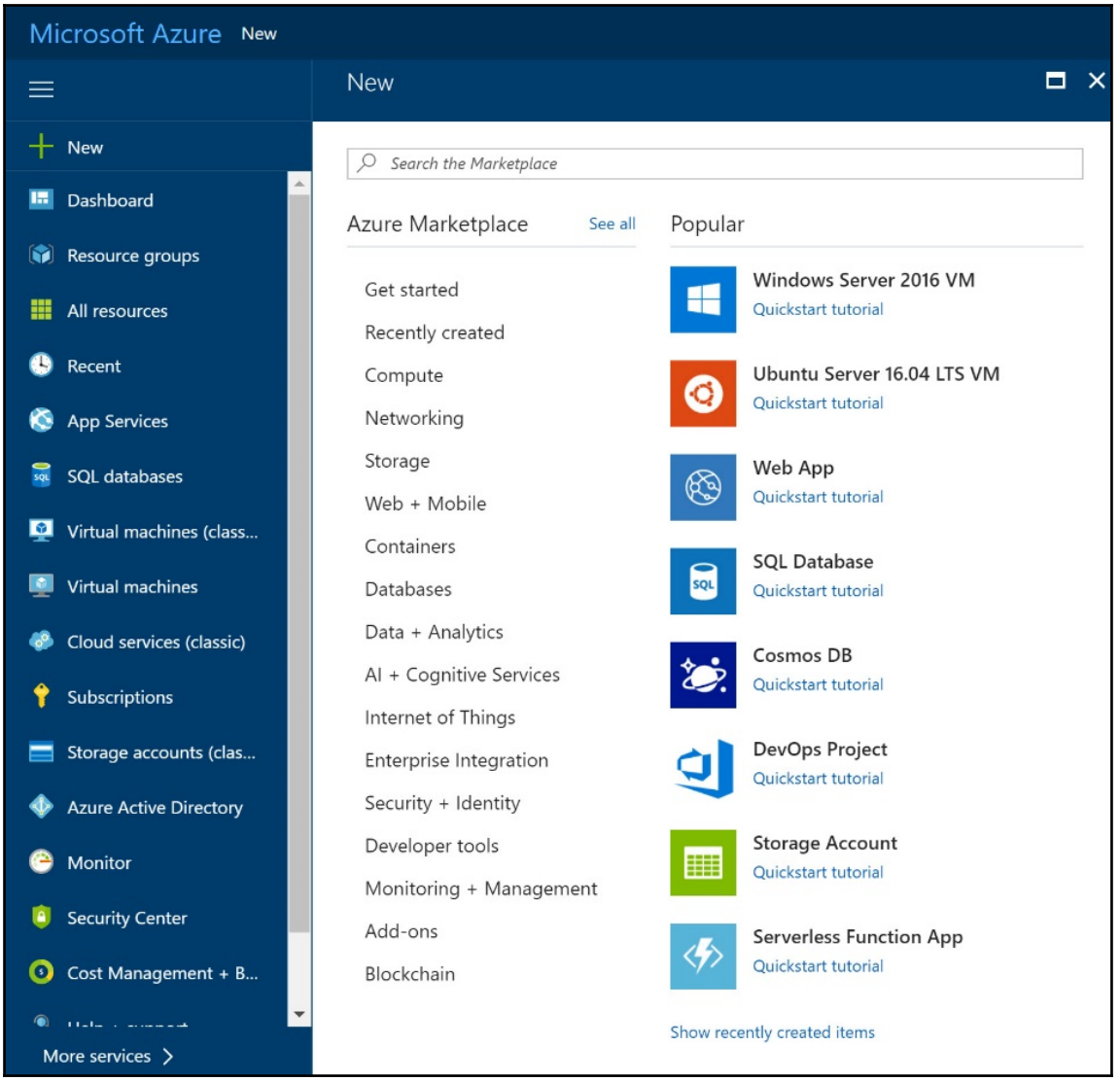
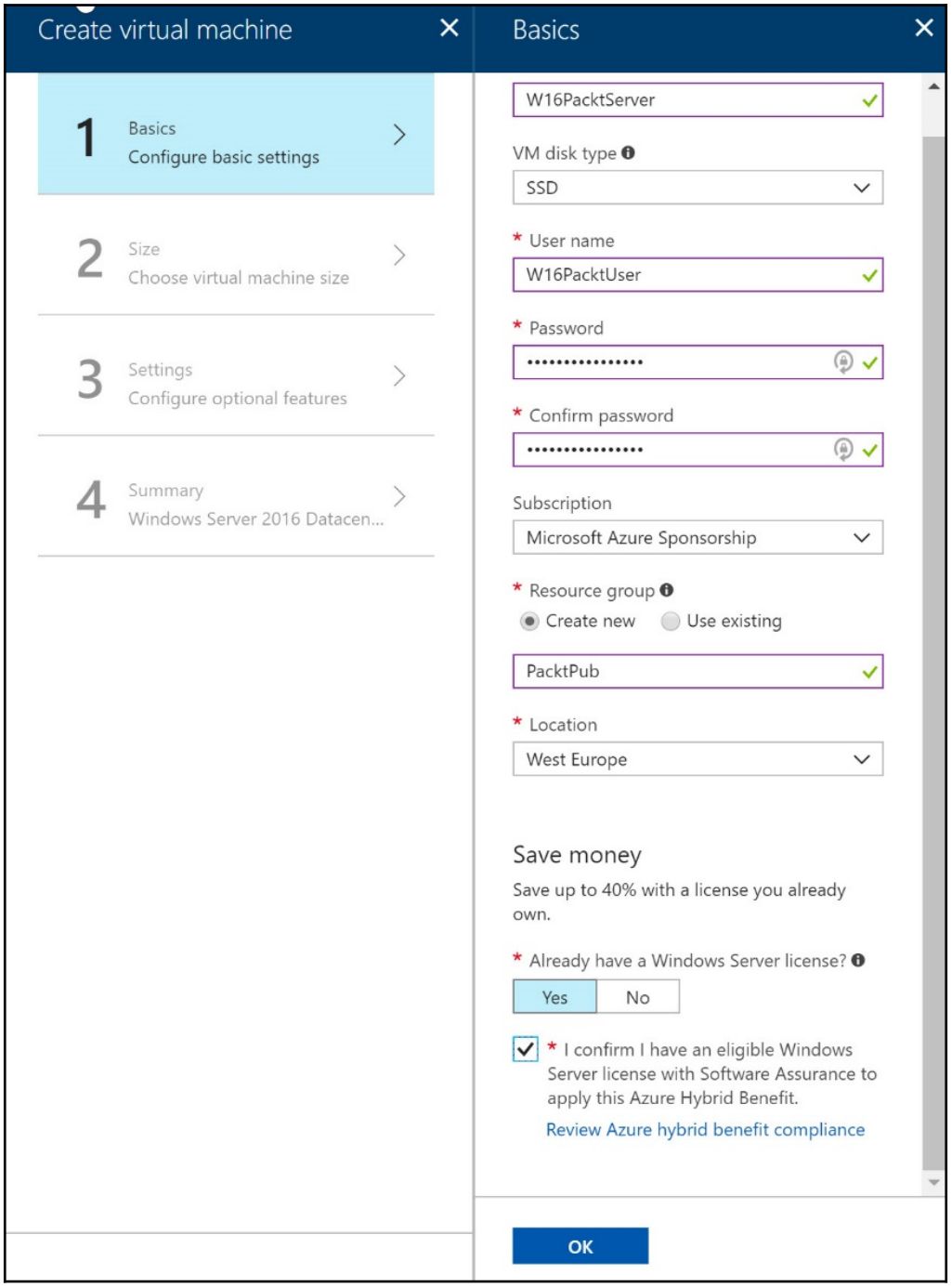
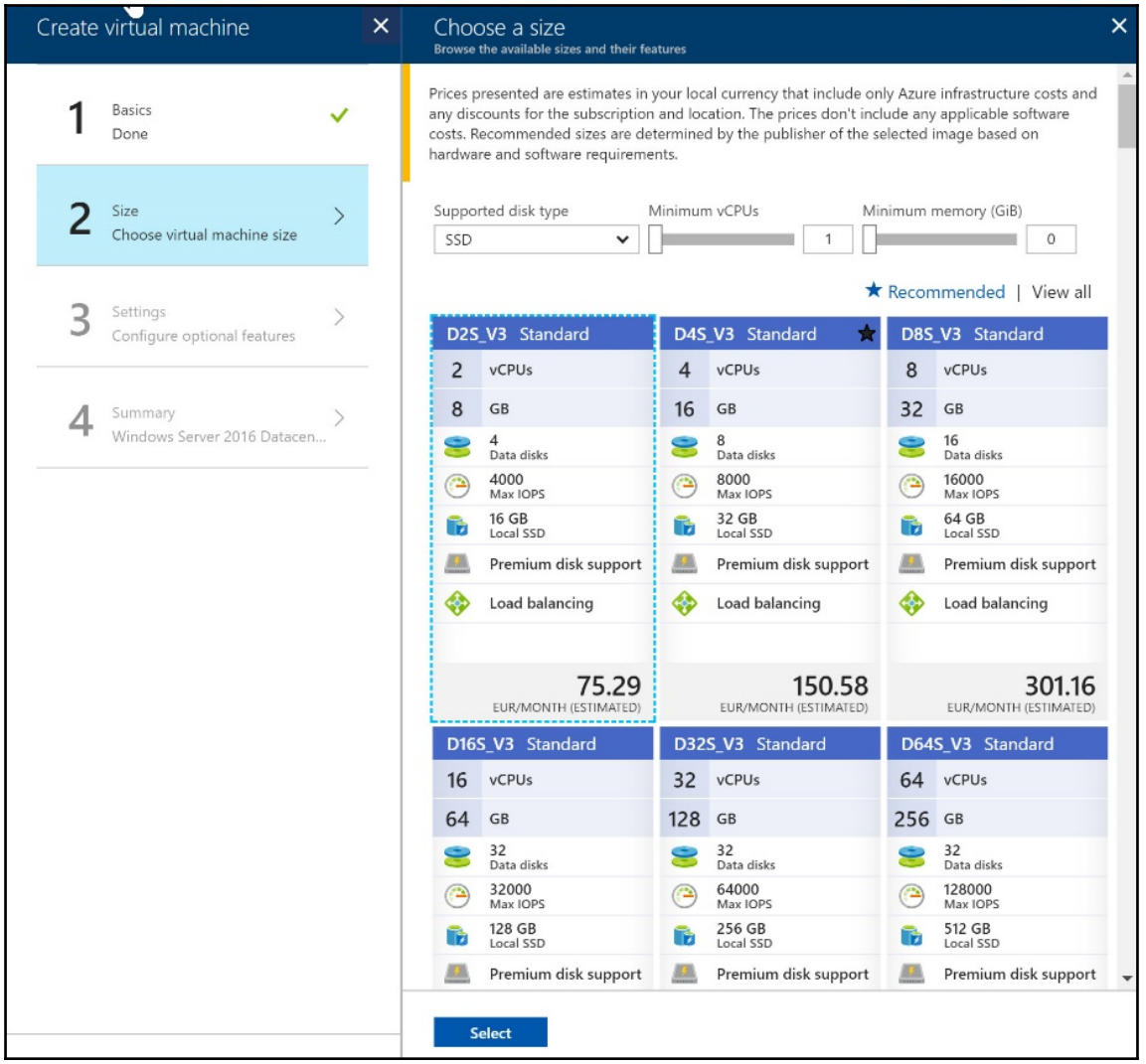
Chapter 1: Working with Azure Virtual Machines

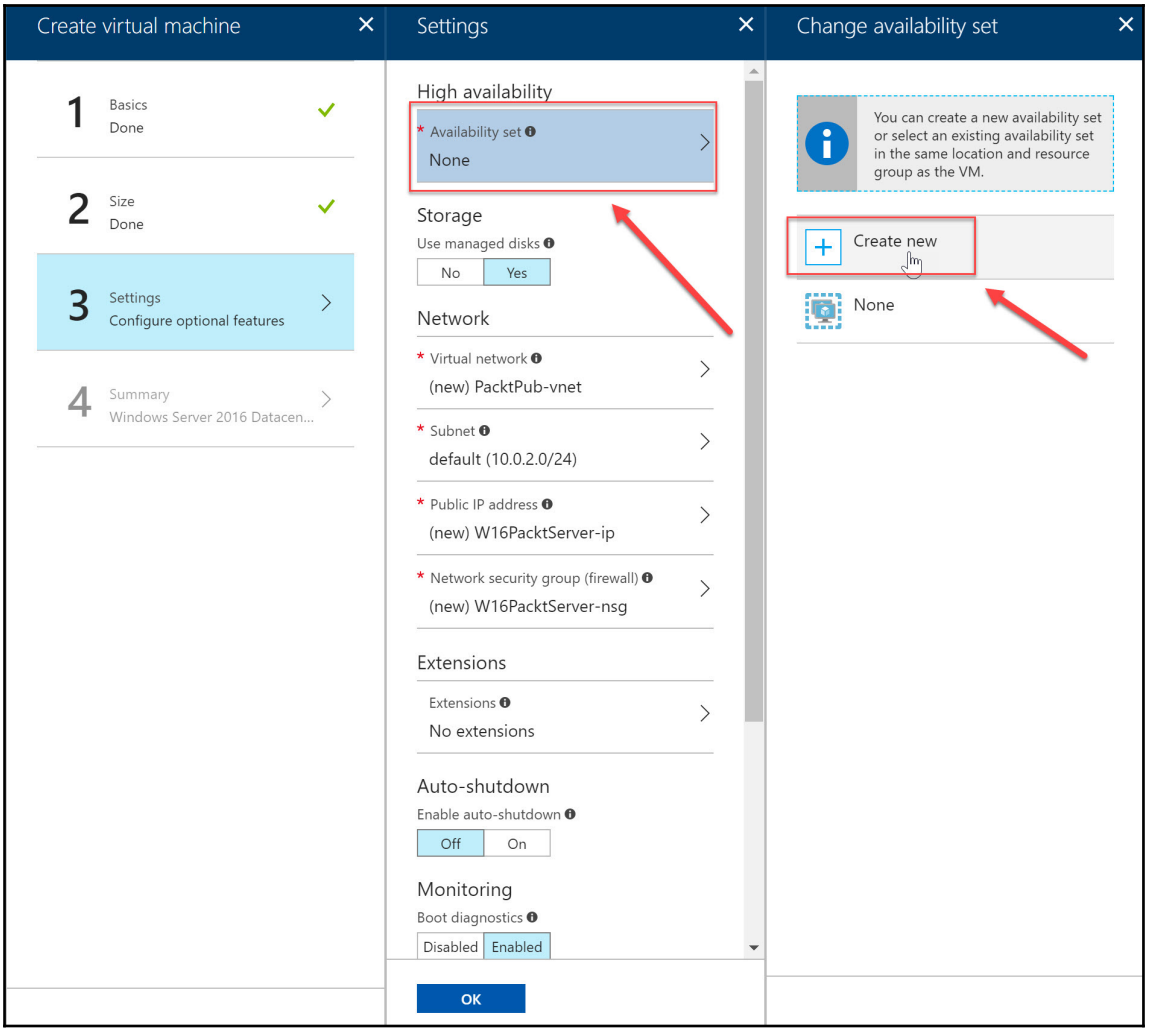


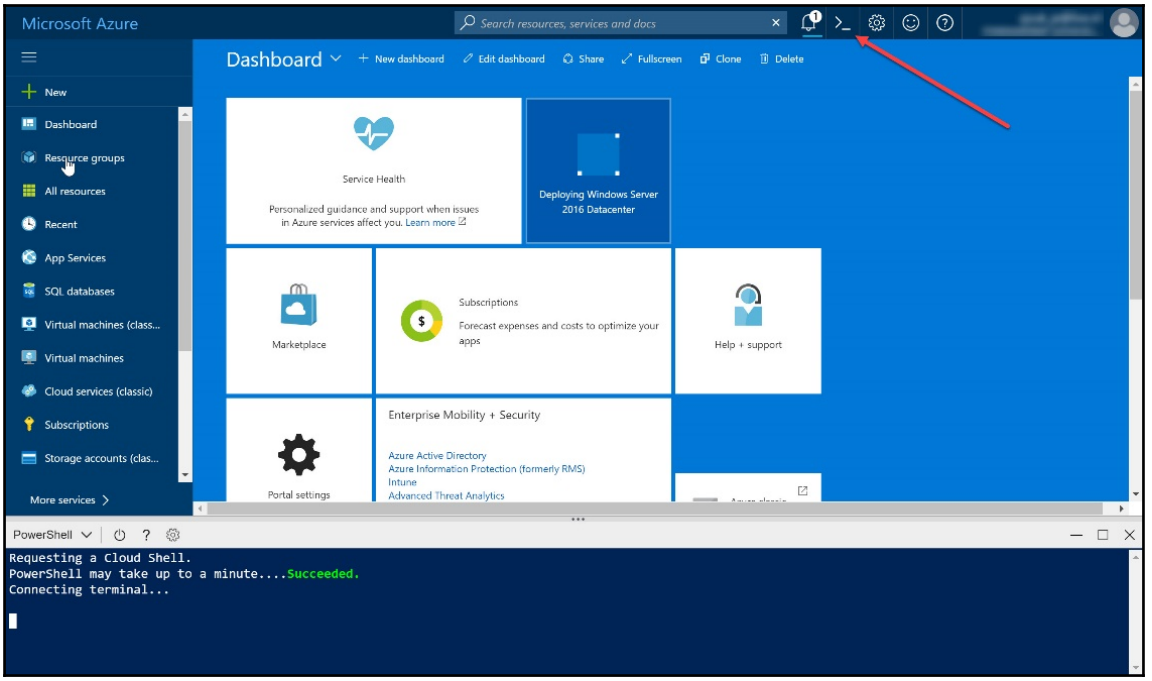

Fault Domain 0
Rack 1
Fault Domain 1
Rack 2
Fault Domain 2
Rack 3
VM
Virtual machine 0
Update Domain 0
VM
Virtual machine 1
Update Domain 1
VM
Virtual machine 2
Update Domain 2
VM
Virtual machine 3
Update Domain 3
VM
Virtual machine 4
Update Domain 4
Availability Set
Microsoft
Azure

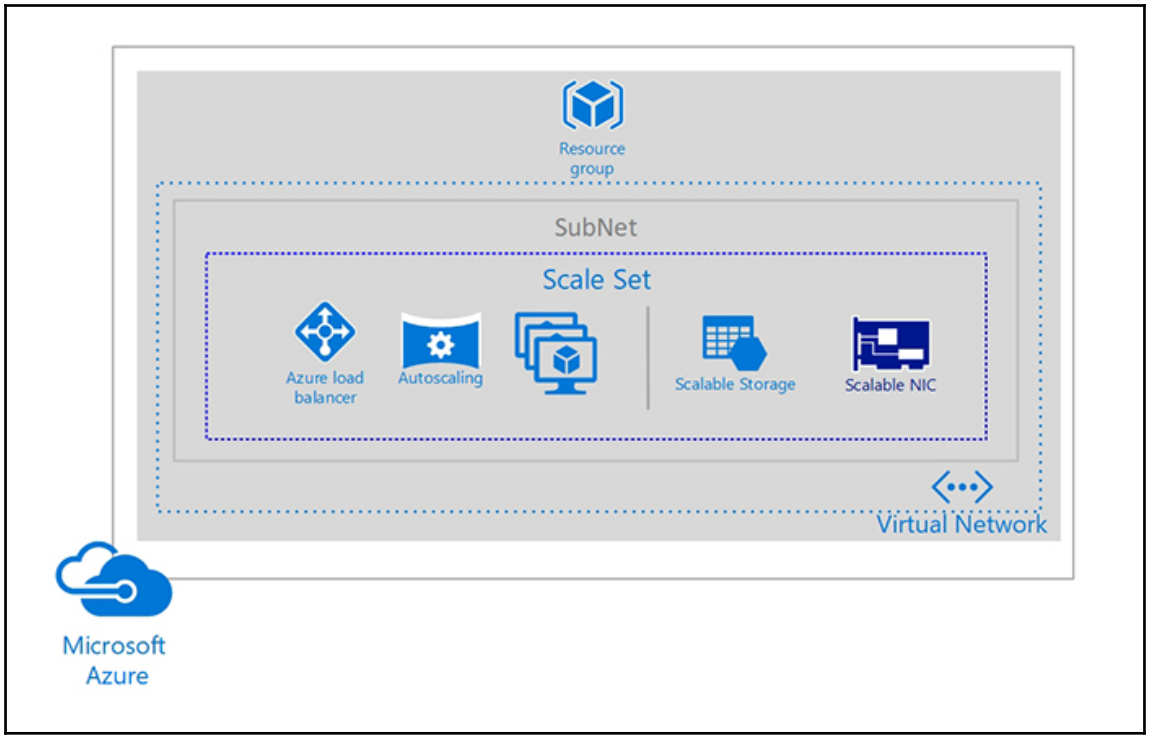

Microsoft Azure
New
New
Search the Marketplace
Azure Marketplace
See all
Get started
Recently created
Compute
Networking
Storage
Web + Mobile
Containers
Databases
Data + Analytics
AI + Cognitive Services
Internet of Things
Enterprise Integration
Security + Identity
Developer tools
Monitoring + Management
Add-ons
Blockchain
Popular
Windows Server 2016 VM
Quickstart tutorial
Ubuntu Server 16.04 LTS VM
Quickstart tutorial
Web App
Quickstart tutorial
SQL Database
Quickstart tutorial
Cosmos DB
Quickstart tutorial
DevOps Project
Quickstart tutorial
Storage Account
Quickstart tutorial
Serverless Function App
Quickstart tutorial
Show recently created items
Dashboard
Resource groups
All resources
Recent
App Services
SQL databases
Virtual machines (class...
Virtual machines
Cloud services (classic)
Subscriptions
Storage accounts (clas...
Azure Active Directory
Monitor
Security Center
Cost Management + B...
More services

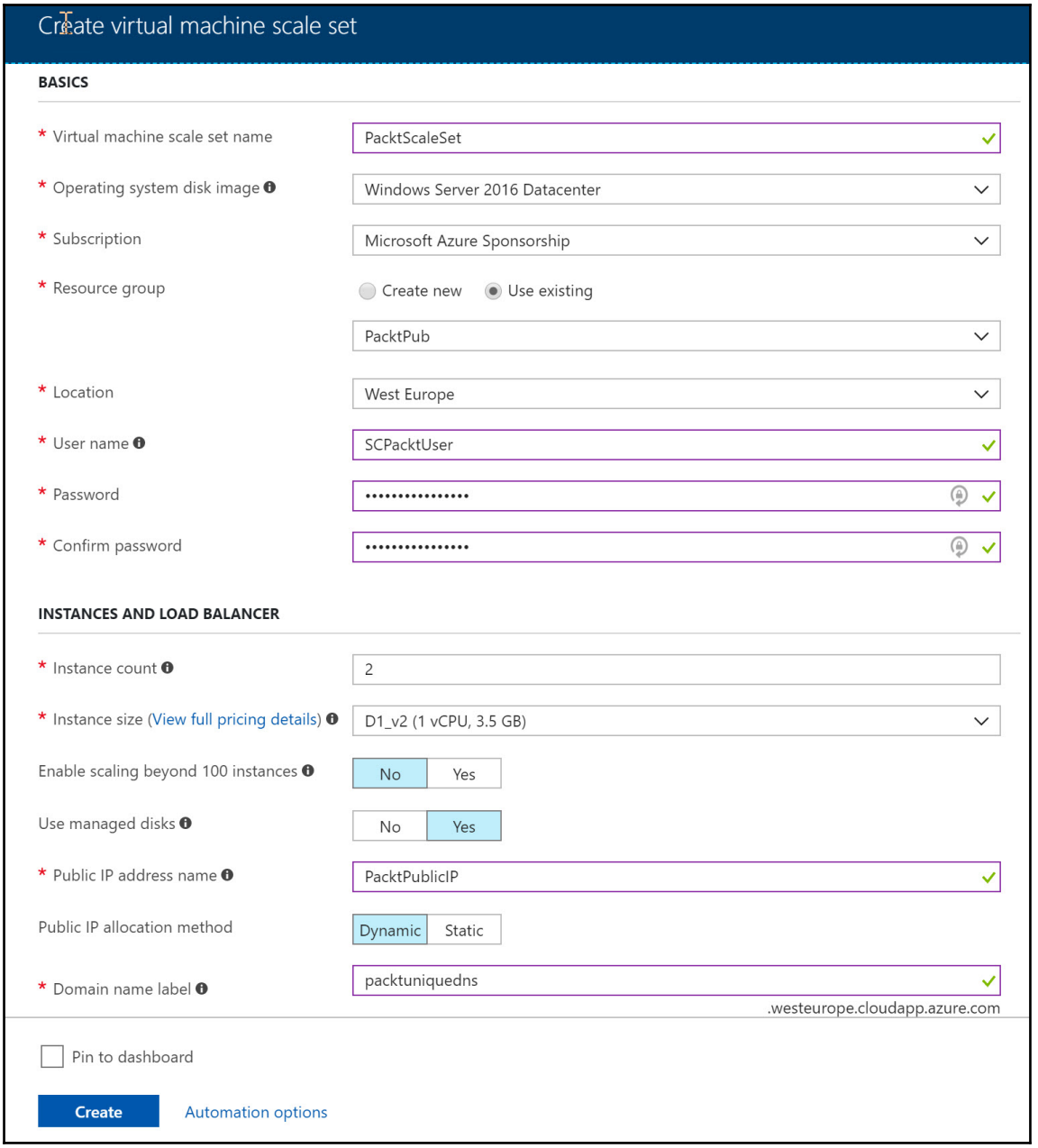

Create virtual machine
1
Basics
Configure basic settings
2
Size
Choose virtual machine size
3
Settings
Configure optional features
4
Summary
Windows Server 2016 Datacen...
Basics
W16PacktServer
VM disk type
SSD
* User name
W16PacktUser
* Password
* Confirm password
Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktPub
* Location
West Europe
Save money
Save up to 40% with a license you already own.
* Already have a Windows Server license?
Yes
No
* I confirm I have an eligible Windows Server license with Software Assurance to apply this Azure Hybrid Benefit.
Review Azure hybrid benefit compliance
OK


Create virtual machine
1 Basics
Done
2 Size
Choose virtual machine size
3 Settings
Configure optional features
4 Summary
Windows Server 2016 Datacen...
Choose a size
Browse the available sizes and their features
Prices presented are estimates in your local currency that include only Azure infrastructure costs and any discounts for the subscription and location. The prices don't include any applicable software costs. Recommended sizes are determined by the publisher of the selected image based on hardware and software requirements.
Supported disk type
SSD
Minimum vCPUs
1
Minimum memory (GiB)
0
Recommended | View all
D2S_V3 Standard
2 vCPUs
8 GB
4 Data disks
4000 Max IOPS
16 GB Local SSD
Premium disk support
Load balancing
75.29 EUR/MONTH (ESTIMATED)
D4S_V3 Standard
4 vCPUs
16 GB
8 Data disks
8000 Max IOPS
32 GB Local SSD
Premium disk support
Load balancing
150.58 EUR/MONTH (ESTIMATED)
D8S_V3 Standard
8 vCPUs
32 GB
16 Data disks
16000 Max IOPS
64 GB Local SSD
Premium disk support
Load balancing
301.16 EUR/MONTH (ESTIMATED)
D16S_V3 Standard
16 vCPUs
64 GB
32 Data disks
32000 Max IOPS
128 GB Local SSD
Premium disk support
D32S_V3 Standard
32 vCPUs
128 GB
32 Data disks
64000 Max IOPS
256 GB Local SSD
Premium disk support
D64S_V3 Standard
64 vCPUs
256 GB
32 Data disks
128000 Max IOPS
512 GB Local SSD
Premium disk support
Select

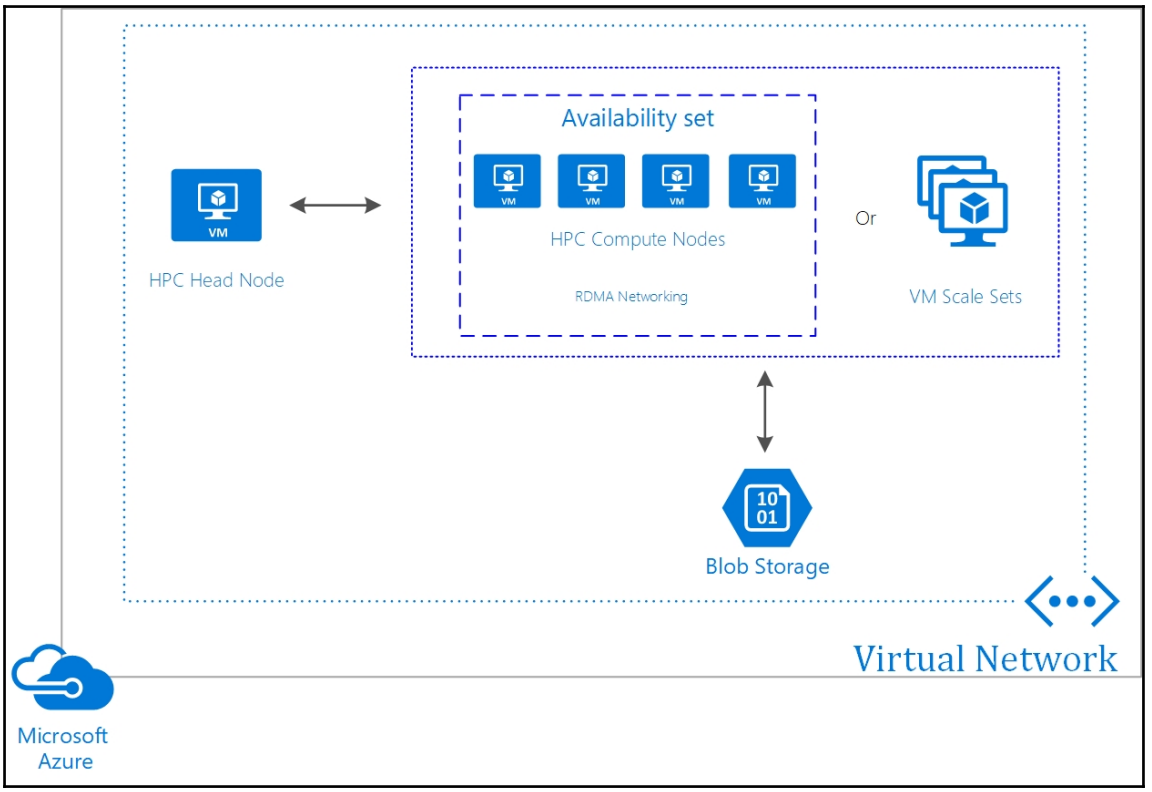

Create virtual machine
1 Basics
Done
2 Size
Done
3 Settings
Configure optional features
4 Summary
Windows Server 2016 Datacen...
Settings
High availability
* Availability set
None
Storage
Use managed disks
No
Yes
Network
* Virtual network
(new) PacktPub-vnet
* Subnet
default (10.0.2.0/24)
* Public IP address
(new) W16PacktServer-ip
* Network security group (firewall)
(new) W16PacktServer-nsg
Extensions
Extensions
No extensions
Auto-shutdown
Enable auto-shutdown
Off
On
Monitoring
Boot diagnostics
Disabled
Enabled
OK
Change availability set
You can create a new availability set or select an existing availability set in the same location and resource group as the VM.
Create new
None

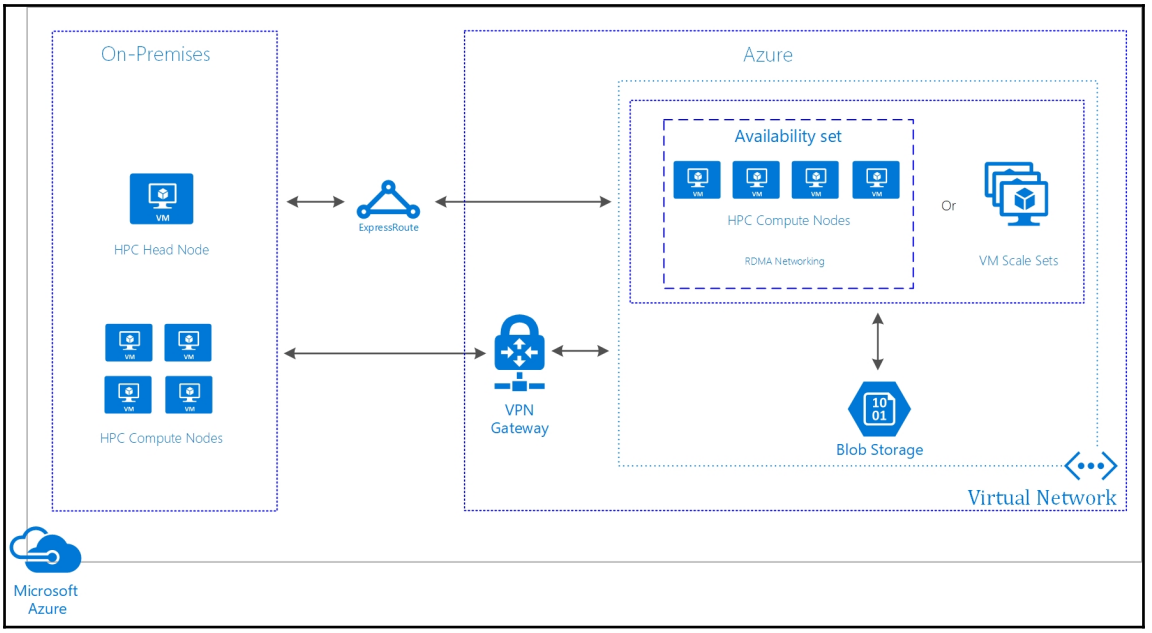

Microsoft Azure
Search resources, services and docs
Dashboard
New dashboard
Edit dashboard
Share
Fullscreen
Clone
Delete
New
Dashboard
Resource groups
All resources
Recent
App Services
SQL databases
Virtual machines (class...
Virtual machines
Cloud services (classic)
Subscriptions
Storage accounts (clas...
More services
Service Health
Personalized guidance and support when issues in Azure services affect you. Learn more
Deploying Windows Server 2016 Datacenter
Marketplace
Subscriptions
Forecast expenses and costs to optimize your apps
Help + support
Portal settings
Enterprise Mobility + Security
Azure Active Directory
Azure Information Protection (formerly RMS)
Intune
Advanced Threat Analytics
PowerShell
Requesting a Cloud Shell.
PowerShell may take up to a minute....Succeeded.
Connecting terminal...

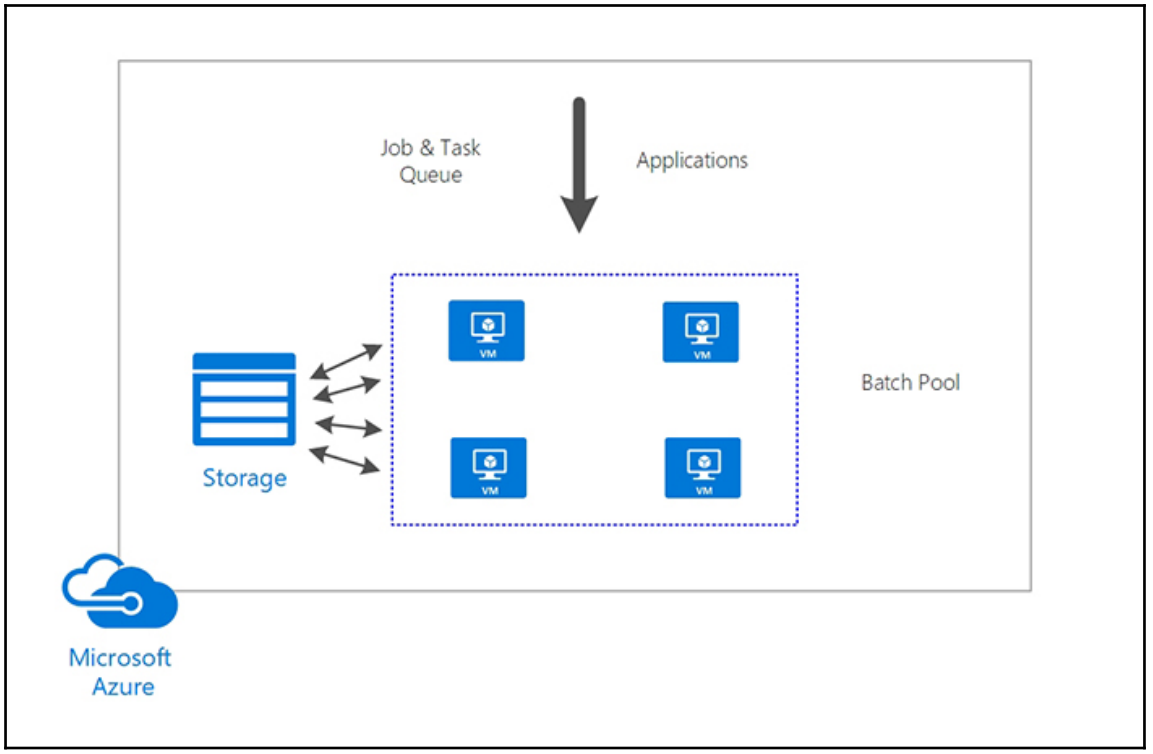

Resource group
SubNet
Scale Set
Azure load balancer
Autoscaling
Scalable Storage
Scalable NIC
Virtual Network
Microsoft Azure

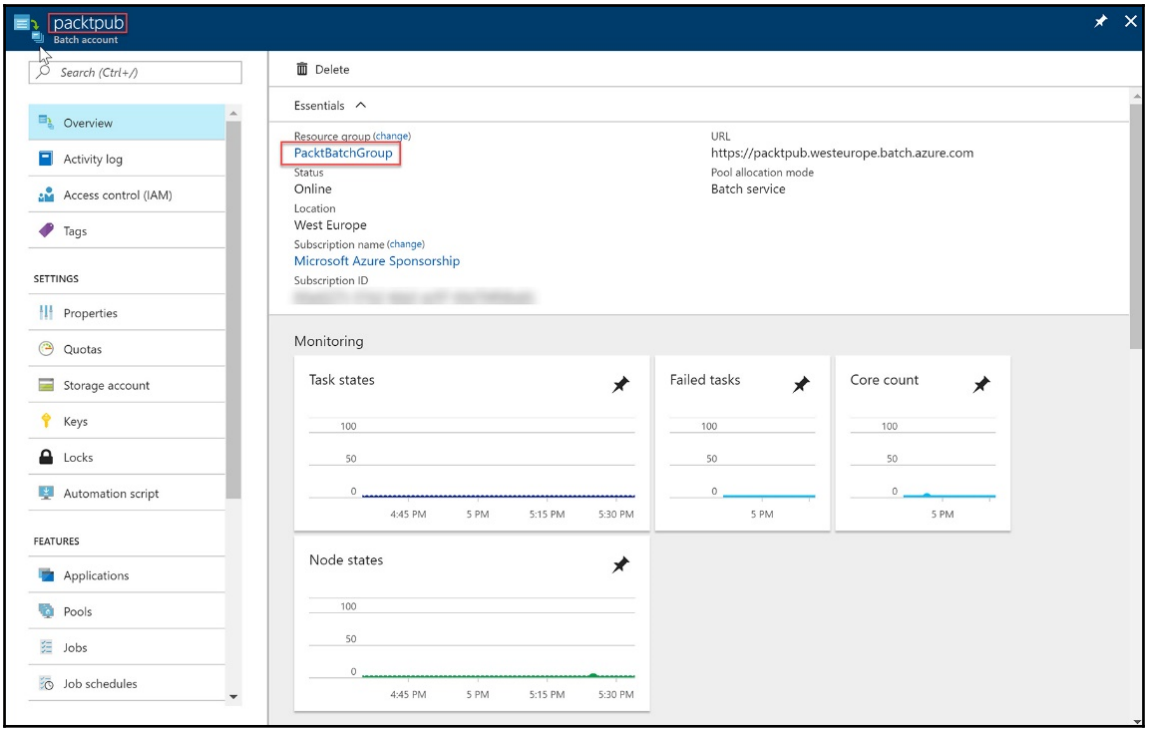

Create virtual machine scale set
BASICS
* Virtual machine scale set name
PacktScaleSet
* Operating system disk image
Windows Server 2016 Datacenter
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktPub
* Location
West Europe
* User name
SCPacktUser
* Password
* Confirm password
INSTANCES AND LOAD BALANCER
* Instance count
2
* Instance size (View full pricing details)
D1_v2 (1 vCPU, 3.5 GB)
Enable scaling beyond 100 instances
No
Yes
Use managed disks
No
Yes
* Public IP address name
PacktPublicIP
Public IP allocation method
Dynamic
Static
* Domain name label
packtuniquedns
.westeurope.cloudapp.azure.com
Pin to dashboard
Create
Automation options

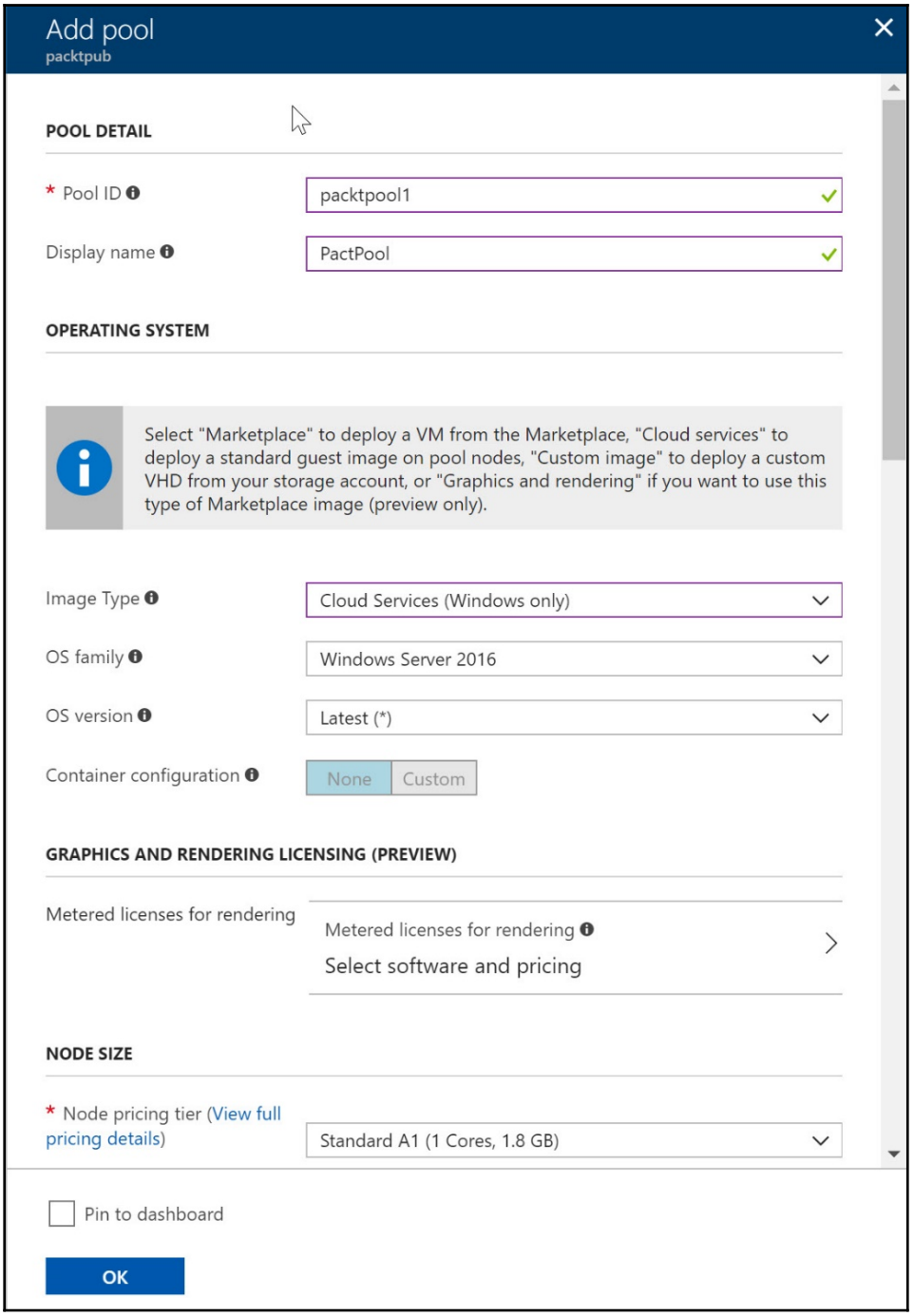
Chapter 2: Configuring Compute-Intensive Applications

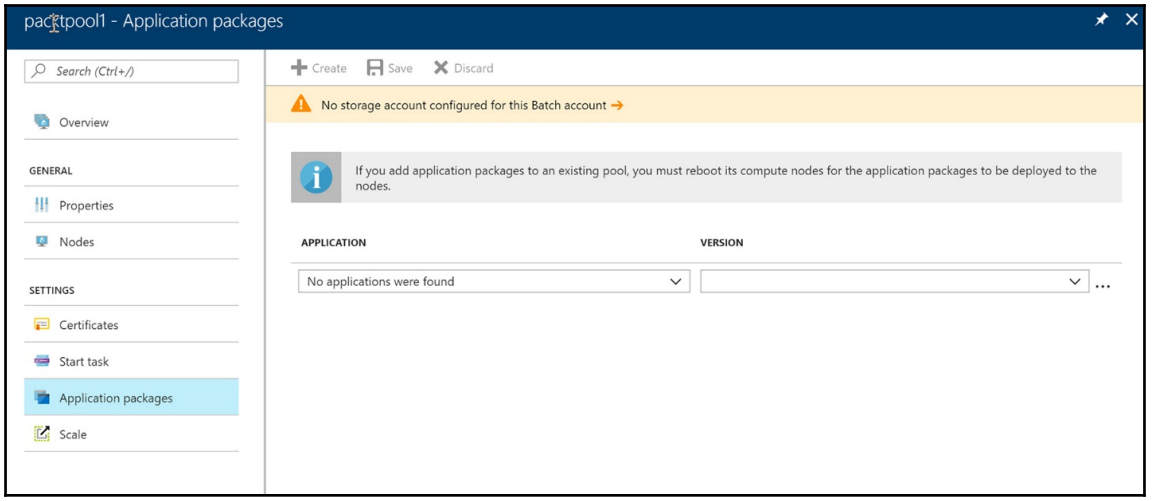


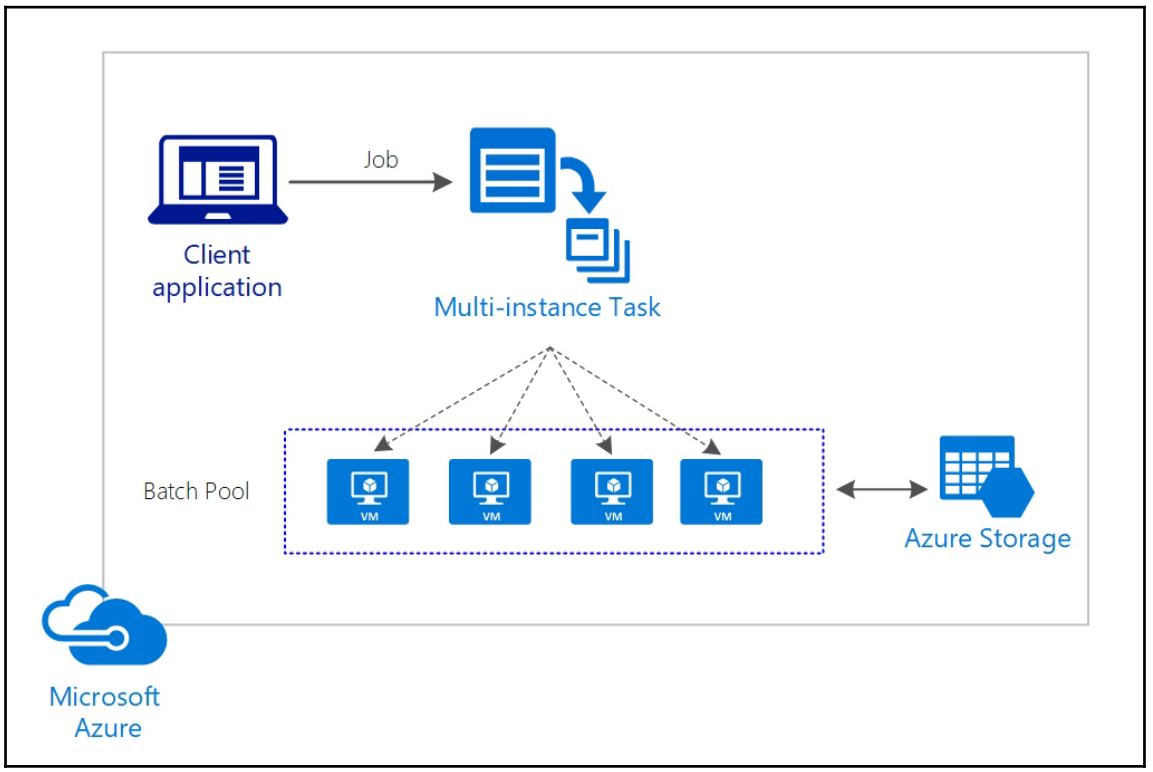

On-Premises
VM
HPC Head Node
VM
VM
VM
VM
HPC Compute Nodes
ExpressRoute
VPN
Gateway
Azure
Availability set
VM
VM
VM
VM
HPC Compute Nodes
RDMA Networking
Or
VM Scale Sets
10
01
Blob Storage
Virtual Network
Microsoft
Azure


Job & Task
Queue
Applications
VM
VM
VM
VM
Batch Pool
Storage
Microsoft
Azure

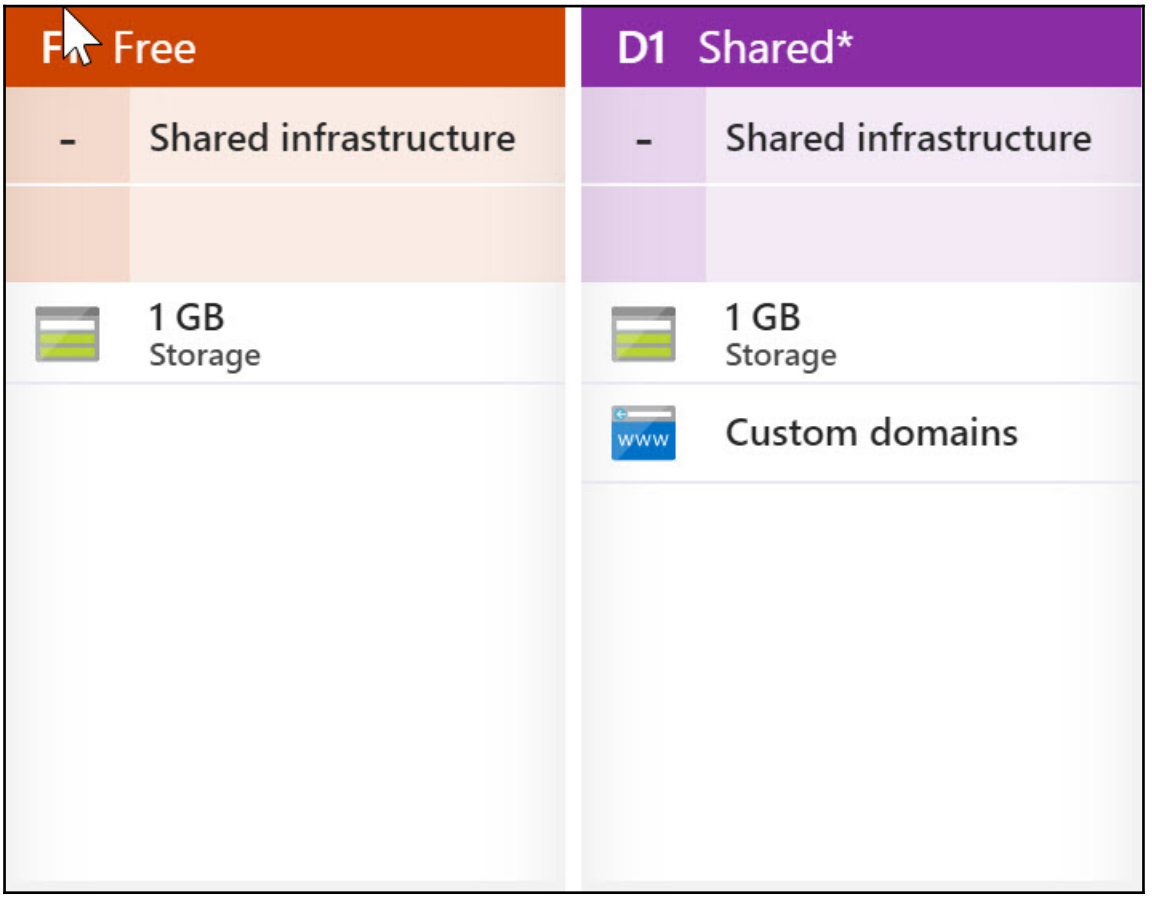

packtpub
Batch account
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
SETTINGS
Properties
Quotas
Storage account
Keys
Locks
Automation script
FEATURES
Applications
Pools
Jobs
Job schedules
Delete
Essentials
Resource group (change)
PacktBatchGroup
Status
Online
Location
West Europe
Subscription name (change)
Microsoft Azure Sponsorship
Subscription ID
URL
https://packtpub.westeurope.batch.azure.com
Pool allocation mode
Batch service
Monitoring
Task states
Failed tasks
Core count
Node states
100
50
0
4:45 PM
5 PM
5:15 PM
5:30 PM

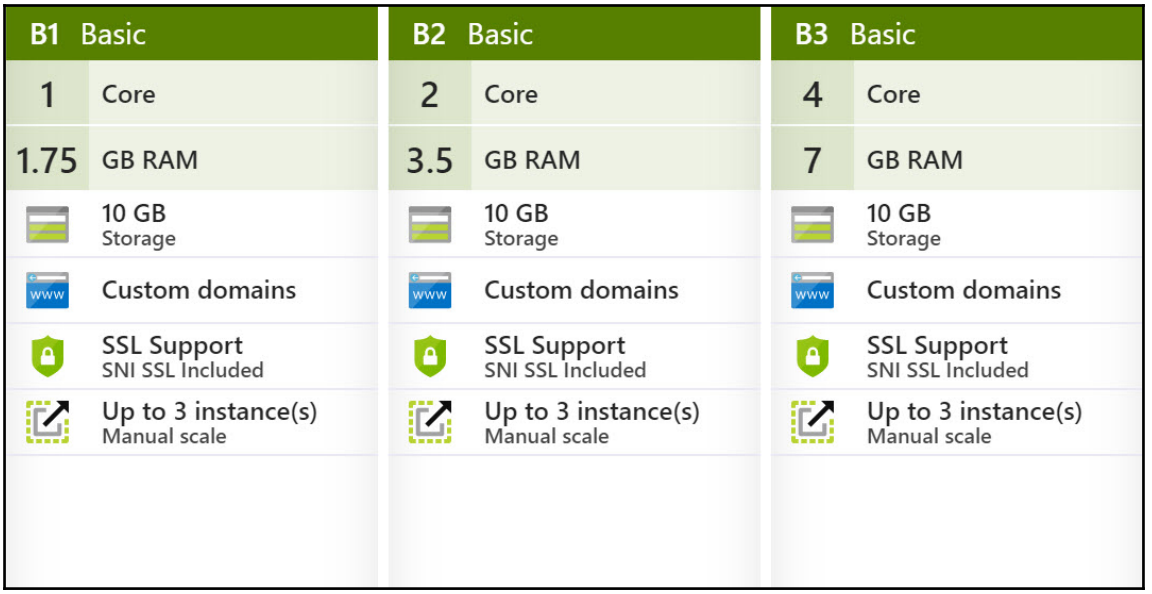

Add pool
packtpub
POOL DETAIL
* Pool ID
packtpool1
Display name
PactPool
OPERATING SYSTEM
Select "Marketplace" to deploy a VM from the Marketplace, "Cloud services" to deploy a standard guest image on pool nodes, "Custom image" to deploy a custom VHD from your storage account, or "Graphics and rendering" if you want to use this type of Marketplace image (preview only).
Image Type
Cloud Services (Windows only)
OS family
Windows Server 2016
OS version
Latest (*)
Container configuration
None
Custom
GRAPHICS AND RENDERING LICENSING (PREVIEW)
Metered licenses for rendering
Metered licenses for rendering
Select software and pricing
NODE SIZE
* Node pricing tier (View full pricing details)
Standard A1 (1 Cores, 1.8 GB)
Pin to dashboard
OK

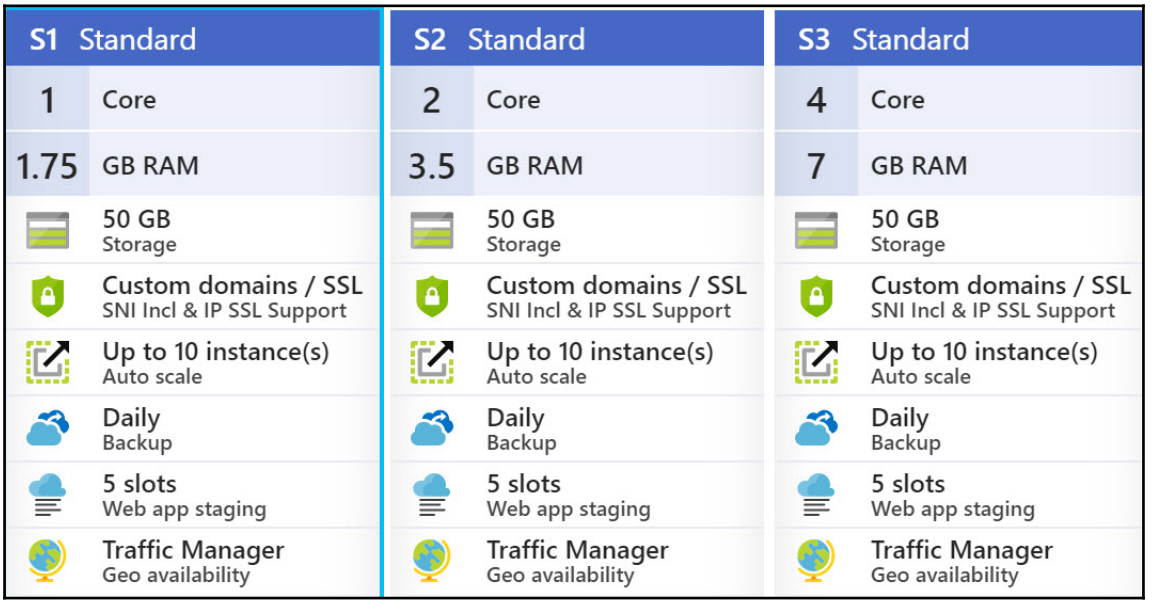

packtpool1 - Application packages
Search (Ctrl+/)
Overview
GENERAL
Properties
Nodes
SETTINGS
Certificates
Start task
Application packages
Scale
Create
Save
Discard
No storage account configured for this Batch account
If you add application packages to an existing pool, you must reboot its compute nodes for the application packages to be deployed to the nodes.
APPLICATION
VERSION
No applications were found


Job
Client application
Multi-instance Task
Batch Pool
VM
VM
VM
VM
Azure Storage
Microsoft Azure

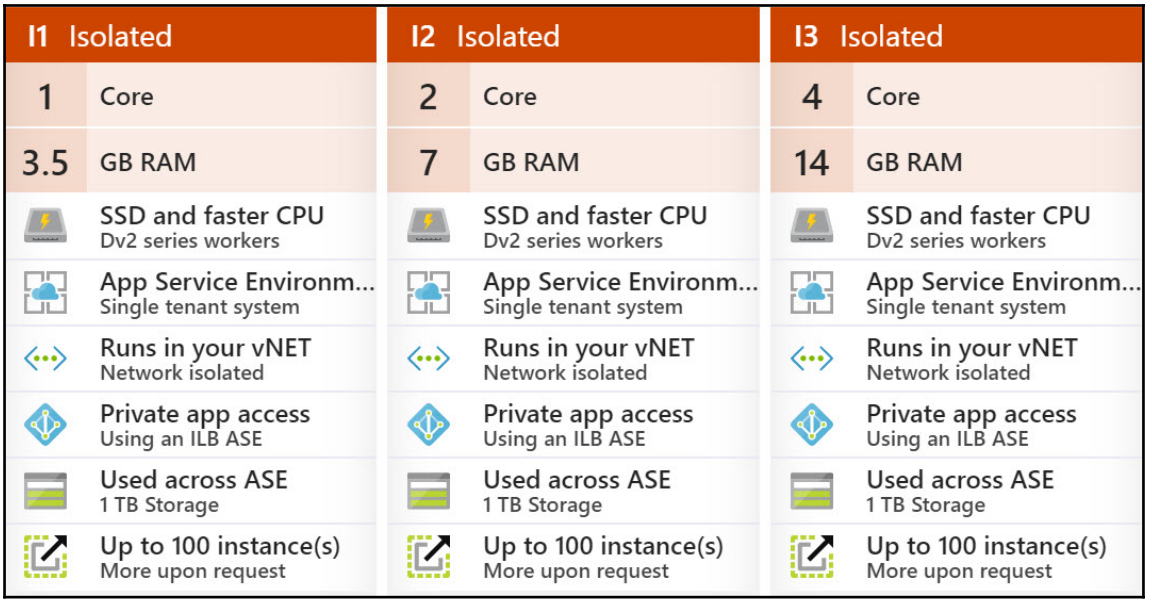
Chapter 3: Designing Web Applications

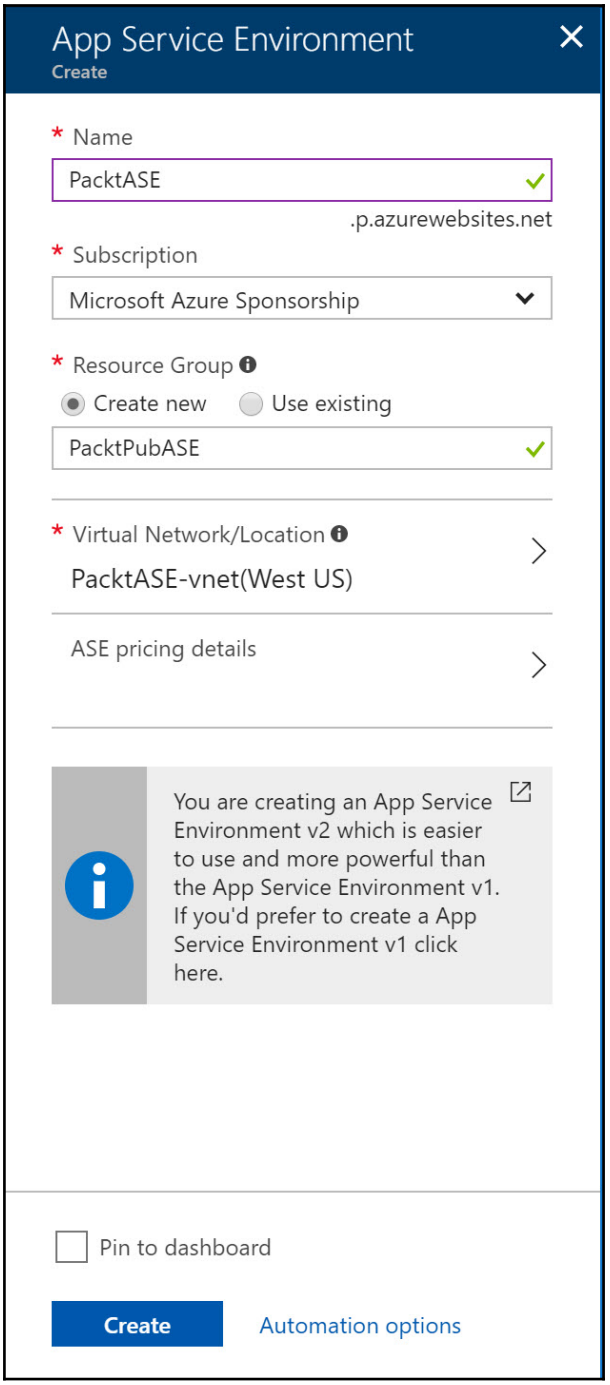


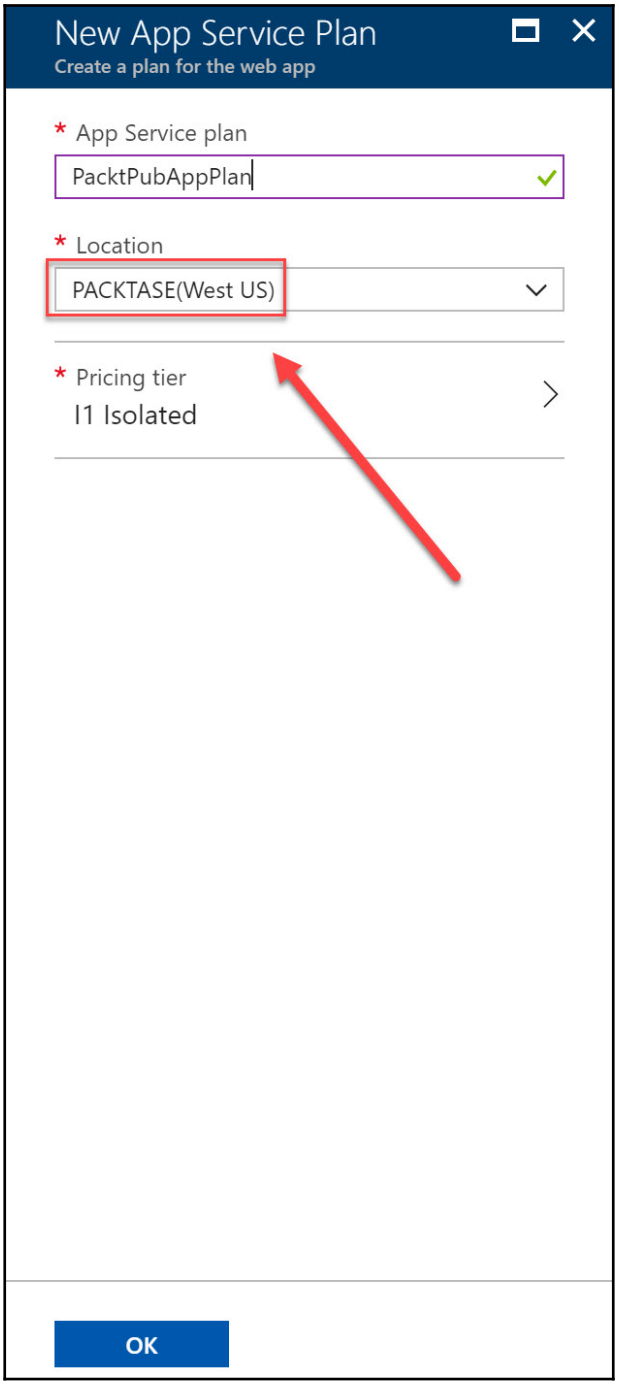

B1 Basic
1 Core
1.75 GB RAM
10 GB Storage
Custom domains
SSL Support SNI SSL Included
Up to 3 instance(s) Manual scale
B2 Basic
2 Core
3.5 GB RAM
10 GB Storage
Custom domains
SSL Support SNI SSL Included
Up to 3 instance(s) Manual scale
B3 Basic
4 Core
7 GB RAM
10 GB Storage
Custom domains
SSL Support SNI SSL Included
Up to 3 instance(s) Manual scale

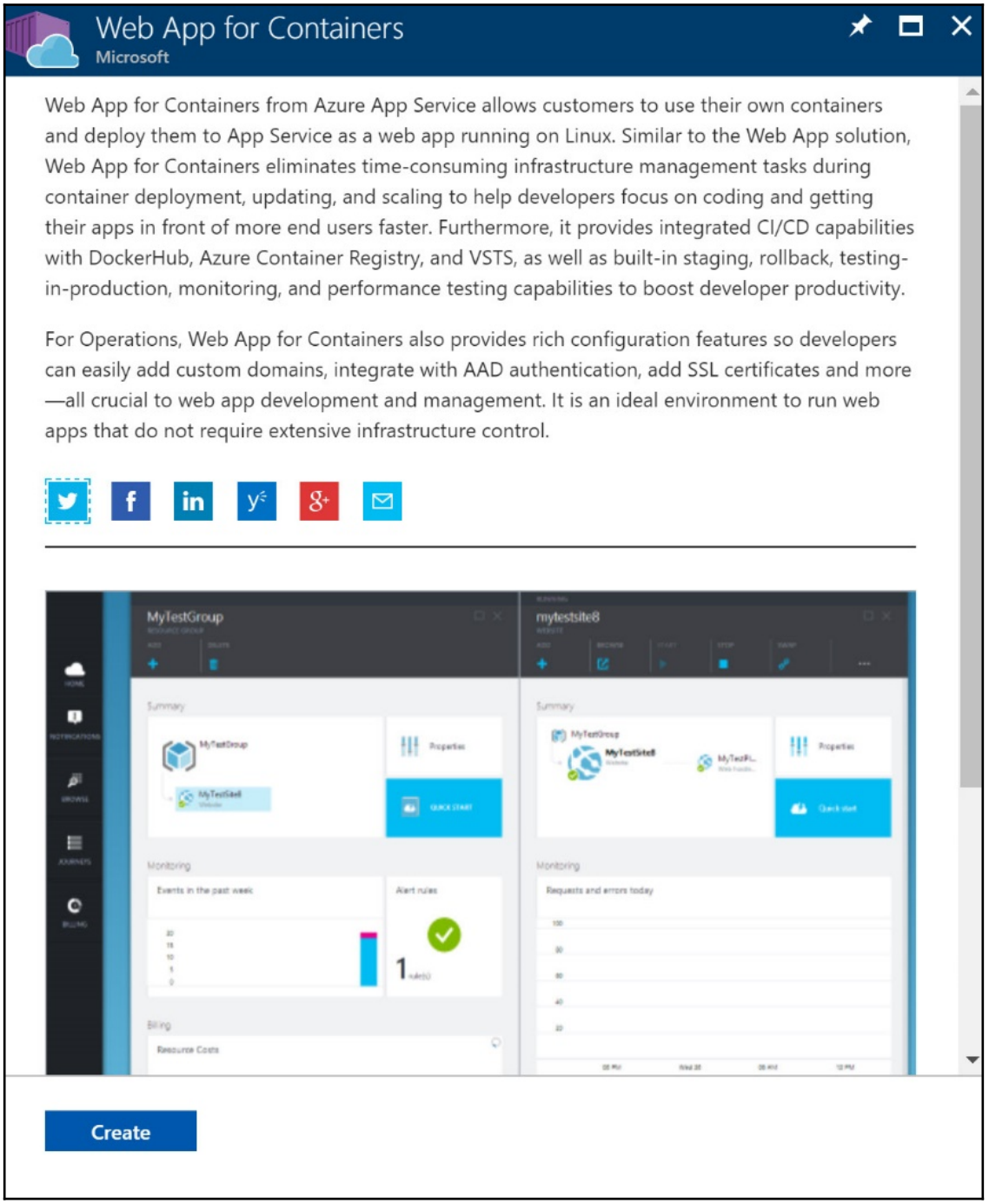

S1 Standard
1 Core
1.75 GB RAM
50 GB Storage
Custom domains / SSL SNI Incl & IP SSL Support
Up to 10 instance(s) Auto scale
Daily Backup
5 slots Web app staging
Traffic Manager Geo availability
S2 Standard
2 Core
3.5 GB RAM
50 GB Storage
Custom domains / SSL SNI Incl & IP SSL Support
Up to 10 instance(s) Auto scale
Daily Backup
5 slots Web app staging
Traffic Manager Geo availability
S3 Standard
4 Core
7 GB RAM
50 GB Storage
Custom domains / SSL SNI Incl & IP SSL Support
Up to 10 instance(s) Auto scale
Daily Backup
5 slots Web app staging
Traffic Manager Geo availability

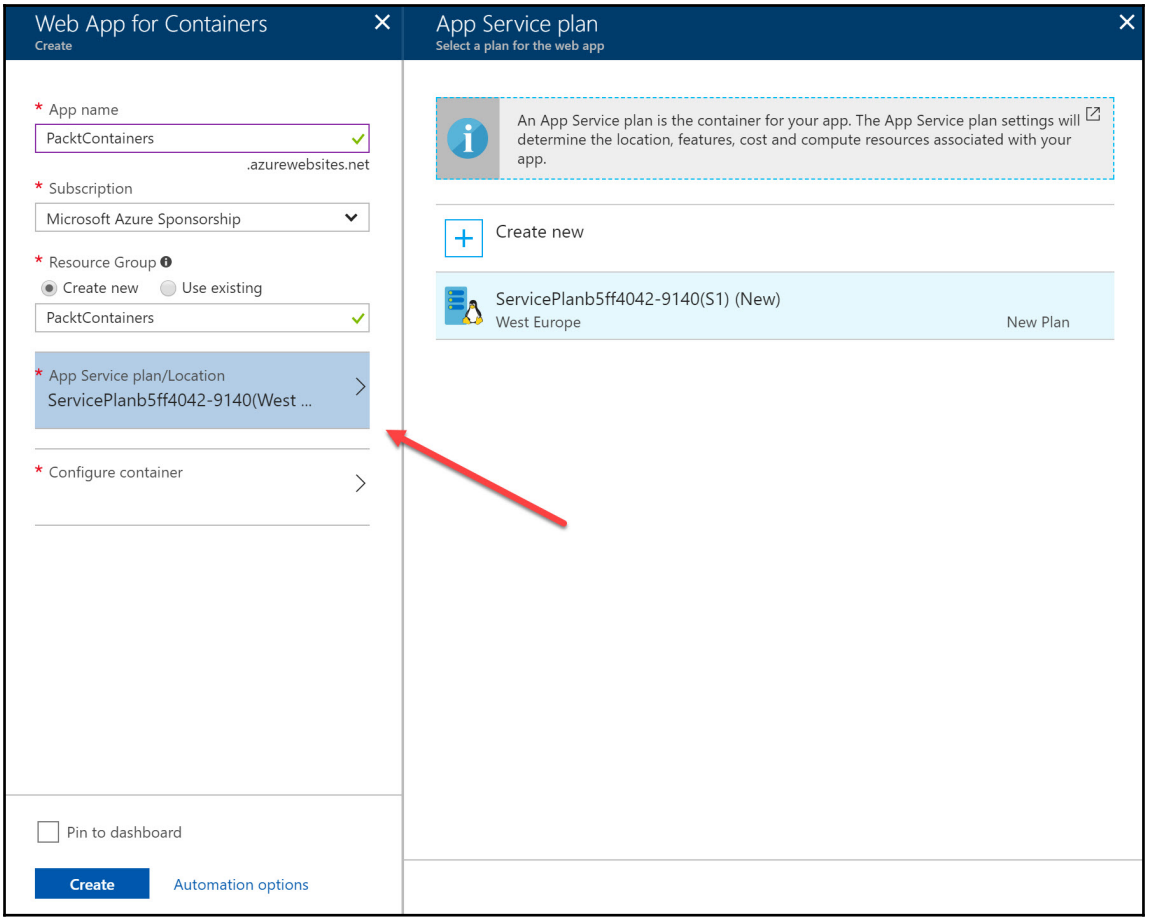

P1V2 PremiumV2
1 Core
3.5 GB RAM
SSD and faster CPU
Dv2 series workers
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
Traffic Manager
Geo availability
P2V2 PremiumV2
2 Core
7 GB RAM
SSD and faster CPU
Dv2 series workers
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
Traffic Manager
Geo availability
P3V2 PremiumV2
4 Core
14 GB RAM
SSD and faster CPU
Dv2 series workers
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
Traffic Manager
Geo availability
P1 Premium
1 Core
1.75 GB RAM
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
50 times daily
Backup
Traffic Manager
Geo availability
P2 Premium
2 Core
3.5 GB RAM
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
50 times daily
Backup
Traffic Manager
Geo availability
P3 Premium
4 Core
7 GB RAM
250 GB
Storage
Custom domains / SSL
SNI Incl & IP SSL Support
Up to 20 instance(s) *
Subject to availability
20 slots
Web app staging
50 times daily
Backup
Traffic Manager
Geo availability

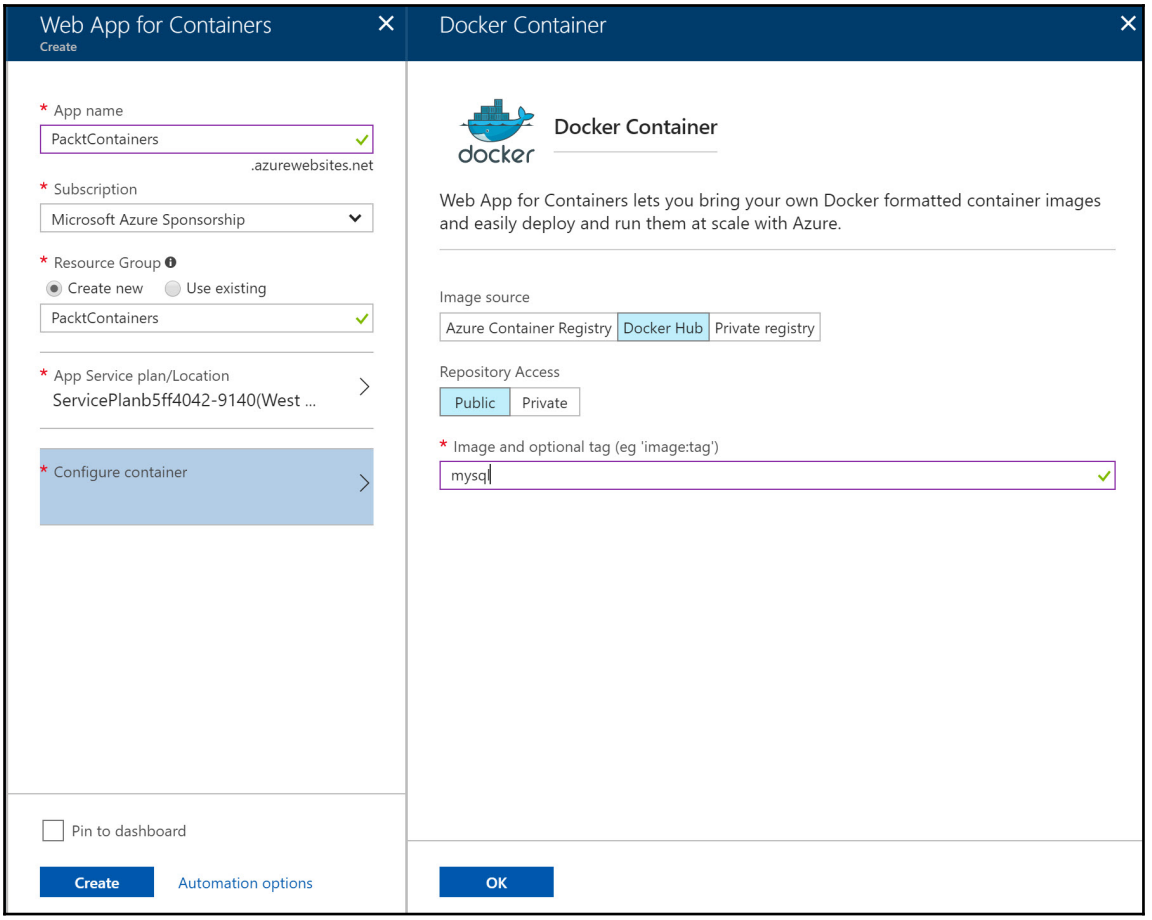

I1 Isolated
1 Core
3.5 GB RAM
SSD and faster CPU
Dv2 series workers
App Service Environm...
Single tenant system
Runs in your vNET
Network isolated
Private app access
Using an ILB ASE
Used across ASE
1 TB Storage
Up to 100 instance(s)
More upon request
I2 Isolated
2 Core
7 GB RAM
SSD and faster CPU
Dv2 series workers
App Service Environm...
Single tenant system
Runs in your vNET
Network isolated
Private app access
Using an ILB ASE
Used across ASE
1 TB Storage
Up to 100 instance(s)
More upon request
I3 Isolated
4 Core
14 GB RAM
SSD and faster CPU
Dv2 series workers
App Service Environm...
Single tenant system
Runs in your vNET
Network isolated
Private app access
Using an ILB ASE
Used across ASE
1 TB Storage
Up to 100 instance(s)
More upon request

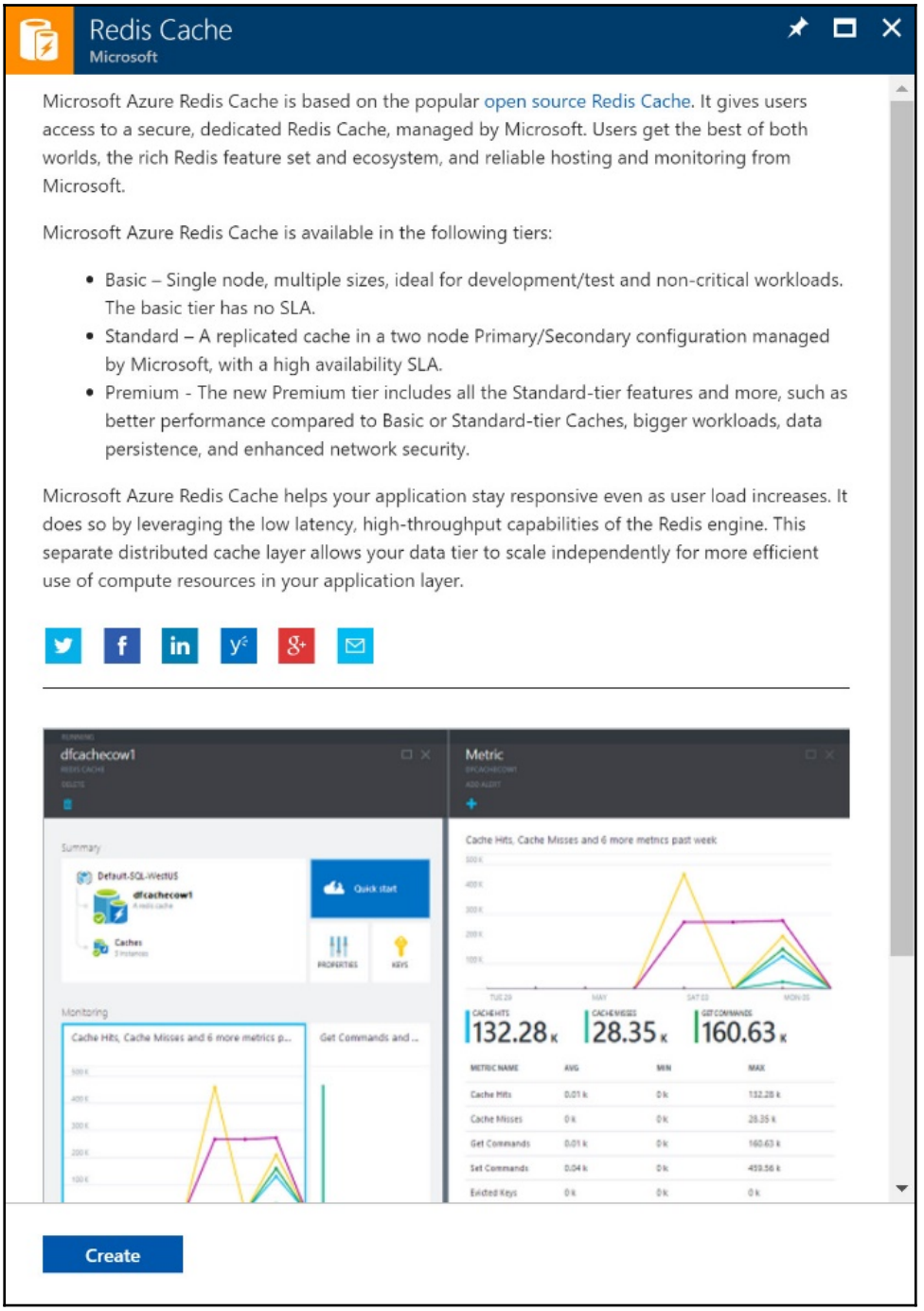

App Service Environment
Create
* Name
PacktASE
.p.azurewebsites.net
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktPubASE
* Virtual Network/Location
PacktASE-vnet(West US)
ASE pricing details
You are creating an App Service Environment v2 which is easier to use and more powerful than the App Service Environment v1. If you'd prefer to create a App Service Environment v1 click here.
Pin to dashboard
Create
Automation options

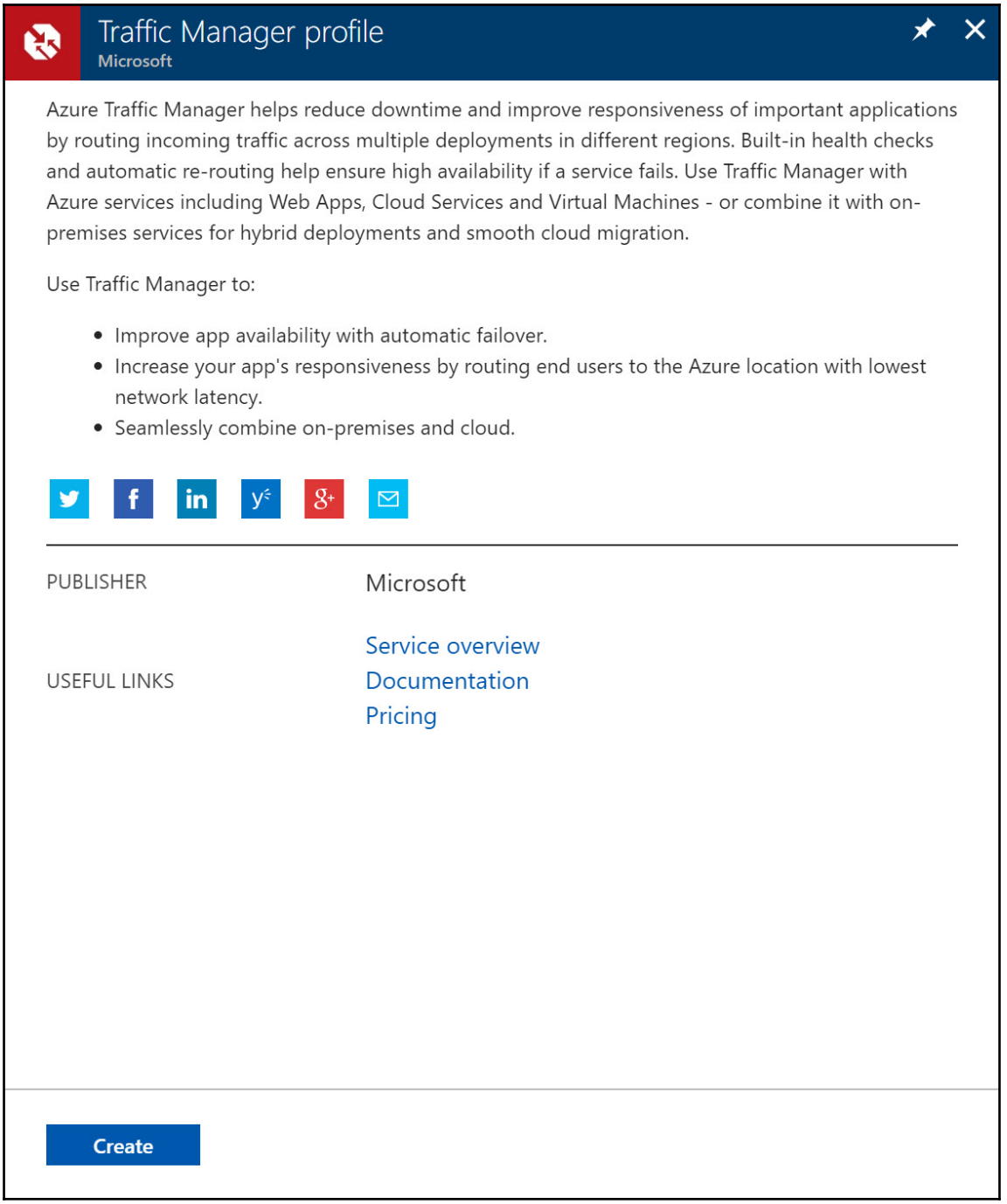

New App Service Plan
Create a plan for the web app
* App Service plan
PacktPubAppPlan
* Location
PACKTASE(West US)
* Pricing tier
I1 Isolated
OK

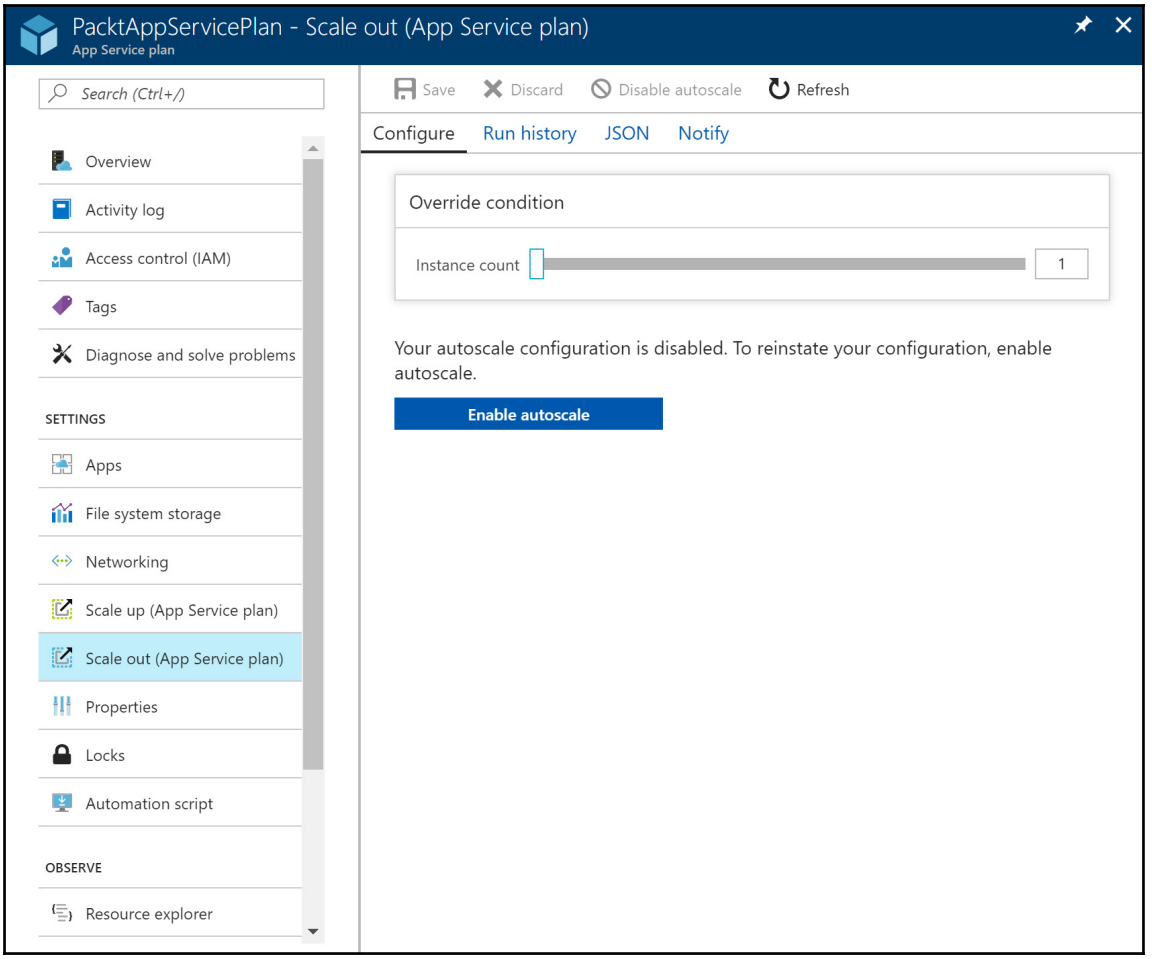

Web App for Containers
Microsoft
Web App for Containers from Azure App Service allows customers to use their own containers and deploy them to App Service as a web app running on Linux. Similar to the Web App solution, Web App for Containers eliminates time-consuming infrastructure management tasks during container deployment, updating, and scaling to help developers focus on coding and getting their apps in front of more end users faster. Furthermore, it provides integrated CI/CD capabilities with DockerHub, Azure Container Registry, and VSTS, as well as built-in staging, rollback, testing-in-production, monitoring, and performance testing capabilities to boost developer productivity.
For Operations, Web App for Containers also provides rich configuration features so developers can easily add custom domains, integrate with AAD authentication, add SSL certificates and more —all crucial to web app development and management. It is an ideal environment to run web apps that do not require extensive infrastructure control.
MyTestGroup
mytestsite8
Summary
Monitoring
Billing
Create

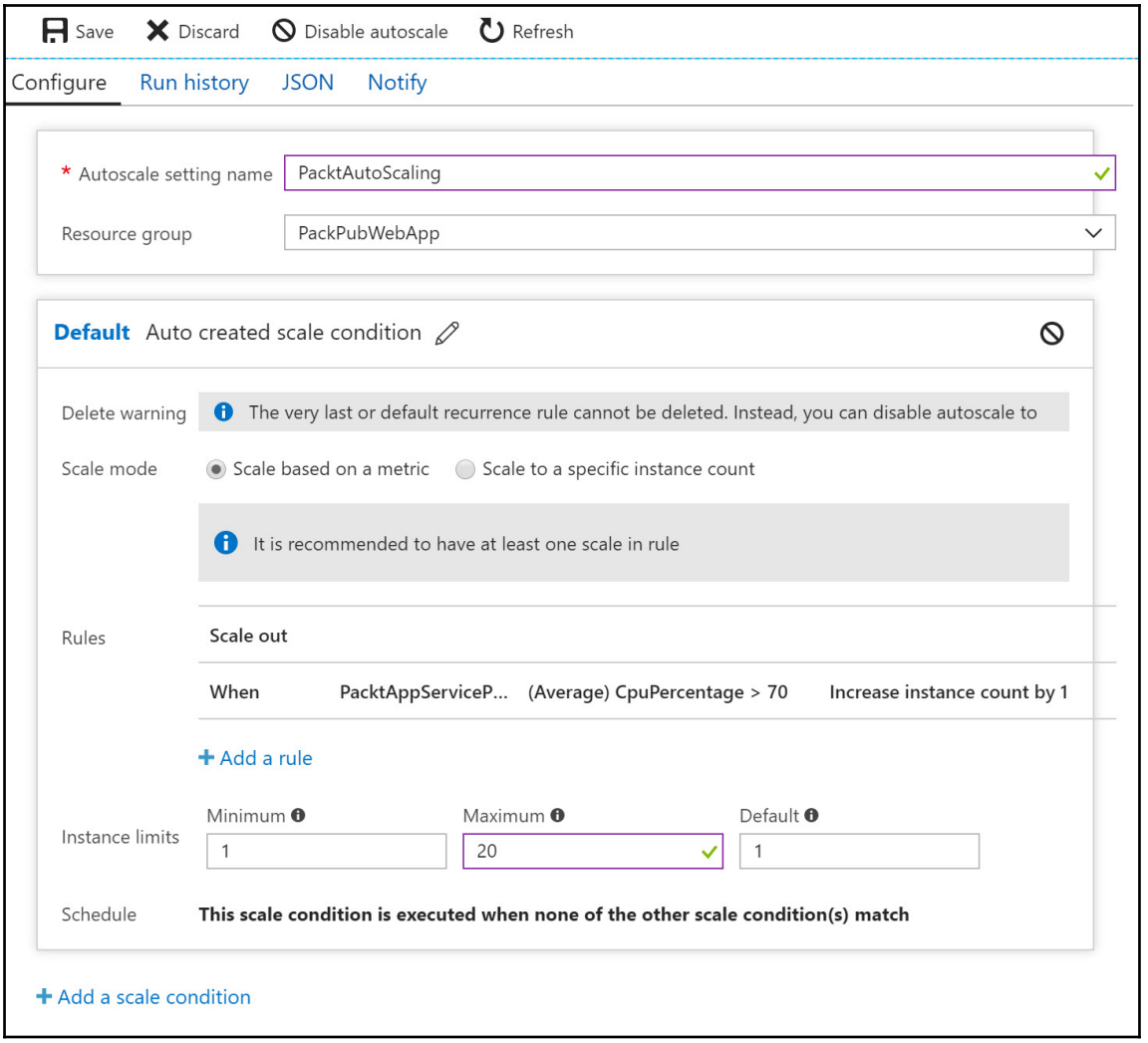

Web App for Containers
Create
App Service plan
Select a plan for the web app
* App name
PacktContainers
.azurewebsites.net
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktContainers
* App Service plan/Location
ServicePlanb5ff4042-9140(West ...
* Configure container
An App Service plan is the container for your app. The App Service plan settings will determine the location, features, cost and compute resources associated with your app.
Create new
ServicePlanb5ff4042-9140(S1) (New)
West Europe
New Plan
Pin to dashboard
Create
Automation options

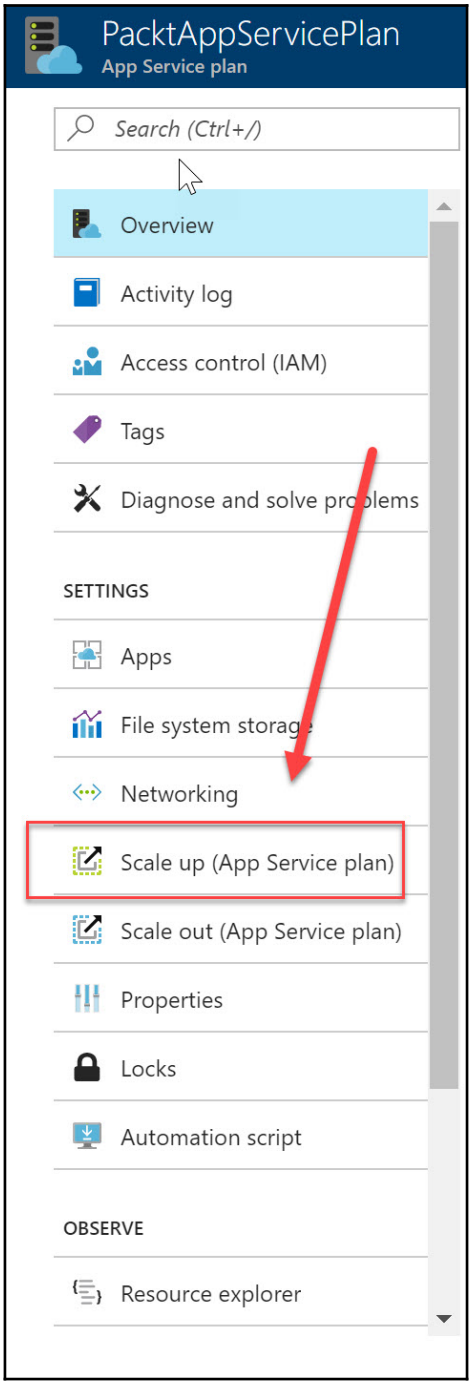

Web App for Containers
Create
* App name
PacktContainers
.azurewebsites.net
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktContainers
* App Service plan/Location
ServicePlanb5ff4042-9140(West ...
* Configure container
Pin to dashboard
Create
Automation options
Docker Container
docker
Docker Container
Web App for Containers lets you bring your own Docker formatted container images and easily deploy and run them at scale with Azure.
Image source
Azure Container Registry
Docker Hub
Private registry
Repository Access
Public
Private
* Image and optional tag (eg 'image:tag')
mysql
OK

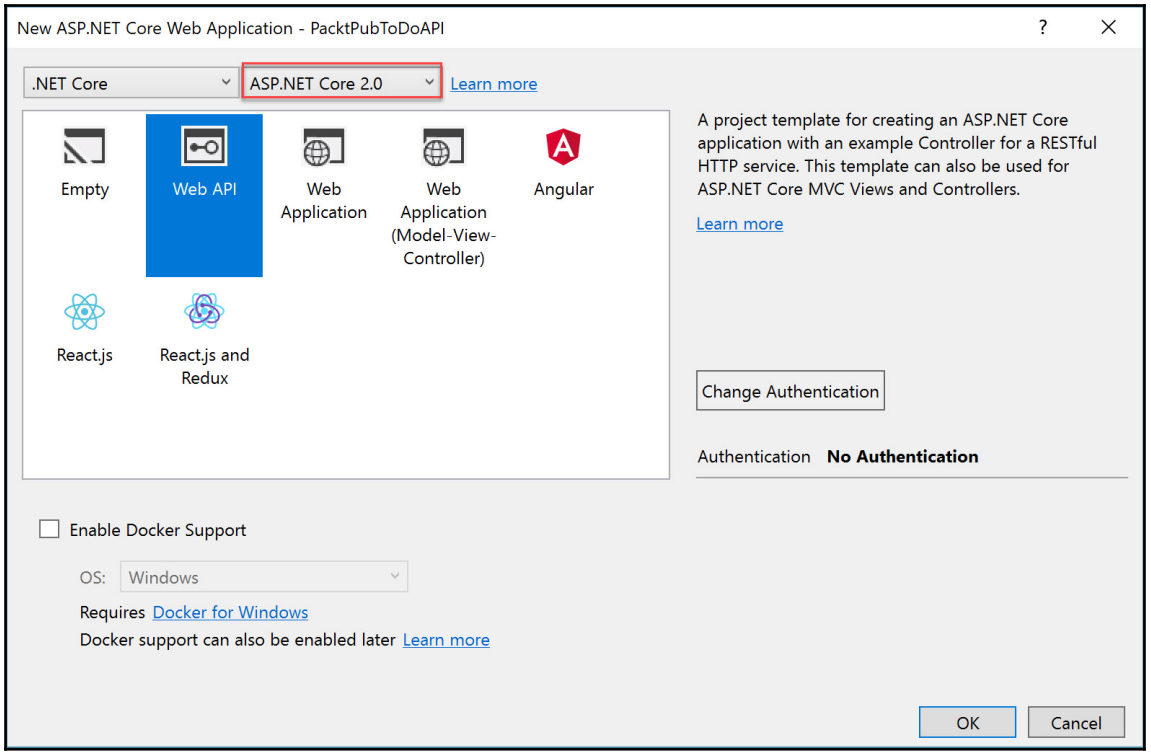

Redis Cache
Microsoft
Microsoft Azure Redis Cache is based on the popular open source Redis Cache. It gives users access to a secure, dedicated Redis Cache, managed by Microsoft. Users get the best of both worlds, the rich Redis feature set and ecosystem, and reliable hosting and monitoring from Microsoft.
Microsoft Azure Redis Cache is available in the following tiers:
Basic – Single node, multiple sizes, ideal for development/test and non-critical workloads. The basic tier has no SLA.
Standard – A replicated cache in a two node Primary/Secondary configuration managed by Microsoft, with a high availability SLA.
Premium - The new Premium tier includes all the Standard-tier features and more, such as better performance compared to Basic or Standard-tier Caches, bigger workloads, data persistence, and enhanced network security.
Microsoft Azure Redis Cache helps your application stay responsive even as user load increases. It does so by leveraging the low latency, high-throughput capabilities of the Redis engine. This separate distributed cache layer allows your data tier to scale independently for more efficient use of compute resources in your application layer.
dfcachecow1
Metric
Summary
Default-SQL-WestUS
dfcachecow1
Caches
Quick start
PROPERTIES
KEYS
Monitoring
Cache Hits, Cache Misses and 6 more metrics p...
Get Commands and ...
Cache Hits, Cache Misses and 6 more metrics past week
CACHE HITS
132.28 K
CACHE MISSES
28.35 K
GET COMMANDS
160.63 K
METRIC NAME
AVG
MIN
MAX
Cache Hits
Cache Misses
Get Commands
Set Commands
Evicted Keys
Create

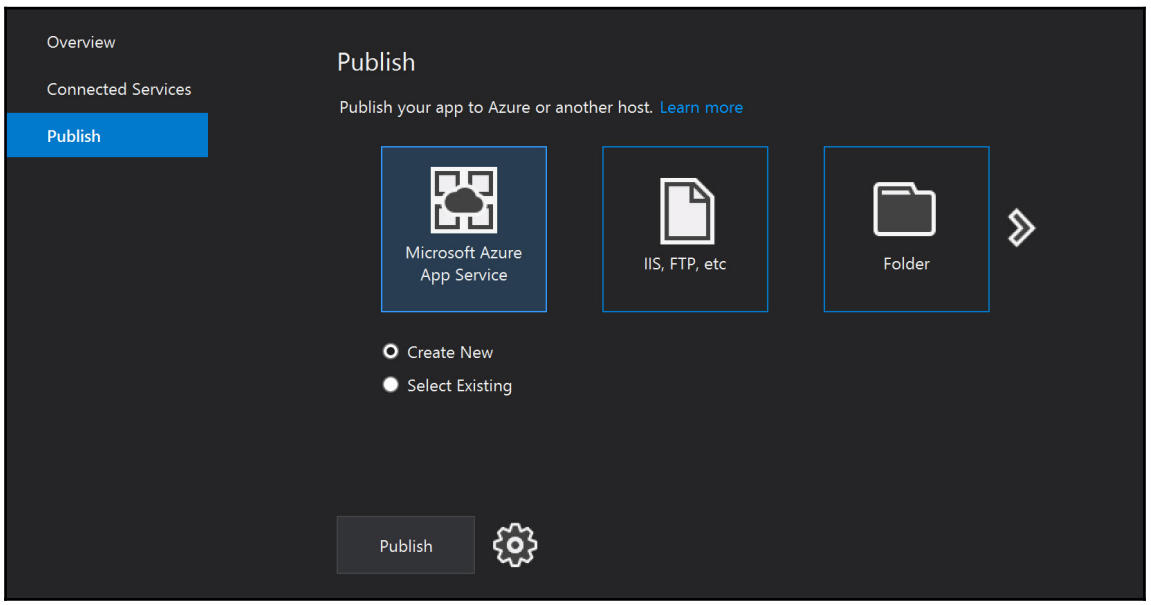

Traffic Manager profile
Microsoft
Azure Traffic Manager helps reduce downtime and improve responsiveness of important applications by routing incoming traffic across multiple deployments in different regions. Built-in health checks and automatic re-routing help ensure high availability if a service fails. Use Traffic Manager with Azure services including Web Apps, Cloud Services and Virtual Machines - or combine it with on-premises services for hybrid deployments and smooth cloud migration.
Use Traffic Manager to:
Improve app availability with automatic failover.
Increase your app's responsiveness by routing end users to the Azure location with lowest network latency.
Seamlessly combine on-premises and cloud.
PUBLISHER
Microsoft
USEFUL LINKS
Service overview
Documentation
Pricing
Create

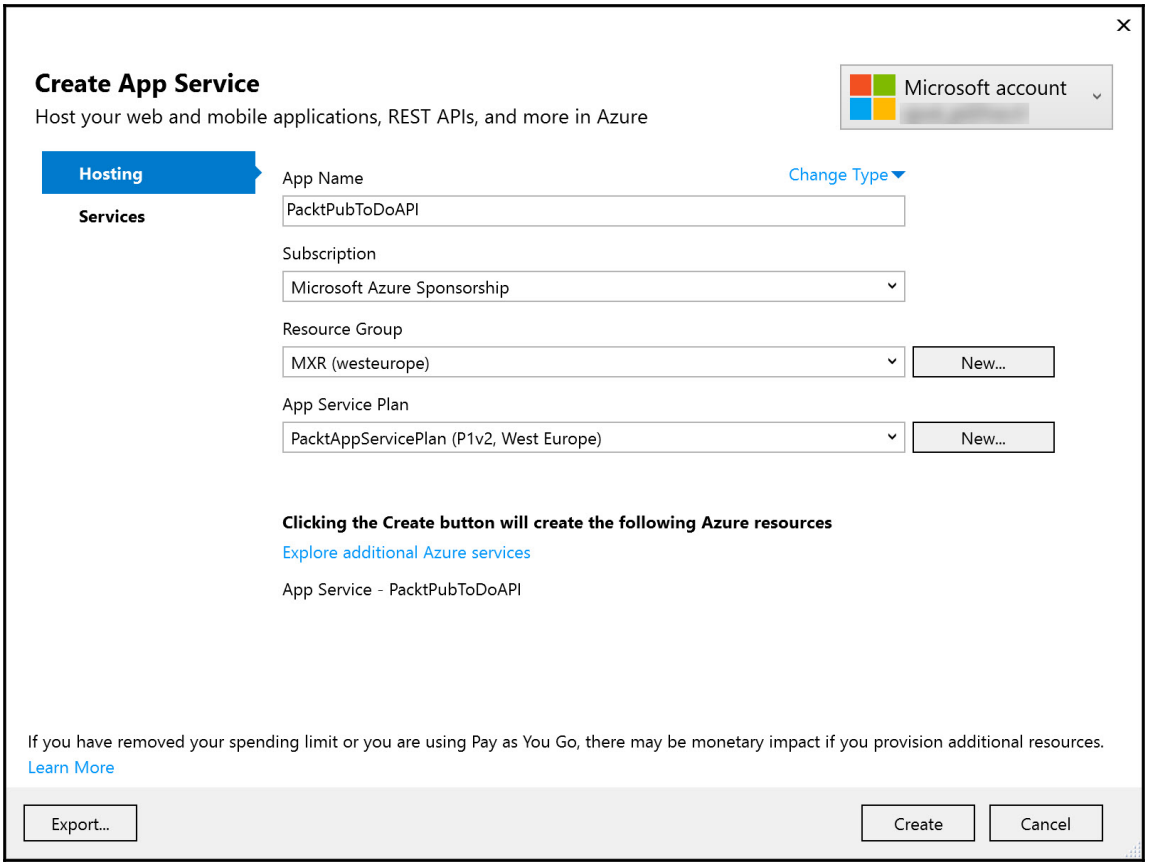

PacktAppServicePlan - Scale out (App Service plan)
App Service plan
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Apps
File system storage
Networking
Scale up (App Service plan)
Scale out (App Service plan)
Properties
Locks
Automation script
OBSERVE
Resource explorer
Save
Discard
Disable autoscale
Refresh
Configure
Run history
JSON
Notify
Override condition
Instance count
1
Your autoscale configuration is disabled. To reinstate your configuration, enable autoscale.
Enable autoscale


Save
Discard
Disable autoscale
Refresh
Configure
Run history
JSON
Notify
* Autoscale setting name
PacktAutoScaling
Resource group
PackPubWebApp
Default
Auto created scale condition
Delete warning
The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to
Scale mode
Scale based on a metric
Scale to a specific instance count
It is recommended to have at least one scale in rule
Rules
Scale out
When
PacktAppServiceP...
(Average) CpuPercentage > 70
Increase instance count by 1
Add a rule
Instance limits
Minimum
Maximum
Default
1
20
1
Schedule
This scale condition is executed when none of the other scale condition(s) match
Add a scale condition

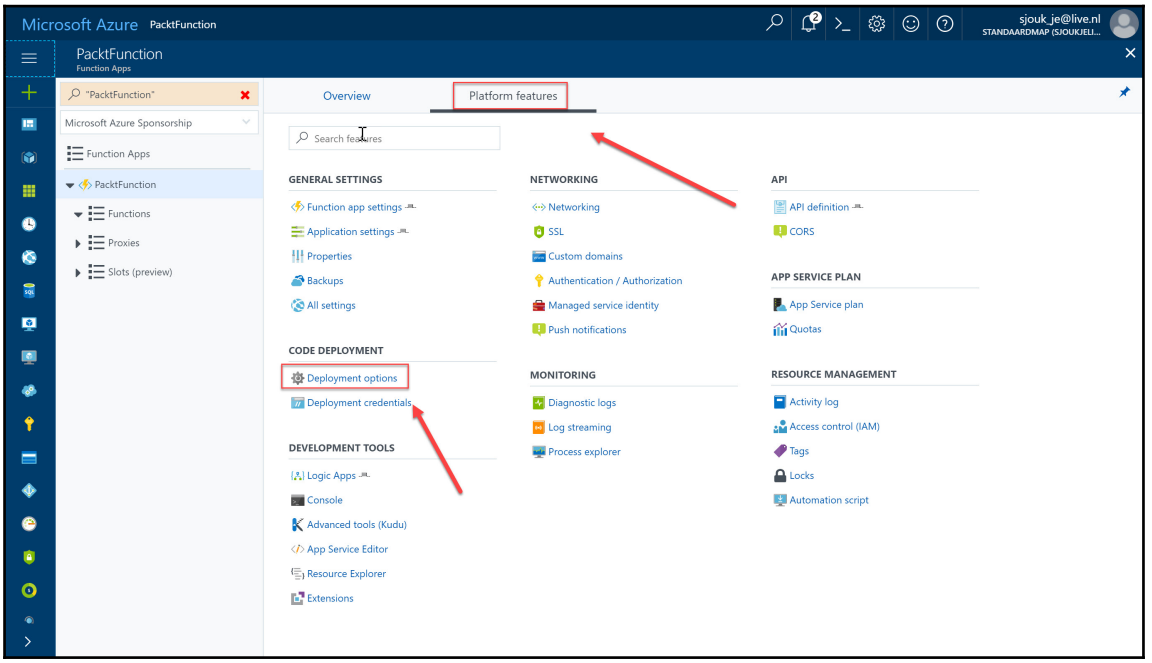

PacktAppServicePlan
App Service plan
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Apps
File system storage
Networking
Scale up (App Service plan)
Scale out (App Service plan)
Properties
Locks
Automation script
OBSERVE
Resource explorer

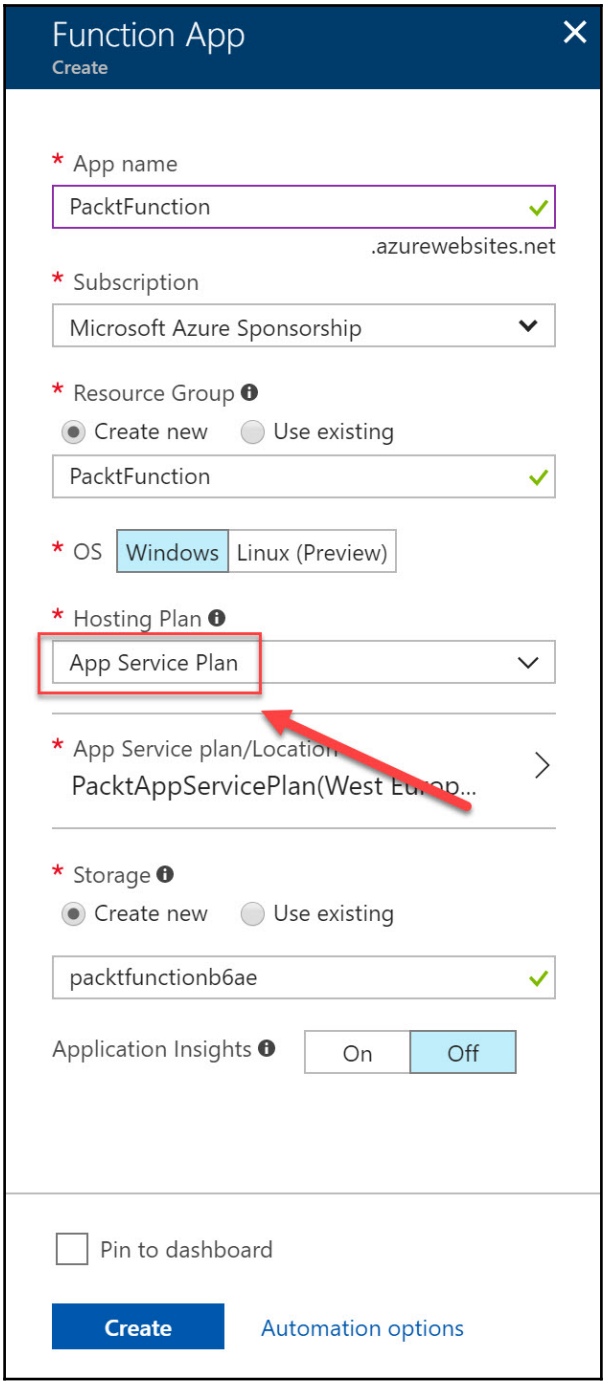

New ASP.NET Core Web Application - PacktPubToDoAPI
.NET Core
ASP.NET Core 2.0
Learn more
Empty
Web API
Web Application
Web Application (Model-View-Controller)
Angular
React.js
React.js and Redux
A project template for creating an ASP.NET Core application with an example Controller for a RESTful HTTP service. This template can also be used for ASP.NET Core MVC Views and Controllers.
Learn more
Change Authentication
Authentication No Authentication
Enable Docker Support
OS: Windows
Requires Docker for Windows
Docker support can also be enabled later Learn more
OK
Cancel

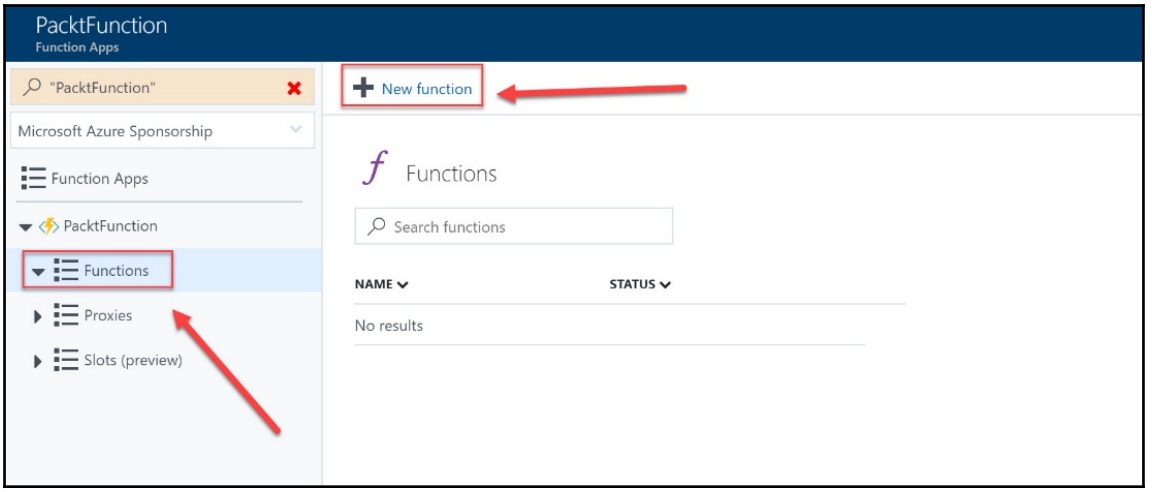

Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Microsoft Azure App Service
IIS, FTP, etc
Folder
Create New
Select Existing
Publish

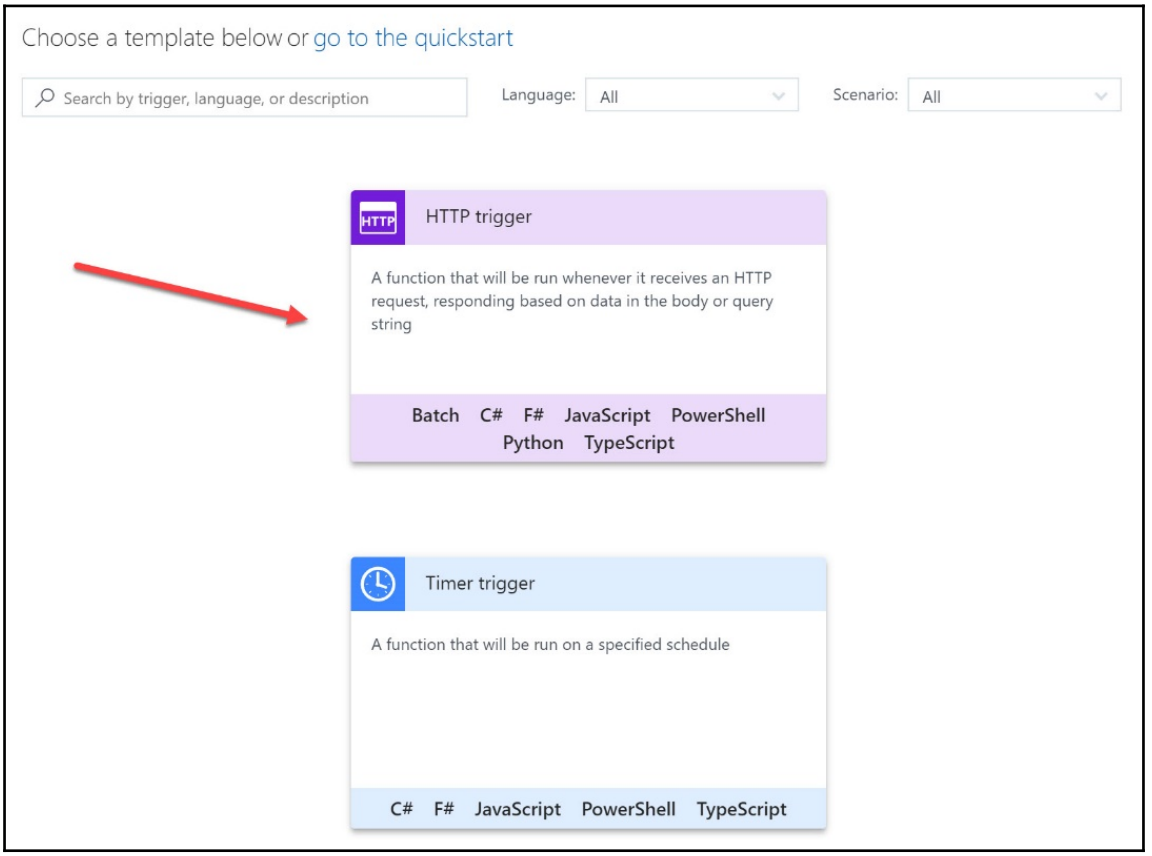

Create App Service
Host your web and mobile applications, REST APIs, and more in Azure
Microsoft account
Hosting
Services
App Name
Change Type
PacktPubToDoAPI
Subscription
Microsoft Azure Sponsorship
Resource Group
MXR (westeurope)
New...
App Service Plan
PacktAppServicePlan (P1v2, West Europe)
New...
Clicking the Create button will create the following Azure resources
Explore additional Azure services
App Service - PacktPubToDoAPI
If you have removed your spending limit or you are using Pay as You Go, there may be monetary impact if you provision additional resources.
Learn More
Export...
Create
Cancel

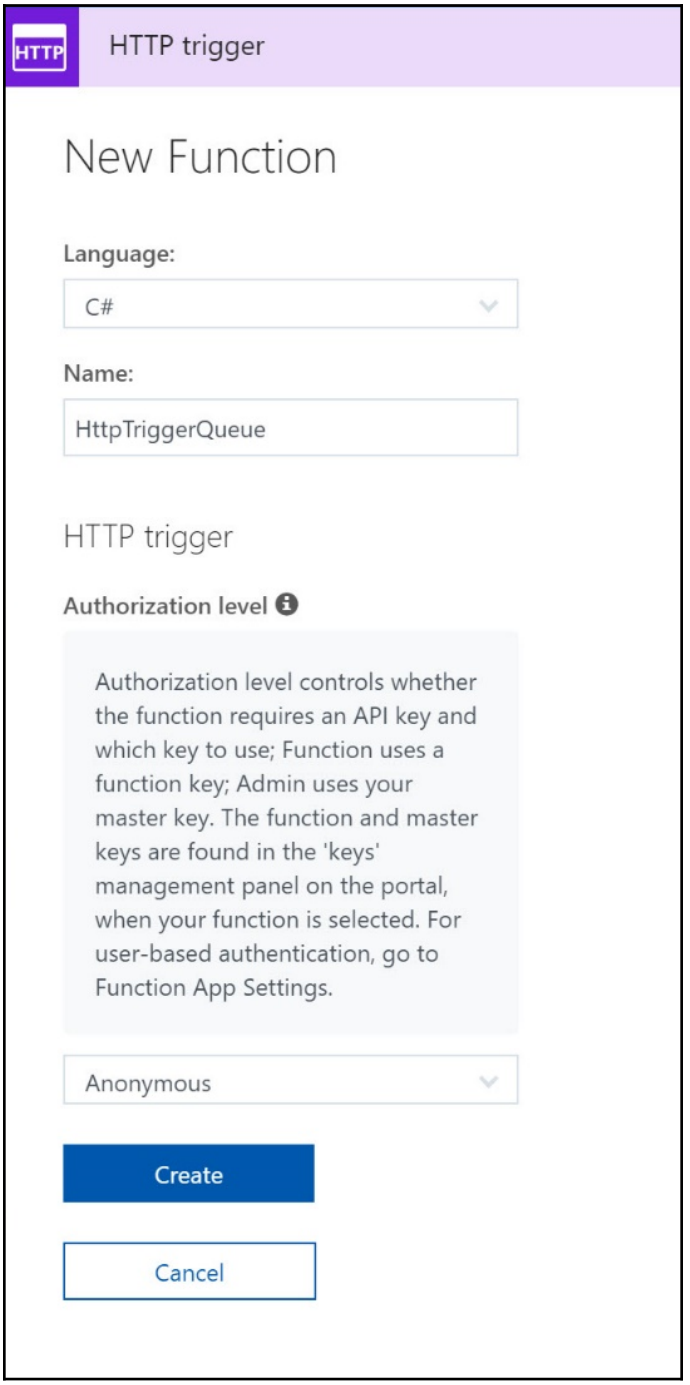
Chapter 4: Implementing Serverless and Microservices

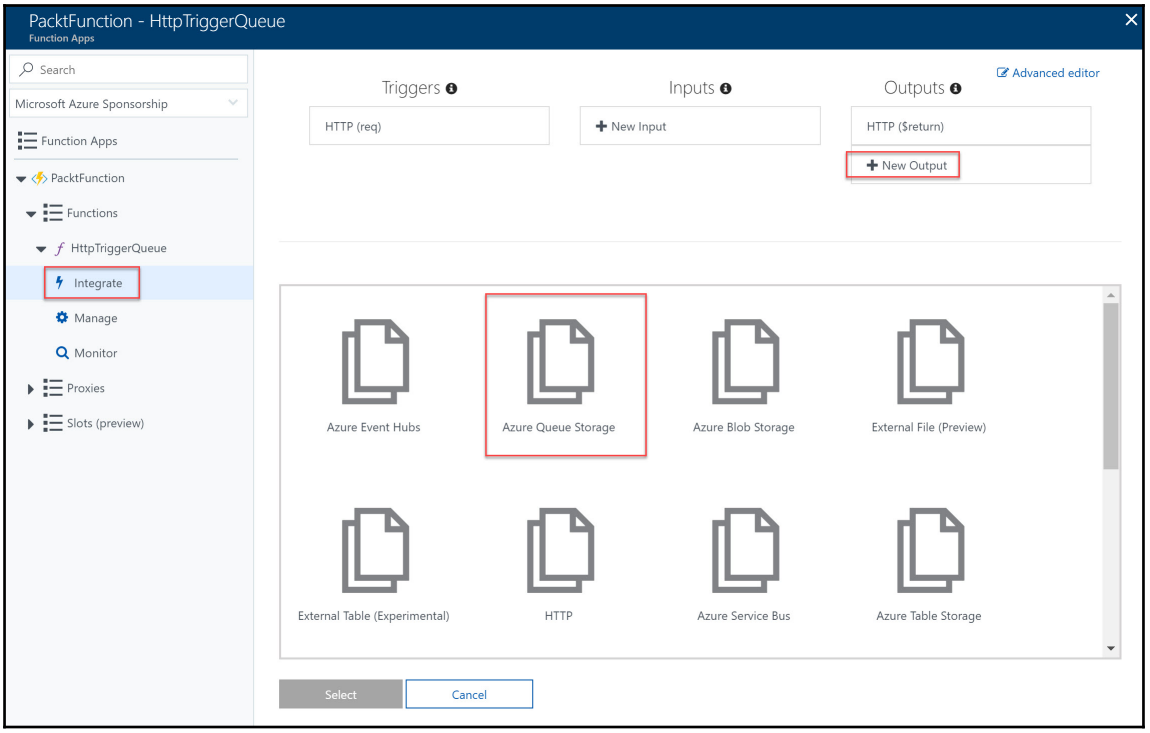


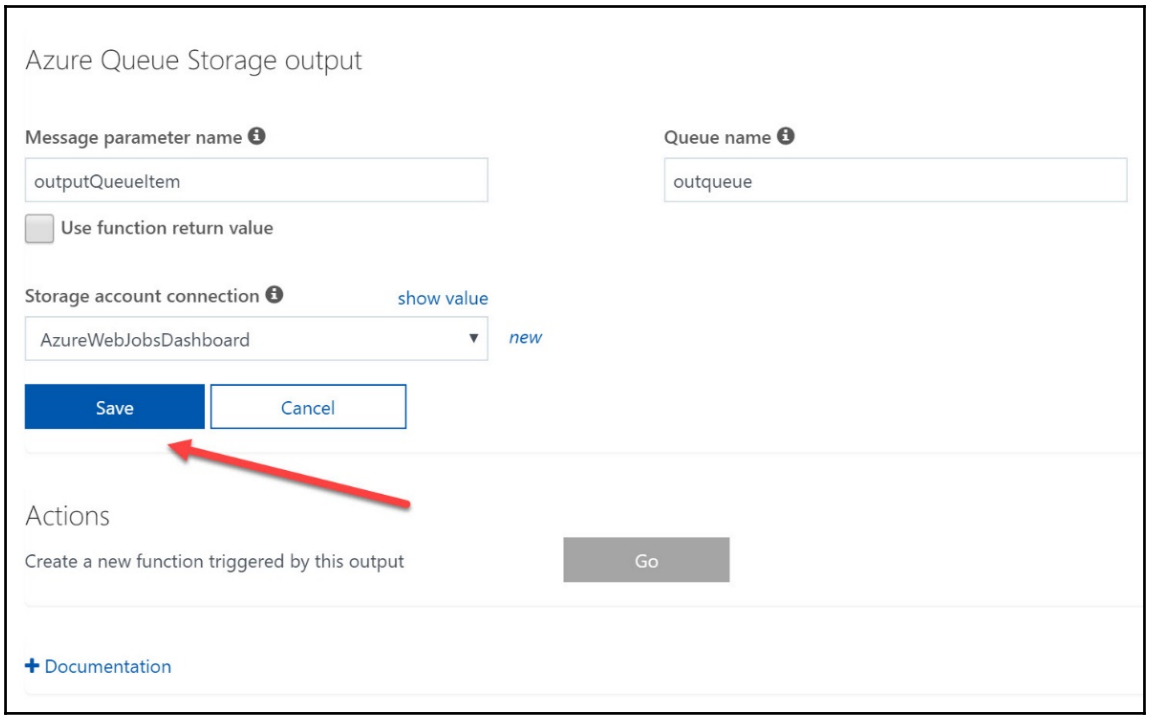

Function App
Create
* App name
PacktFunction
.azurewebsites.net
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktFunction
* OS
Windows
Linux (Preview)
* Hosting Plan
App Service Plan
* App Service plan/Location
PacktAppServicePlan(West Eu...
* Storage
Create new
Use existing
packtfunctionb6ae
Application Insights
On
Off
Pin to dashboard
Create
Automation options

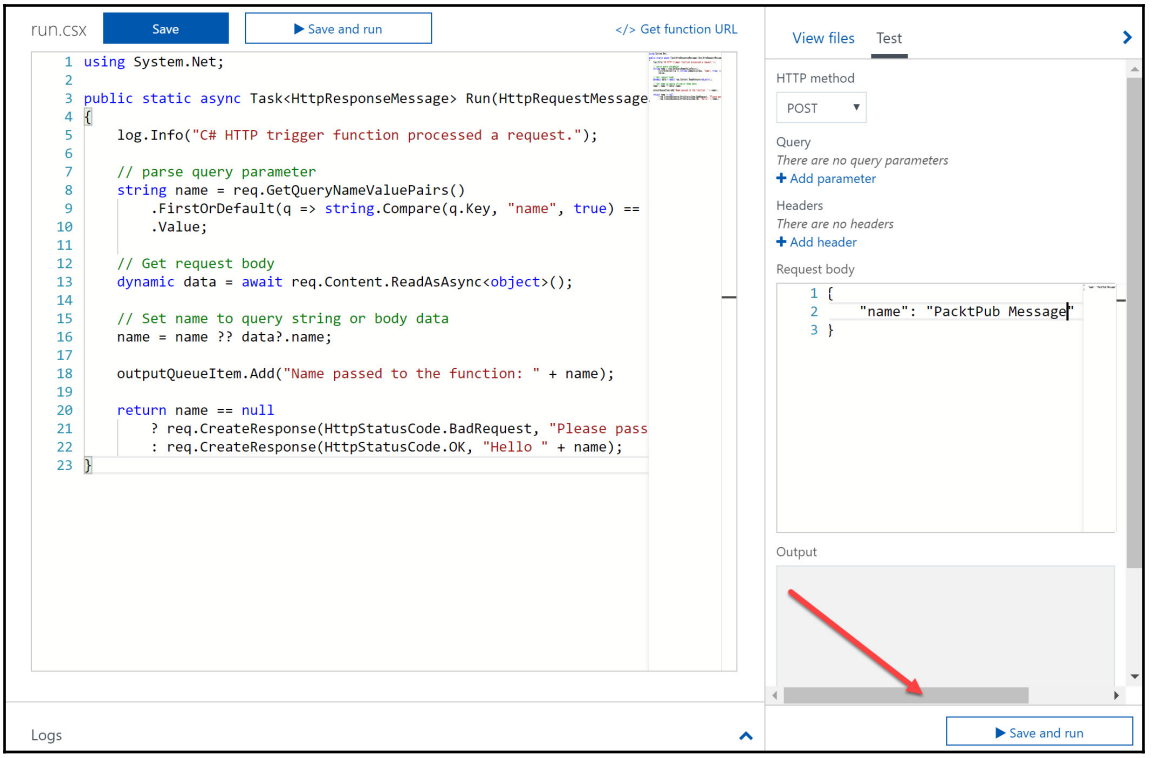

PacktFunction
Function Apps
"PacktFunction"
Microsoft Azure Sponsorship
Function Apps
PacktFunction
Functions
Proxies
Slots (preview)
New function
Functions
Search functions
NAME
STATUS
No results

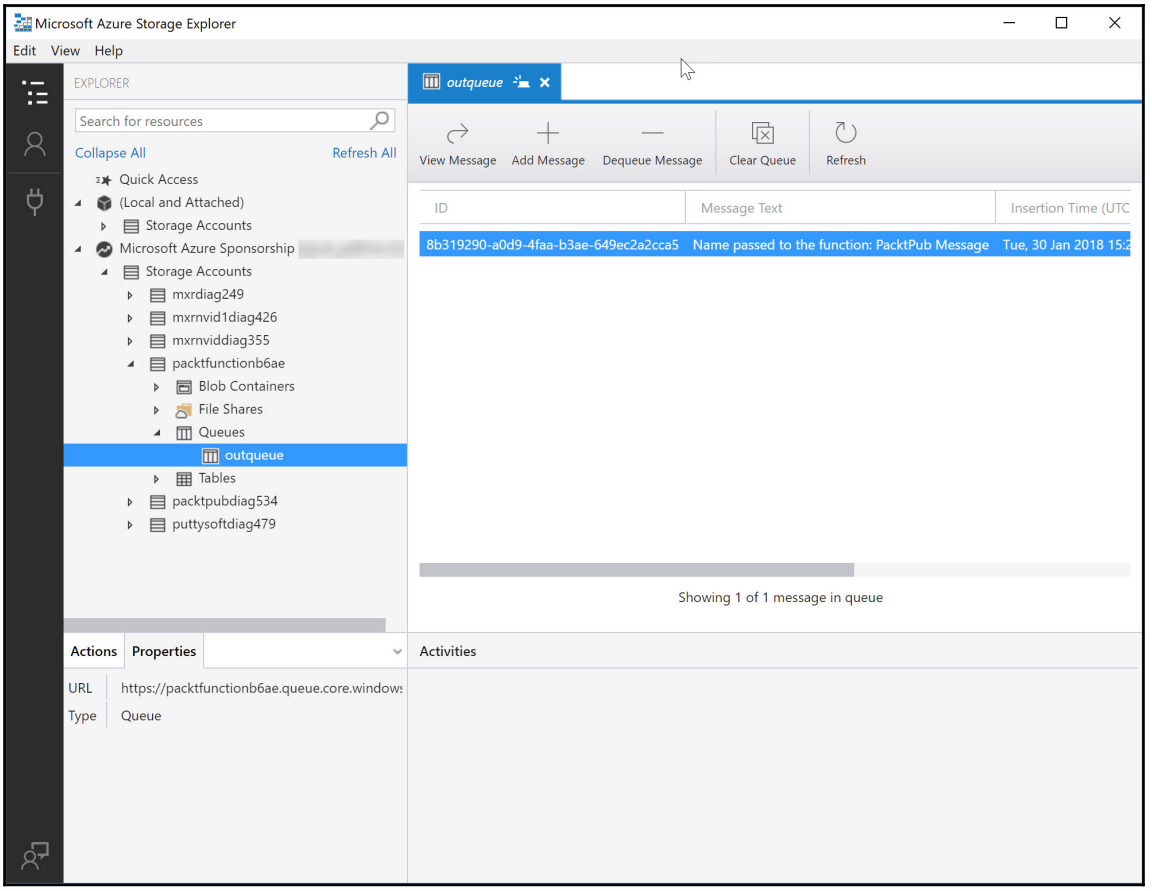

Choose a template below or go to the quickstart
Search by trigger, language, or description
Language: All
Scenario: All
HTTP trigger
A function that will be run whenever it receives an HTTP request, responding based on data in the body or query string
Batch C# F# JavaScript PowerShell Python TypeScript
Timer trigger
A function that will be run on a specified schedule
C# F# JavaScript PowerShell TypeScript

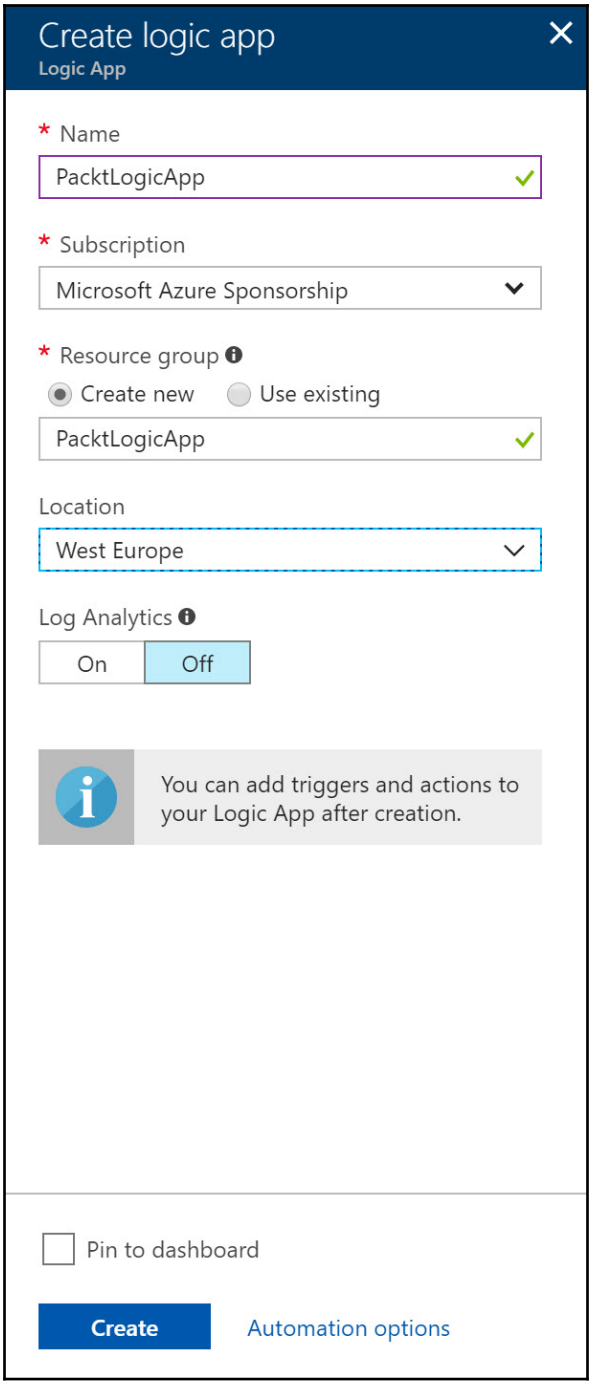

HTTP
HTTP trigger
New Function
Language:
C#
Name:
HttpTriggerQueue
HTTP trigger
Authorization level
Authorization level controls whether the function requires an API key and which key to use; Function uses a function key; Admin uses your master key. The function and master keys are found in the 'keys' management panel on the portal, when your function is selected. For user-based authentication, go to Function App Settings.
Anonymous
Create
Cancel

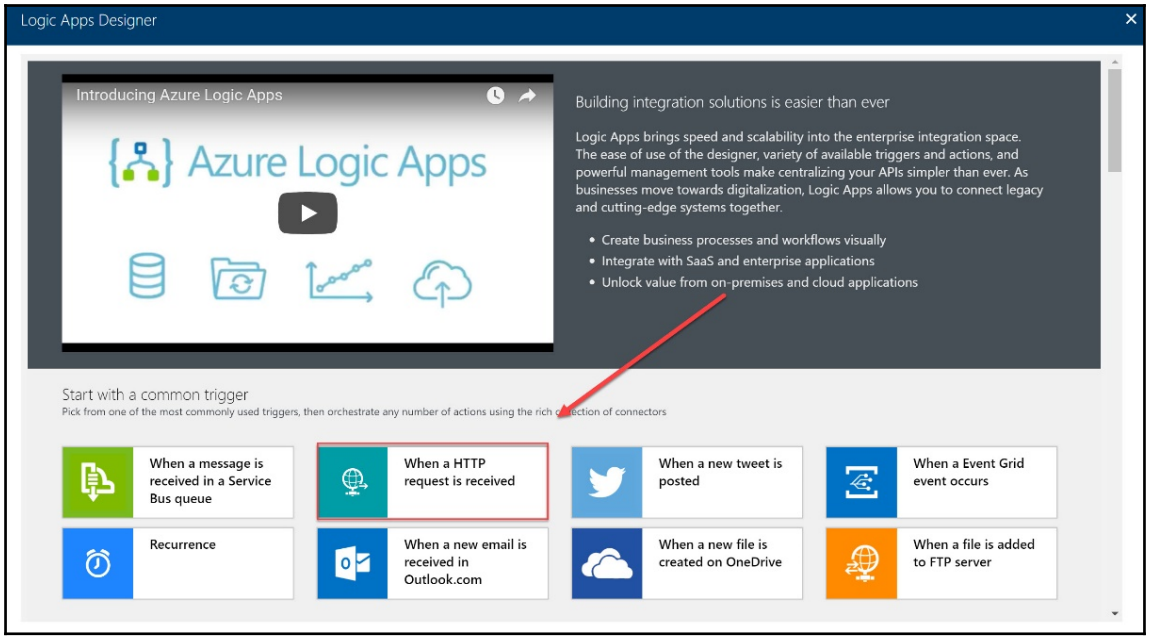

PacktFunction - HttpTriggerQueue
Function Apps
Search
Microsoft Azure Sponsorship
Function Apps
PacktFunction
Functions
HttpTriggerQueue
Integrate
Manage
Monitor
Proxies
Slots (preview)
Triggers
Inputs
Outputs
Advanced editor
HTTP (req)
New Input
HTTP ($return)
New Output
Azure Event Hubs
Azure Queue Storage
Azure Blob Storage
External File (Preview)
External Table (Experimental)
HTTP
Azure Service Bus
Azure Table Storage
Select
Cancel

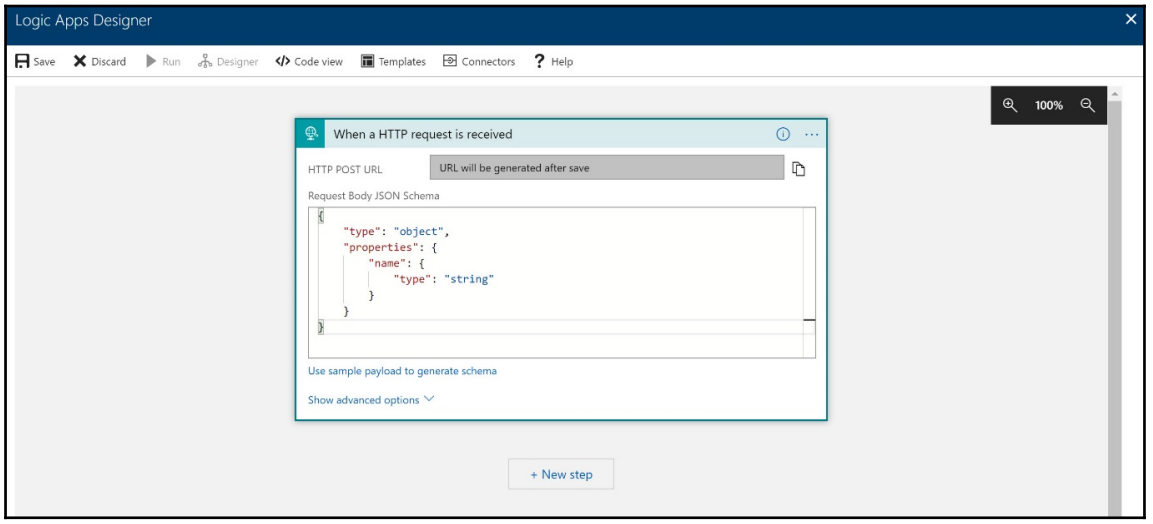

Azure Queue Storage output
Message parameter name
outputQueueItem
Queue name
outqueue
Use function return value
Storage account connection
show value
AzureWebJobsDashboard
new
Save
Cancel
Actions
Create a new function triggered by this output
Go
Documentation

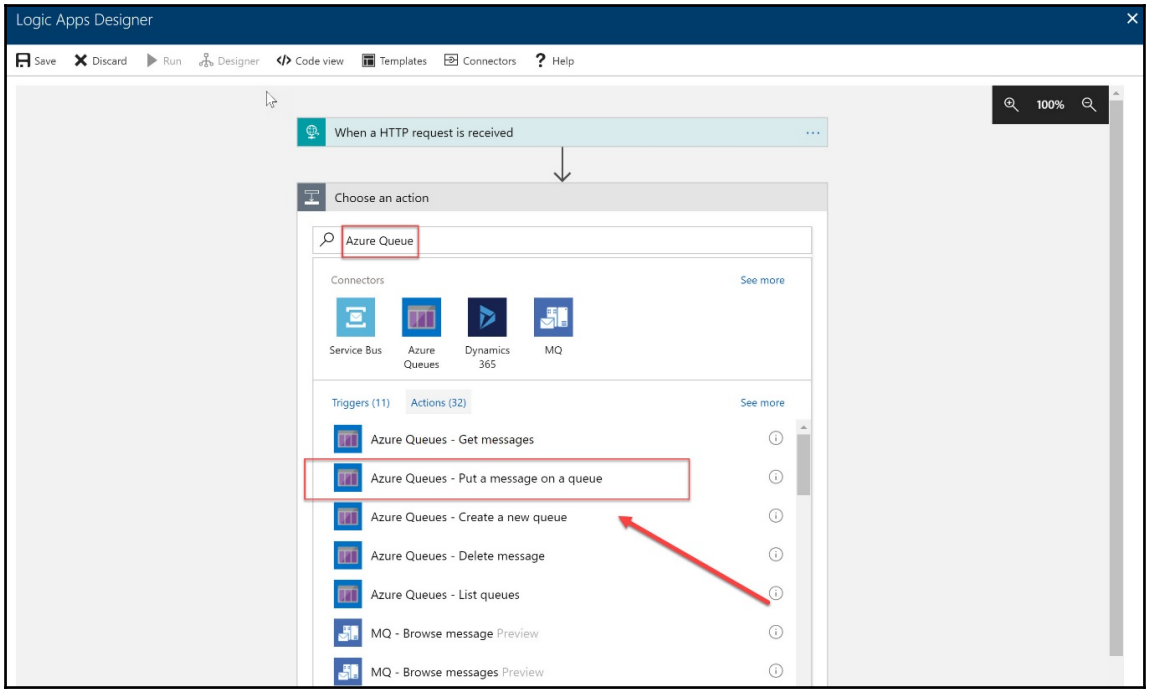

run.csx
Save
Save and run
</> Get function URL
using System.Net;
public static async Task<HttpResponseMessage> Run(HttpRequestMessage
{
log.Info("C# HTTP trigger function processed a request.");
// parse query parameter
string name = req.GetQueryNameValuePairs()
.FirstOrDefault(q => string.Compare(q.Key, "name", true) ==
.Value;
// Get request body
dynamic data = await req.Content.ReadAsAsync<object>();
// Set name to query string or body data
name = name ?? data?.name;
outputQueueItem.Add("Name passed to the function: " + name);
return name == null
? req.CreateResponse(HttpStatusCode.BadRequest, "Please pass
: req.CreateResponse(HttpStatusCode.OK, "Hello " + name);
}
Logs
View files
Test
HTTP method
POST
Query
There are no query parameters
Add parameter
Headers
There are no headers
Add header
Request body
{
"name": "PacktPub Message"
}
Output
Save and run

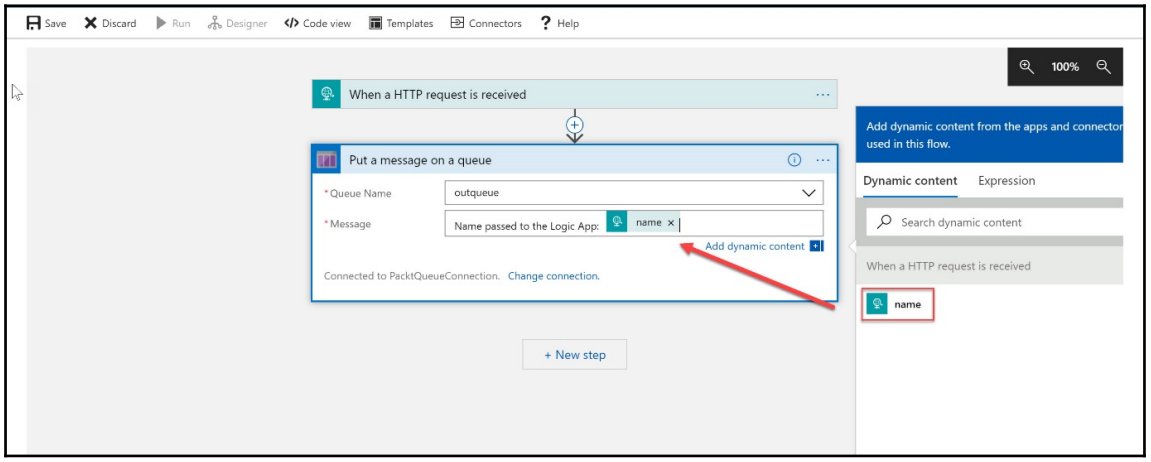

Microsoft Azure Storage Explorer
Edit View Help
EXPLORER
Search for resources
Collapse All
Refresh All
Quick Access
(Local and Attached)
Storage Accounts
Microsoft Azure Sponsorship
Storage Accounts
mxrdiag249
mxrnvid1diag426
mxrnviddiag355
packtfunctionb6ae
Blob Containers
File Shares
Queues
outqueue
Tables
packtpubdiag534
puttysoftdiag479
outqueue
View Message
Add Message
Dequeue Message
Clear Queue
Refresh
ID
Message Text
Insertion Time (UTC
8b319290-a0d9-4faa-b3ae-649ec2a2cca5
Name passed to the function: PacktPub Message
Tue, 30 Jan 2018 15:2
Showing 1 of 1 message in queue
Actions
Properties
Activities
URL
https://packtfunctionb6ae.queue.core.windows
Type
Queue

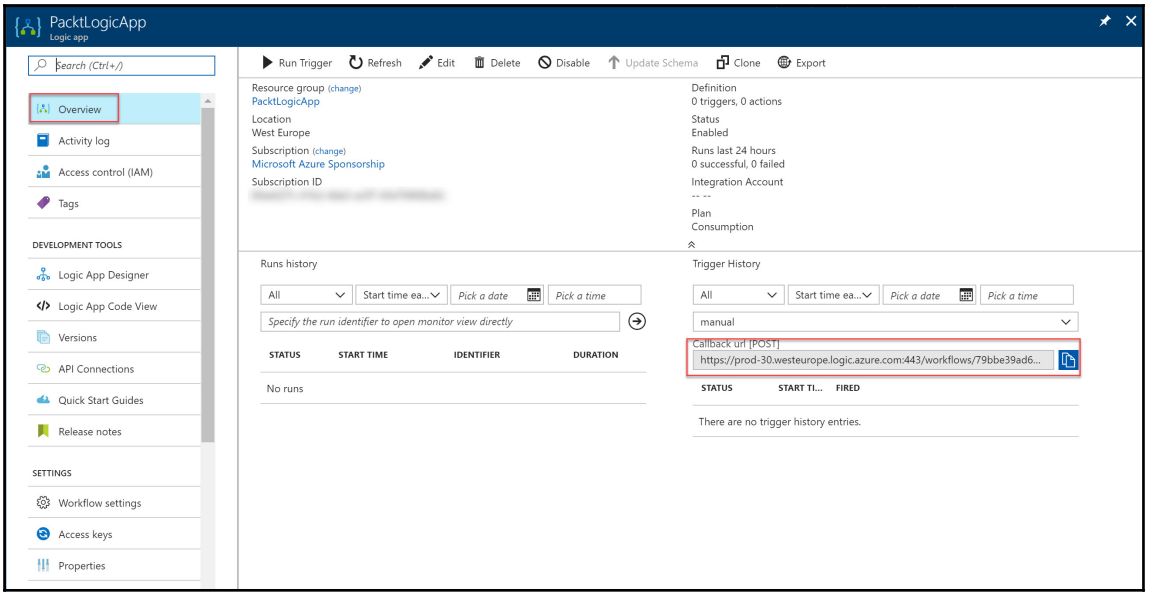

Create logic app
Logic App
* Name
PacktLogicApp
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktLogicApp
Location
West Europe
Log Analytics
On
Off
You can add triggers and actions to your Logic App after creation.
Pin to dashboard
Create
Automation options

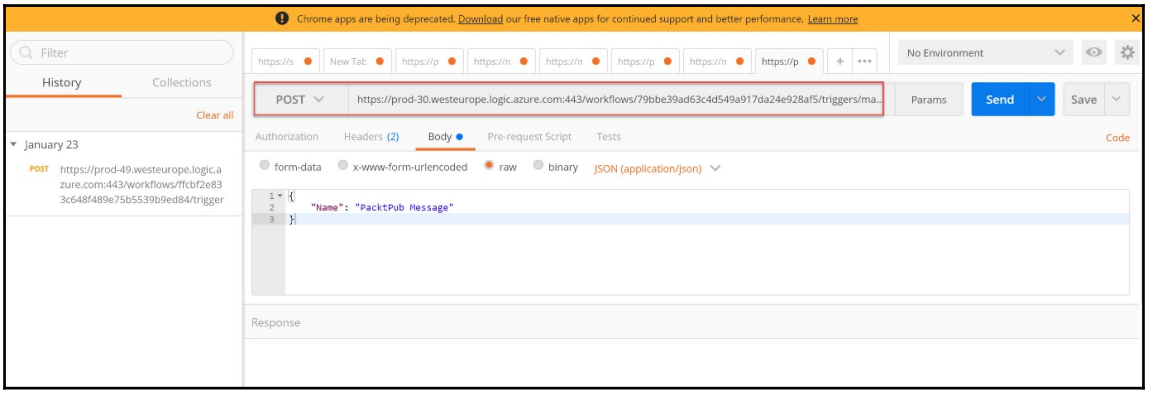

Logic Apps Designer
Introducing Azure Logic Apps
Azure Logic Apps
Building integration solutions is easier than ever
Logic Apps brings speed and scalability into the enterprise integration space. The ease of use of the designer, variety of available triggers and actions, and powerful management tools make centralizing your APIs simpler than ever. As businesses move towards digitalization, Logic Apps allows you to connect legacy and cutting-edge systems together.
• Create business processes and workflows visually
• Integrate with SaaS and enterprise applications
• Unlock value from on-premises and cloud applications
Start with a common trigger
Pick from one of the most commonly used triggers, then orchestrate any number of actions using the rich collection of connectors
When a message is received in a Service Bus queue
When a HTTP request is received
When a new tweet is posted
When a Event Grid event occurs
Recurrence
When a new email is received in Outlook.com
When a new file is created on OneDrive
When a file is added to FTP server

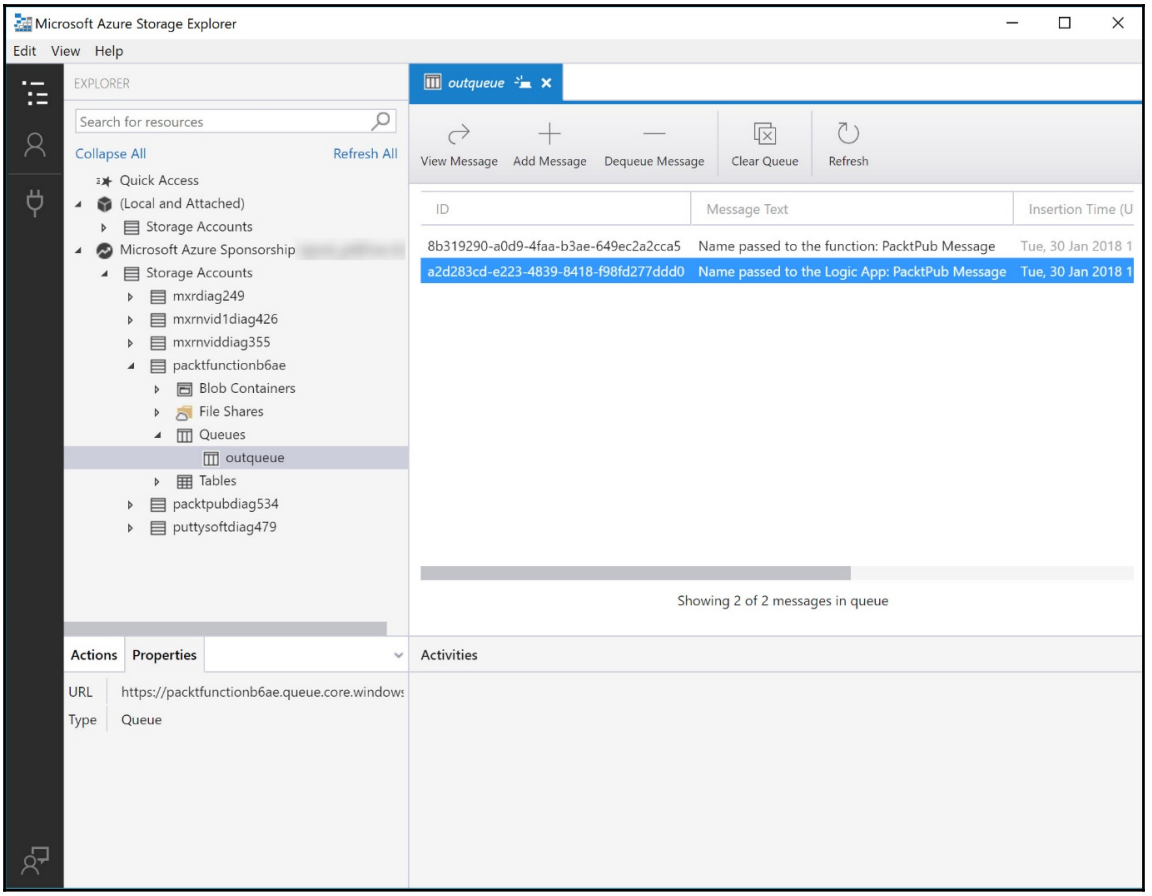

Logic Apps Designer
Save
Discard
Run
Designer
Code view
Templates
Connectors
Help
100%
When a HTTP request is received
HTTP POST URL
URL will be generated after save
Request Body JSON Schema
{
"type": "object",
"properties": {
"name": {
"type": "string"
}
}
}
Use sample payload to generate schema
Show advanced options
+ New step

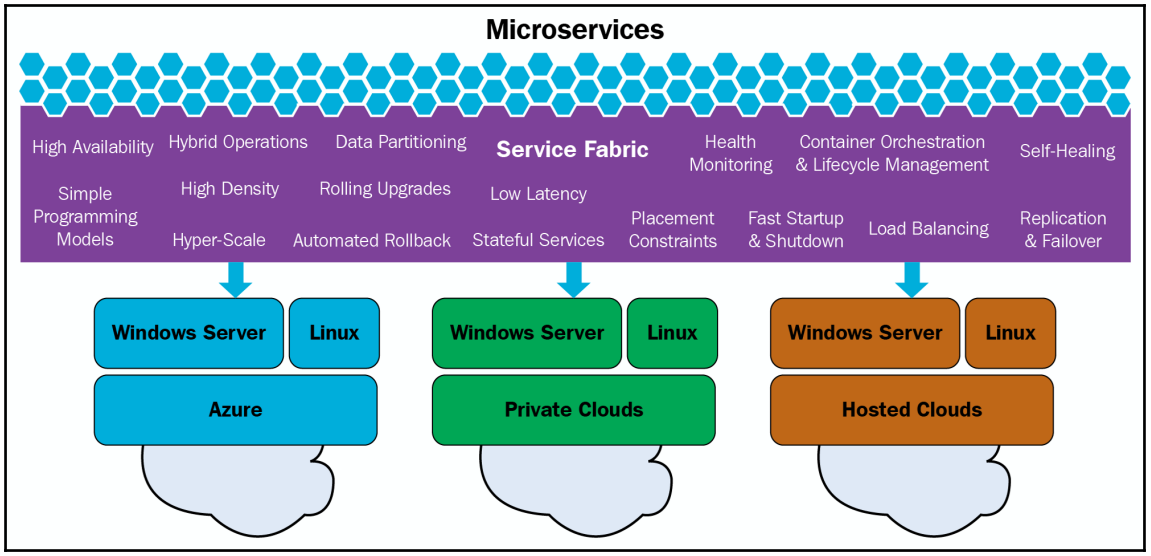

Logic Apps Designer
Save
Discard
Run
Designer
Code view
Templates
Connectors
Help
100%
When a HTTP request is received
Choose an action
Azure Queue
Connectors
See more
Service Bus
Azure Queues
Dynamics 365
MQ
Triggers (11)
Actions (32)
See more
Azure Queues - Get messages
Azure Queues - Put a message on a queue
Azure Queues - Create a new queue
Azure Queues - Delete message
Azure Queues - List queues
MQ - Browse message Preview
MQ - Browse messages Preview


Save
Discard
Run
Designer
Code view
Templates
Connectors
Help
100%
When a HTTP request is received
Put a message on a queue
* Queue Name
outqueue
* Message
Name passed to the Logic App:
name
Add dynamic content
Connected to PacktQueueConnection. Change connection.
+ New step
Add dynamic content from the apps and connectors used in this flow.
Dynamic content
Expression
Search dynamic content
When a HTTP request is received
name

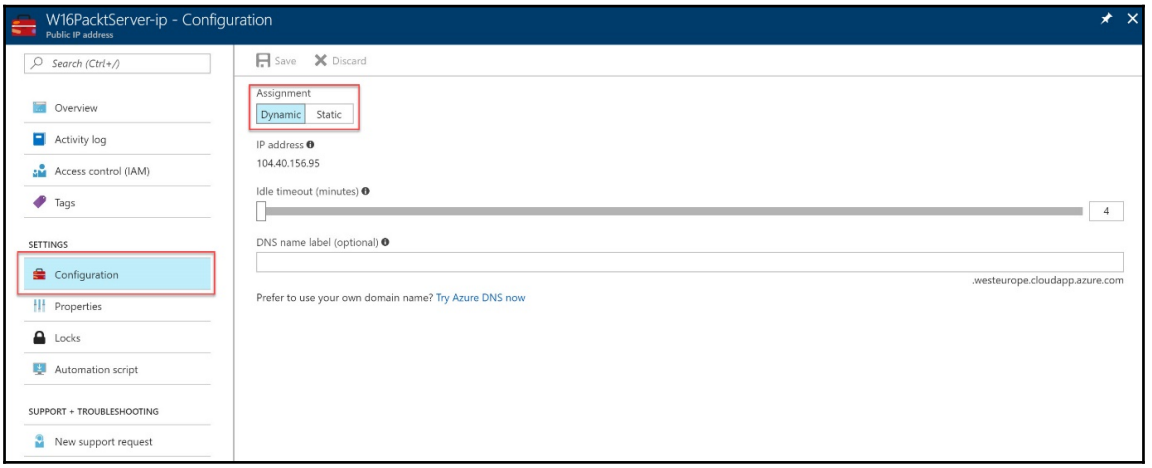

PacktLogicApp
Logic app
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
DEVELOPMENT TOOLS
Logic App Designer
Logic App Code View
Versions
API Connections
Quick Start Guides
Release notes
SETTINGS
Workflow settings
Access keys
Properties
Run Trigger
Refresh
Edit
Delete
Disable
Update Schema
Clone
Export
Resource group (change)
PacktLogicApp
Location
West Europe
Subscription (change)
Microsoft Azure Sponsorship
Subscription ID
Definition
0 triggers, 0 actions
Status
Enabled
Runs last 24 hours
0 successful, 0 failed
Integration Account
Plan
Consumption
Runs history
Trigger History
Specify the run identifier to open monitor view directly
STATUS
START TIME
IDENTIFIER
DURATION
No runs
manual
Callback url [POST]
https://prod-30.westeurope.logic.azure.com:443/workflows/79bbe39ad6...
STATUS
START TI...
FIRED
There are no trigger history entries.

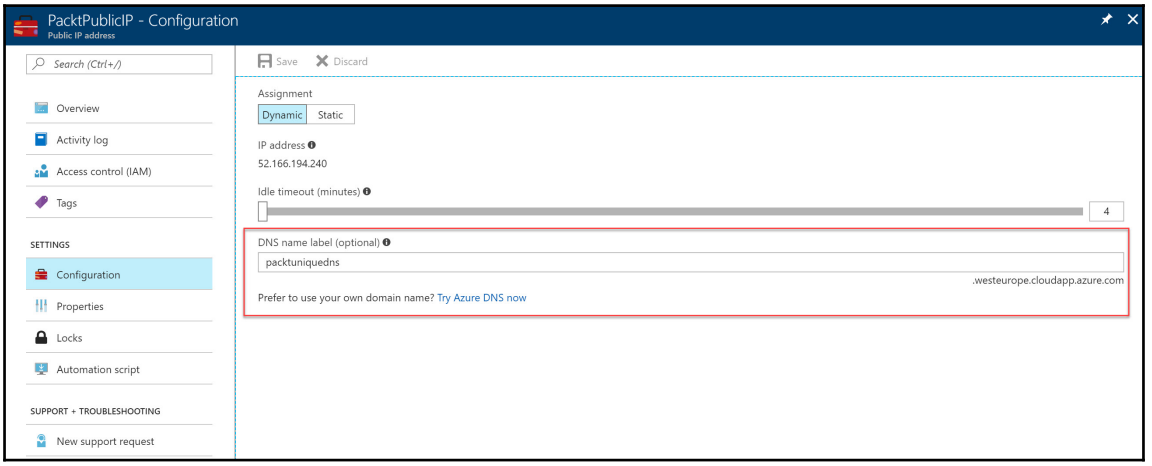

Chrome apps are being deprecated. Download our free native apps for continued support and better performance. Learn more
Filter
History
Collections
Clear all
January 23
POST https://prod-49.westeurope.logic.azure.com:443/workflows/ffcbf2e833c648f489e75b5539b9ed84/trigger
No Environment
POST
https://prod-30.westeurope.logic.azure.com:443/workflows/79bbe39ad63c4d549a917da24e928af5/triggers/ma...
Params
Send
Save
Authorization
Headers (2)
Body
Pre-request Script
Tests
Code
form-data
x-www-form-urlencoded
raw
binary
JSON (application/json)
{
"Name": "PacktPub Message"
}
Response

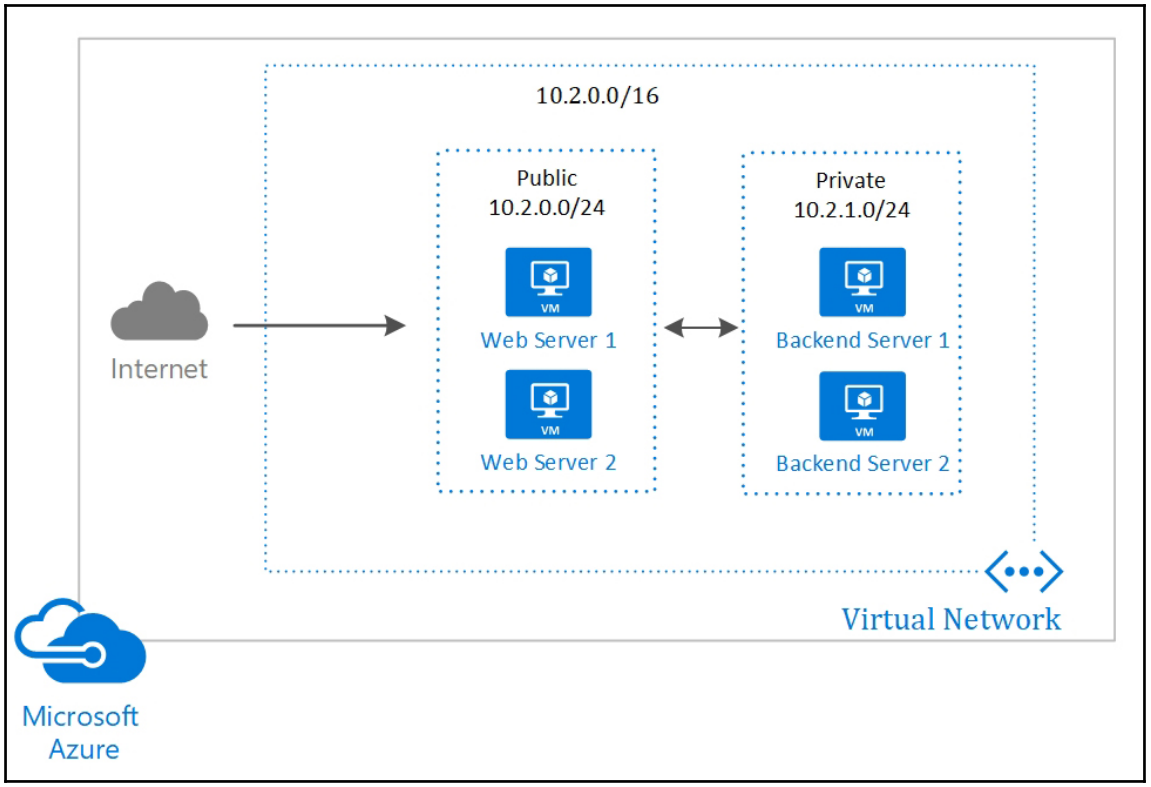

Microsoft Azure Storage Explorer
Edit View Help
EXPLORER
Search for resources
Collapse All
Refresh All
Quick Access
(Local and Attached)
Storage Accounts
Microsoft Azure Sponsorship
Storage Accounts
mxrdiag249
mxrnvid1diag426
mxrnviddiag355
packtfunctionb6ae
Blob Containers
File Shares
Queues
outqueue
Tables
packtpubdiag534
puttysoftdiag479
outqueue
View Message
Add Message
Dequeue Message
Clear Queue
Refresh
ID
Message Text
Insertion Time (U
8b319290-a0d9-4faa-b3ae-649ec2a2cca5
Name passed to the function: PacktPub Message
Tue, 30 Jan 2018 1
a2d283cd-e223-4839-8418-f98fd277ddd0
Name passed to the Logic App: PacktPub Message
Tue, 30 Jan 2018 1
Showing 2 of 2 messages in queue
Actions
Properties
Activities
URL
https://packtfunctionb6ae.queue.core.windows
Type
Queue

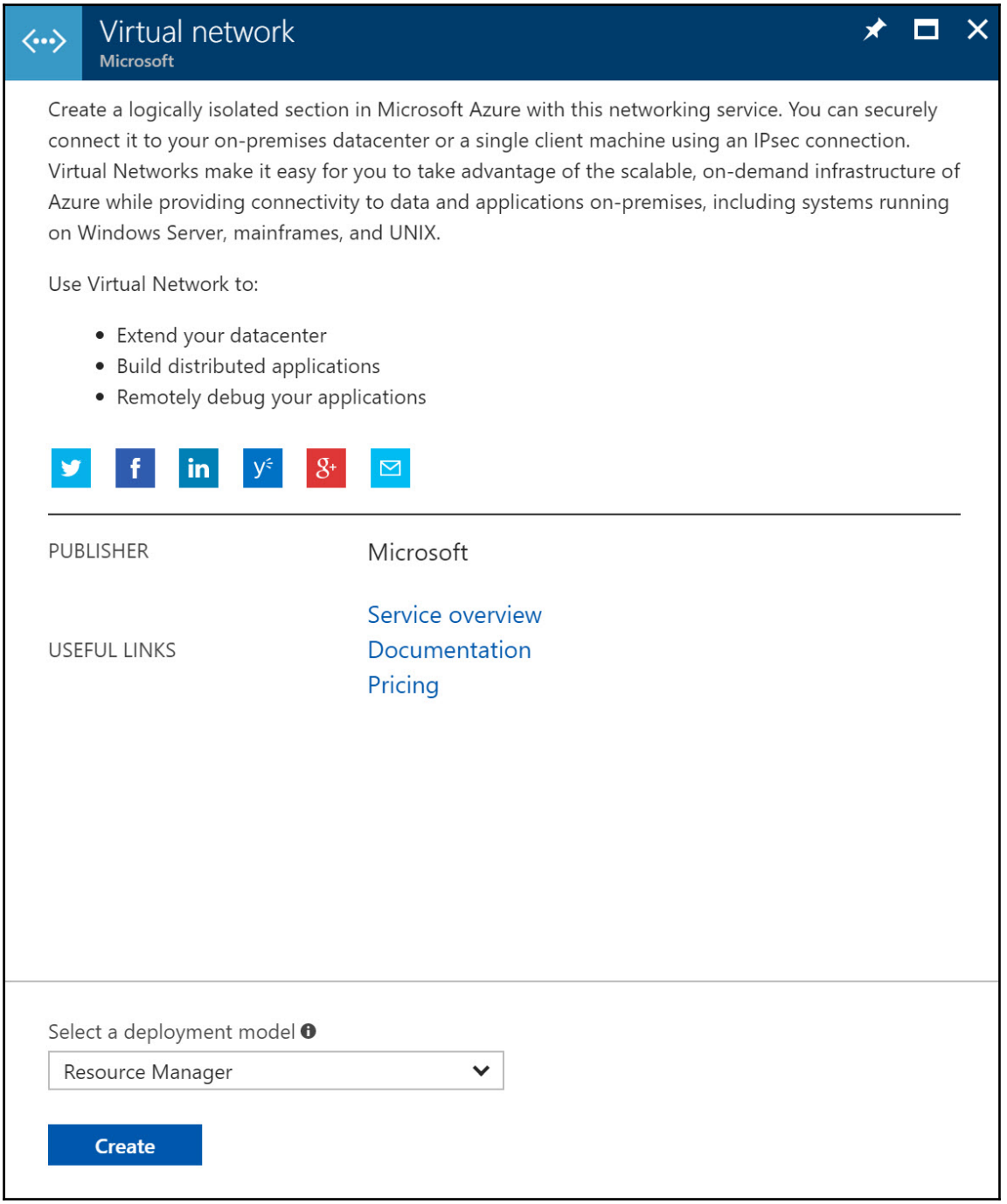

Microservices
High Availability
Hybrid Operations
Data Partitioning
Service Fabric
Health Monitoring
Container Orchestration & Lifecycle Management
Self-Healing
Simple Programming Models
High Density
Rolling Upgrades
Low Latency
Hyper-Scale
Automated Rollback
Stateful Services
Placement Constraints
Fast Startup & Shutdown
Load Balancing
Replication & Failover
Windows Server
Linux
Azure
Windows Server
Linux
Private Clouds
Windows Server
Linux
Hosted Clouds

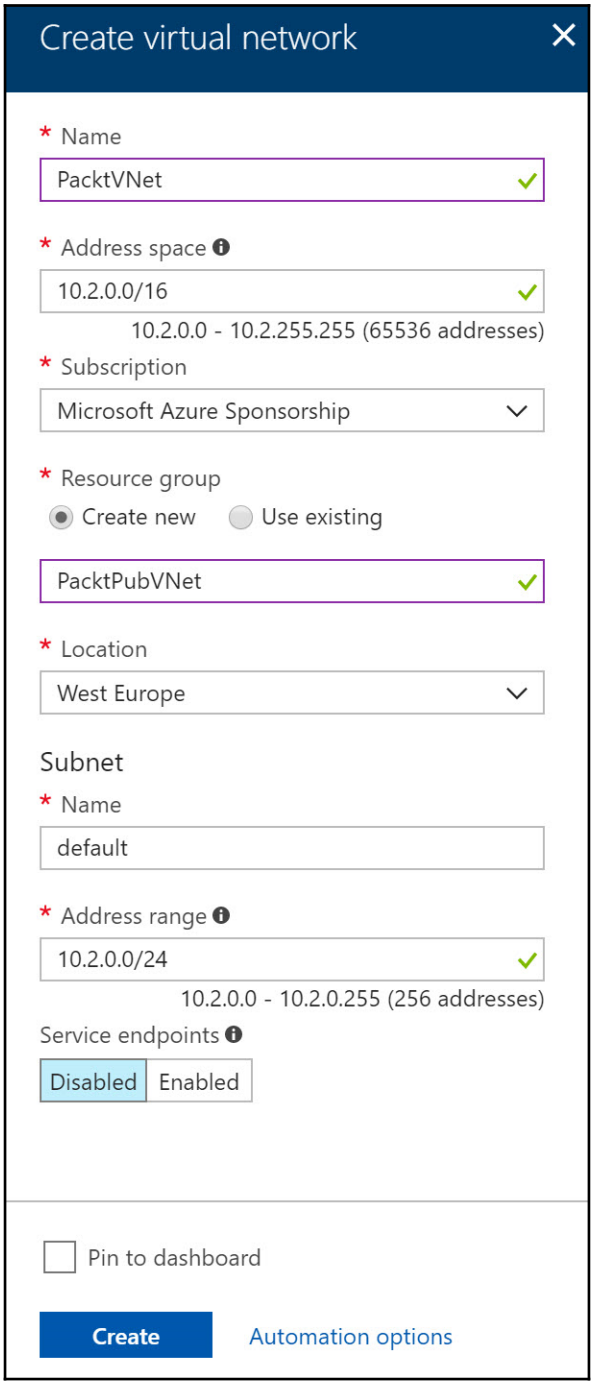
Chapter 5: Robust Networking Implementations

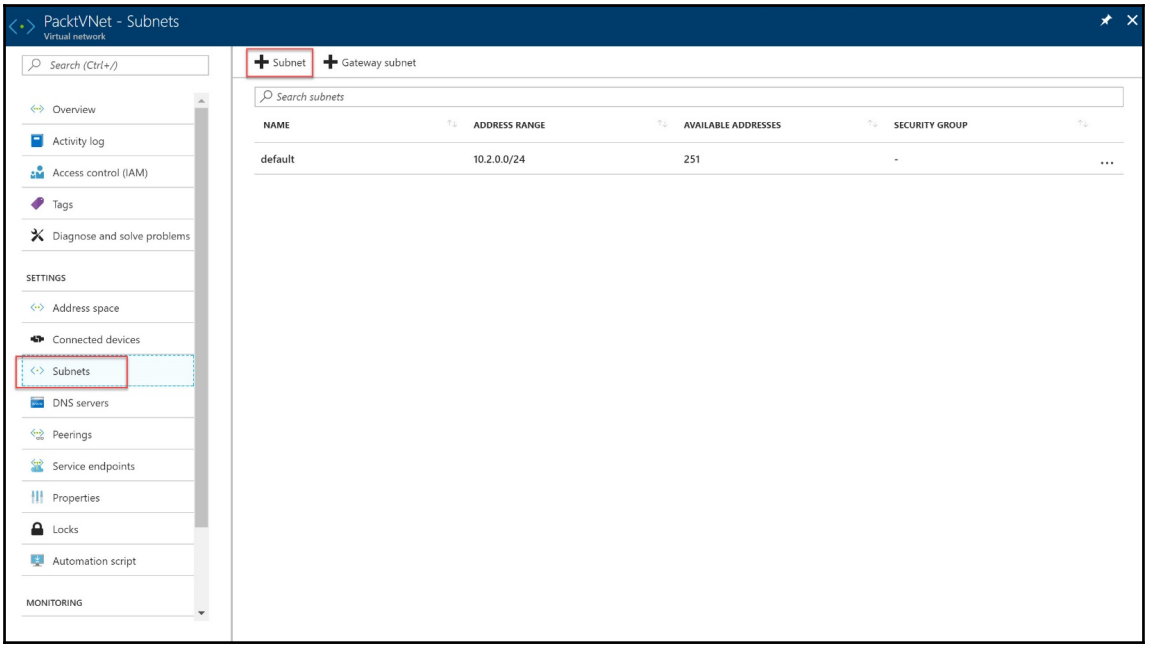


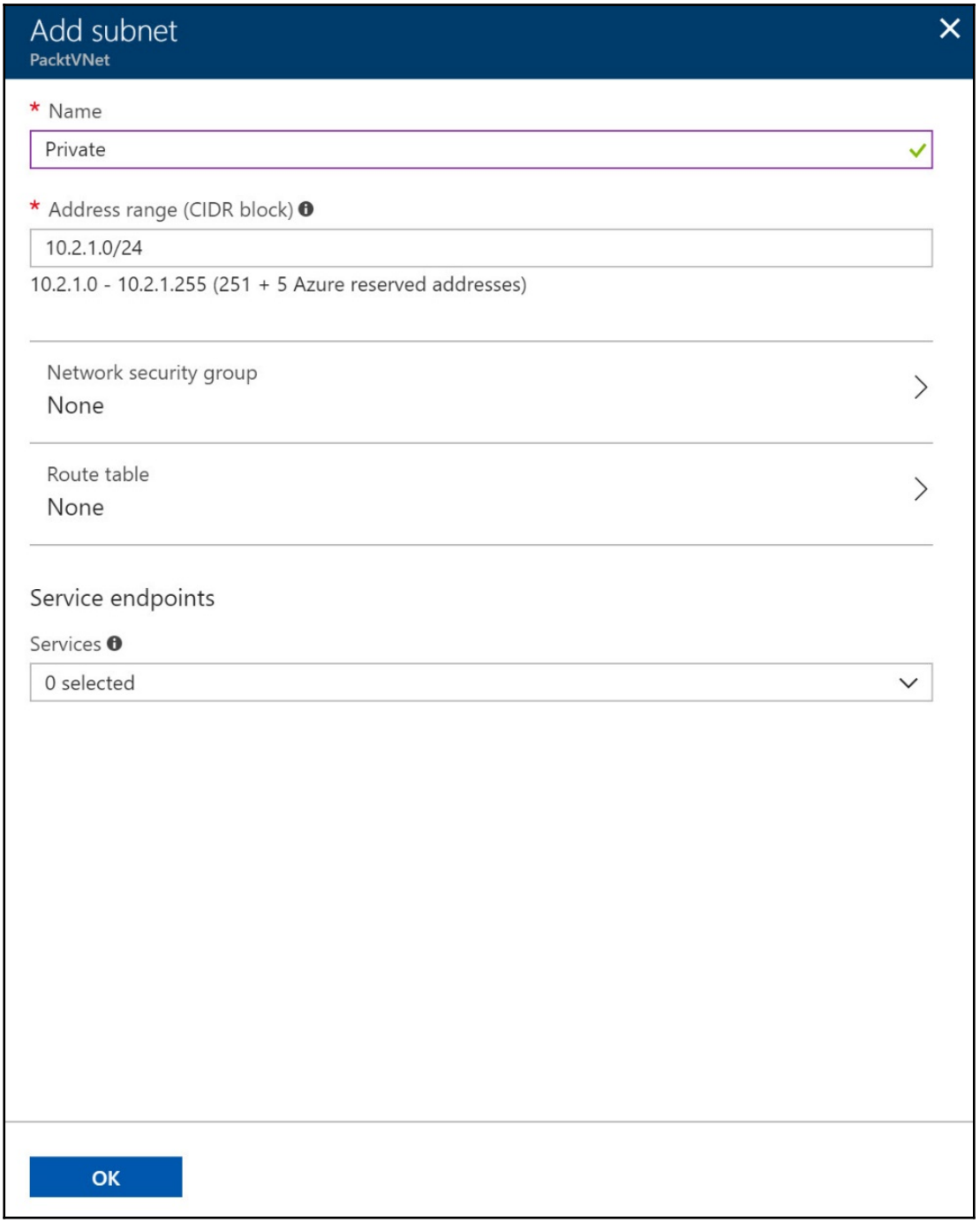


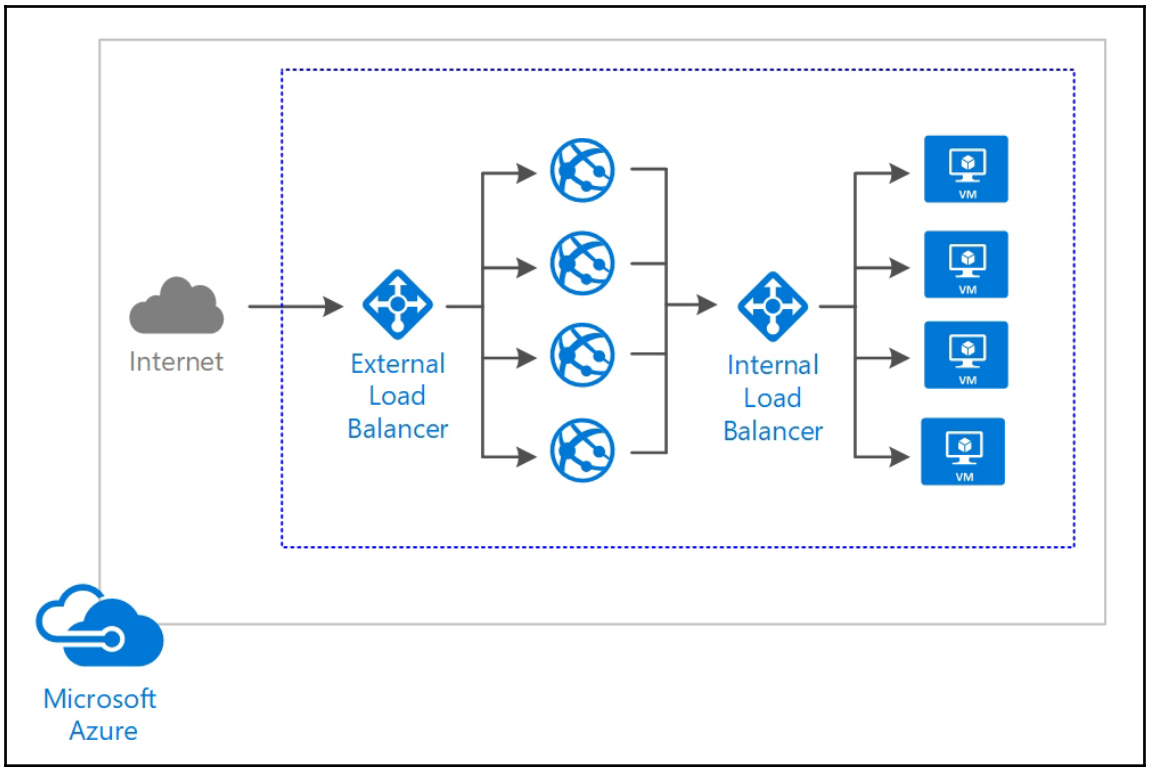

10.2.0.0/16
Public
10.2.0.0/24
Private
10.2.1.0/24
VM
Web Server 1
VM
Web Server 2
VM
Backend Server 1
VM
Backend Server 2
Internet
Virtual Network
Microsoft
Azure

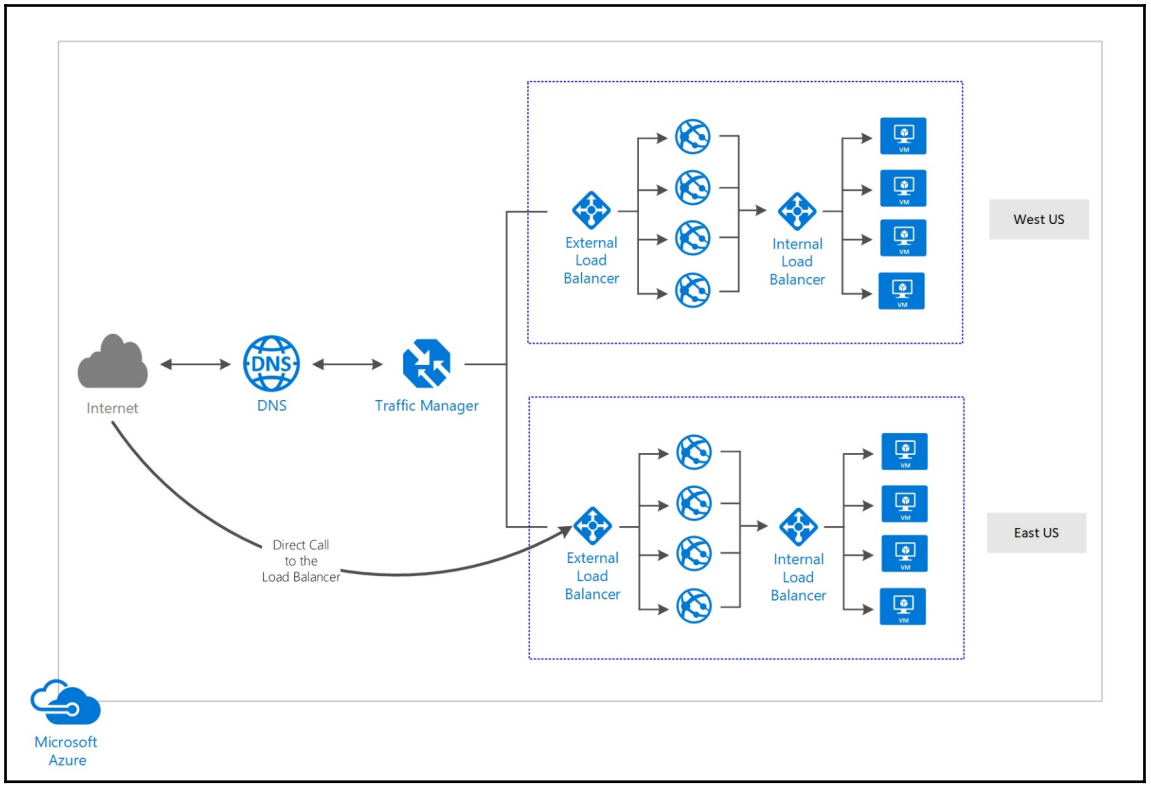

Virtual network
Microsoft
Create a logically isolated section in Microsoft Azure with this networking service. You can securely connect it to your on-premises datacenter or a single client machine using an IPsec connection. Virtual Networks make it easy for you to take advantage of the scalable, on-demand infrastructure of Azure while providing connectivity to data and applications on-premises, including systems running on Windows Server, mainframes, and UNIX.
Use Virtual Network to:
Extend your datacenter
Build distributed applications
Remotely debug your applications
PUBLISHER
Microsoft
USEFUL LINKS
Service overview
Documentation
Pricing
Select a deployment model
Resource Manager
Create

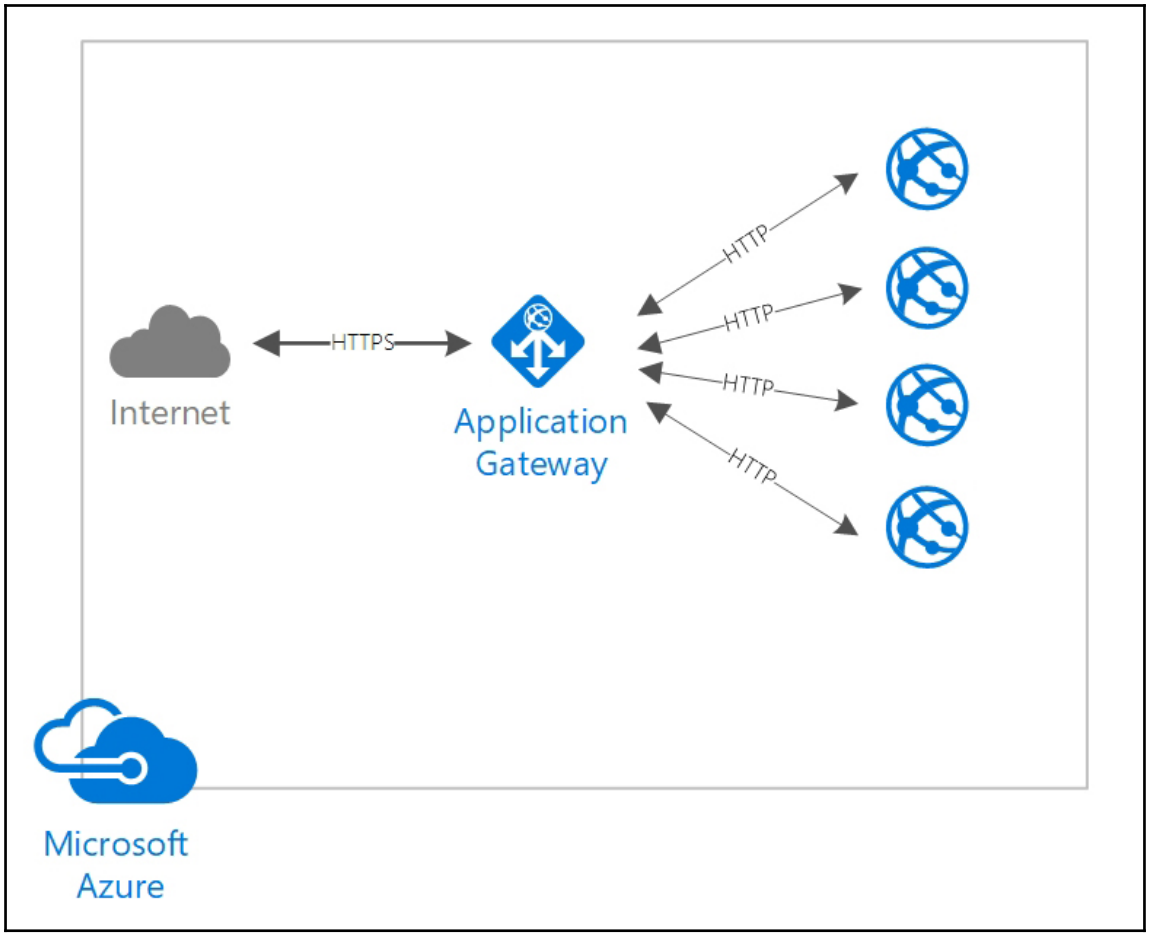

Create virtual network
* Name
PacktVNet
* Address space
10.2.0.0/16
10.2.0.0 - 10.2.255.255 (65536 addresses)
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktPubVNet
* Location
West Europe
Subnet
* Name
default
* Address range
10.2.0.0/24
10.2.0.0 - 10.2.0.255 (256 addresses)
Service endpoints
Disabled
Enabled
Pin to dashboard
Create
Automation options

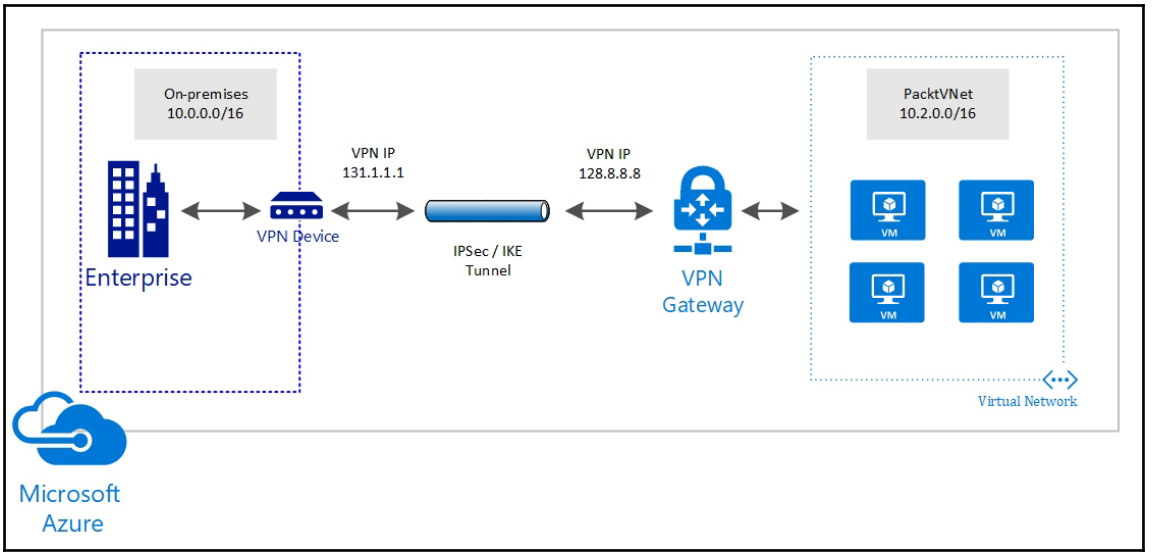

PacktVNet - Subnets
Virtual network
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Address space
Connected devices
Subnets
DNS servers
Peerings
Service endpoints
Properties
Locks
Automation script
MONITORING
Subnet
Gateway subnet
Search subnets
NAME
ADDRESS RANGE
AVAILABLE ADDRESSES
SECURITY GROUP
default
10.2.0.0/24
251
-

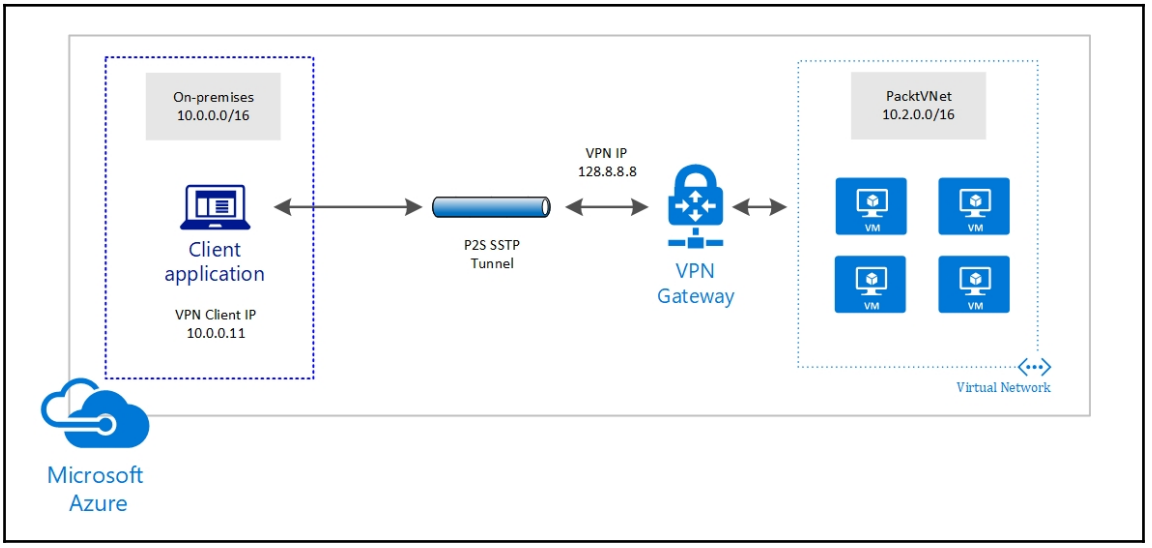

Add subnet
PacktVNet
* Name
Private
* Address range (CIDR block)
10.2.1.0/24
10.2.1.0 - 10.2.1.255 (251 + 5 Azure reserved addresses)
Network security group
None
Route table
None
Service endpoints
Services
0 selected
OK

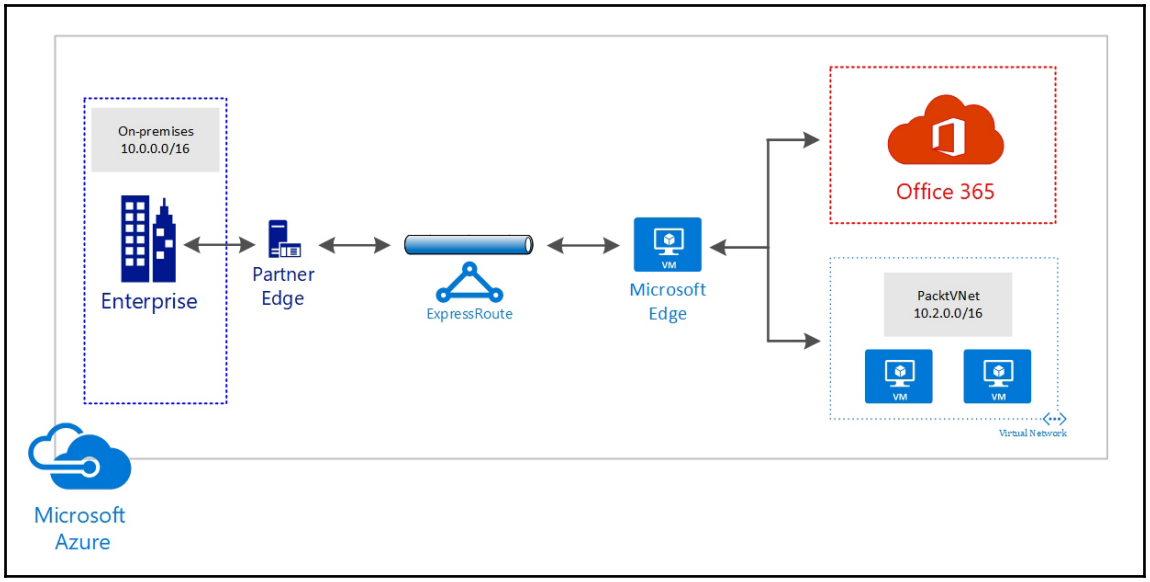

Internet
External
Load
Balancer
Internal
Load
Balancer
VM
VM
VM
VM
Microsoft
Azure

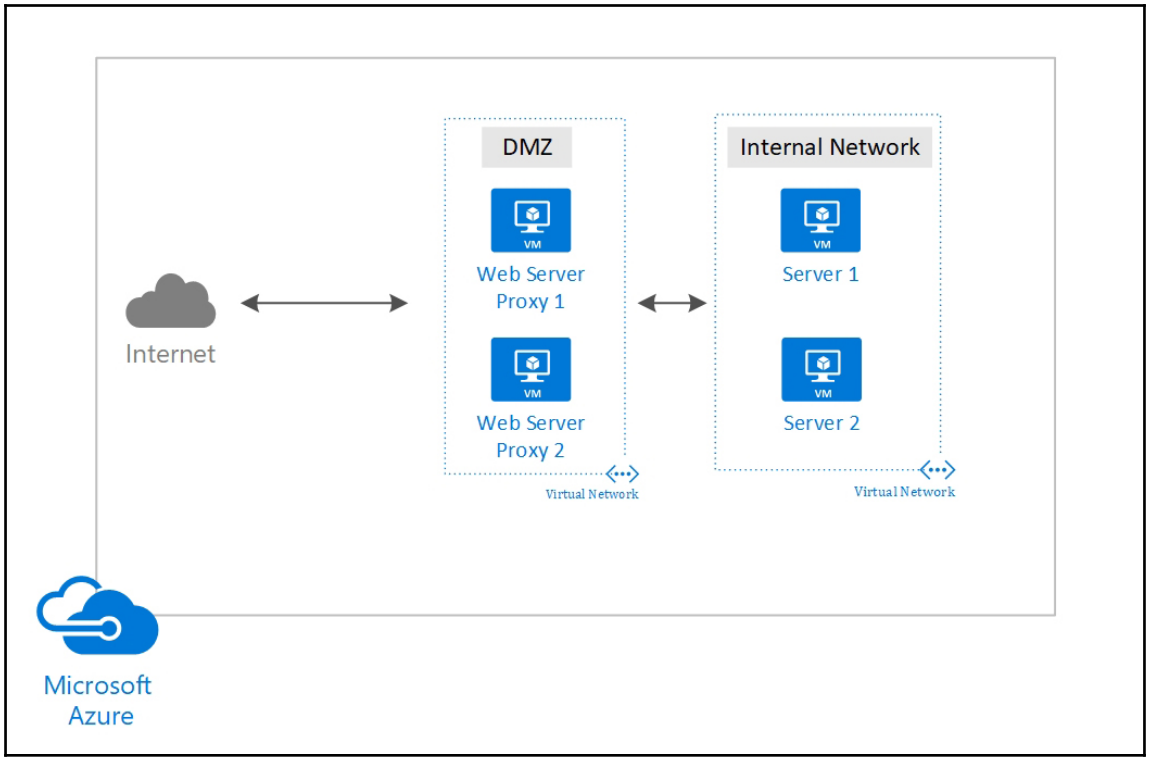

Internet
DNS
Traffic Manager
Direct Call
to the
Load Balancer
External
Load
Balancer
Internal
Load
Balancer
West US
External
Load
Balancer
Internal
Load
Balancer
East US
Microsoft
Azure

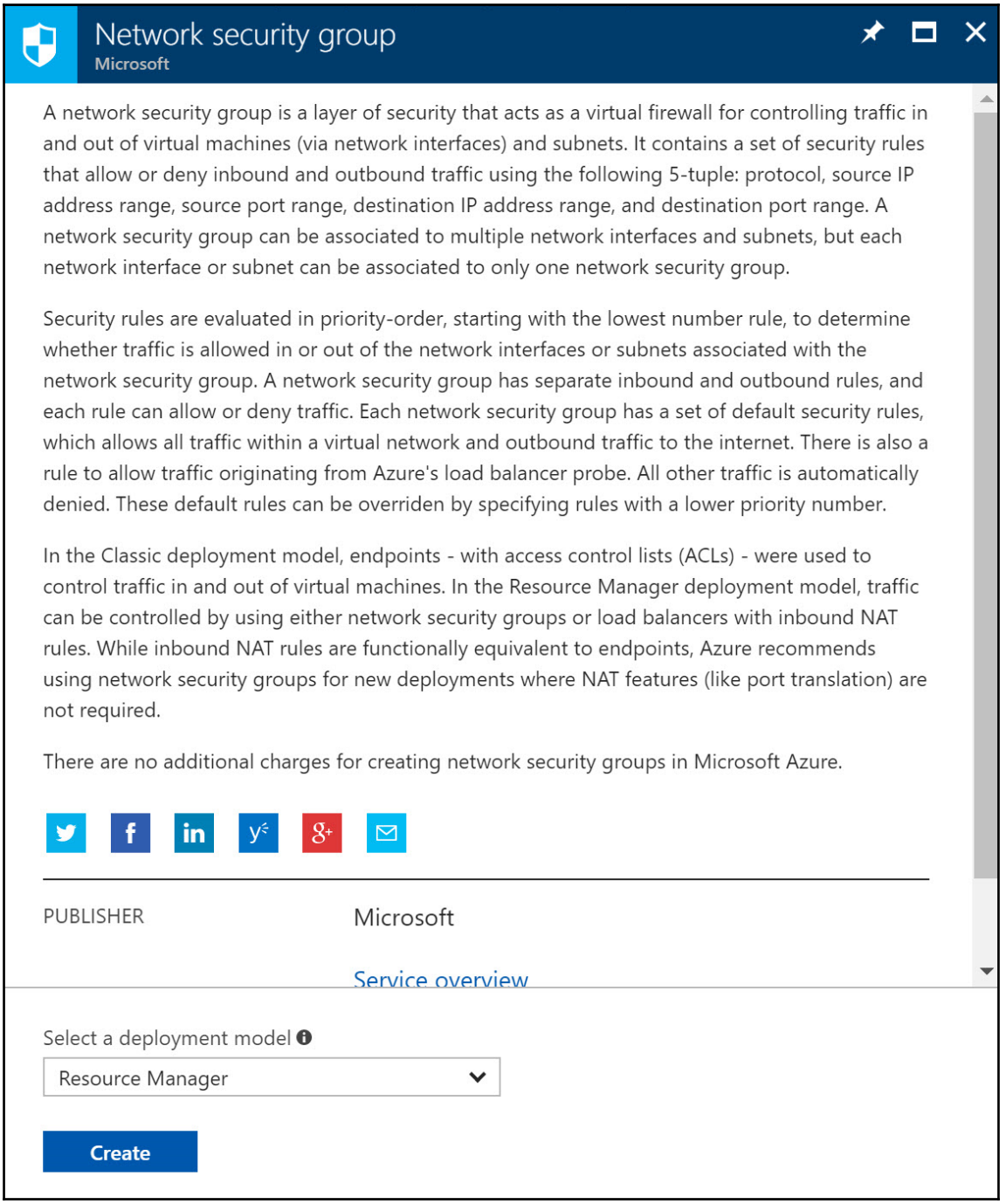

Internet
HTTPS
Application Gateway
HTTP
HTTP
HTTP
HTTP
Microsoft Azure

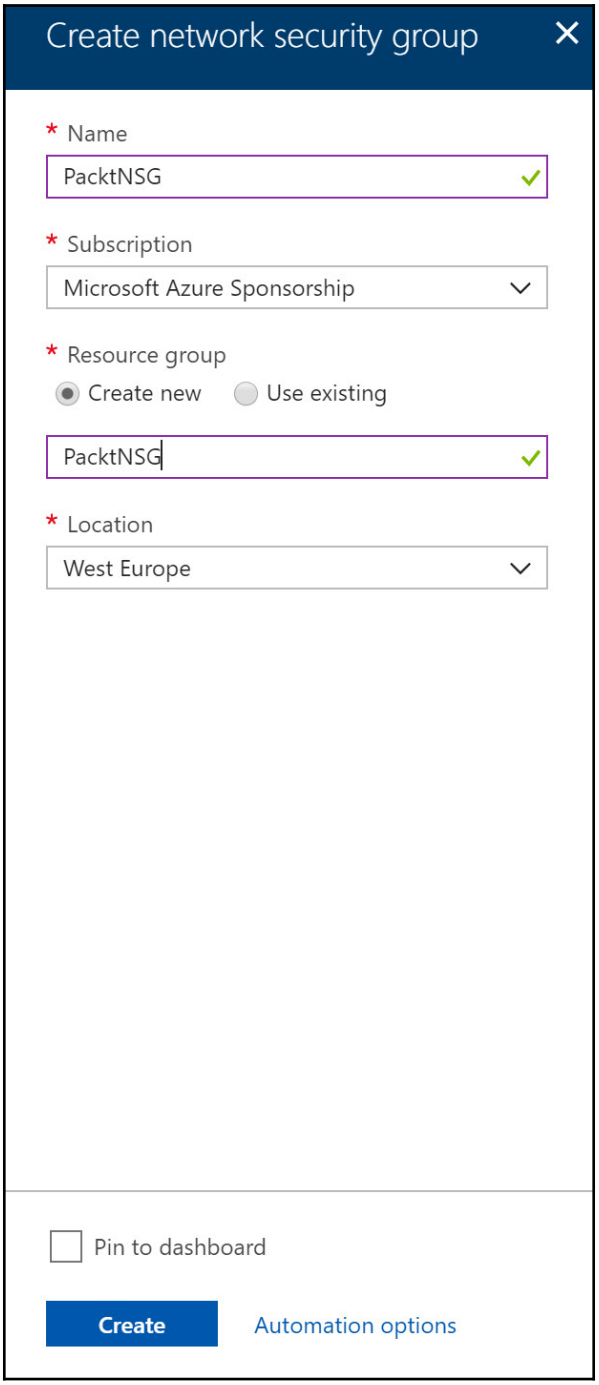

On-premises
10.0.0.0/16
Enterprise
VPN Device
VPN IP
131.1.1.1
IPSec / IKE
Tunnel
VPN IP
128.8.8.8
VPN
Gateway
PacktVNet
10.2.0.0/16
VM
VM
VM
VM
Virtual Network
Microsoft
Azure

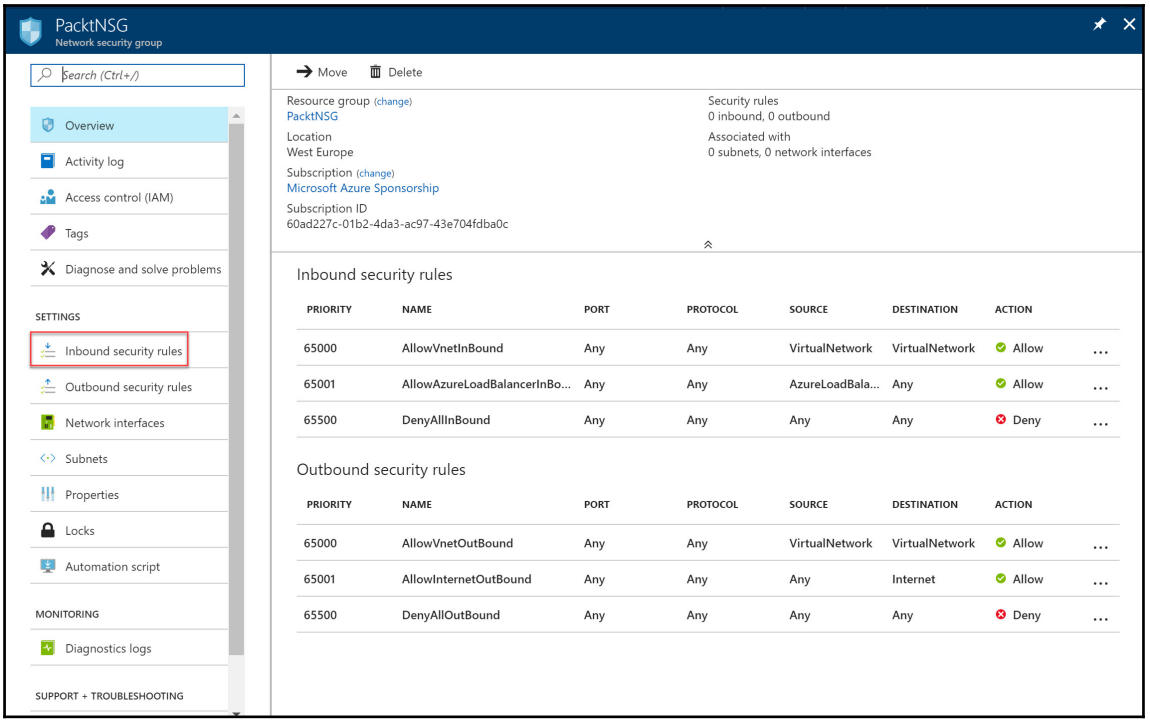

On-premises
10.0.0.0/16
Client
application
VPN Client IP
10.0.0.11
P2S SSTP
Tunnel
VPN IP
128.8.8.8
VPN
Gateway
PacktVNet
10.2.0.0/16
VM
VM
VM
VM
Virtual Network
Microsoft
Azure

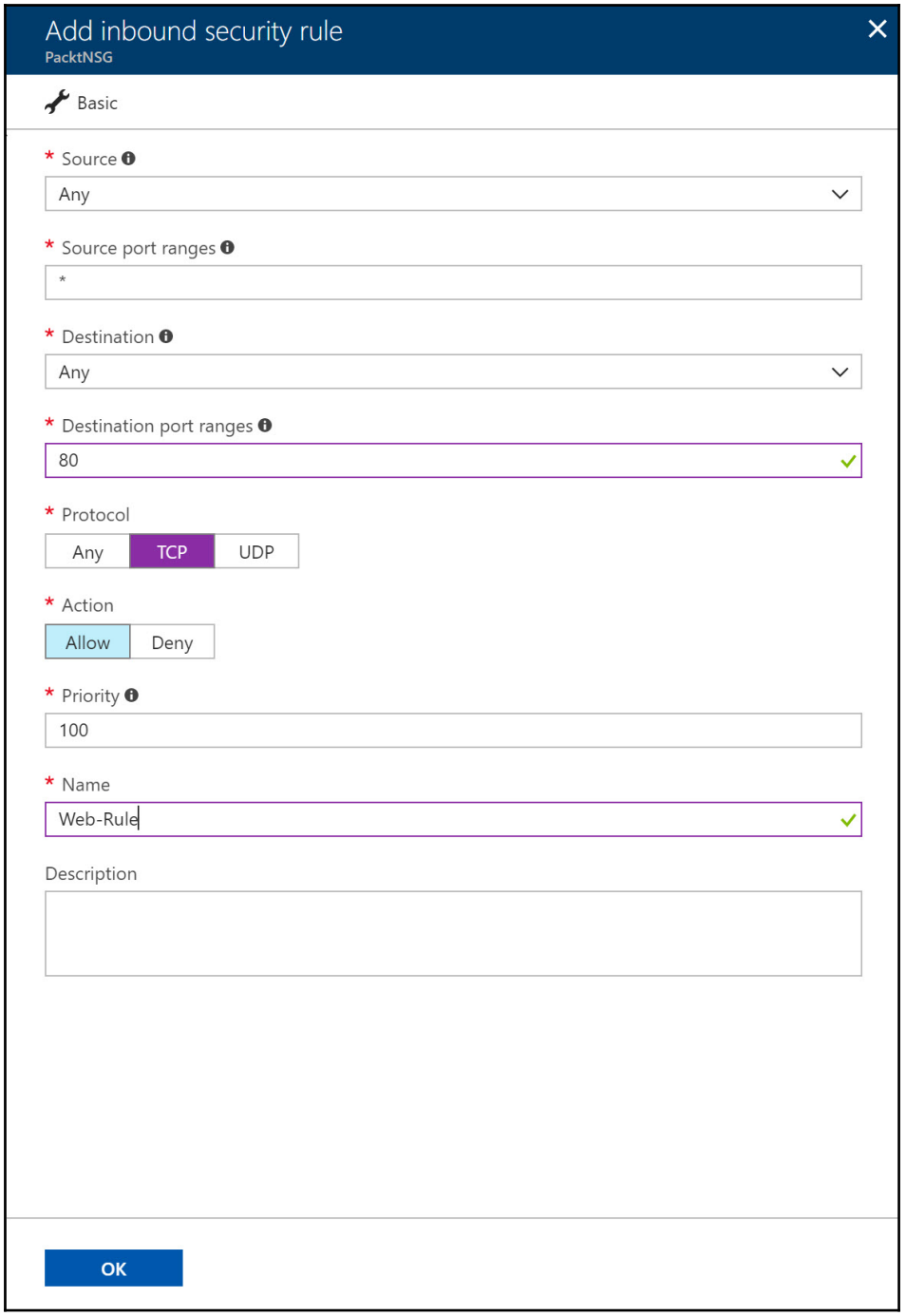

On-premises
10.0.0.0/16
Enterprise
Partner
Edge
ExpressRoute
VM
Microsoft
Edge
Office 365
PacktVNet
10.2.0.0/16
VM
VM
Virtual Network
Microsoft
Azure

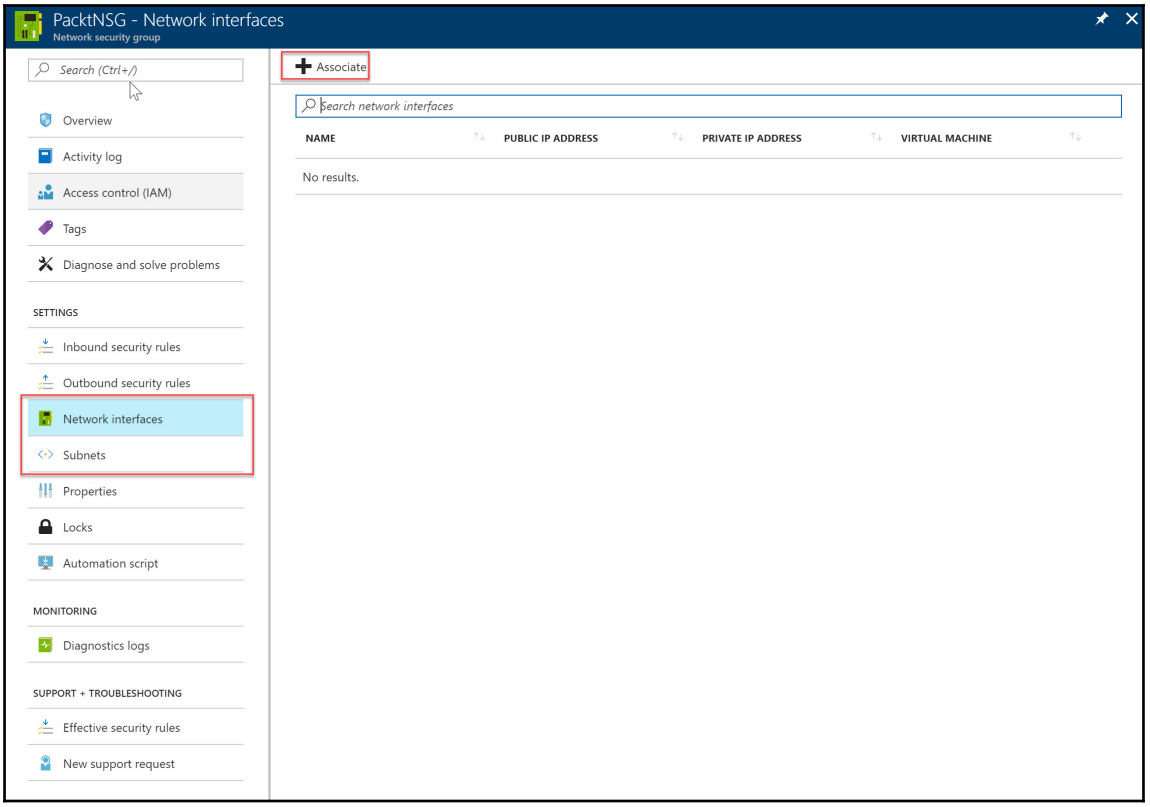

DMZ
Internal Network
VM
Web Server
Proxy 1
VM
Server 1
Internet
VM
Web Server
Proxy 2
VM
Server 2
Virtual Network
Virtual Network
Microsoft
Azure

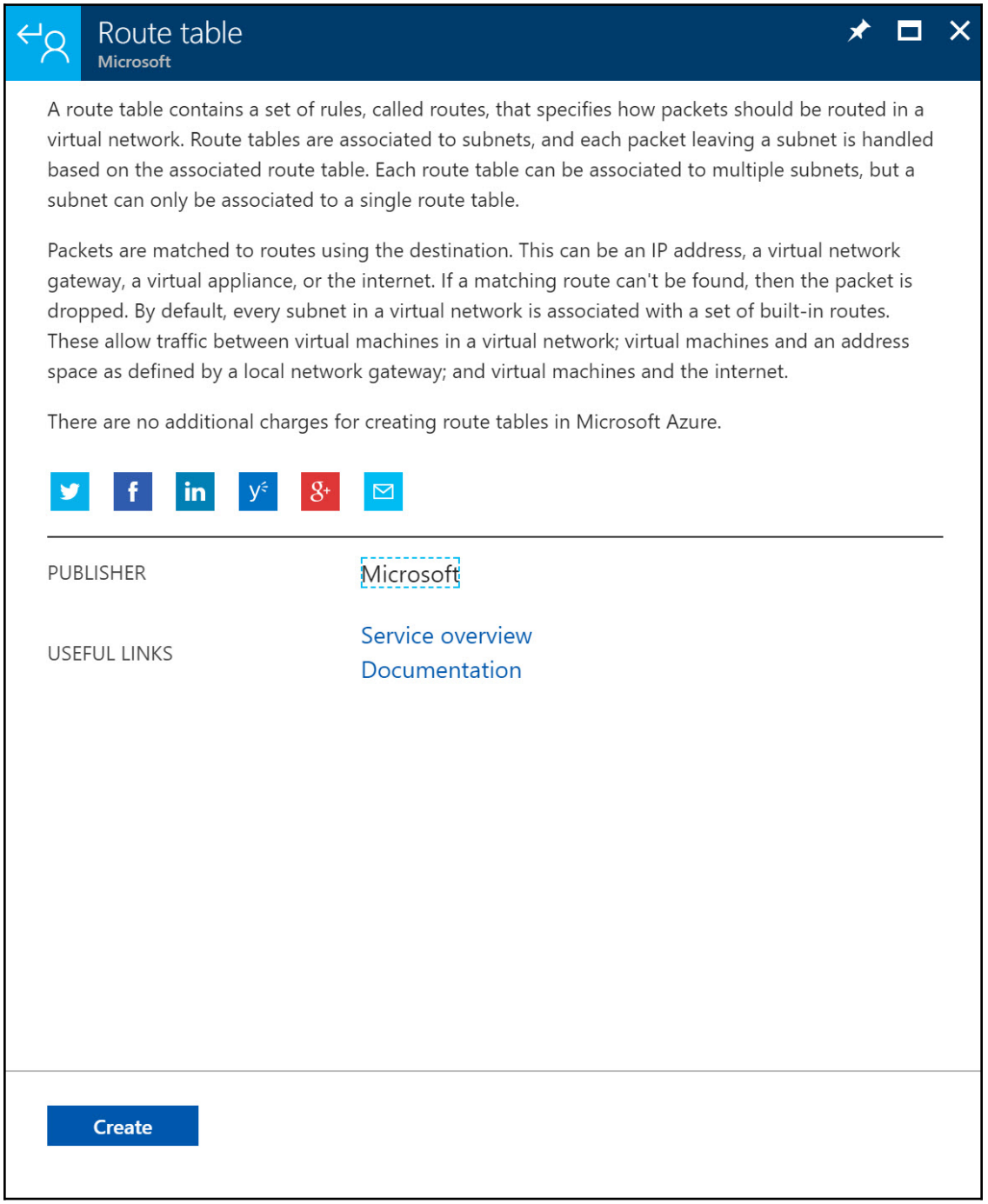

Network security group
Microsoft
A network security group is a layer of security that acts as a virtual firewall for controlling traffic in and out of virtual machines (via network interfaces) and subnets. It contains a set of security rules that allow or deny inbound and outbound traffic using the following 5-tuple: protocol, source IP address range, source port range, destination IP address range, and destination port range. A network security group can be associated to multiple network interfaces and subnets, but each network interface or subnet can be associated to only one network security group.
Security rules are evaluated in priority-order, starting with the lowest number rule, to determine whether traffic is allowed in or out of the network interfaces or subnets associated with the network security group. A network security group has separate inbound and outbound rules, and each rule can allow or deny traffic. Each network security group has a set of default security rules, which allows all traffic within a virtual network and outbound traffic to the internet. There is also a rule to allow traffic originating from Azure's load balancer probe. All other traffic is automatically denied. These default rules can be overriden by specifying rules with a lower priority number.
In the Classic deployment model, endpoints - with access control lists (ACLs) - were used to control traffic in and out of virtual machines. In the Resource Manager deployment model, traffic can be controlled by using either network security groups or load balancers with inbound NAT rules. While inbound NAT rules are functionally equivalent to endpoints, Azure recommends using network security groups for new deployments where NAT features (like port translation) are not required.
There are no additional charges for creating network security groups in Microsoft Azure.
PUBLISHER
Microsoft
Service overview
Select a deployment model
Resource Manager
Create

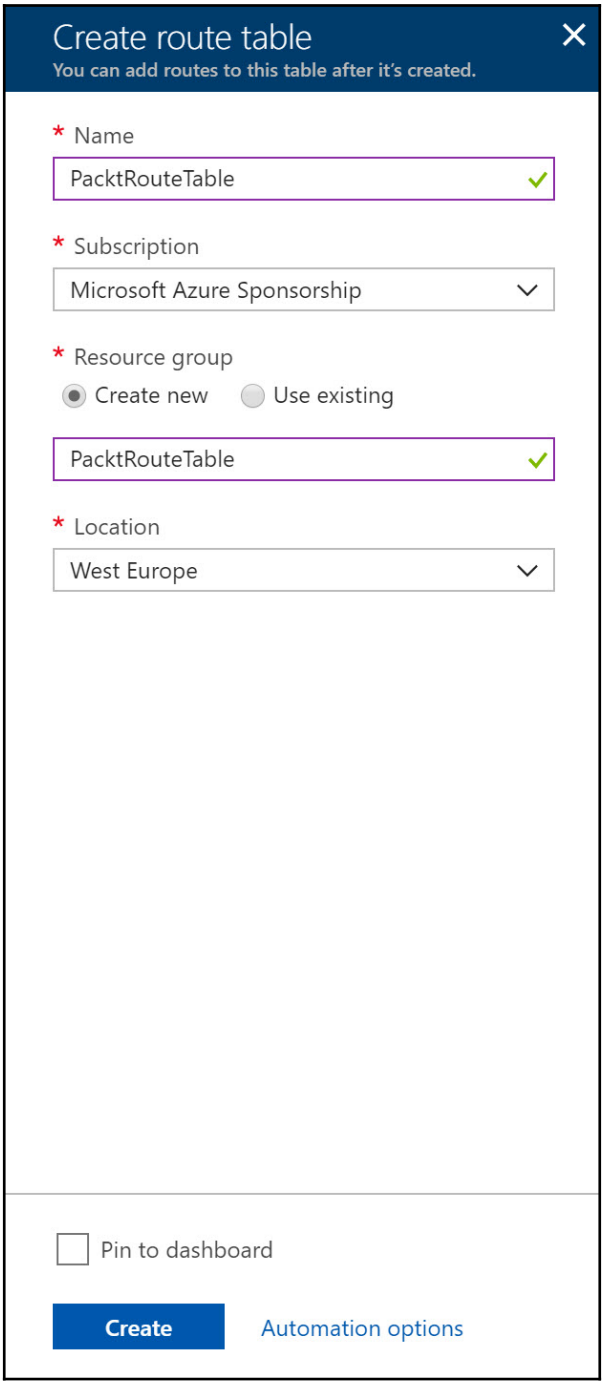

Create network security group
* Name
PacktNSG
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktNSG
* Location
West Europe
Pin to dashboard
Create
Automation options

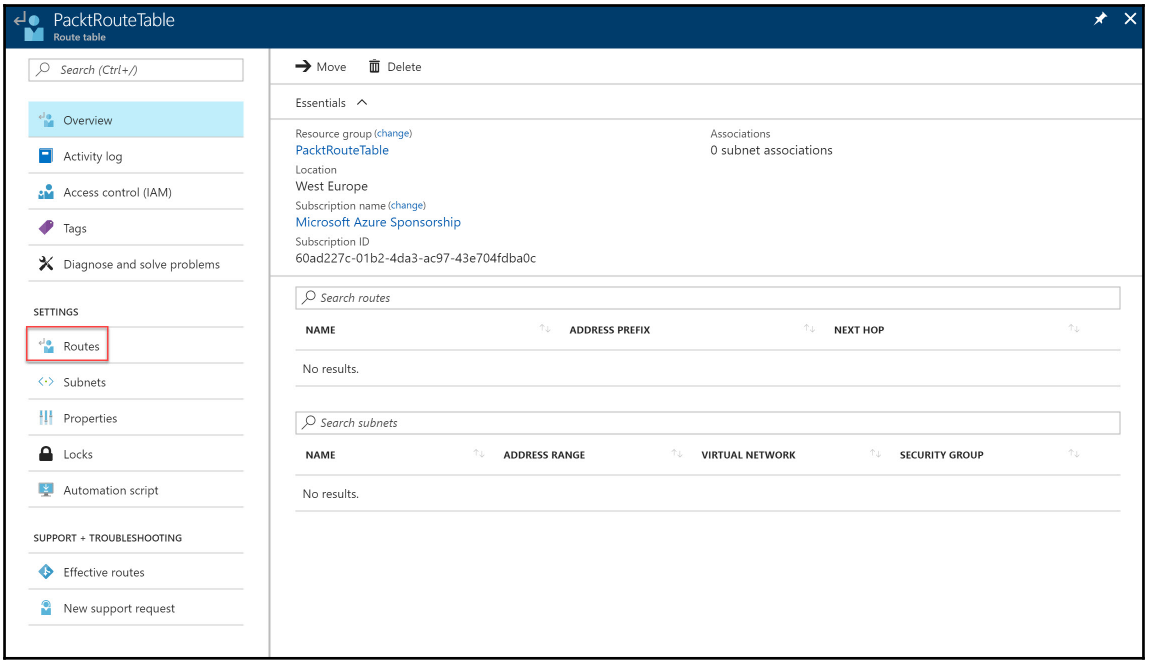

PacktNSG
Network security group
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Automation script
MONITORING
Diagnostics logs
SUPPORT + TROUBLESHOOTING
Move
Delete
Resource group (change)
PacktNSG
Location
West Europe
Subscription (change)
Microsoft Azure Sponsorship
Subscription ID
60ad227c-01b2-4da3-ac97-43e704fdba0c
Security rules
0 inbound, 0 outbound
Associated with
0 subnets, 0 network interfaces
Inbound security rules
PRIORITY NAME PORT PROTOCOL SOURCE DESTINATION ACTION
65000 AllowVnetInBound Any Any VirtualNetwork VirtualNetwork Allow
65001 AllowAzureLoadBalancerInBo... Any Any AzureLoadBala... Any Allow
65500 DenyAllInBound Any Any Any Any Deny
Outbound security rules
PRIORITY NAME PORT PROTOCOL SOURCE DESTINATION ACTION
65000 AllowVnetOutBound Any Any VirtualNetwork VirtualNetwork Allow
65001 AllowInternetOutBound Any Any Any Internet Allow
65500 DenyAllOutBound Any Any Any Any Deny

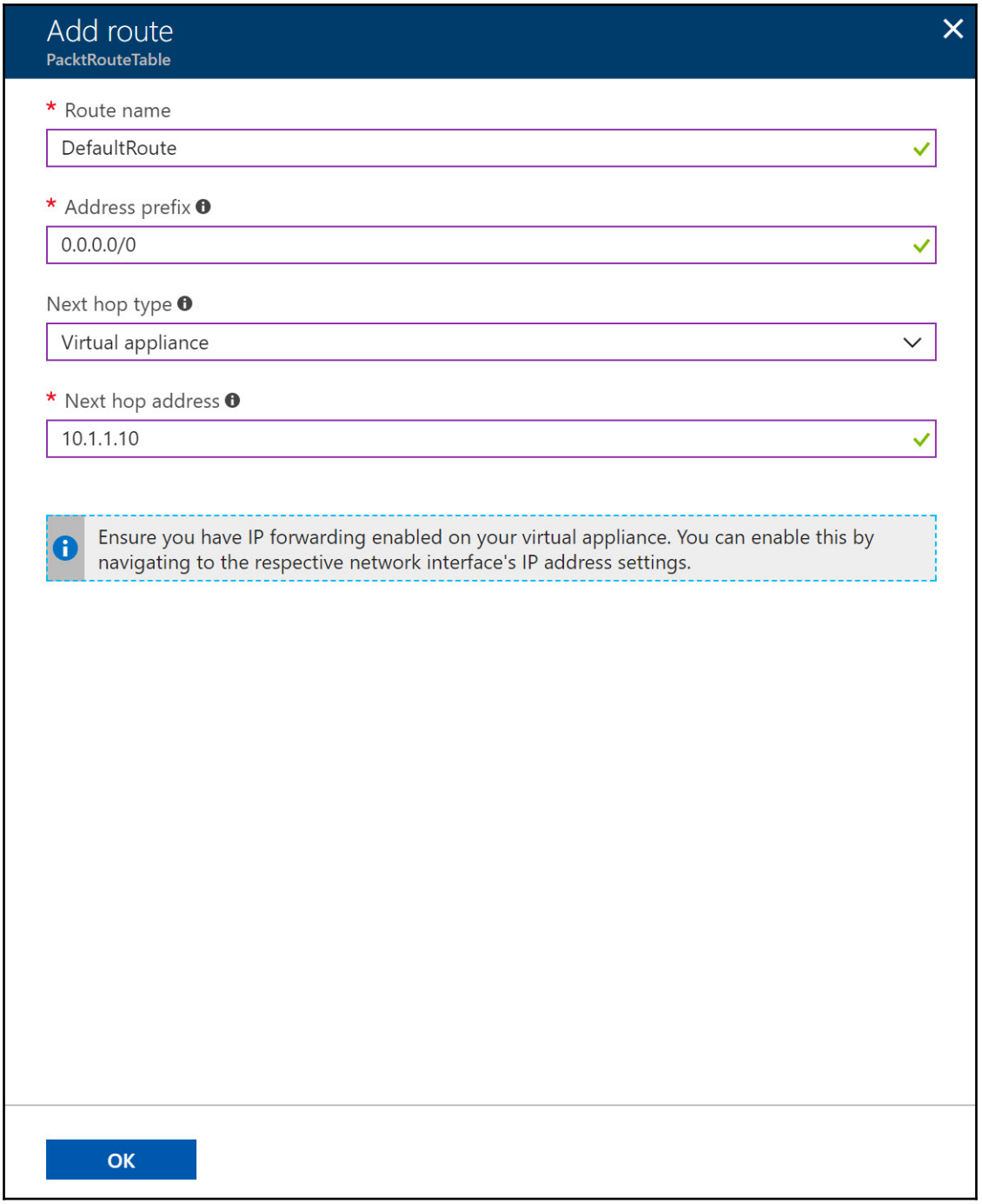

Add inbound security rule
PacktNSG
Basic
* Source
Any
* Source port ranges
*
* Destination
Any
* Destination port ranges
80
* Protocol
Any
TCP
UDP
* Action
Allow
Deny
* Priority
100
* Name
Web-Rule
Description
OK

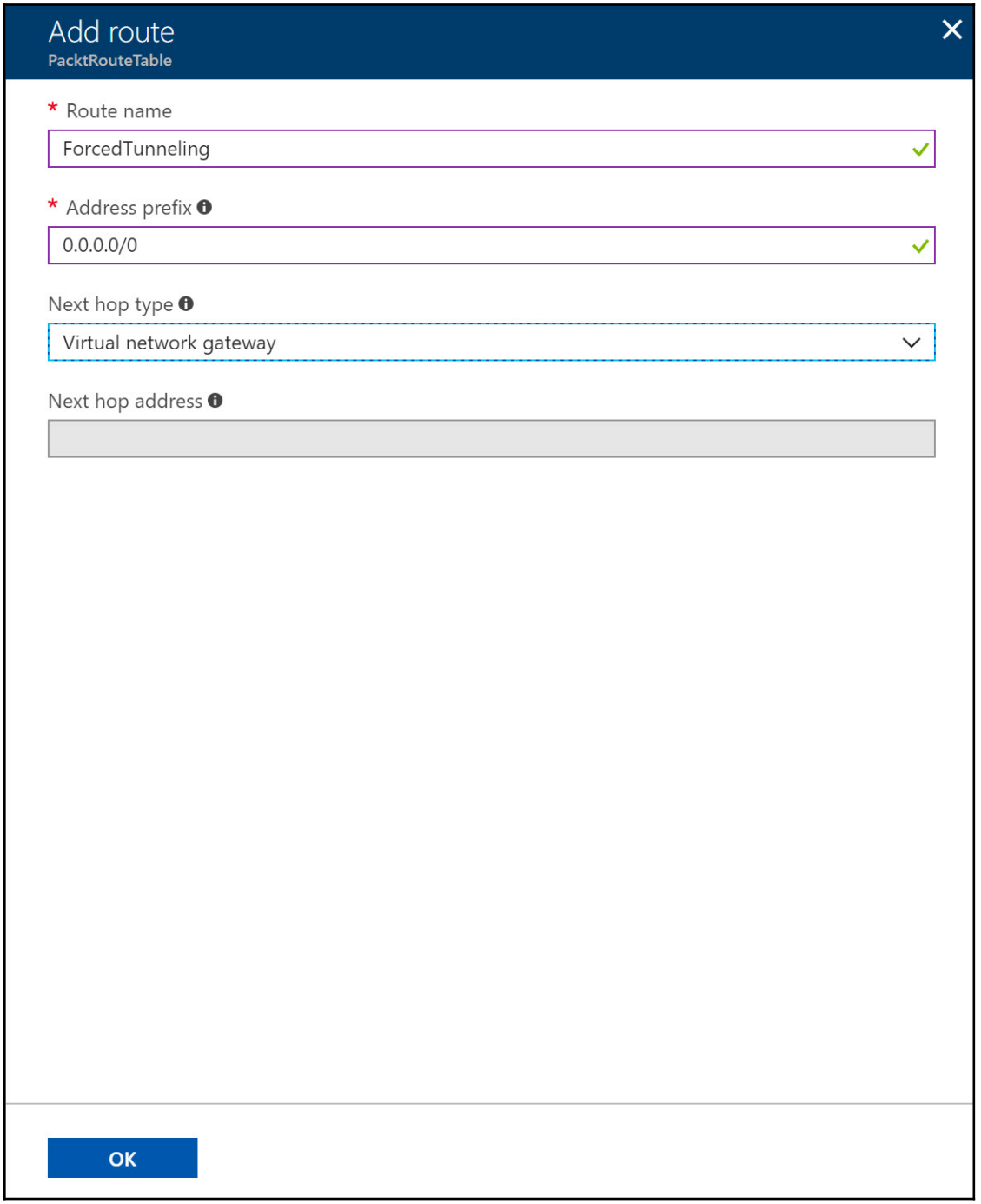

PacktNSG - Network interfaces
Network security group
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Automation script
MONITORING
Diagnostics logs
SUPPORT + TROUBLESHOOTING
Effective security rules
New support request
Associate
Search network interfaces
NAME
PUBLIC IP ADDRESS
PRIVATE IP ADDRESS
VIRTUAL MACHINE
No results.


Route table
Microsoft
A route table contains a set of rules, called routes, that specifies how packets should be routed in a virtual network. Route tables are associated to subnets, and each packet leaving a subnet is handled based on the associated route table. Each route table can be associated to multiple subnets, but a subnet can only be associated to a single route table.
Packets are matched to routes using the destination. This can be an IP address, a virtual network gateway, a virtual appliance, or the internet. If a matching route can't be found, then the packet is dropped. By default, every subnet in a virtual network is associated with a set of built-in routes. These allow traffic between virtual machines in a virtual network; virtual machines and an address space as defined by a local network gateway; and virtual machines and the internet.
There are no additional charges for creating route tables in Microsoft Azure.
PUBLISHER
Microsoft
USEFUL LINKS
Service overview
Documentation
Create

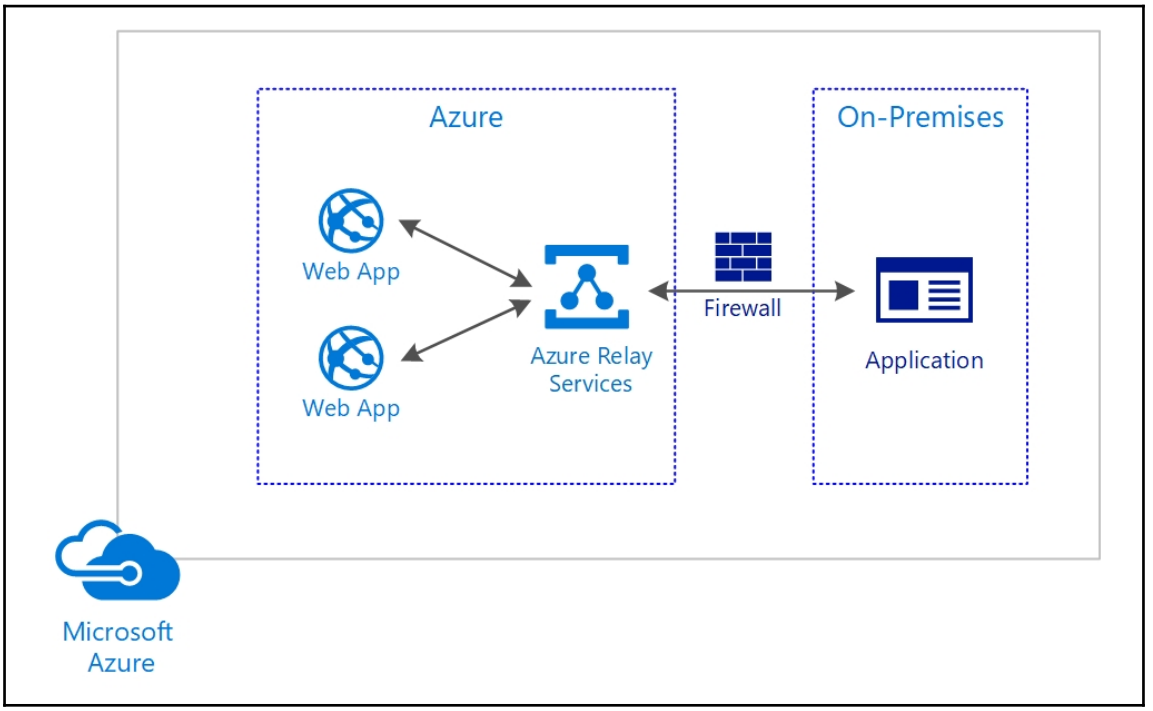

Create route table
You can add routes to this table after it's created.
* Name
PacktRouteTable
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktRouteTable
* Location
West Europe
Pin to dashboard
Create
Automation options

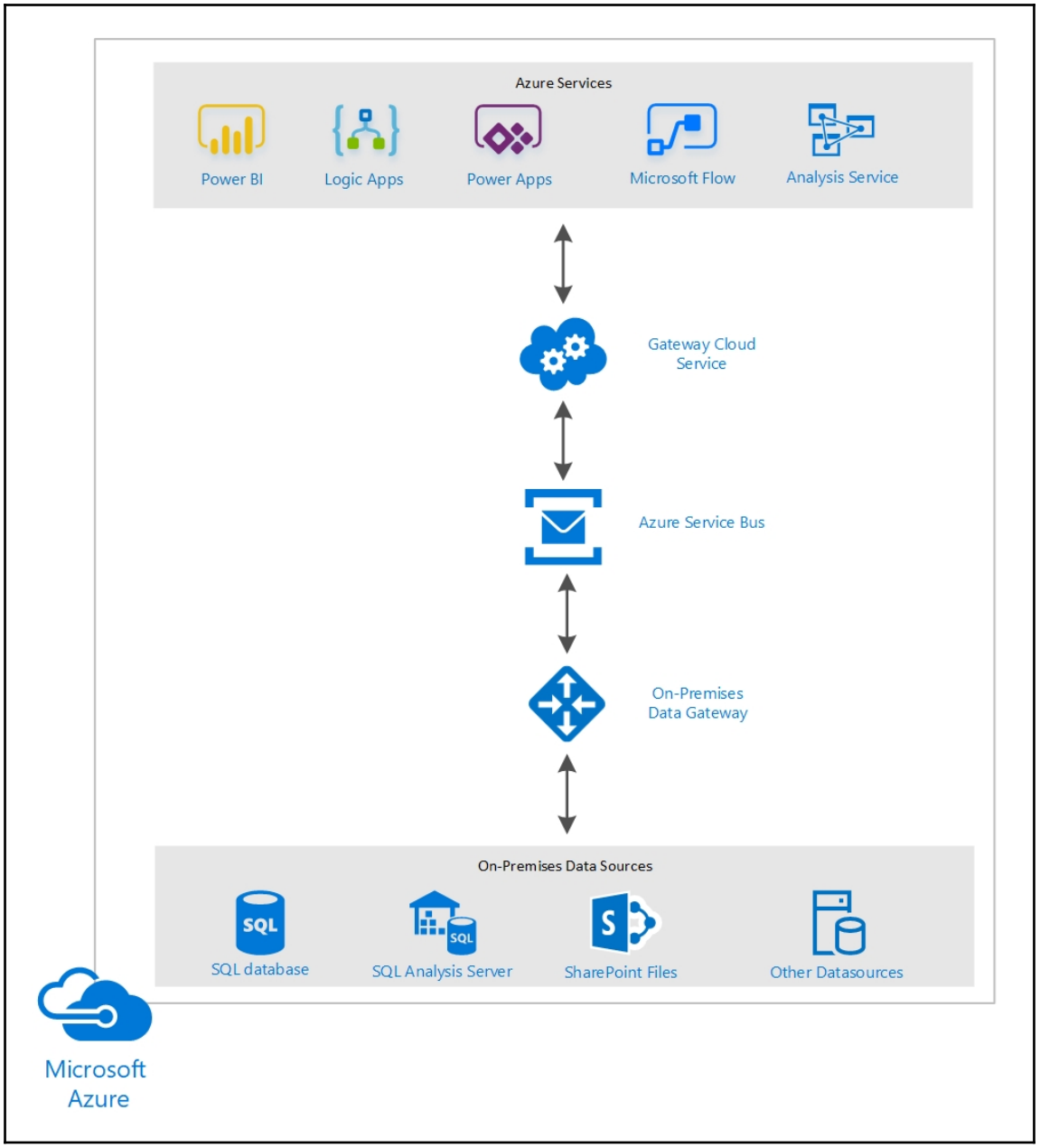

PacktRouteTable
Route table
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Routes
Subnets
Properties
Locks
Automation script
SUPPORT + TROUBLESHOOTING
Effective routes
New support request
Move
Delete
Essentials
Resource group (change)
PacktRouteTable
Location
West Europe
Subscription name (change)
Microsoft Azure Sponsorship
Subscription ID
60ad227c-01b2-4da3-ac97-43e704fdba0c
Associations
0 subnet associations
Search routes
NAME
ADDRESS PREFIX
NEXT HOP
No results.
Search subnets
NAME
ADDRESS RANGE
VIRTUAL NETWORK
SECURITY GROUP
No results.

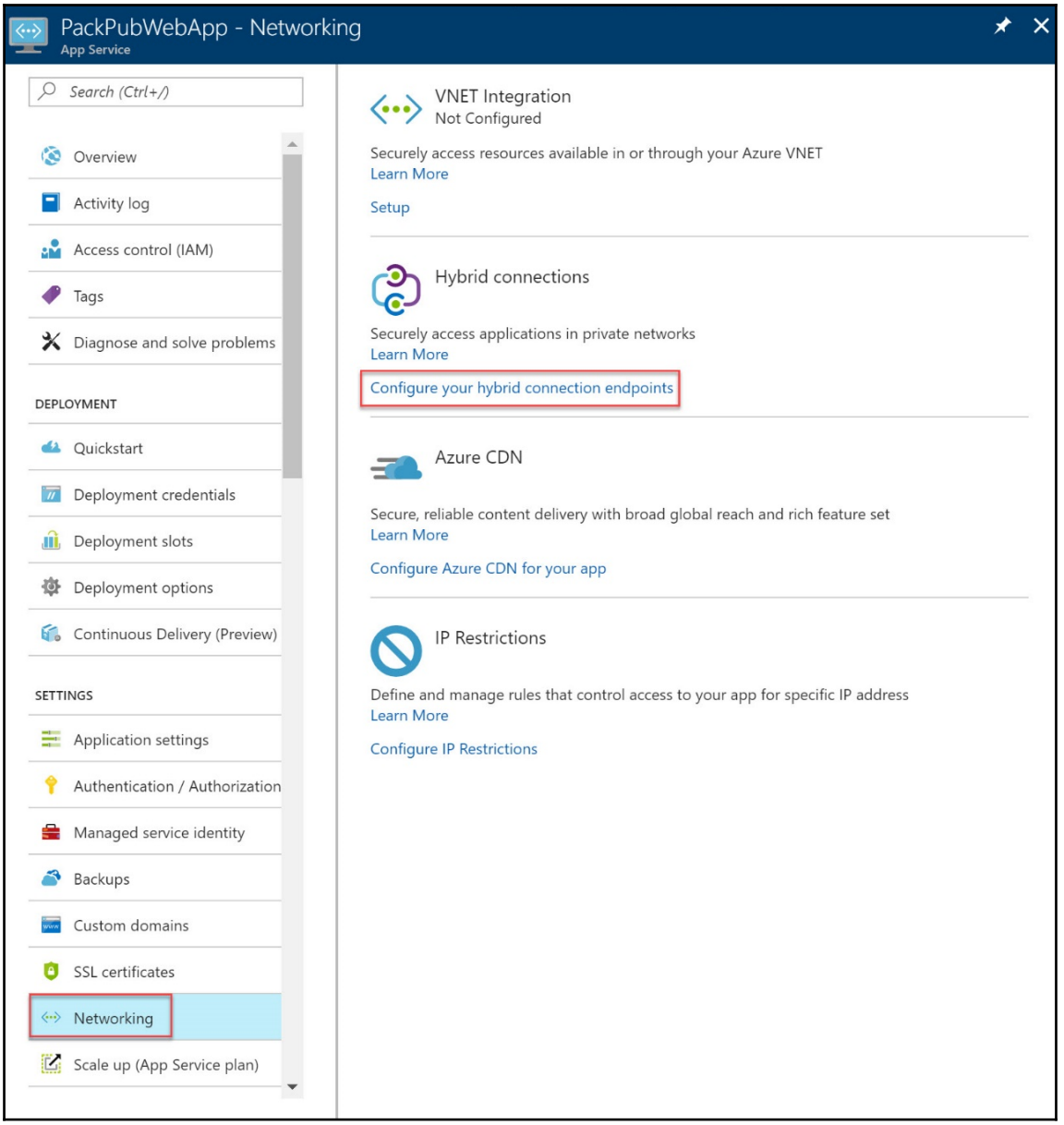

Add route
PacktRouteTable
* Route name
DefaultRoute
* Address prefix
0.0.0.0/0
Next hop type
Virtual appliance
* Next hop address
10.1.1.10
Ensure you have IP forwarding enabled on your virtual appliance. You can enable this by navigating to the respective network interface's IP address settings.
OK

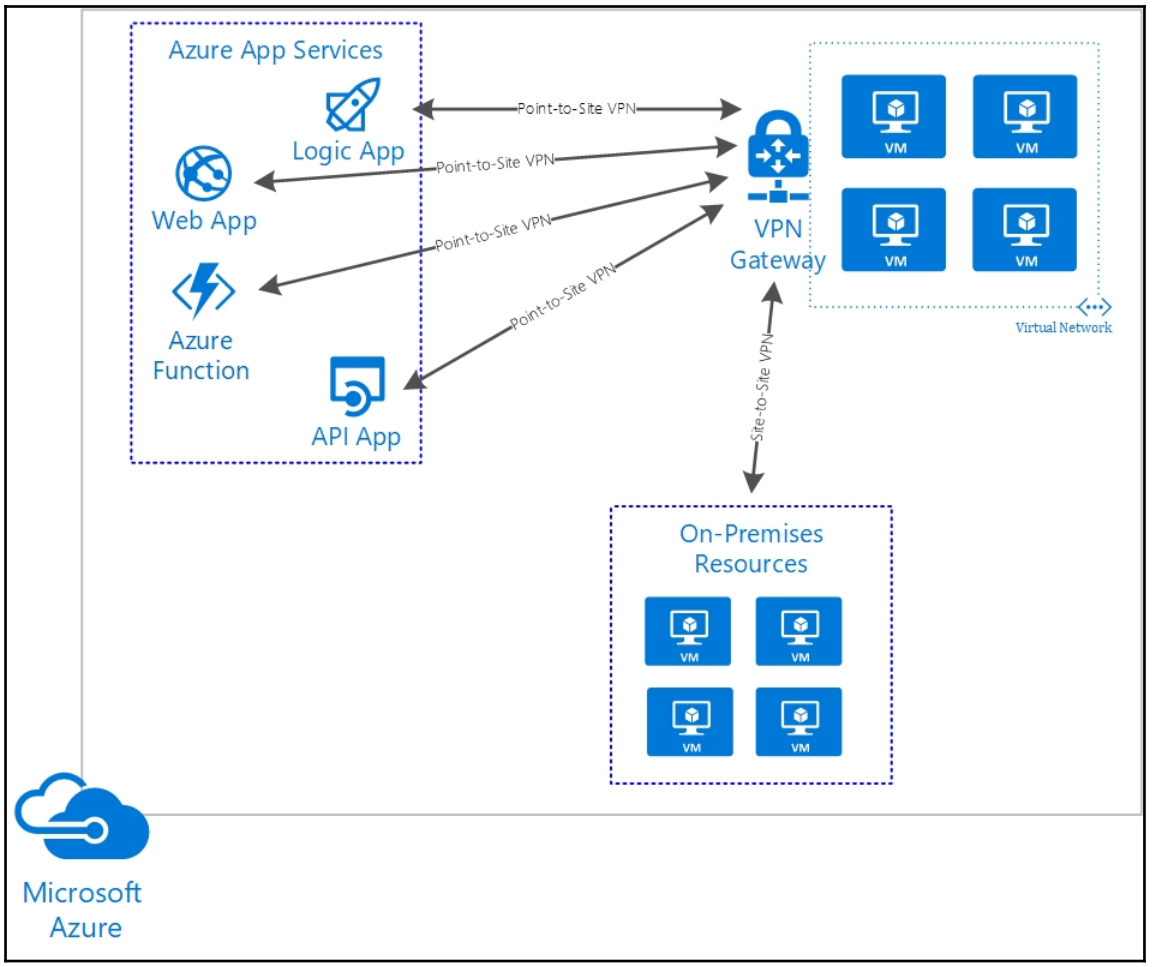

Add route
PacktRouteTable
* Route name
ForcedTunneling
* Address prefix
0.0.0.0/0
Next hop type
Virtual network gateway
Next hop address
OK

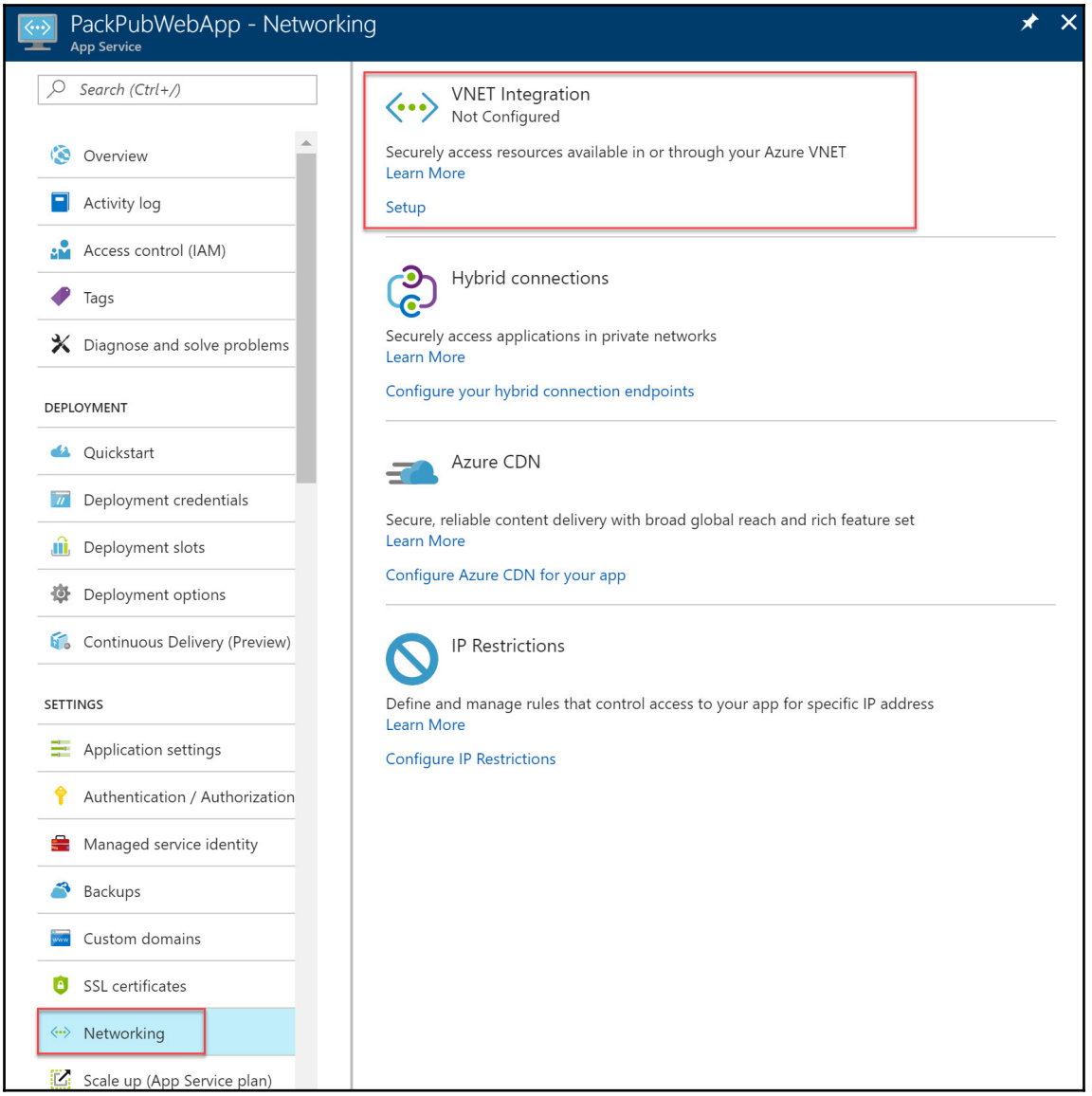
Chapter 6: Connecting Hybrid Applications

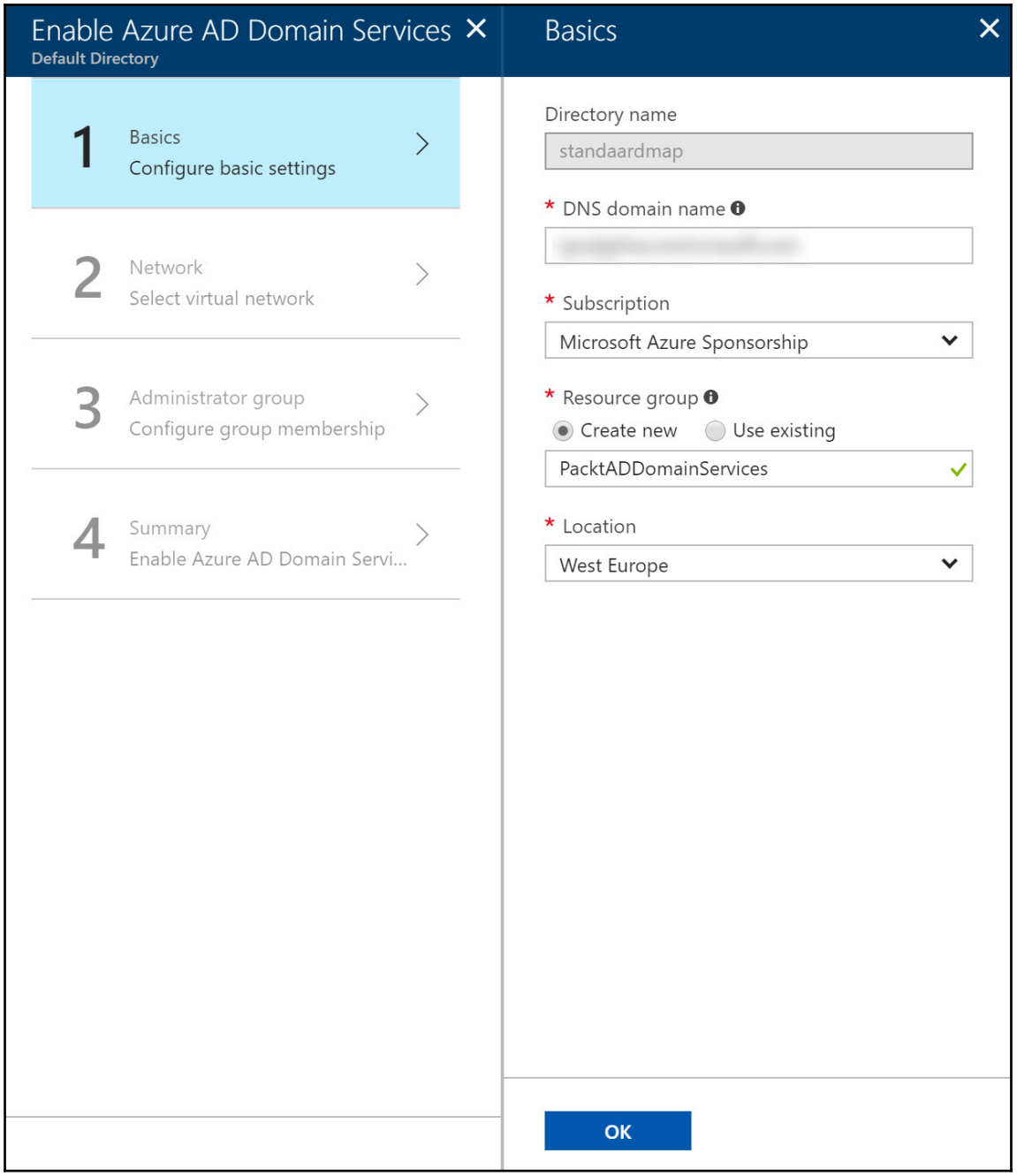


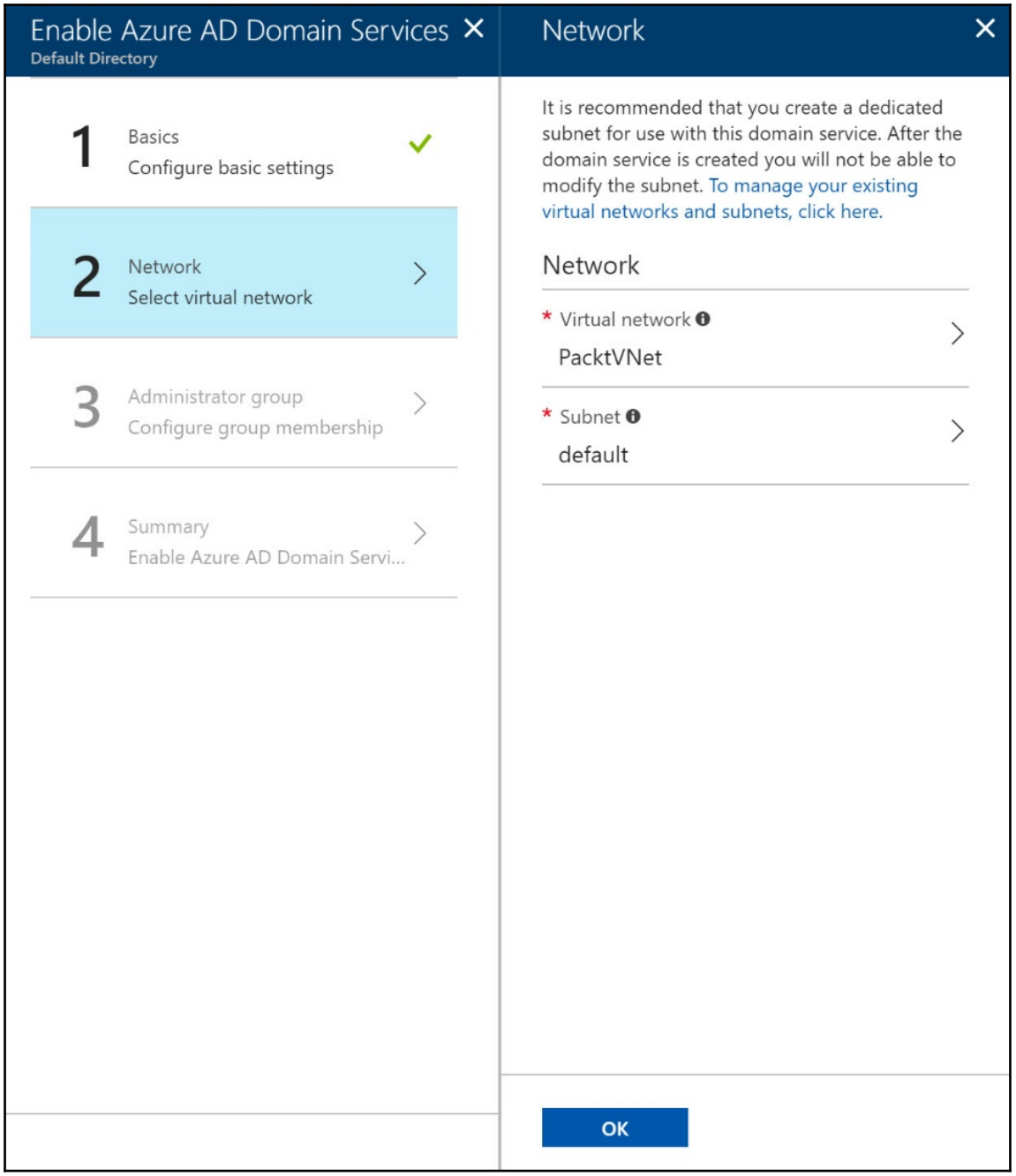

Azure Services
Power BI
Logic Apps
Power Apps
Microsoft Flow
Analysis Service
Gateway Cloud Service
Azure Service Bus
On-Premises Data Gateway
On-Premises Data Sources
SQL database
SQL Analysis Server
SharePoint Files
Other Datasources
Microsoft Azure

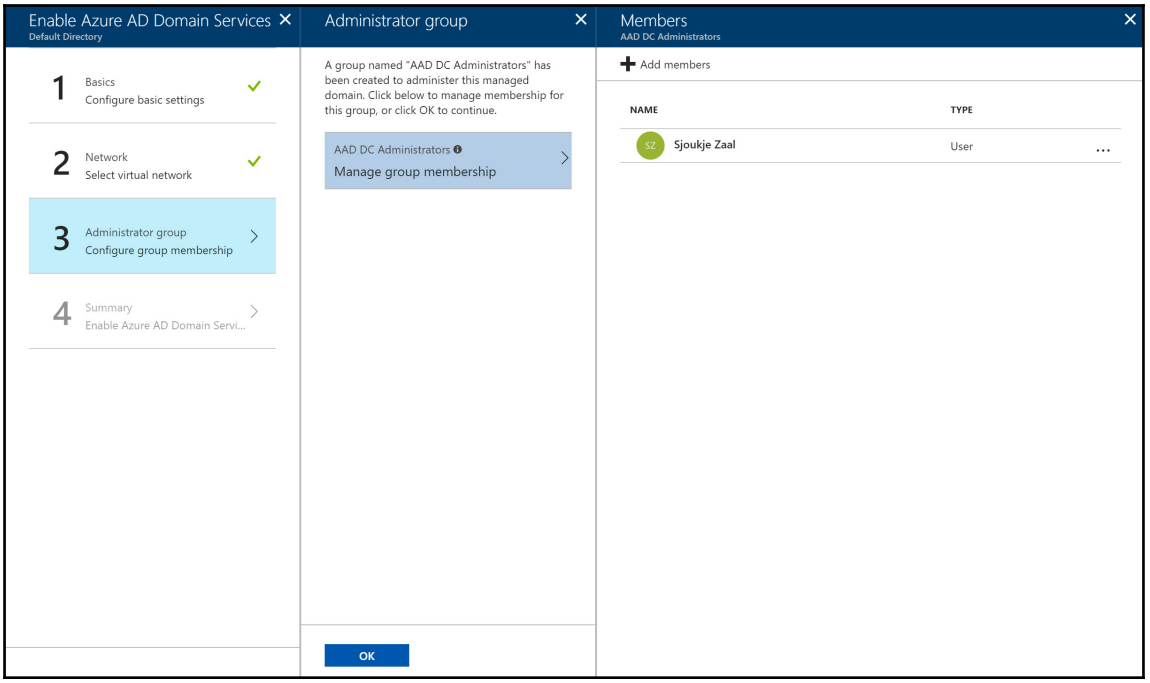

PackPubWebApp - Networking
App Service
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
DEPLOYMENT
Quickstart
Deployment credentials
Deployment slots
Deployment options
Continuous Delivery (Preview)
SETTINGS
Application settings
Authentication / Authorization
Managed service identity
Backups
Custom domains
SSL certificates
Networking
Scale up (App Service plan)
VNET Integration
Not Configured
Securely access resources available in or through your Azure VNET
Learn More
Setup
Hybrid connections
Securely access applications in private networks
Learn More
Configure your hybrid connection endpoints
Azure CDN
Secure, reliable content delivery with broad global reach and rich feature set
Learn More
Configure Azure CDN for your app
IP Restrictions
Define and manage rules that control access to your app for specific IP address
Learn More
Configure IP Restrictions

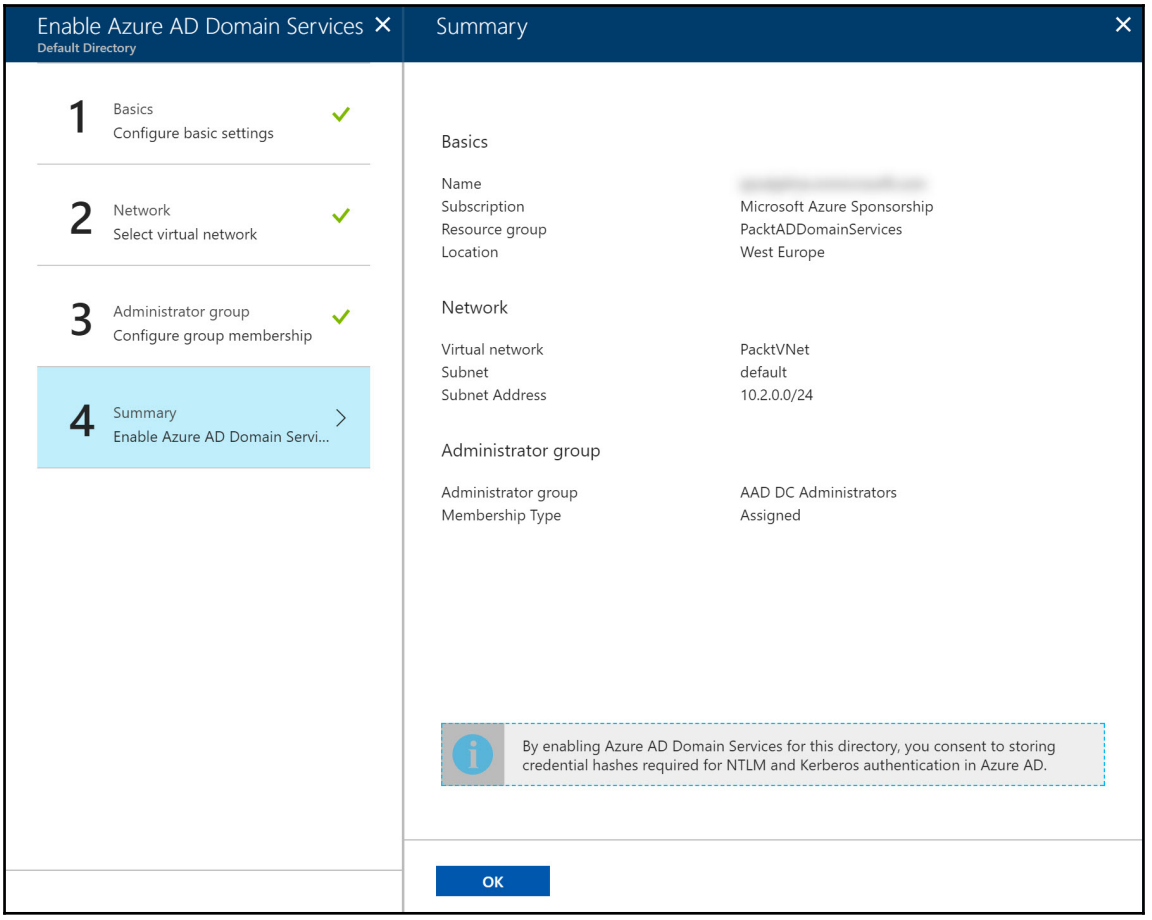

Azure App Services
Logic App
Web App
Azure Function
API App
Point-to-Site VPN
Point-to-Site VPN
Point-to-Site VPN
Point-to-Site VPN
VPN Gateway
VM
VM
VM
VM
Virtual Network
Site-to-Site VPN
On-Premises Resources
VM
VM
VM
VM
Microsoft Azure

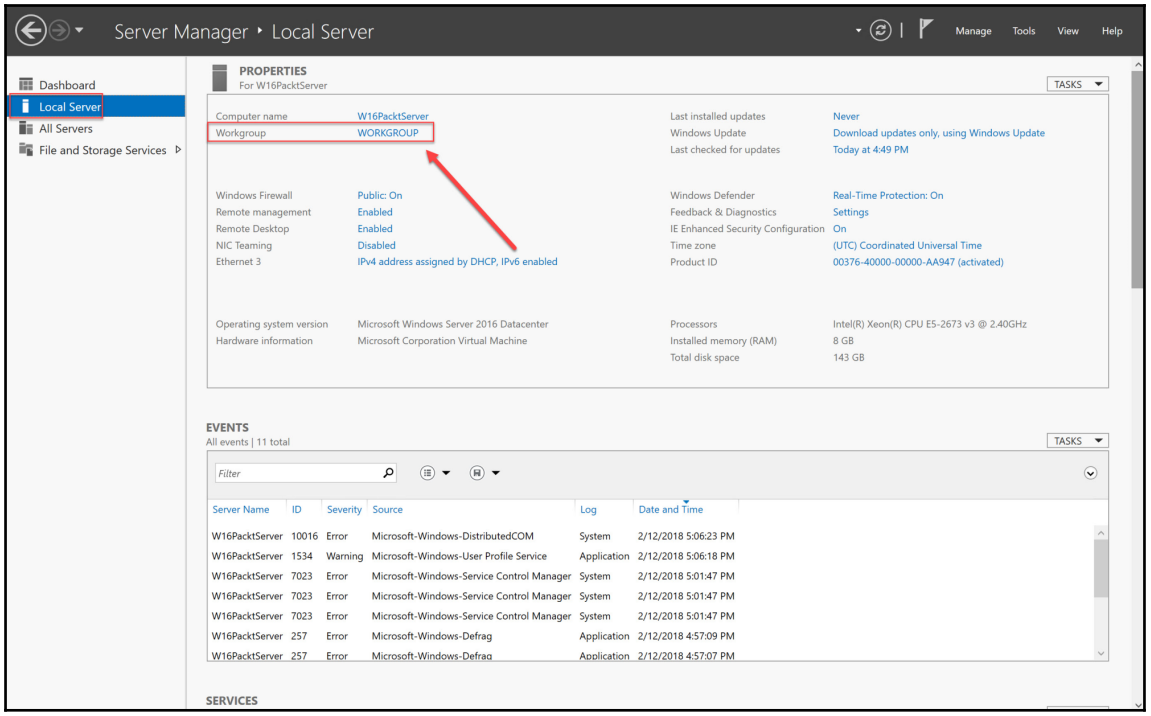

PackPubWebApp - Networking
App Service
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
DEPLOYMENT
Quickstart
Deployment credentials
Deployment slots
Deployment options
Continuous Delivery (Preview)
SETTINGS
Application settings
Authentication / Authorization
Managed service identity
Backups
Custom domains
SSL certificates
Networking
Scale up (App Service plan)
VNET Integration
Not Configured
Securely access resources available in or through your Azure VNET
Learn More
Setup
Hybrid connections
Securely access applications in private networks
Learn More
Configure your hybrid connection endpoints
Azure CDN
Secure, reliable content delivery with broad global reach and rich feature set
Learn More
Configure Azure CDN for your app
IP Restrictions
Define and manage rules that control access to your app for specific IP address
Learn More
Configure IP Restrictions


Enable Azure AD Domain Services
Default Directory
1
Basics
Configure basic settings
2
Network
Select virtual network
3
Administrator group
Configure group membership
4
Summary
Enable Azure AD Domain Servi...
Basics
Directory name
standaardmap
* DNS domain name
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktADDomainServices
* Location
West Europe
OK

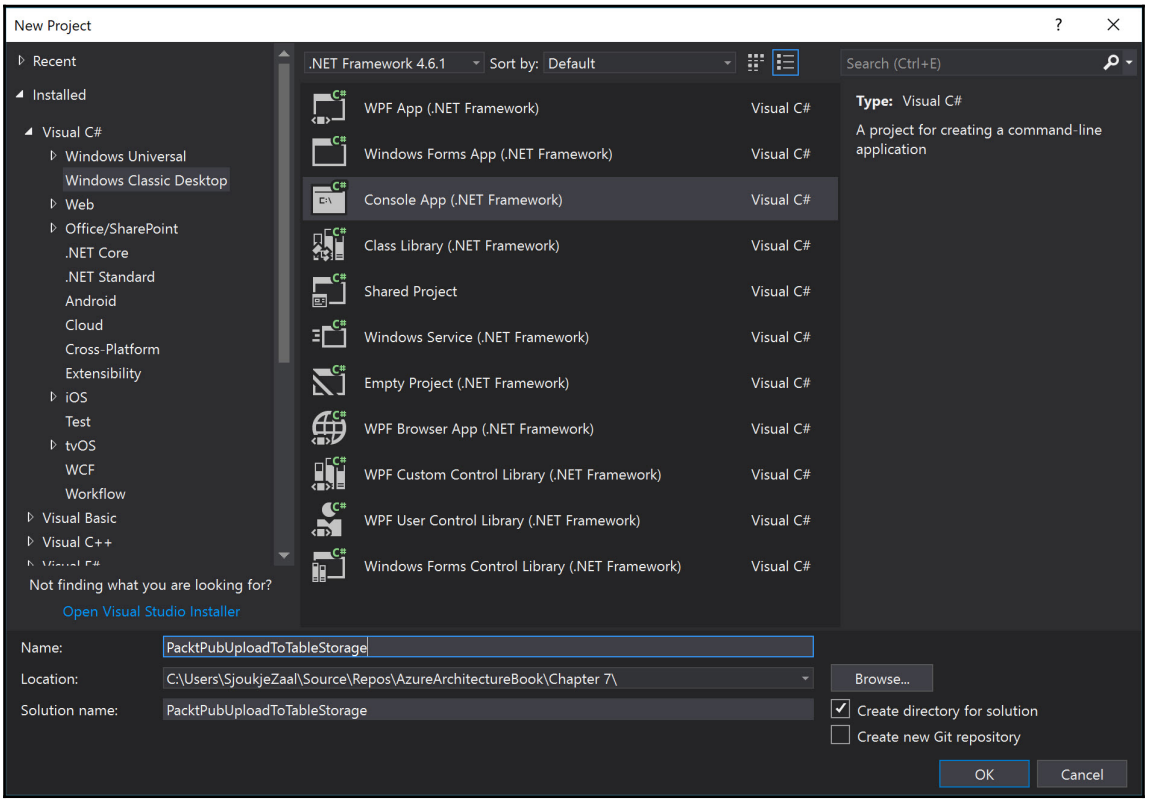

Enable Azure AD Domain Services
Default Directory
1
Basics
Configure basic settings
2
Network
Select virtual network
3
Administrator group
Configure group membership
4
Summary
Enable Azure AD Domain Servi...
Network
It is recommended that you create a dedicated subnet for use with this domain service. After the domain service is created you will not be able to modify the subnet. To manage your existing virtual networks and subnets, click here.
Network
* Virtual network
PacktVNet
* Subnet
default
OK

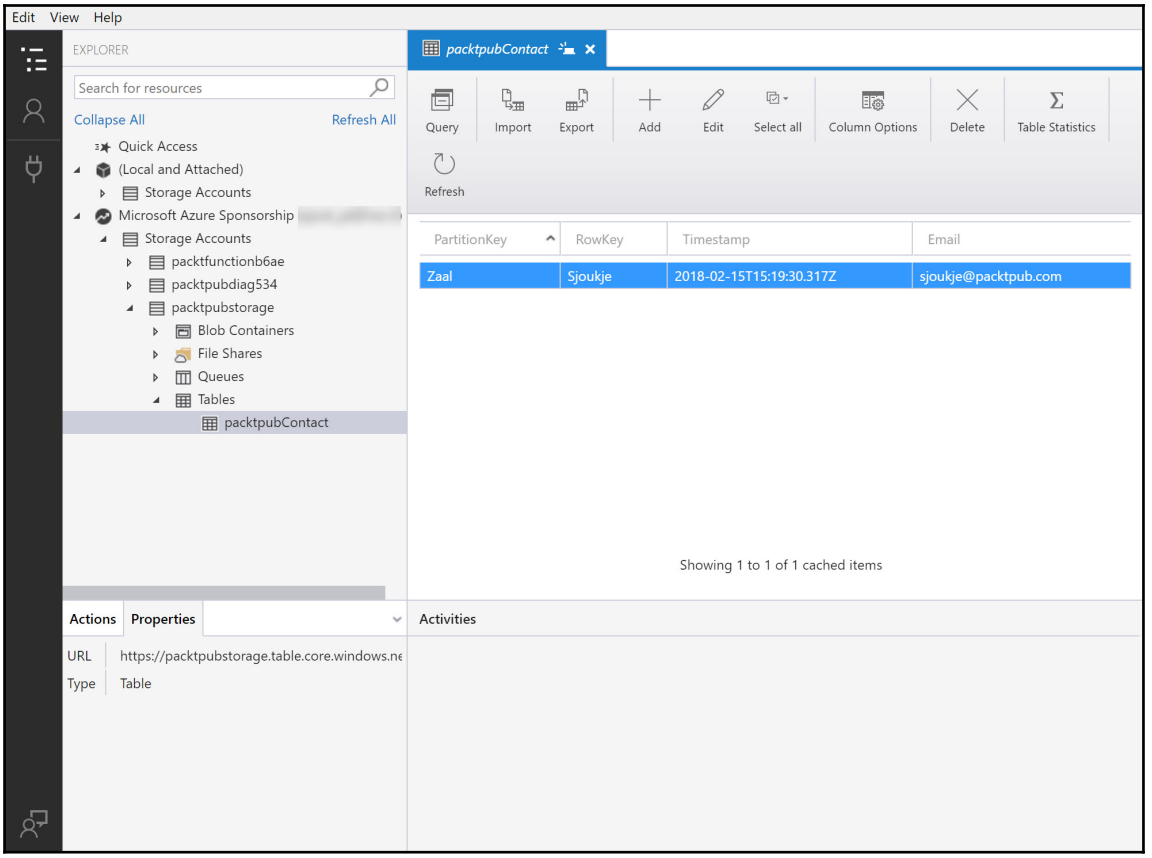

Enable Azure AD Domain Services
Default Directory
1
Basics
Configure basic settings
2
Network
Select virtual network
3
Administrator group
Configure group membership
4
Summary
Enable Azure AD Domain Servi...
Administrator group
A group named "AAD DC Administrators" has been created to administer this managed domain. Click below to manage membership for this group, or click OK to continue.
AAD DC Administrators
Manage group membership
OK
Members
AAD DC Administrators
Add members
NAME
TYPE
SZ
Sjoukje Zaal
User

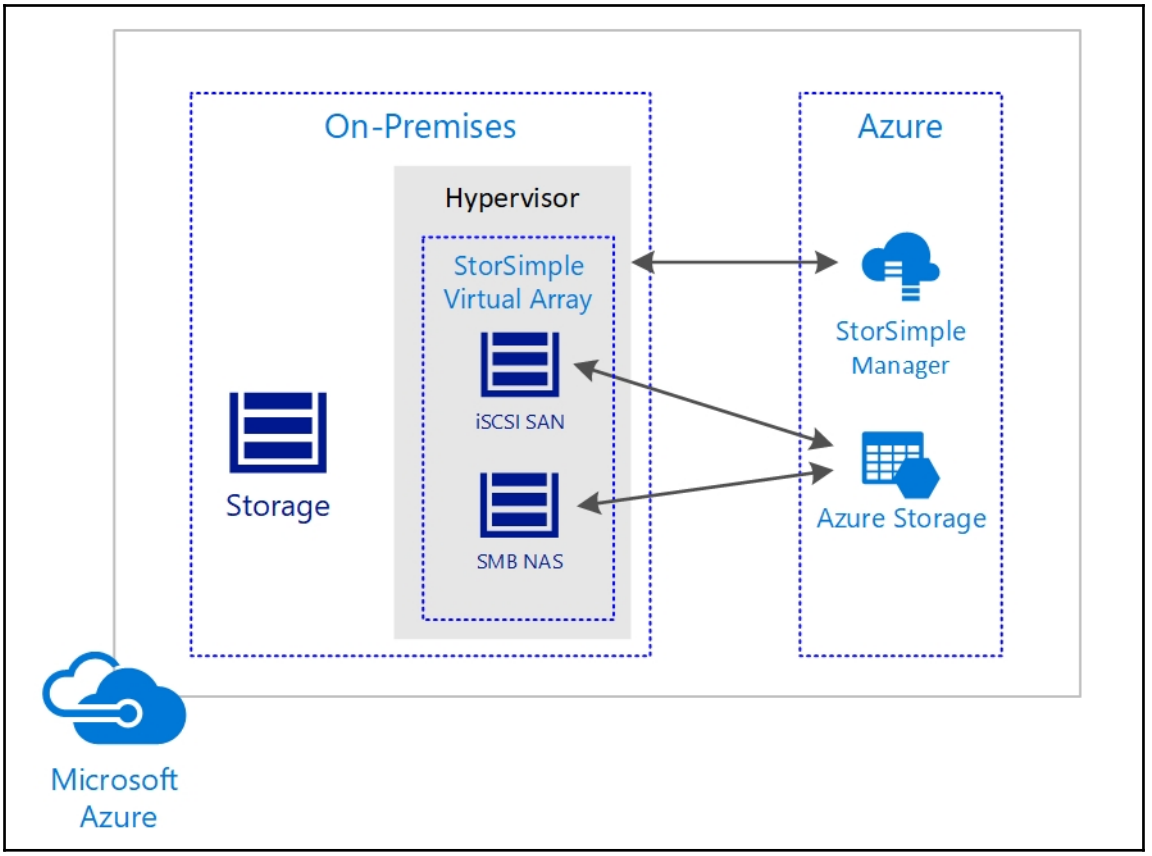

Enable Azure AD Domain Services
Default Directory
1
Basics
Configure basic settings
2
Network
Select virtual network
3
Administrator group
Configure group membership
4
Summary
Enable Azure AD Domain Servi...
Summary
Basics
Name
Subscription
Microsoft Azure Sponsorship
Resource group
PacktADDomainServices
Location
West Europe
Network
Virtual network
PacktVNet
Subnet
default
Subnet Address
10.2.0.0/24
Administrator group
Administrator group
AAD DC Administrators
Membership Type
Assigned
By enabling Azure AD Domain Services for this directory, you consent to storing credential hashes required for NTLM and Kerberos authentication in Azure AD.
OK

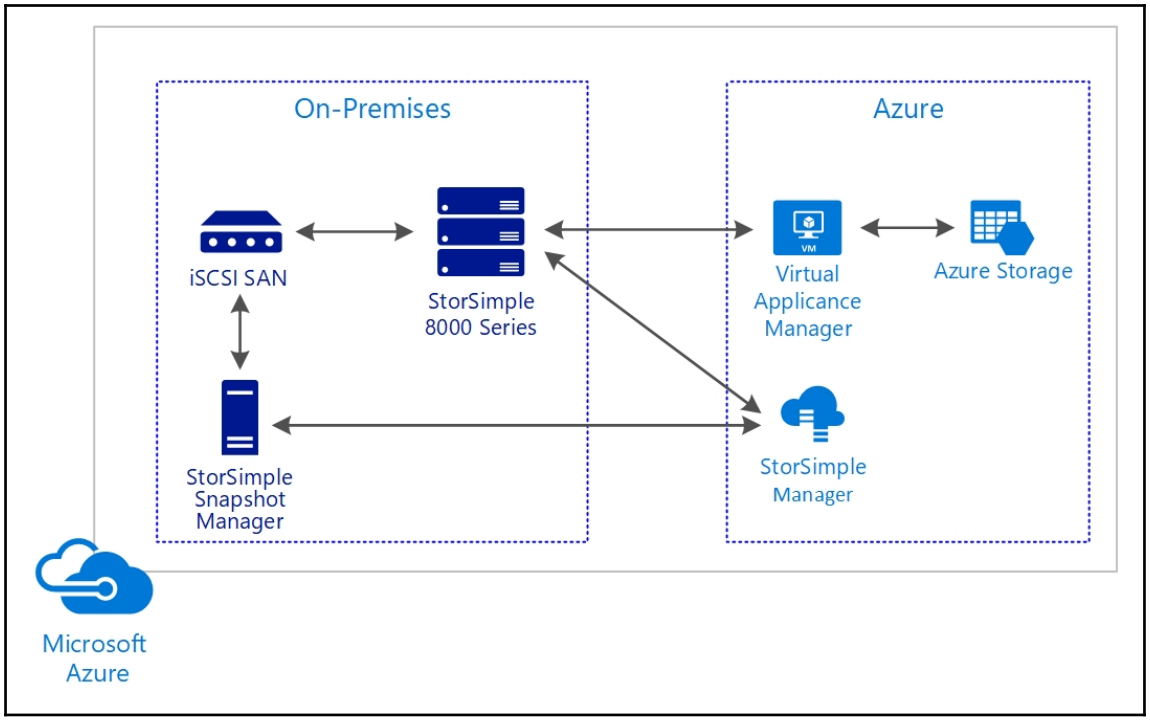

Server Manager ‣ Local Server
Manage
Tools
View
Help
Dashboard
Local Server
All Servers
File and Storage Services
PROPERTIES
For W16PacktServer
TASKS
Computer name
W16PacktServer
Workgroup
WORKGROUP
Last installed updates
Never
Windows Update
Download updates only, using Windows Update
Last checked for updates
Today at 4:49 PM
Windows Firewall
Public: On
Remote management
Enabled
Remote Desktop
Enabled
NIC Teaming
Disabled
Ethernet 3
IPv4 address assigned by DHCP, IPv6 enabled
Windows Defender
Real-Time Protection: On
Feedback & Diagnostics
Settings
IE Enhanced Security Configuration
On
Time zone
(UTC) Coordinated Universal Time
Product ID
00376-40000-00000-AA947 (activated)
Operating system version
Microsoft Windows Server 2016 Datacenter
Hardware information
Microsoft Corporation Virtual Machine
Processors
Intel(R) Xeon(R) CPU E5-2673 v3 @ 2.40GHz
Installed memory (RAM)
8 GB
Total disk space
143 GB
EVENTS
All events | 11 total
TASKS
Filter
Server Name
ID
Severity
Source
Log
Date and Time
W16PacktServer 10016 Error Microsoft-Windows-DistributedCOM System 2/12/2018 5:06:23 PM
W16PacktServer 1534 Warning Microsoft-Windows-User Profile Service Application 2/12/2018 5:06:18 PM
W16PacktServer 7023 Error Microsoft-Windows-Service Control Manager System 2/12/2018 5:01:47 PM
W16PacktServer 7023 Error Microsoft-Windows-Service Control Manager System 2/12/2018 5:01:47 PM
W16PacktServer 7023 Error Microsoft-Windows-Service Control Manager System 2/12/2018 5:01:47 PM
W16PacktServer 257 Error Microsoft-Windows-Defrag Application 2/12/2018 4:57:09 PM
W16PacktServer 257 Error Microsoft-Windows-Defrag Application 2/12/2018 4:57:07 PM
SERVICES

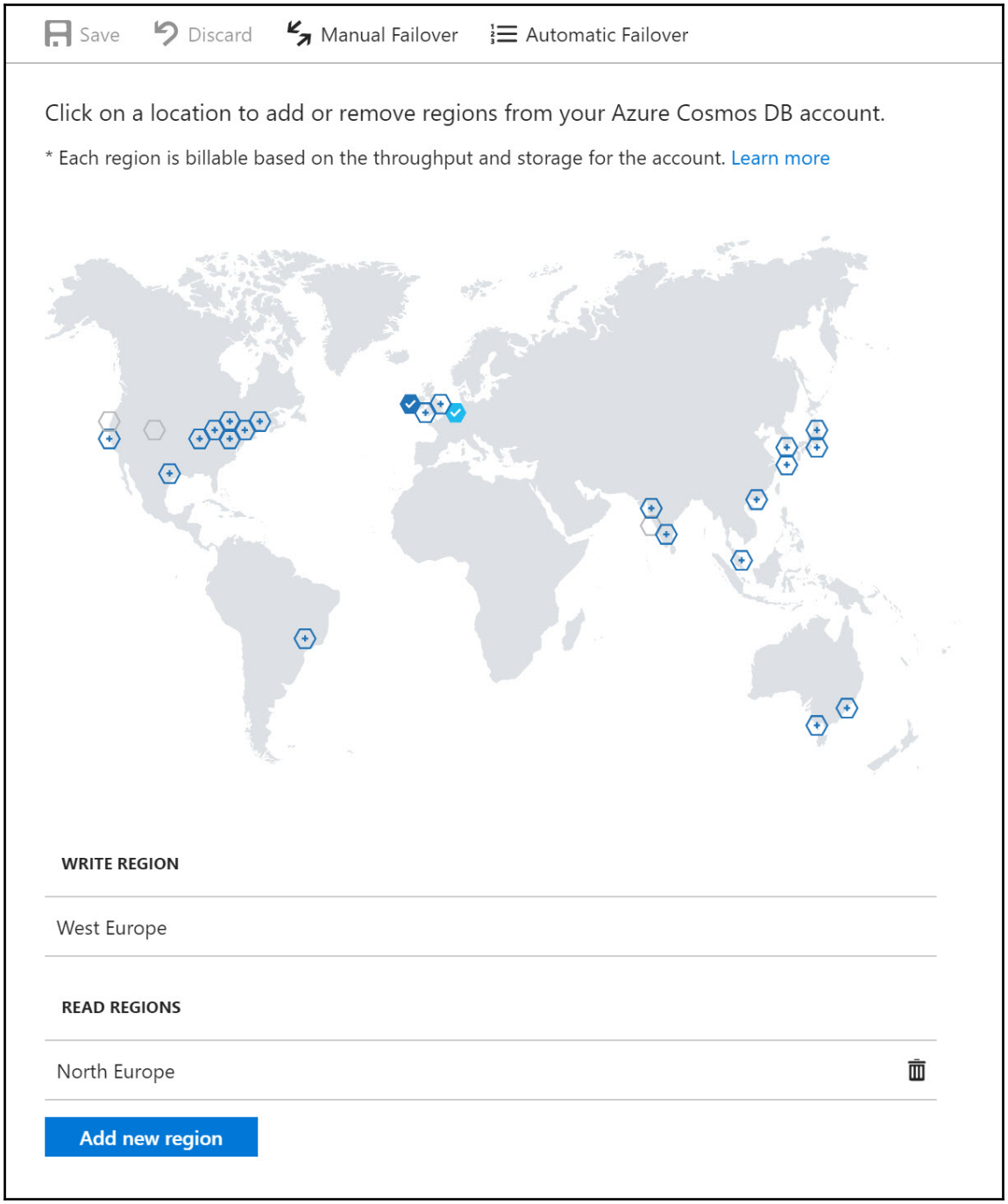
Chapter 7: Using Storage Solutions

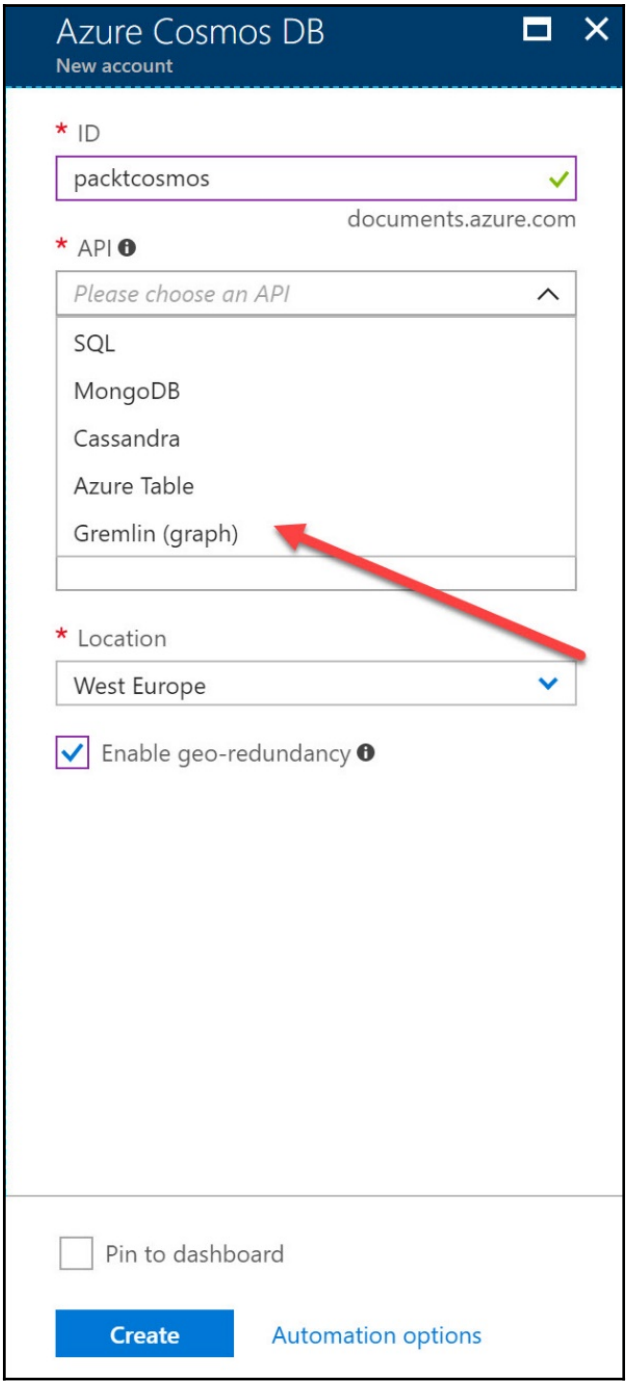



Edit View Help
EXPLORER
Search for resources
Collapse All
Refresh All
Quick Access
(Local and Attached)
Storage Accounts
Microsoft Azure Sponsorship
Storage Accounts
packtfunctionb6ae
packtpubdiag534
packtpubstorage
Blob Containers
File Shares
Queues
Tables
packtpubContact
packtpubContact
Query
Import
Export
Add
Edit
Select all
Column Options
Delete
Table Statistics
Refresh
PartitionKey
RowKey
Timestamp
Email
Zaal
Sjoukje
2018-02-15T15:19:30.317Z
sjoukje@packtpub.com
Showing 1 to 1 of 1 cached items
Actions
Properties
Activities
URL
https://packtpubstorage.table.core.windows.ne
Type
Table

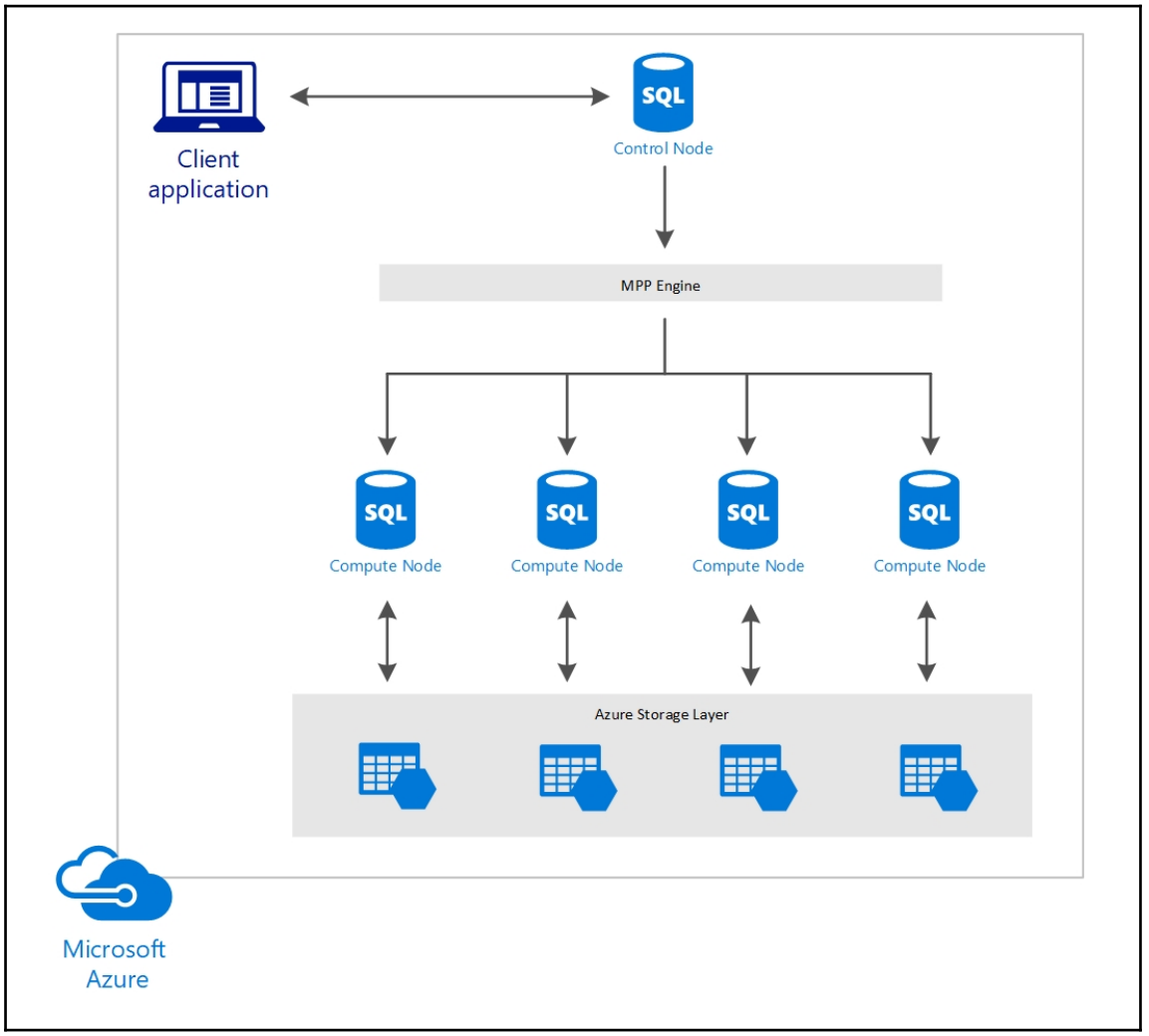

On-Premises
Azure
Hypervisor
StorSimple
Virtual Array
iSCSI SAN
SMB NAS
Storage
StorSimple
Manager
Azure Storage
Microsoft
Azure

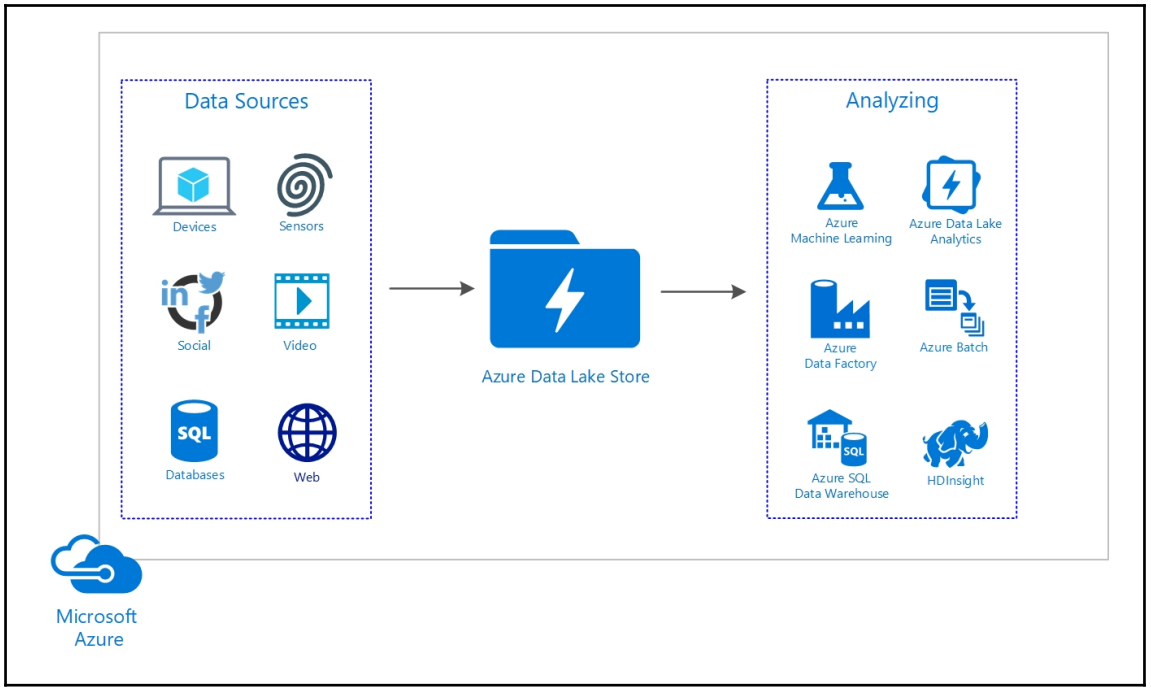

On-Premises
Azure
iSCSI SAN
StorSimple
8000 Series
VM
Virtual
Applicance
Manager
Azure Storage
StorSimple
Snapshot
Manager
StorSimple
Manager
Microsoft
Azure

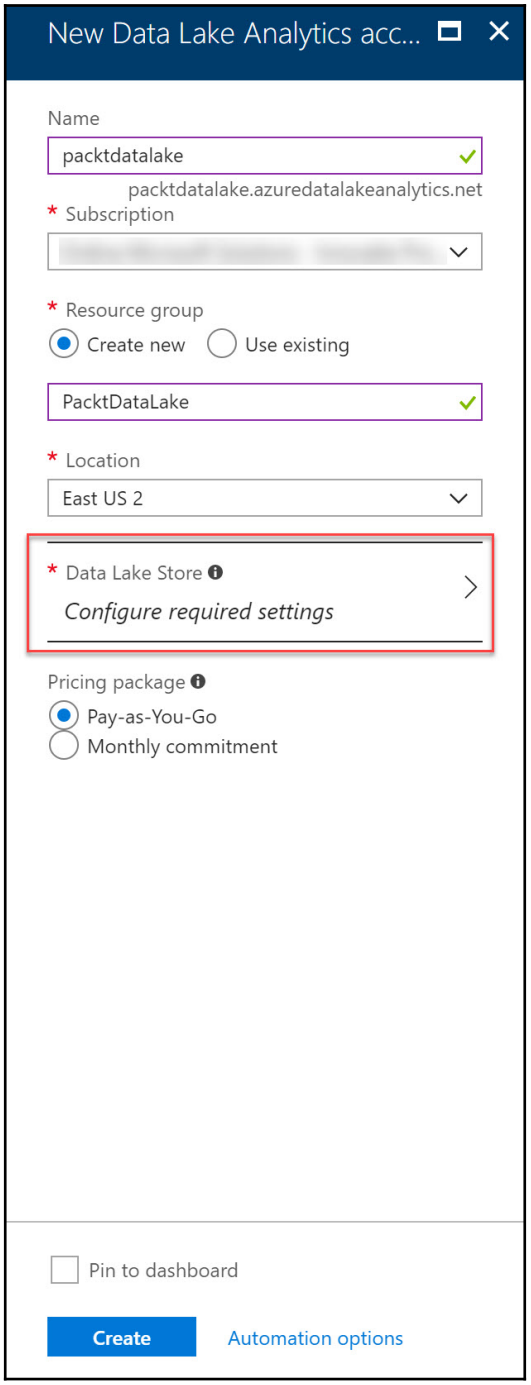

Save
Discard
Manual Failover
Automatic Failover
Click on a location to add or remove regions from your Azure Cosmos DB account.
* Each region is billable based on the throughput and storage for the account. Learn more
WRITE REGION
West Europe
READ REGIONS
North Europe
Add new region

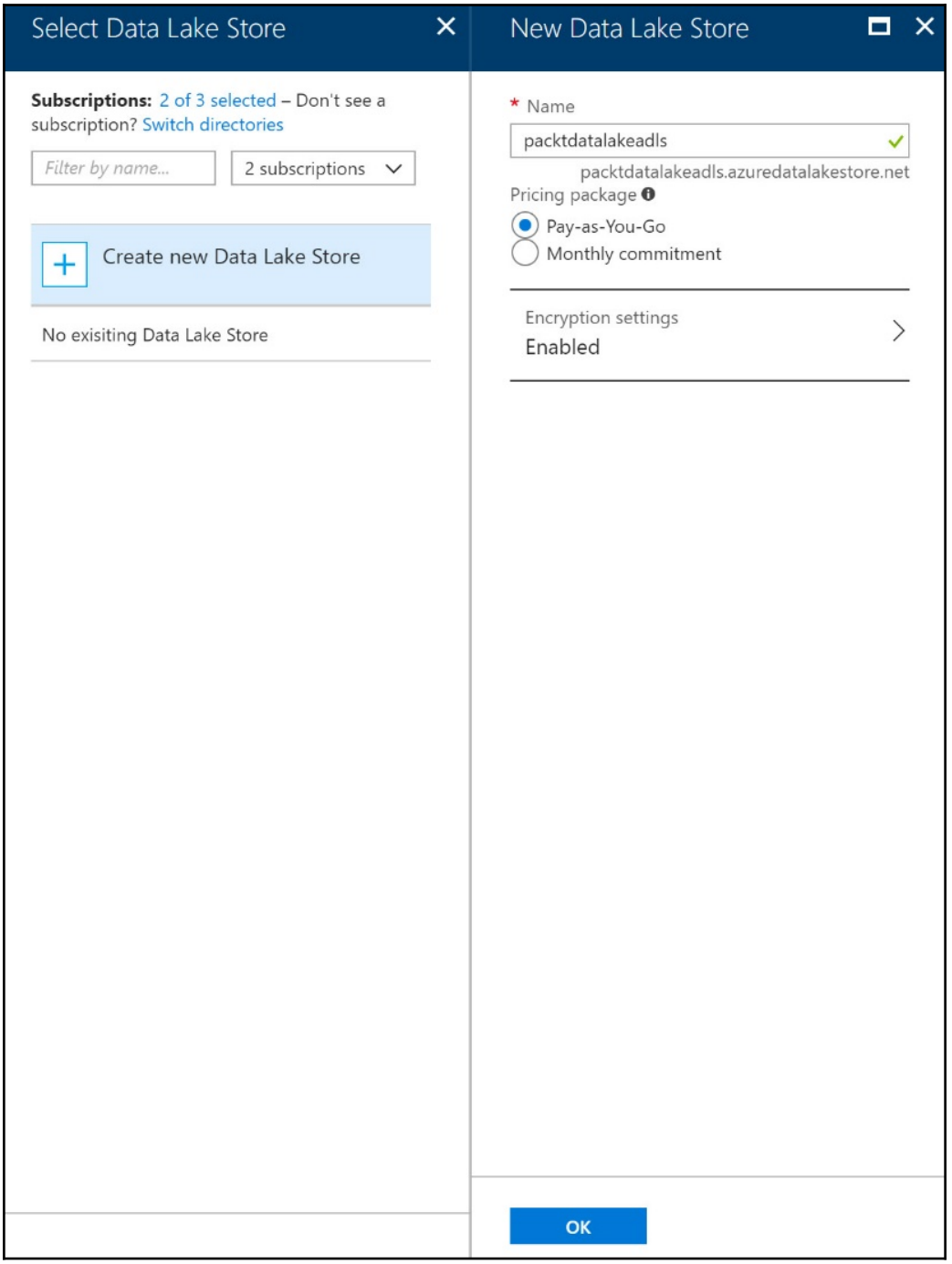

Azure Cosmos DB
New account
* ID
packtcosmos
documents.azure.com
* API
Please choose an API
SQL
MongoDB
Cassandra
Azure Table
Gremlin (graph)
* Location
West Europe
Enable geo-redundancy
Pin to dashboard
Create
Automation options

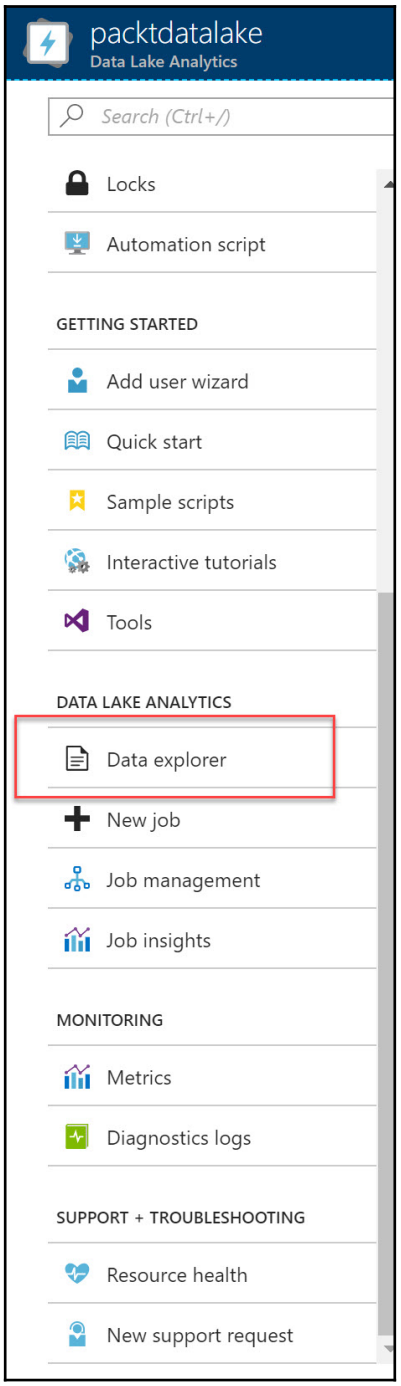
Chapter 8: Scalable Data Implementations

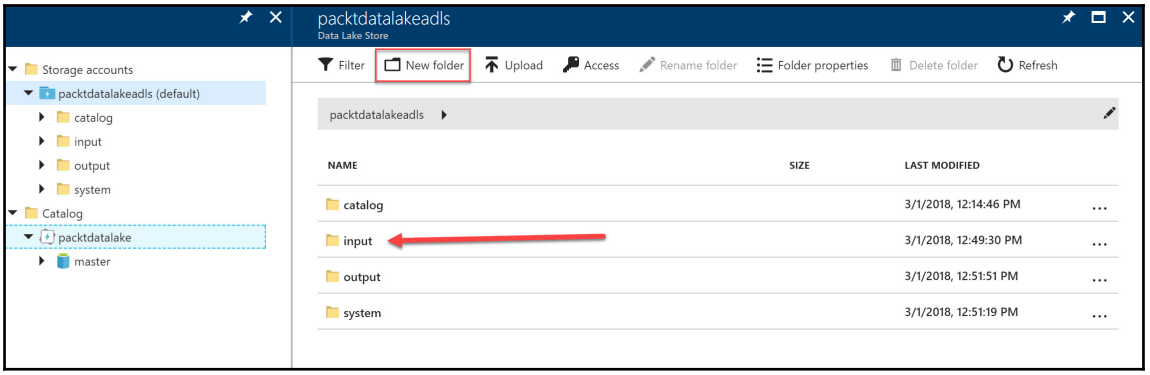


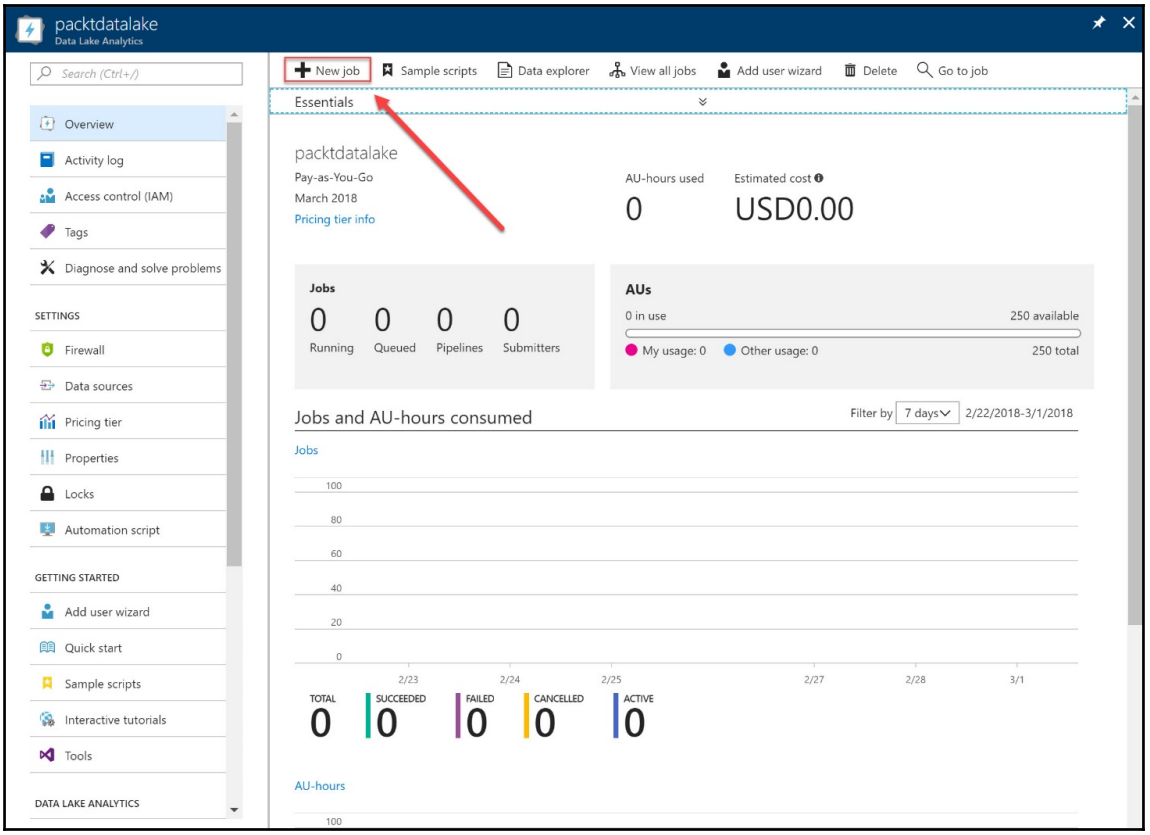

Data Sources
Devices
Sensors
Social
Video
Databases
Web
Azure Data Lake Store
Analyzing
Azure Machine Learning
Azure Data Lake Analytics
Azure Data Factory
Azure Batch
Azure SQL Data Warehouse
HDInsight
Microsoft Azure

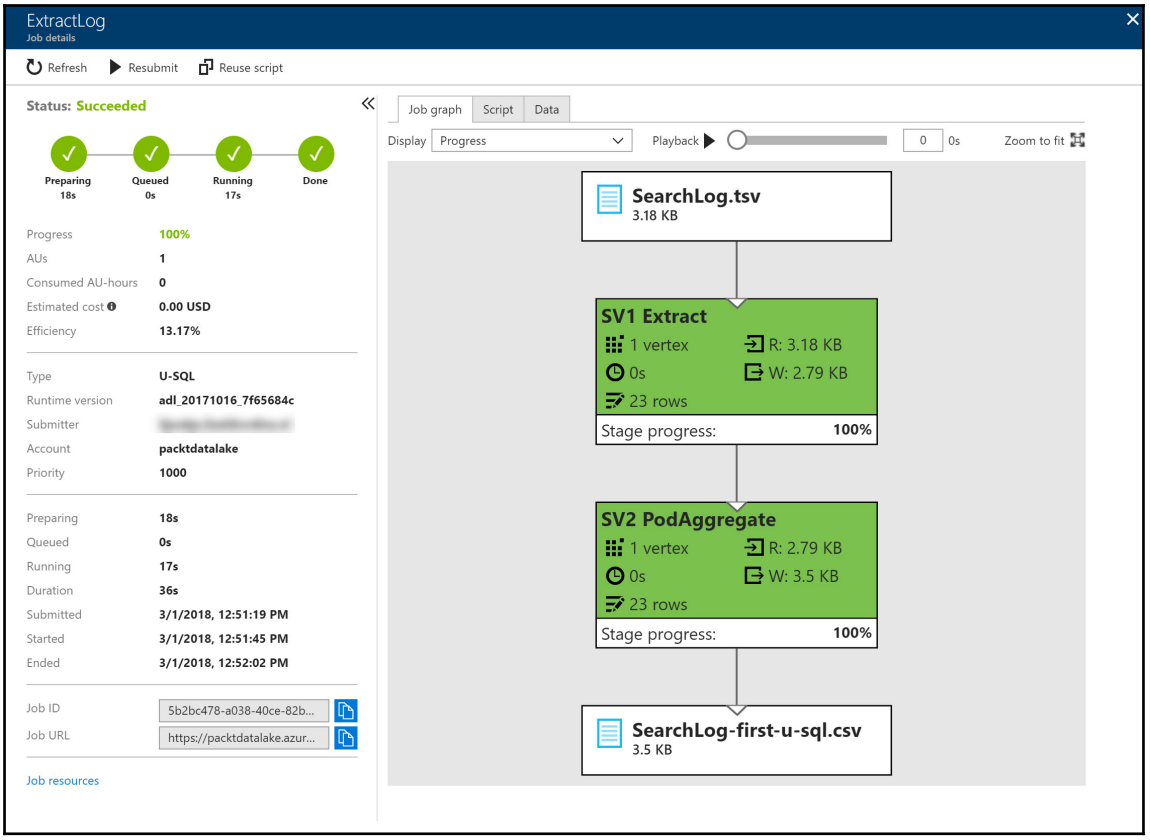

New Data Lake Analytics acc...
Name
packtdatalake
packtdatalake.azuredatalakeanalytics.net
* Subscription
* Resource group
Create new
Use existing
PacktDataLake
* Location
East US 2
* Data Lake Store
Configure required settings
Pricing package
Pay-as-You-Go
Monthly commitment
Pin to dashboard
Create
Automation options

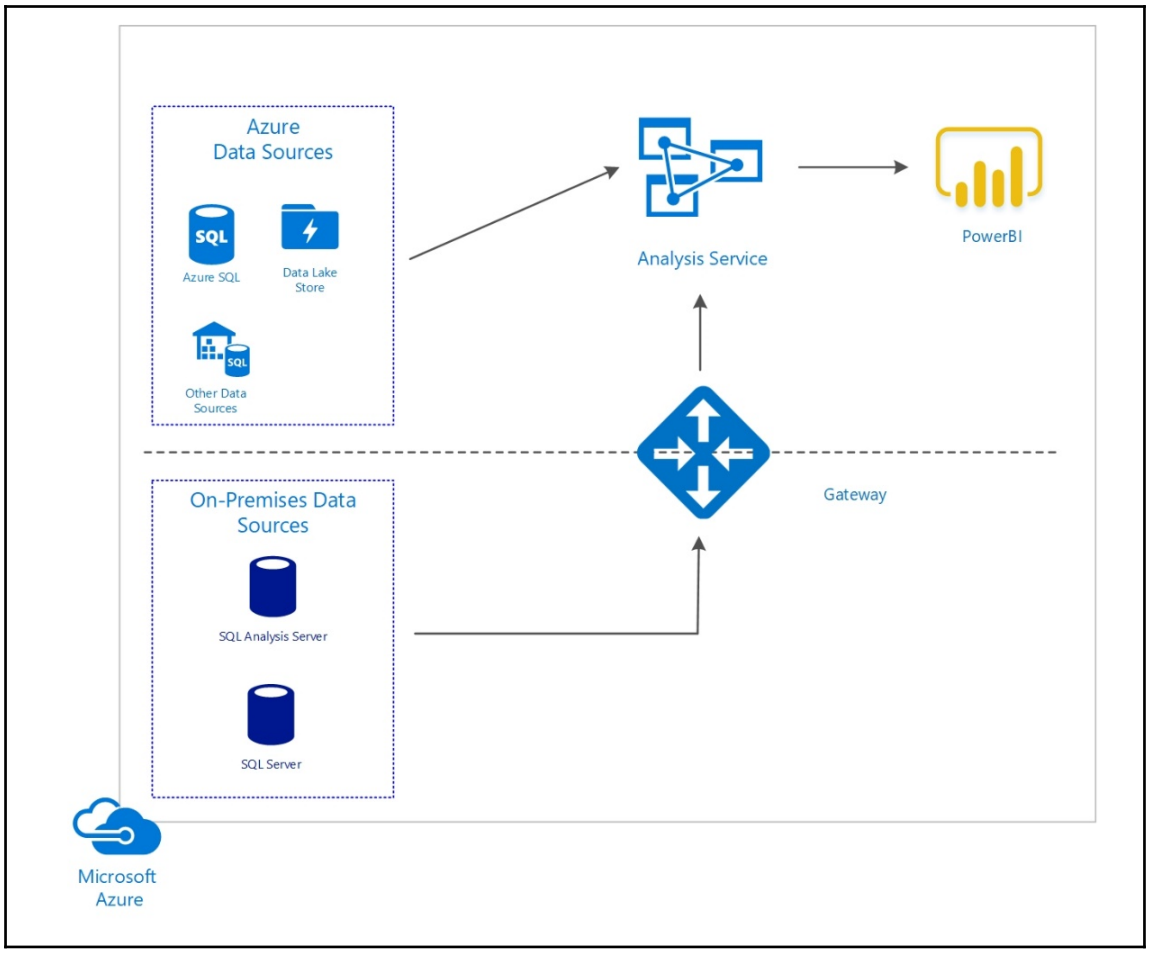

Select Data Lake Store
Subscriptions: 2 of 3 selected – Don't see a subscription? Switch directories
Filter by name...
2 subscriptions
Create new Data Lake Store
No exisiting Data Lake Store
New Data Lake Store
* Name
packtdatalakeadls
packtdatalakeadls.azuredatalakestore.net
Pricing package
Pay-as-You-Go
Monthly commitment
Encryption settings
Enabled
OK

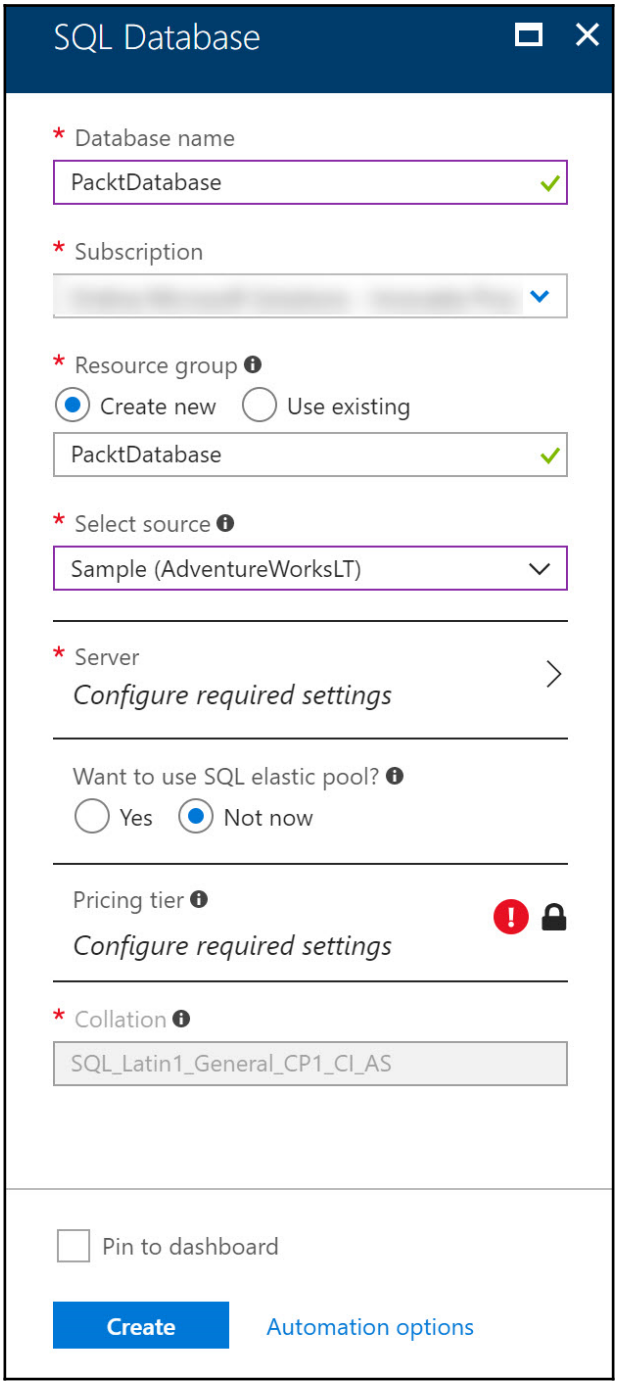

packtdatalake
Data Lake Analytics
Search (Ctrl+/)
Locks
Automation script
GETTING STARTED
Add user wizard
Quick start
Sample scripts
Interactive tutorials
Tools
DATA LAKE ANALYTICS
Data explorer
New job
Job management
Job insights
MONITORING
Metrics
Diagnostics logs
SUPPORT + TROUBLESHOOTING
Resource health
New support request

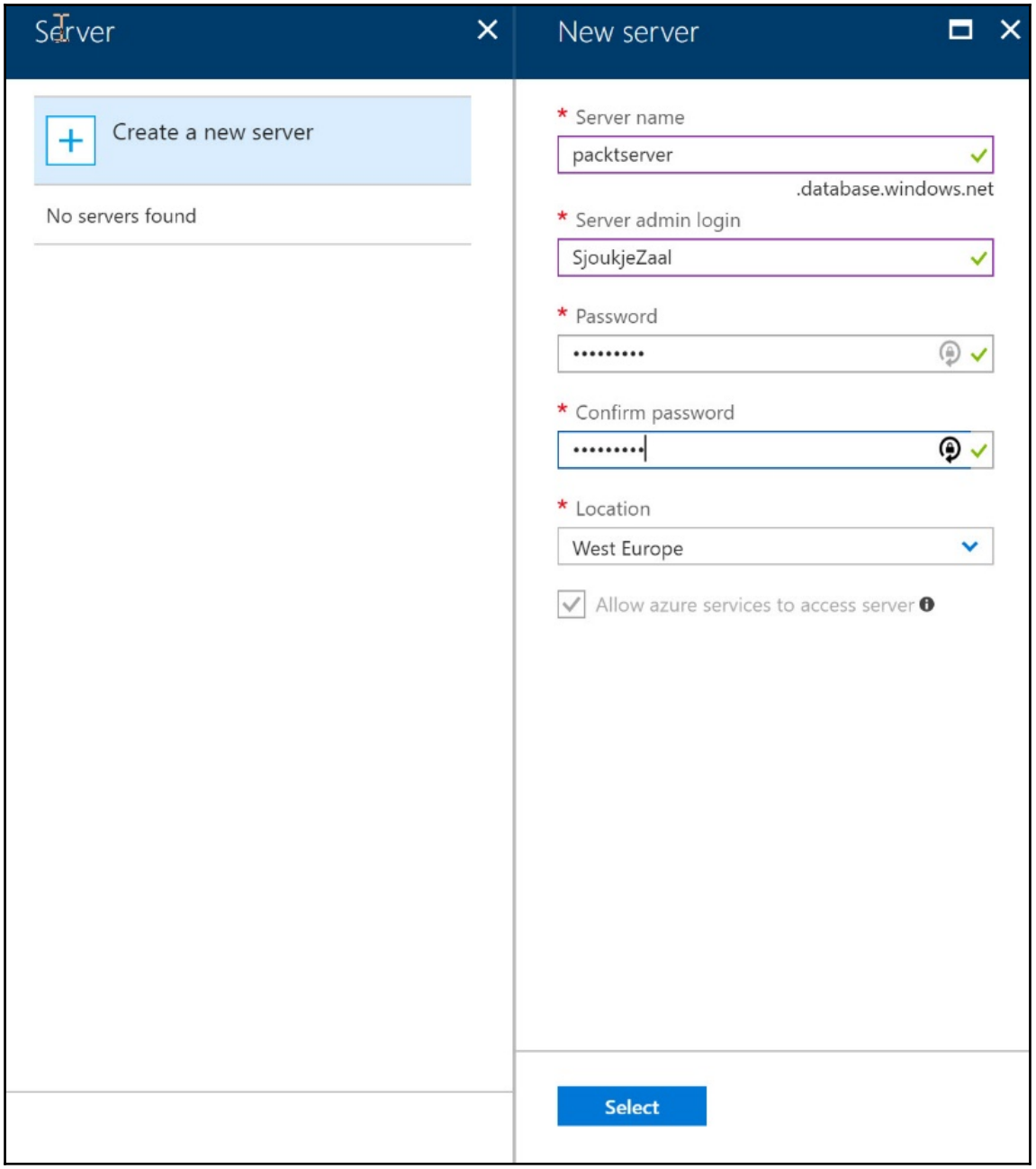

packtdatalakeadls
Data Lake Store
Storage accounts
packtdatalakeadls (default)
catalog
input
output
system
Catalog
packtdatalake
master
Filter
New folder
Upload
Access
Rename folder
Folder properties
Delete folder
Refresh
packtdatalakeadls
NAME
SIZE
LAST MODIFIED
catalog
3/1/2018, 12:14:46 PM
input
3/1/2018, 12:49:30 PM
output
3/1/2018, 12:51:51 PM
system
3/1/2018, 12:51:19 PM

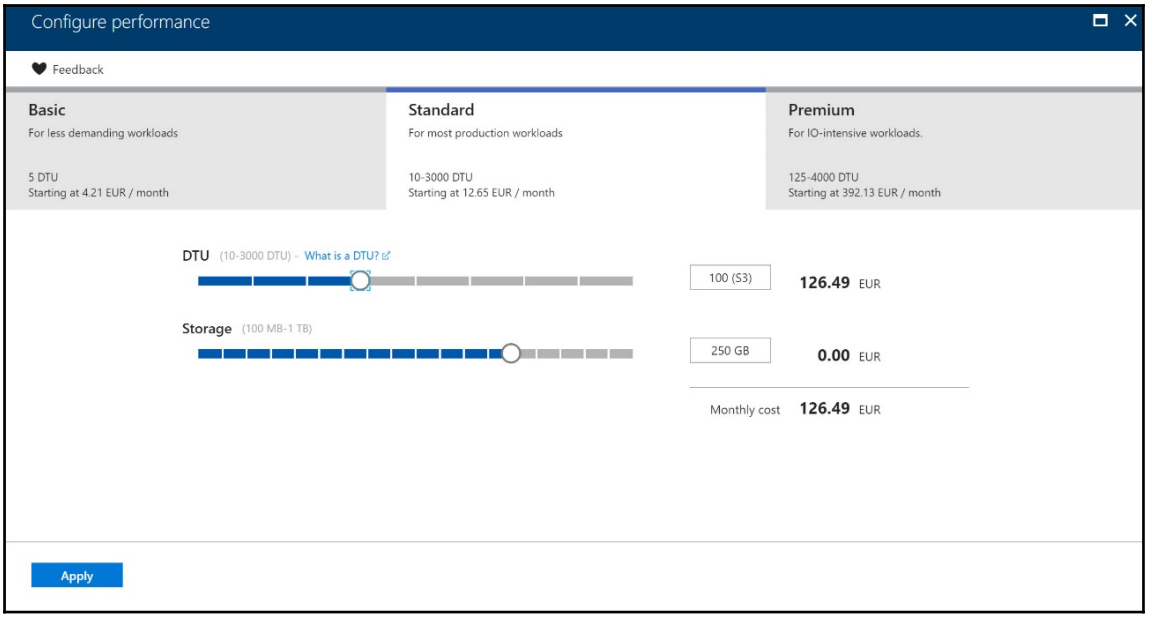

packtdatalake
Data Lake Analytics
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Firewall
Data sources
Pricing tier
Properties
Locks
Automation script
GETTING STARTED
Add user wizard
Quick start
Sample scripts
Interactive tutorials
Tools
DATA LAKE ANALYTICS
New job
Sample scripts
Data explorer
View all jobs
Add user wizard
Delete
Go to job
Essentials
packtdatalake
Pay-as-You-Go
March 2018
Pricing tier info
AU-hours used
0
Estimated cost
USD0.00
Jobs
0 Running
0 Queued
0 Pipelines
0 Submitters
AUs
0 in use
250 available
My usage: 0
Other usage: 0
250 total
Jobs and AU-hours consumed
Filter by
7 days
2/22/2018-3/1/2018
Jobs
100
80
60
40
20
0
2/23
2/24
2/25
2/27
2/28
3/1
TOTAL 0
SUCCEEDED 0
FAILED 0
CANCELLED 0
ACTIVE 0
AU-hours
100

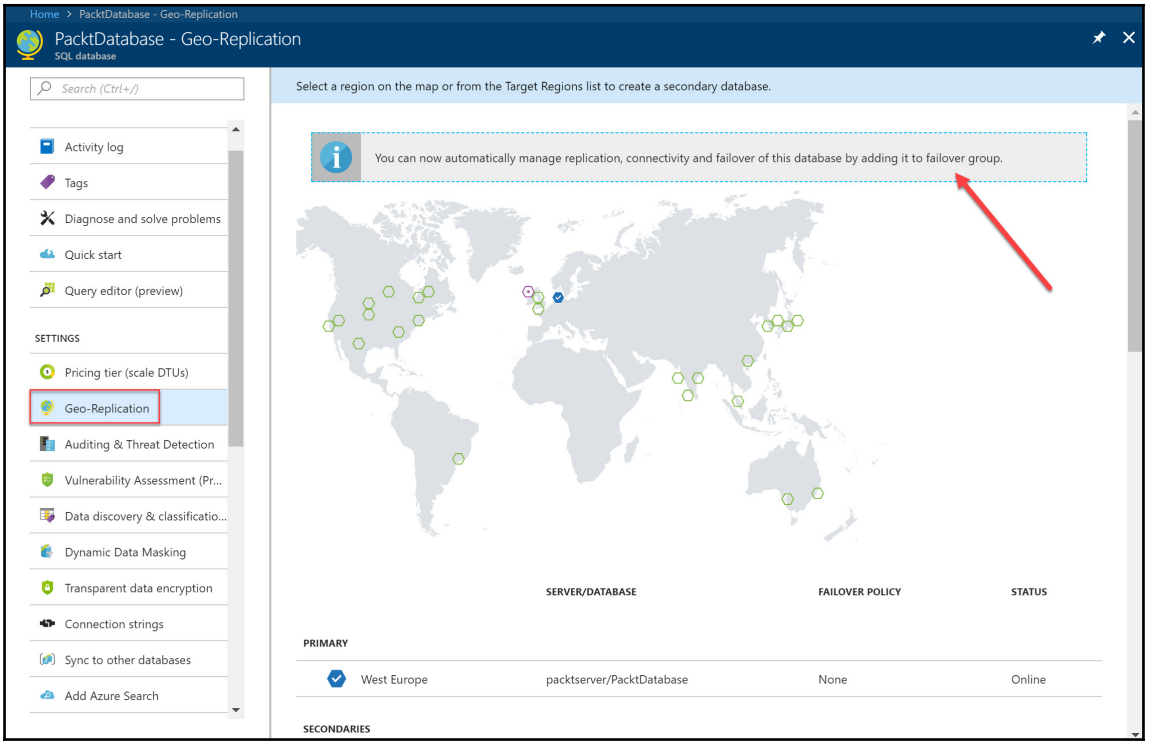

ExtractLog
Job details
Refresh
Resubmit
Reuse script
Status: Succeeded
Preparing 18s
Queued 0s
Running 17s
Done
Progress 100%
AUs 1
Consumed AU-hours 0
Estimated cost 0.00 USD
Efficiency 13.17%
Type U-SQL
Runtime version adl_20171016_7f65684c
Submitter
Account packtdatalake
Priority 1000
Preparing 18s
Queued 0s
Running 17s
Duration 36s
Submitted 3/1/2018, 12:51:19 PM
Started 3/1/2018, 12:51:45 PM
Ended 3/1/2018, 12:52:02 PM
Job ID 5b2bc478-a038-40ce-82b...
Job URL https://packtdatalake.azur...
Job resources
Job graph
Script
Data
Display Progress
Playback
0
0s
Zoom to fit
SearchLog.tsv
3.18 KB
SV1 Extract
1 vertex
R: 3.18 KB
0s
W: 2.79 KB
23 rows
Stage progress: 100%
SV2 PodAggregate
1 vertex
R: 2.79 KB
0s
W: 3.5 KB
23 rows
Stage progress: 100%
SearchLog-first-u-sql.csv
3.5 KB

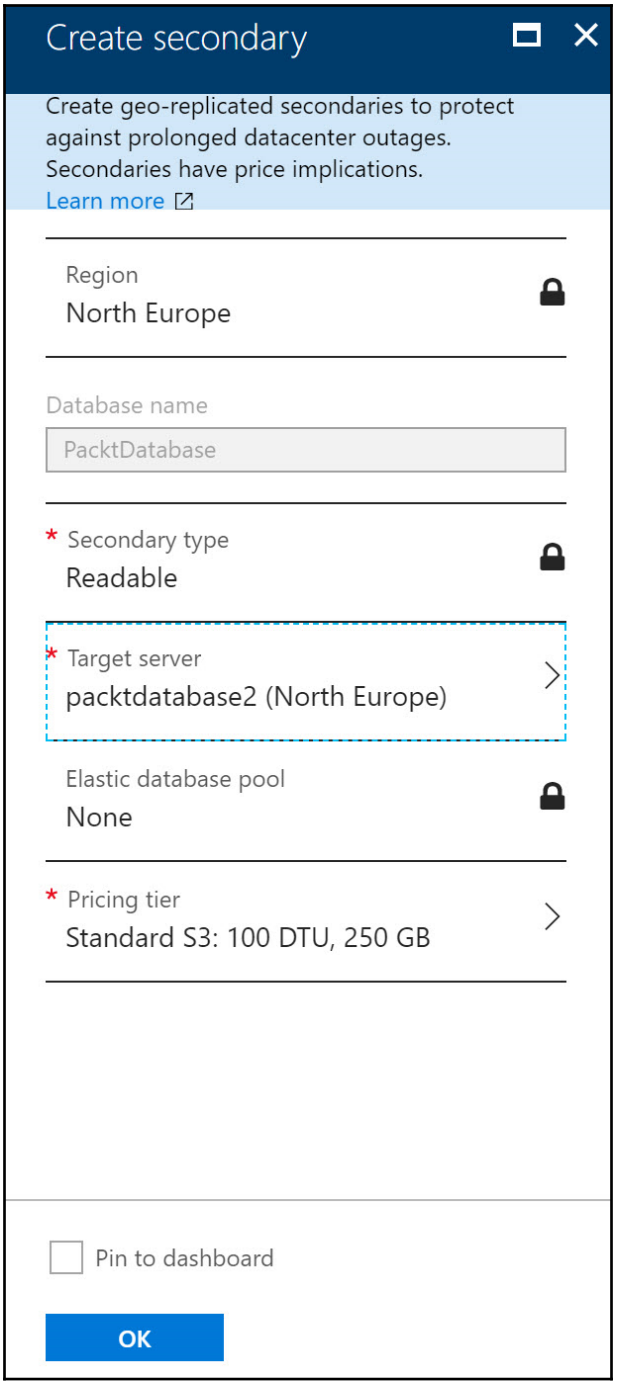

Azure
Data Sources
SQL
Azure SQL
Data Lake
Store
SQL
Other Data
Sources
Analysis Service
PowerBI
Gateway
On-Premises Data
Sources
SQL Analysis Server
SQL Server
Microsoft
Azure

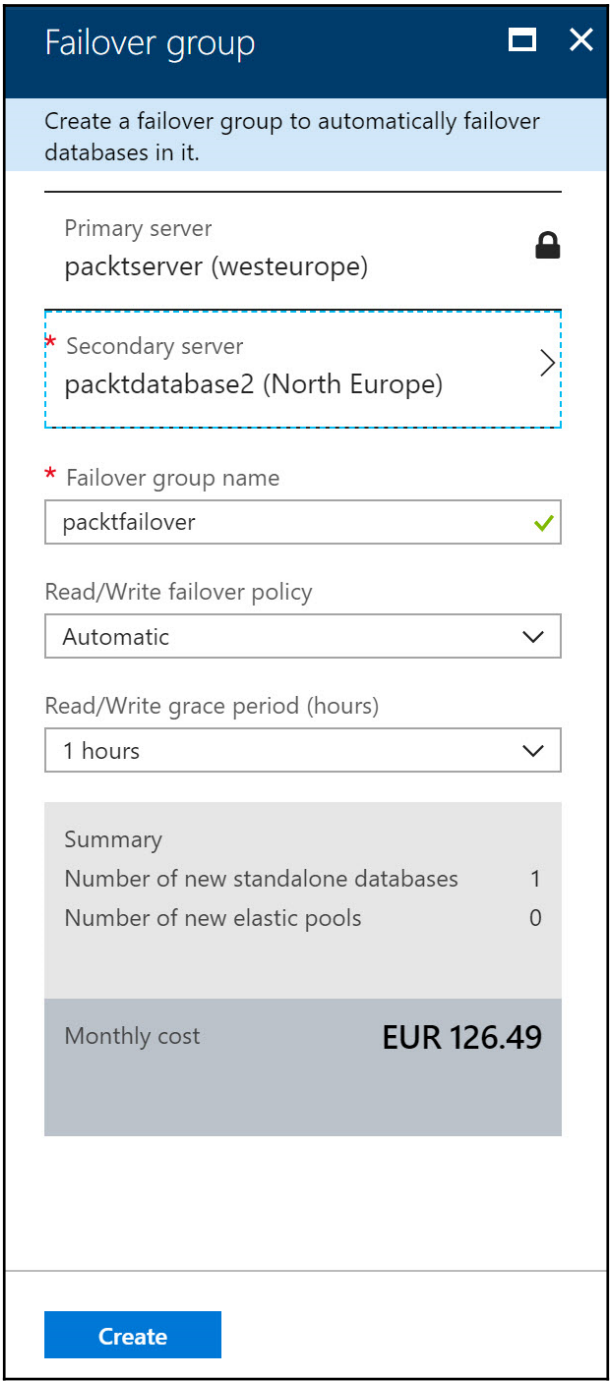

SQL Database
* Database name
PacktDatabase
* Subscription
* Resource group
Create new
Use existing
PacktDatabase
* Select source
Sample (AdventureWorksLT)
* Server
Configure required settings
Want to use SQL elastic pool?
Yes
Not now
Pricing tier
Configure required settings
* Collation
SQL_Latin1_General_CP1_CI_AS
Pin to dashboard
Create
Automation options


Server
Create a new server
No servers found
New server
* Server name
packtserver
.database.windows.net
* Server admin login
SjoukjeZaal
* Password
* Confirm password
* Location
West Europe
Allow azure services to access server
Select

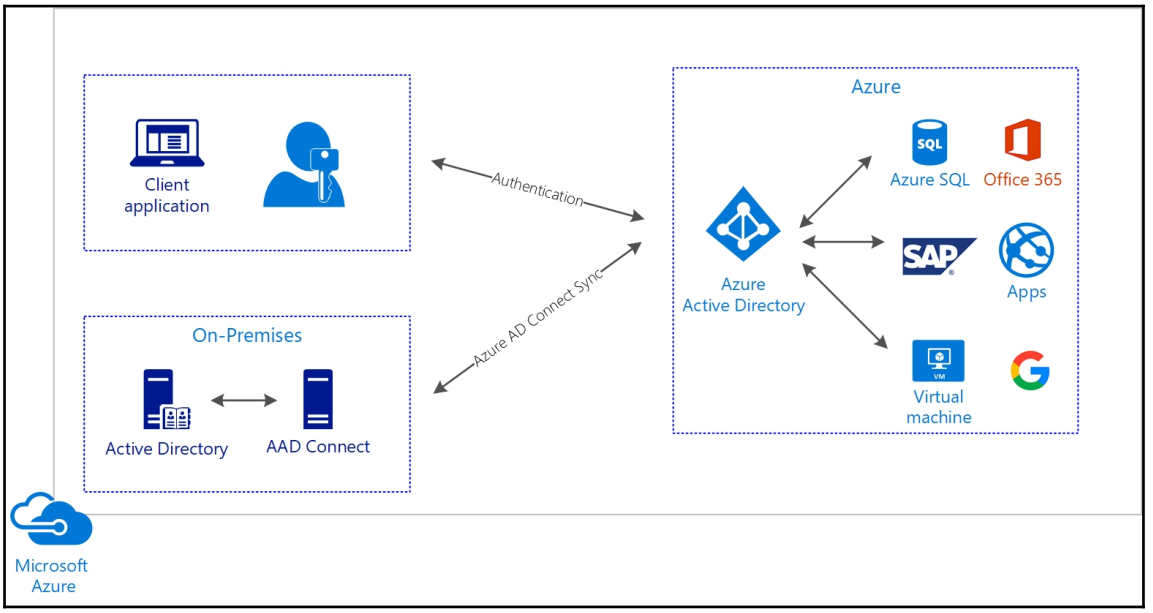

Configure performance
Feedback
Basic
For less demanding workloads
5 DTU
Starting at 4.21 EUR / month
Standard
For most production workloads
10-3000 DTU
Starting at 12.65 EUR / month
Premium
For IO-intensive workloads.
125-4000 DTU
Starting at 392.13 EUR / month
DTU (10-3000 DTU) - What is a DTU?
100 (S3)
126.49 EUR
Storage (100 MB-1 TB)
250 GB
0.00 EUR
Monthly cost 126.49 EUR
Apply

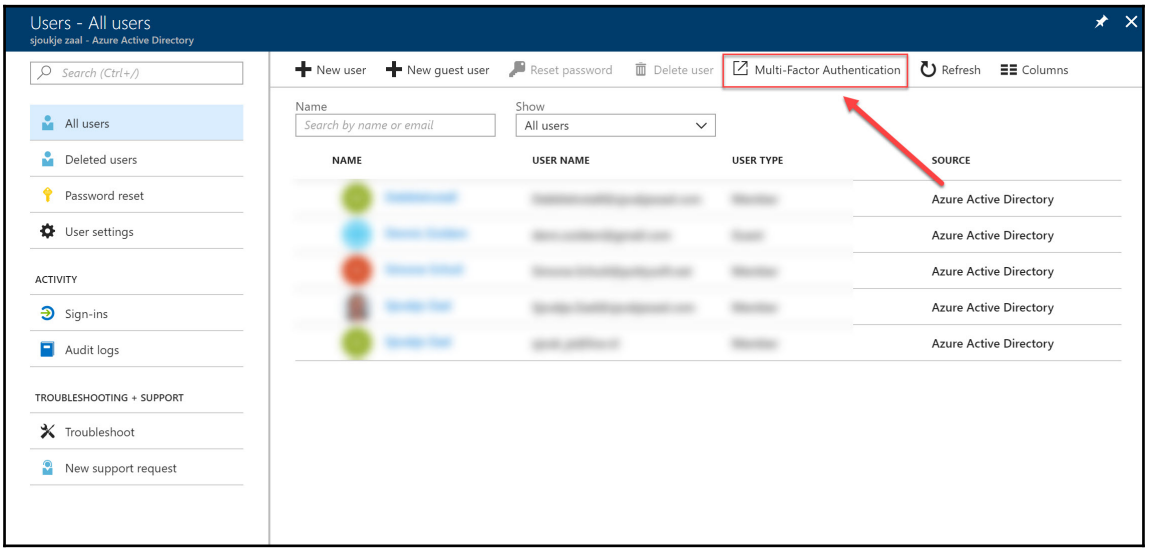

Home > PacktDatabase - Geo-Replication
PacktDatabase - Geo-Replication
SQL database
Search (Ctrl+/)
Activity log
Tags
Diagnose and solve problems
Quick start
Query editor (preview)
SETTINGS
Pricing tier (scale DTUs)
Geo-Replication
Auditing & Threat Detection
Vulnerability Assessment (Pr...
Data discovery & classificatio...
Dynamic Data Masking
Transparent data encryption
Connection strings
Sync to other databases
Add Azure Search
Select a region on the map or from the Target Regions list to create a secondary database.
You can now automatically manage replication, connectivity and failover of this database by adding it to failover group.
SERVER/DATABASE
FAILOVER POLICY
STATUS
PRIMARY
West Europe
packtserver/PacktDatabase
None
Online
SECONDARIES

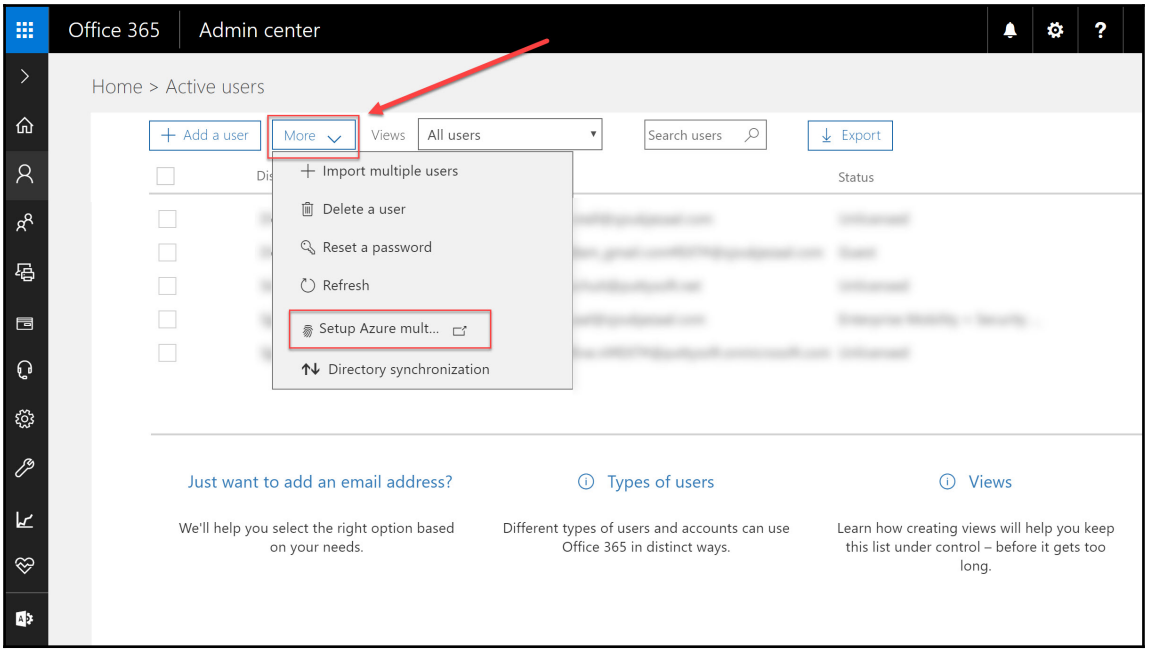

Create secondary
Create geo-replicated secondaries to protect against prolonged datacenter outages. Secondaries have price implications.
Learn more
Region
North Europe
Database name
PacktDatabase
* Secondary type
Readable
* Target server
packtdatabase2 (North Europe)
Elastic database pool
None
* Pricing tier
Standard S3: 100 DTU, 250 GB
Pin to dashboard
OK

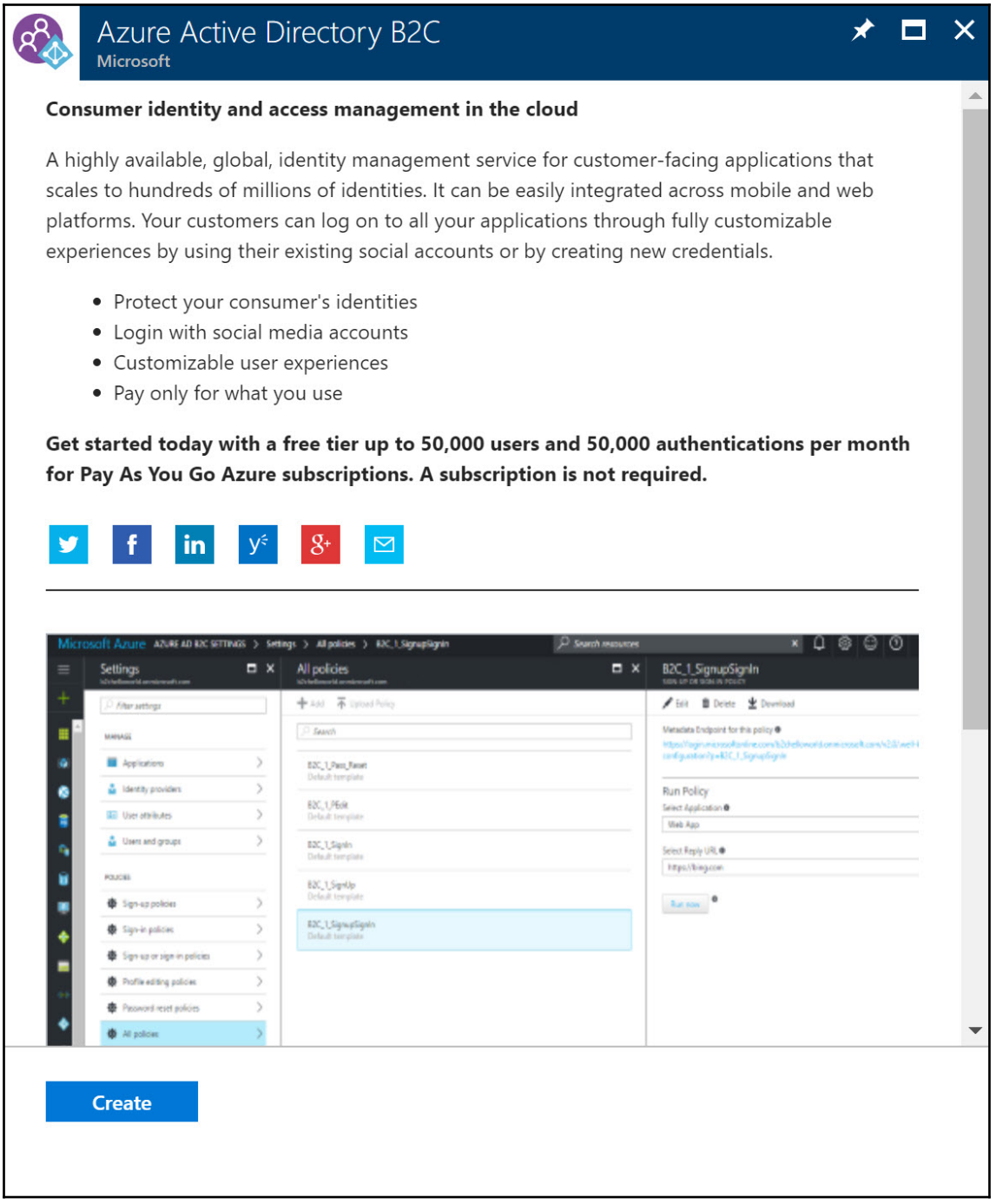

Failover group
Create a failover group to automatically failover databases in it.
Primary server
packtserver (westeurope)
* Secondary server
packtdatabase2 (North Europe)
* Failover group name
packtfailover
Read/Write failover policy
Automatic
Read/Write grace period (hours)
1 hours
Summary
Number of new standalone databases 1
Number of new elastic pools 0
Monthly cost EUR 126.49
Create

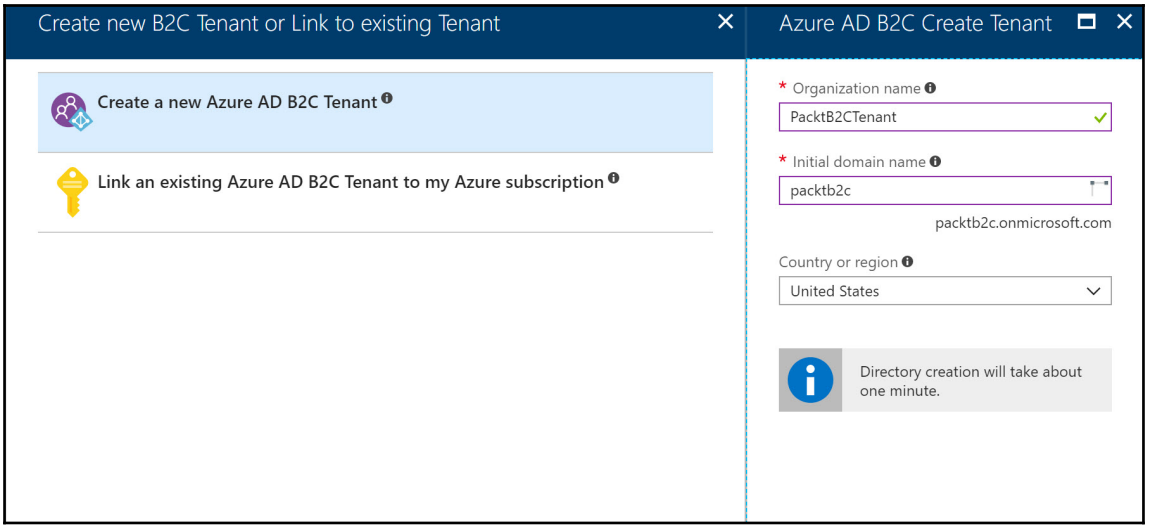
Chapter 9: Securing Your Resources

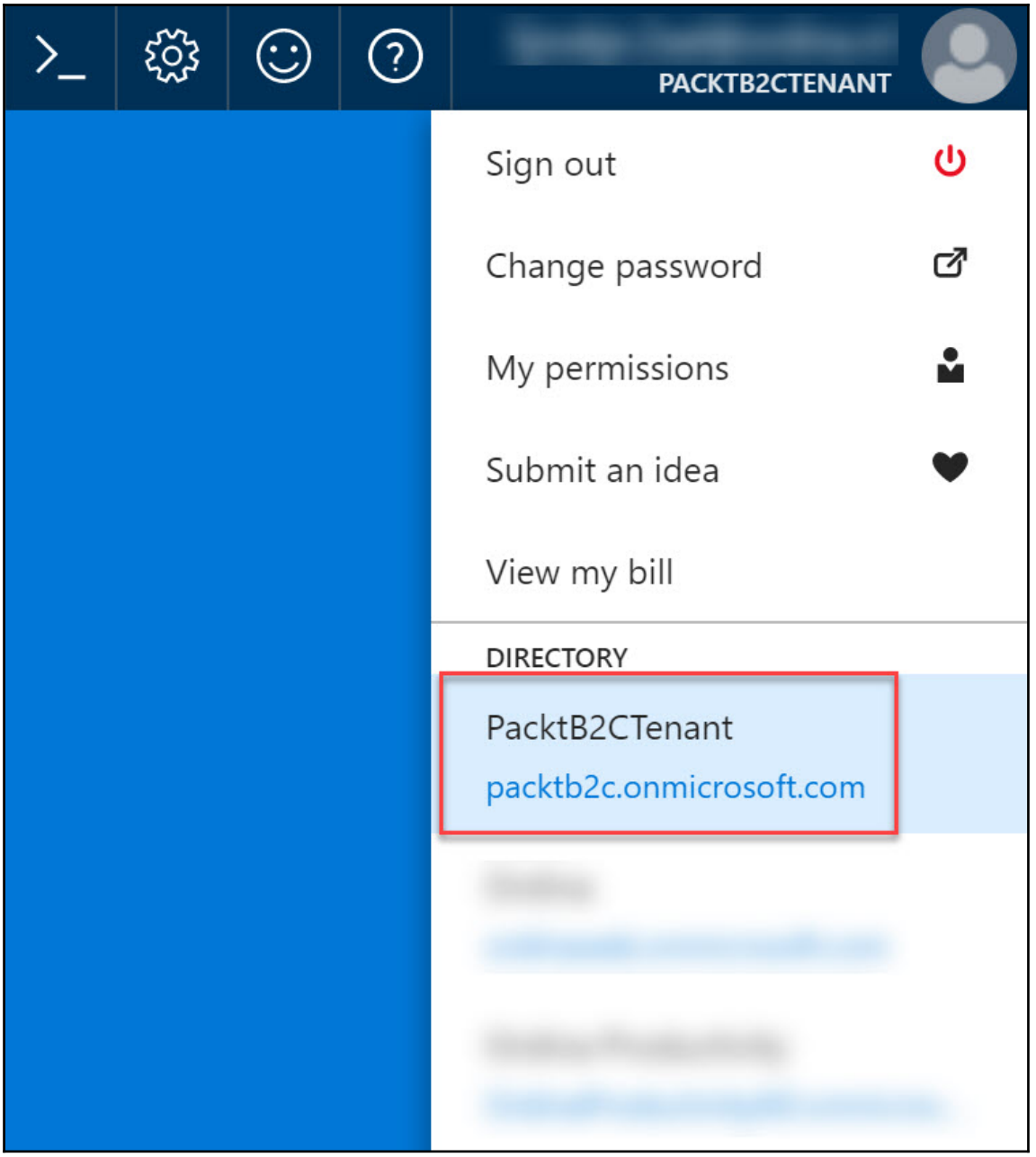


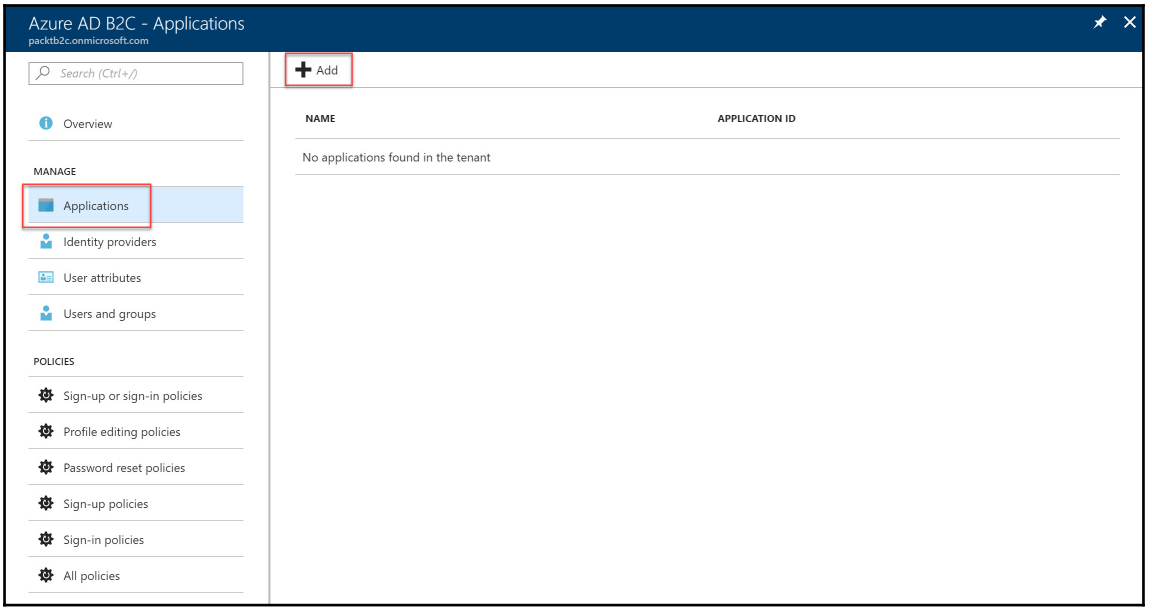


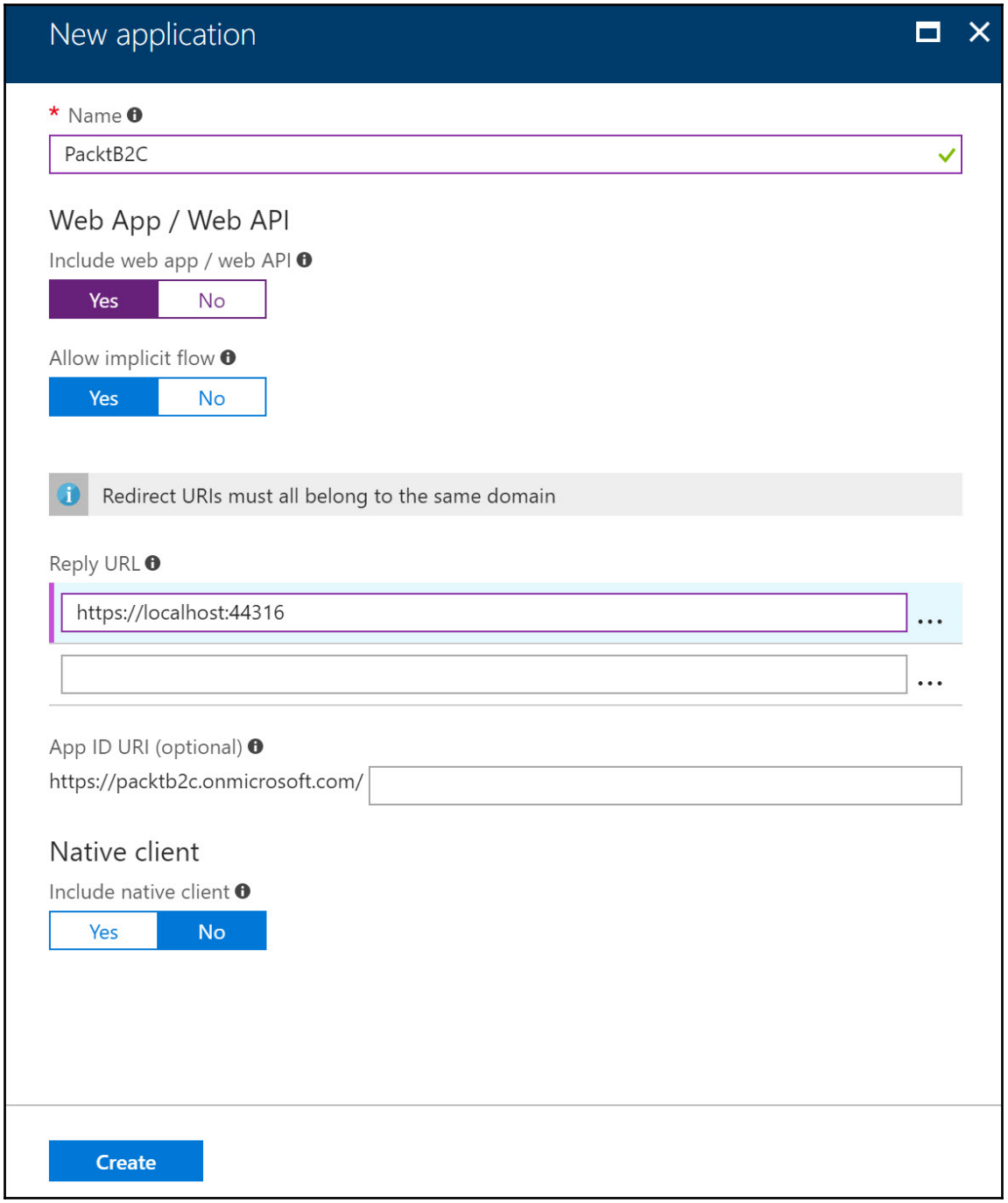

Office 365
Admin center
Home > Active users
Add a user
More
Views
All users
Search users
Export
Status
Import multiple users
Delete a user
Reset a password
Refresh
Setup Azure mult...
Directory synchronization
Just want to add an email address?
We'll help you select the right option based on your needs.
Types of users
Different types of users and accounts can use Office 365 in distinct ways.
Views
Learn how creating views will help you keep this list under control – before it gets too long.

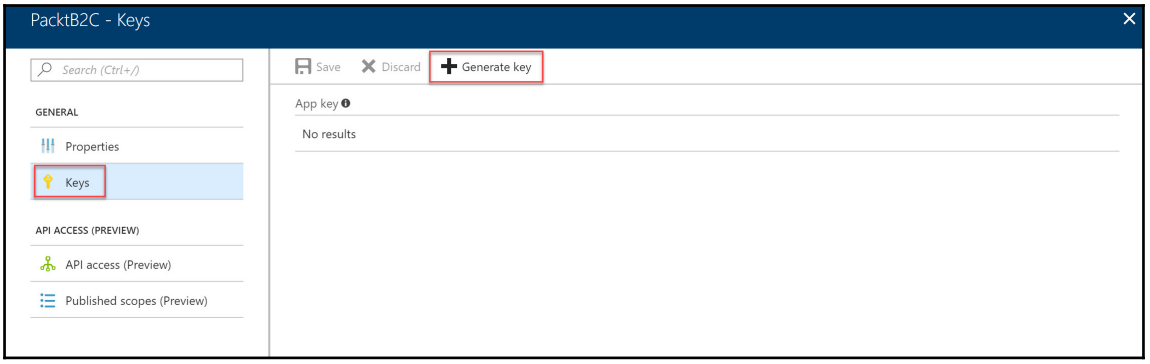

Azure Active Directory B2C
Microsoft
Consumer identity and access management in the cloud
A highly available, global, identity management service for customer-facing applications that scales to hundreds of millions of identities. It can be easily integrated across mobile and web platforms. Your customers can log on to all your applications through fully customizable experiences by using their existing social accounts or by creating new credentials.
Protect your consumer's identities
Login with social media accounts
Customizable user experiences
Pay only for what you use
Get started today with a free tier up to 50,000 users and 50,000 authentications per month for Pay As You Go Azure subscriptions. A subscription is not required.
Microsoft Azure
Settings
All policies
B2C_1_SignupSignIn
Run Policy
Create

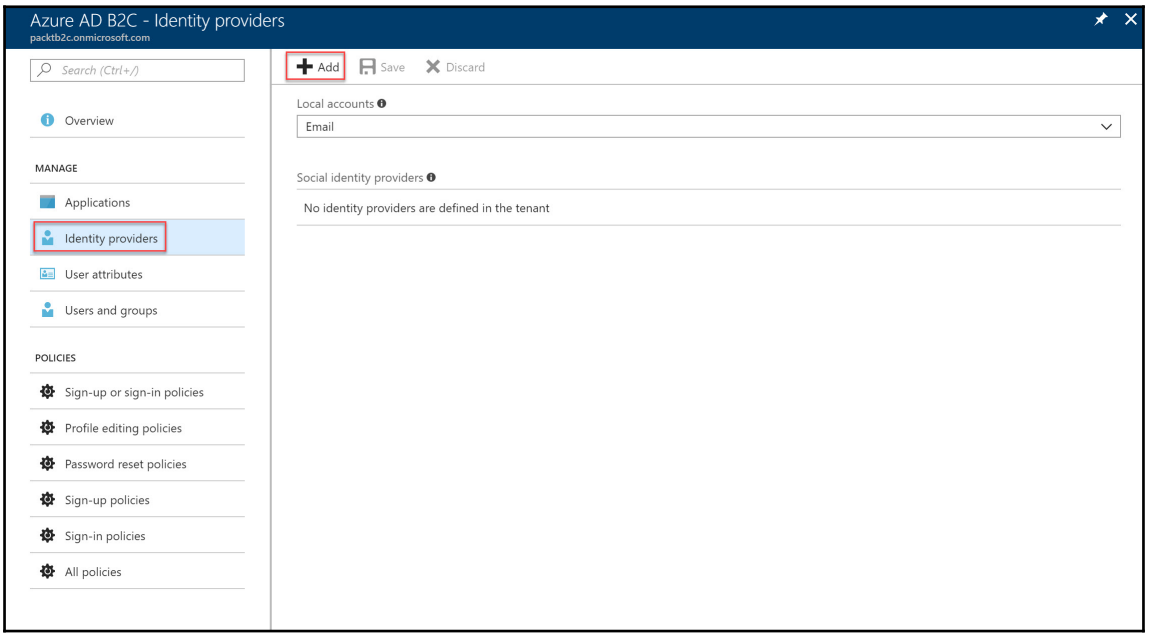

Create new B2C Tenant or Link to existing Tenant
Create a new Azure AD B2C Tenant
Link an existing Azure AD B2C Tenant to my Azure subscription
Azure AD B2C Create Tenant
* Organization name
PacktB2CTenant
* Initial domain name
packtb2c
packtb2c.onmicrosoft.com
Country or region
United States
Directory creation will take about one minute.

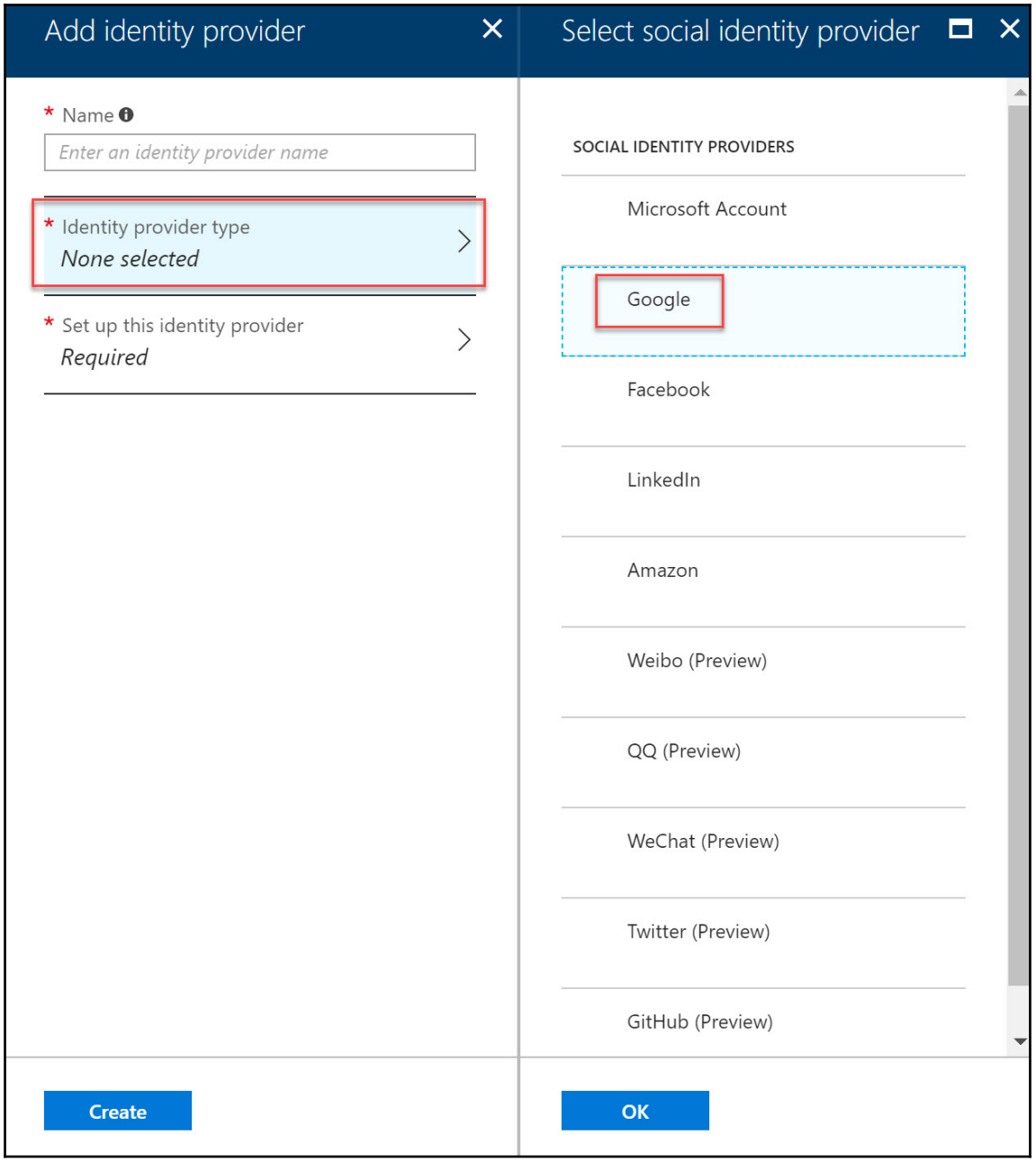

PACKTB2CTENANT
Sign out
Change password
My permissions
Submit an idea
View my bill
DIRECTORY
PacktB2CTenant
packtb2c.onmicrosoft.com

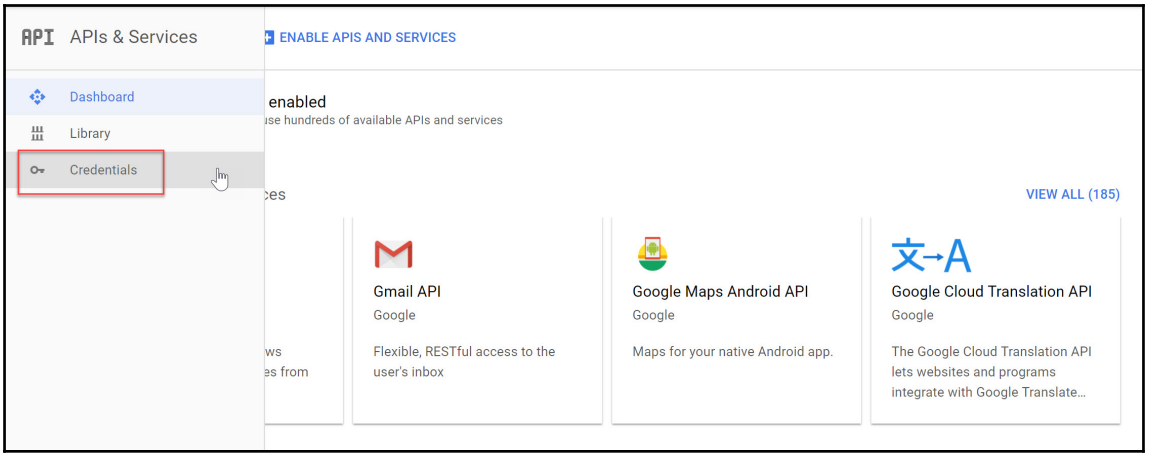

Azure AD B2C - Applications
packtb2c.onmicrosoft.com
Search (Ctrl+/)
Overview
MANAGE
Applications
Identity providers
User attributes
Users and groups
POLICIES
Sign-up or sign-in policies
Profile editing policies
Password reset policies
Sign-up policies
Sign-in policies
All policies
Add
NAME
APPLICATION ID
No applications found in the tenant

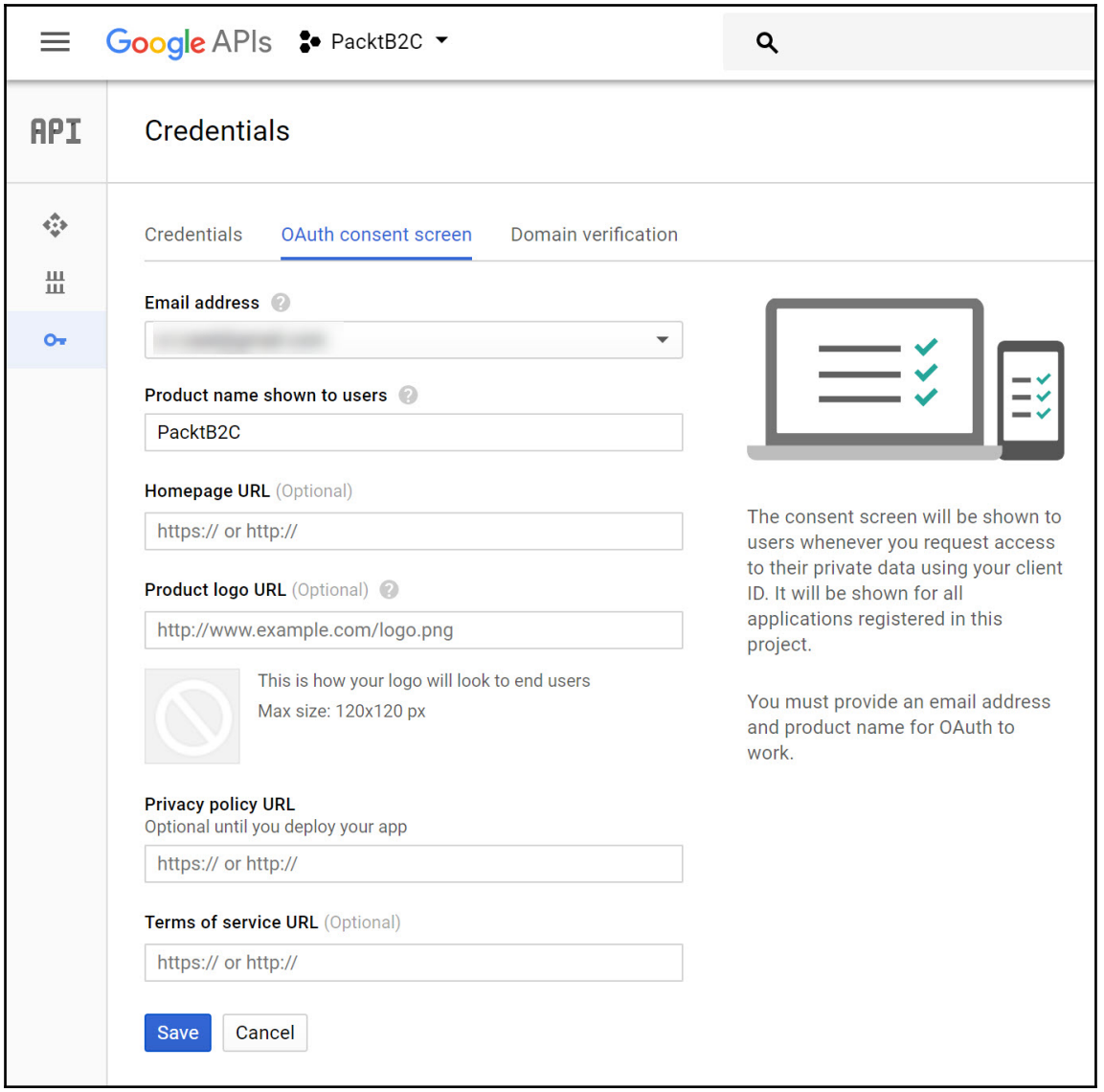

New application
* Name
PacktB2C
Web App / Web API
Include web app / web API
Yes
No
Allow implicit flow
Yes
No
Redirect URIs must all belong to the same domain
Reply URL
https://localhost:44316
App ID URI (optional)
https://packtb2c.onmicrosoft.com/
Native client
Include native client
Yes
No
Create

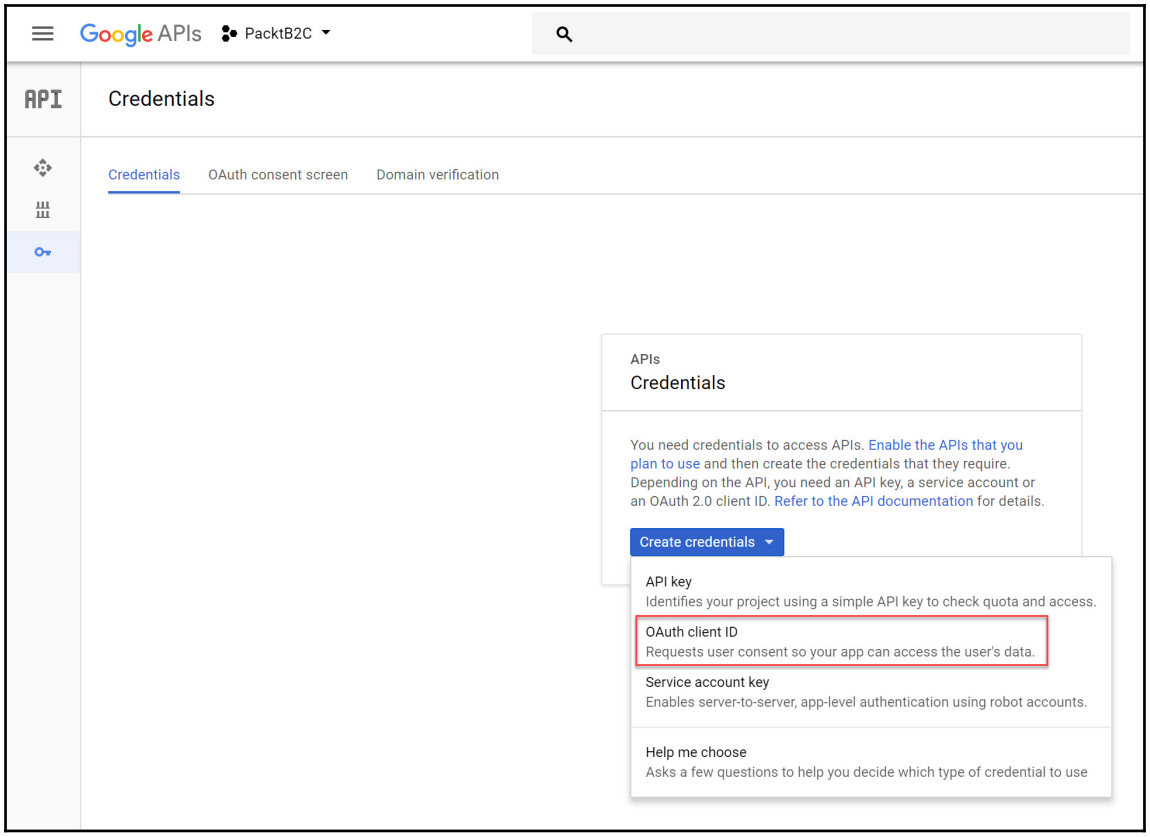

PacktB2C - Keys
Search (Ctrl+/)
GENERAL
Properties
Keys
API ACCESS (PREVIEW)
API access (Preview)
Published scopes (Preview)
Save
Discard
Generate key
App key
No results

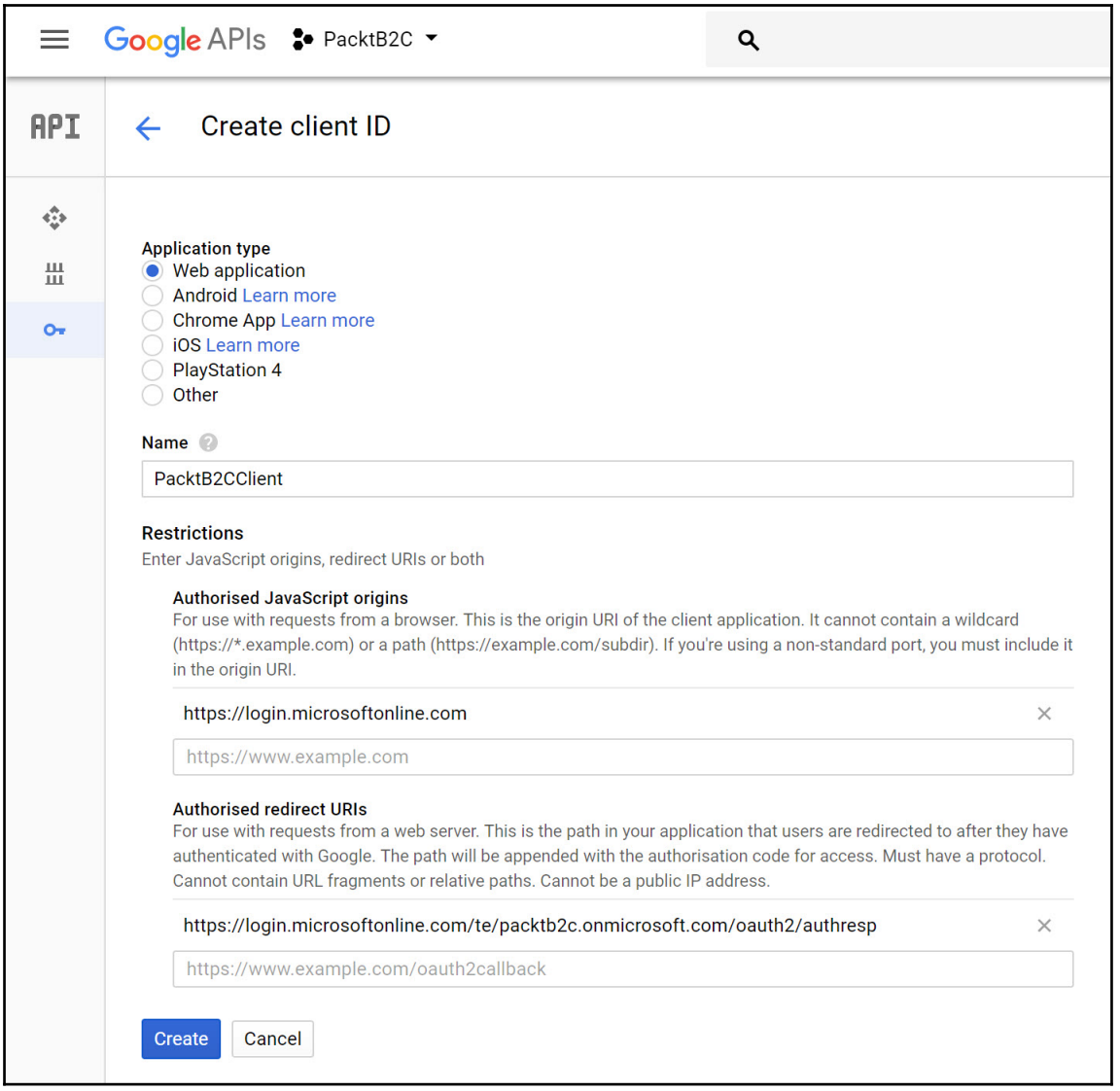

Azure AD B2C - Identity providers
packtb2c.onmicrosoft.com
Search (Ctrl+/)
Overview
MANAGE
Applications
Identity providers
User attributes
Users and groups
POLICIES
Sign-up or sign-in policies
Profile editing policies
Password reset policies
Sign-up policies
Sign-in policies
All policies
Add
Save
Discard
Local accounts
Email
Social identity providers
No identity providers are defined in the tenant

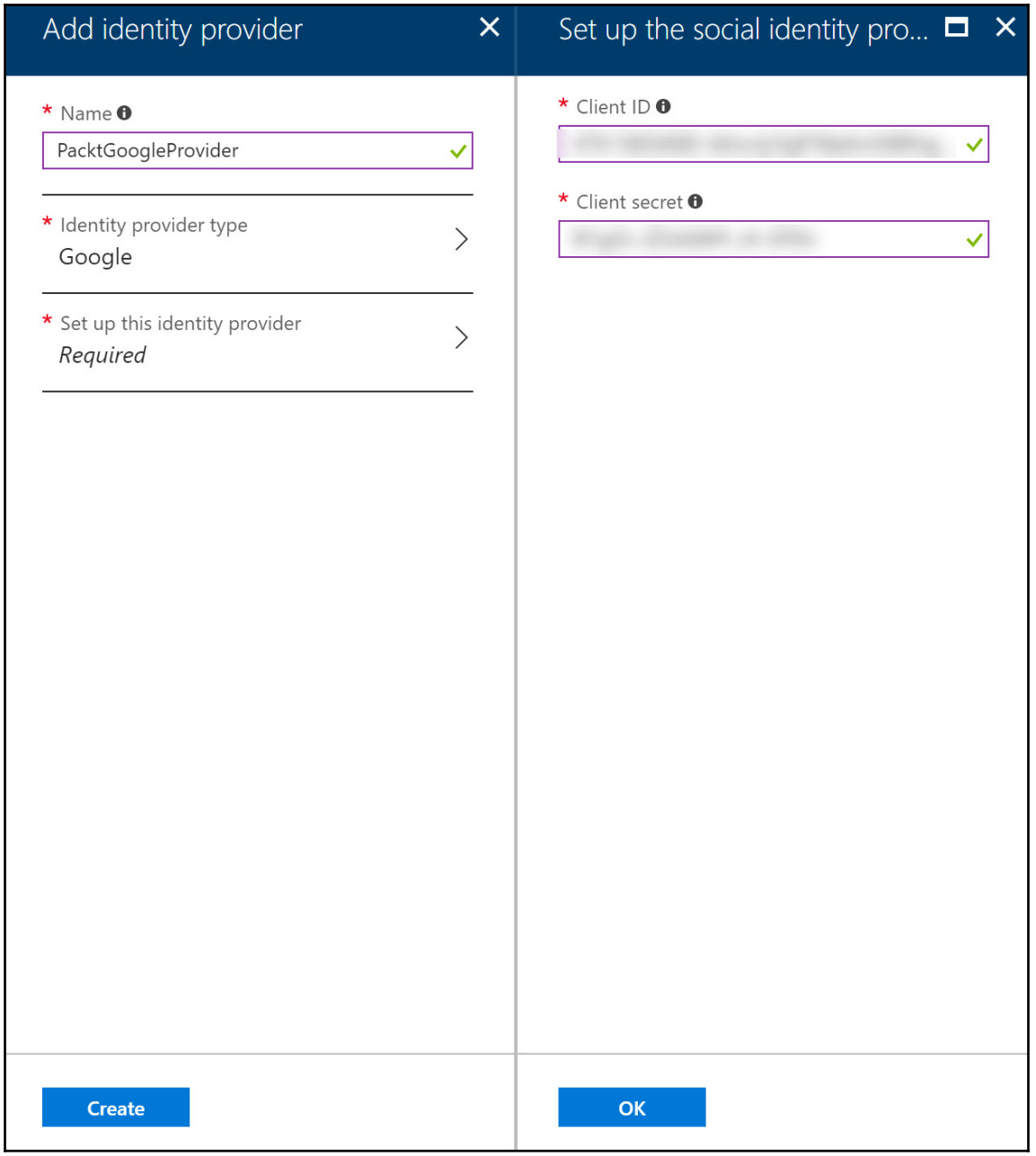

Add identity provider
* Name
Enter an identity provider name
* Identity provider type
None selected
* Set up this identity provider
Required
Create
Select social identity provider
SOCIAL IDENTITY PROVIDERS
Microsoft Account
Google
Facebook
LinkedIn
Amazon
Weibo (Preview)
QQ (Preview)
WeChat (Preview)
Twitter (Preview)
GitHub (Preview)
OK

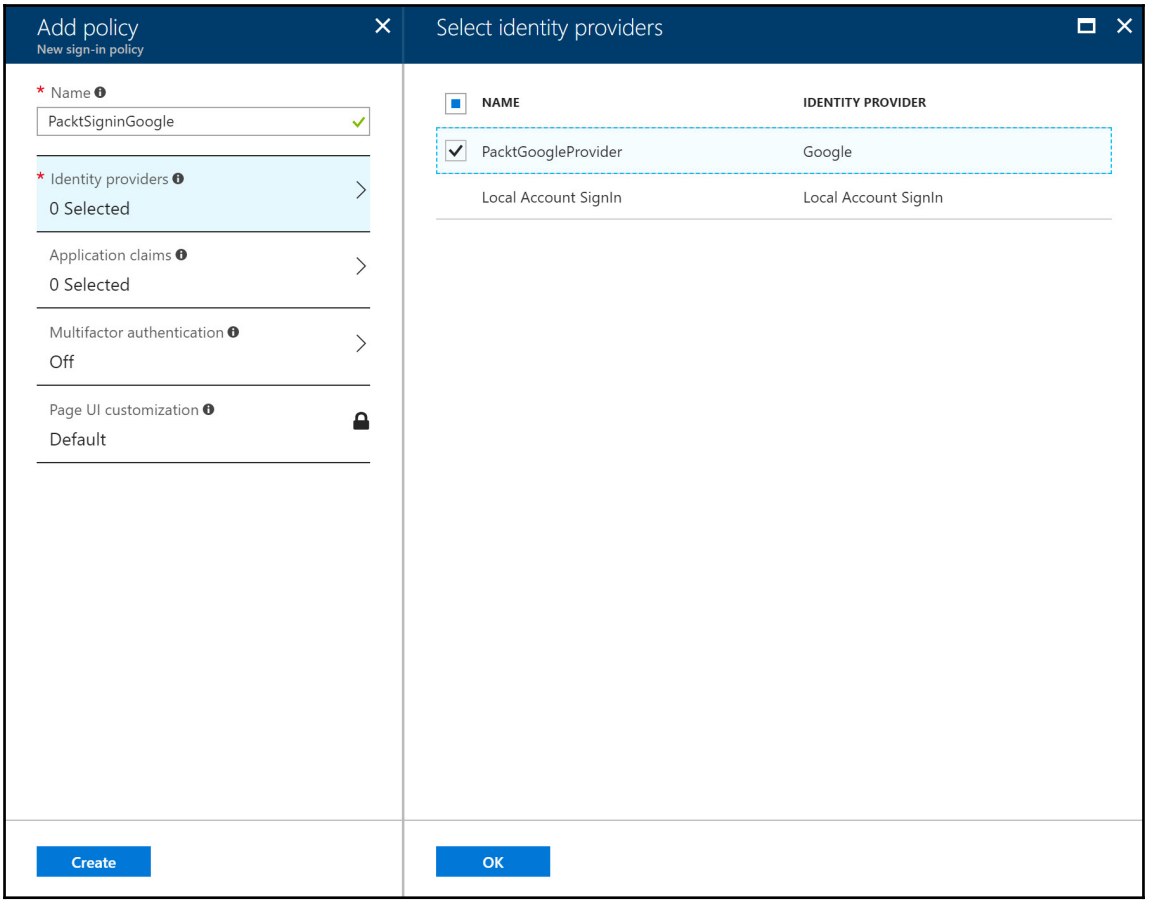

APIs & Services
ENABLE APIS AND SERVICES
Dashboard
Library
Credentials
enabled
VIEW ALL (185)
Gmail API
Google
Flexible, RESTful access to the user's inbox
Google Maps Android API
Google
Maps for your native Android app.
Google Cloud Translation API
Google
The Google Cloud Translation API lets websites and programs integrate with Google Translate...

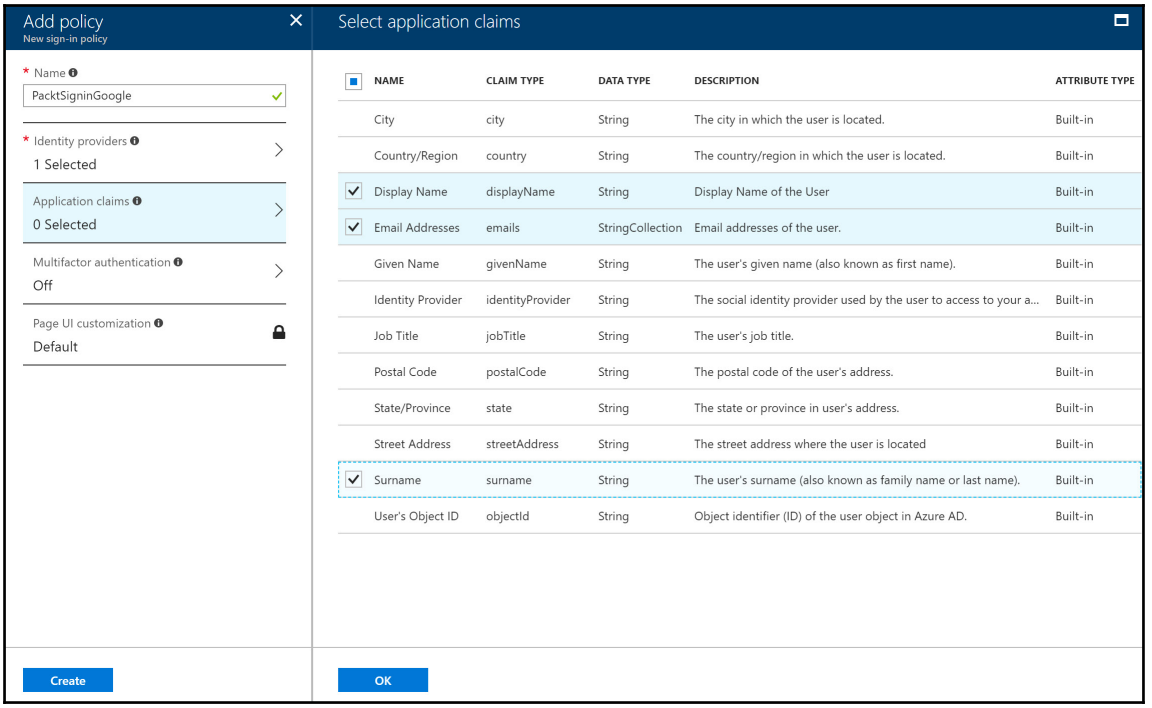

Google APIs
PacktB2C
API
Credentials
Credentials
OAuth consent screen
Domain verification
Email address
Product name shown to users
PacktB2C
Homepage URL (Optional)
https:// or http://
Product logo URL (Optional)
http://www.example.com/logo.png
This is how your logo will look to end users
Max size: 120x120 px
Privacy policy URL
Optional until you deploy your app
https:// or http://
Terms of service URL (Optional)
https:// or http://
Save
Cancel
The consent screen will be shown to users whenever you request access to their private data using your client ID. It will be shown for all applications registered in this project.
You must provide an email address and product name for OAuth to work.

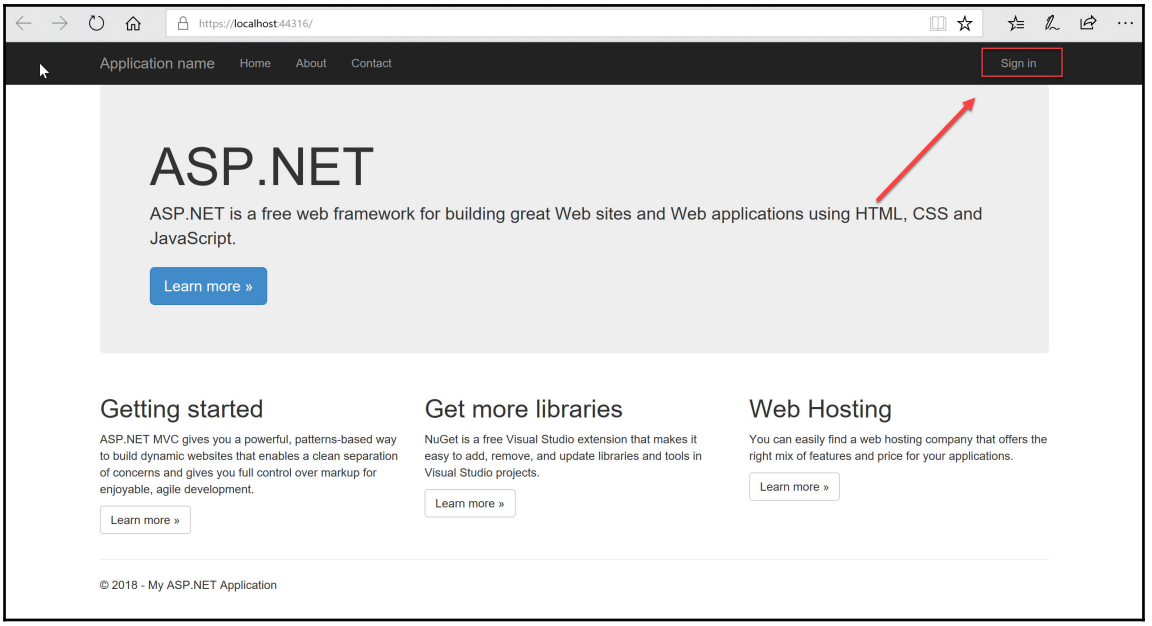

Google APIs
PacktB2C
API
Credentials
Credentials
OAuth consent screen
Domain verification
APIs
Credentials
You need credentials to access APIs. Enable the APIs that you plan to use and then create the credentials that they require. Depending on the API, you need an API key, a service account or an OAuth 2.0 client ID. Refer to the API documentation for details.
Create credentials
API key
Identifies your project using a simple API key to check quota and access.
OAuth client ID
Requests user consent so your app can access the user's data.
Service account key
Enables server-to-server, app-level authentication using robot accounts.
Help me choose
Asks a few questions to help you decide which type of credential to use


Google APIs
PacktB2C
API
Create client ID
Application type
Web application
Android Learn more
Chrome App Learn more
iOS Learn more
PlayStation 4
Other
Name
PacktB2CClient
Restrictions
Enter JavaScript origins, redirect URIs or both
Authorised JavaScript origins
For use with requests from a browser. This is the origin URI of the client application. It cannot contain a wildcard (https://*.example.com) or a path (https://example.com/subdir). If you're using a non-standard port, you must include it in the origin URI.
https://login.microsoftonline.com
https://www.example.com
Authorised redirect URIs
For use with requests from a web server. This is the path in your application that users are redirected to after they have authenticated with Google. The path will be appended with the authorisation code for access. Must have a protocol. Cannot contain URL fragments or relative paths. Cannot be a public IP address.
https://login.microsoftonline.com/te/packtb2c.onmicrosoft.com/oauth2/authresp
https://www.example.com/oauth2callback
Create
Cancel

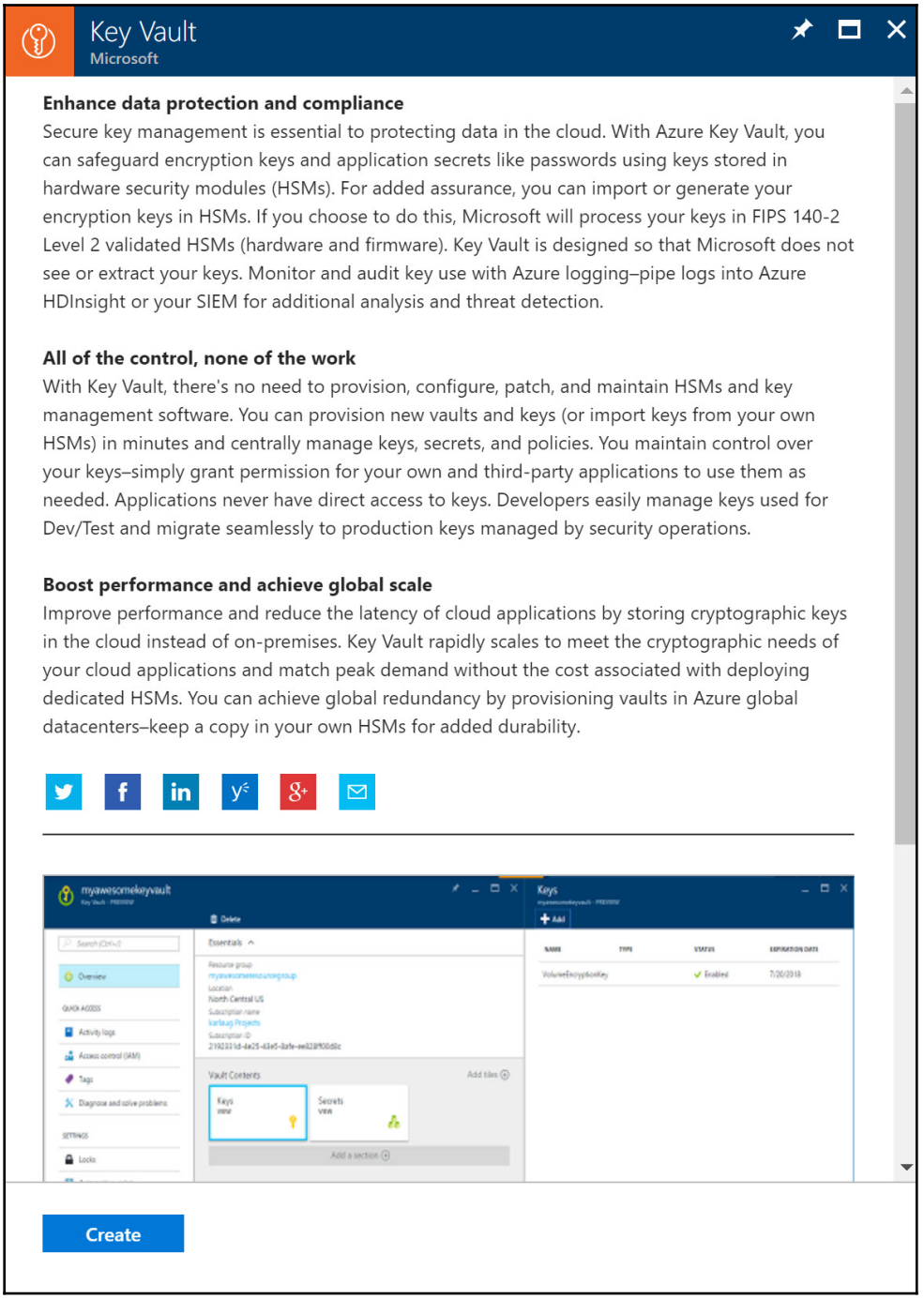

Add identity provider
* Name
PacktGoogleProvider
* Identity provider type
Google
* Set up this identity provider
Required
Create
Set up the social identity pro...
* Client ID
* Client secret
OK

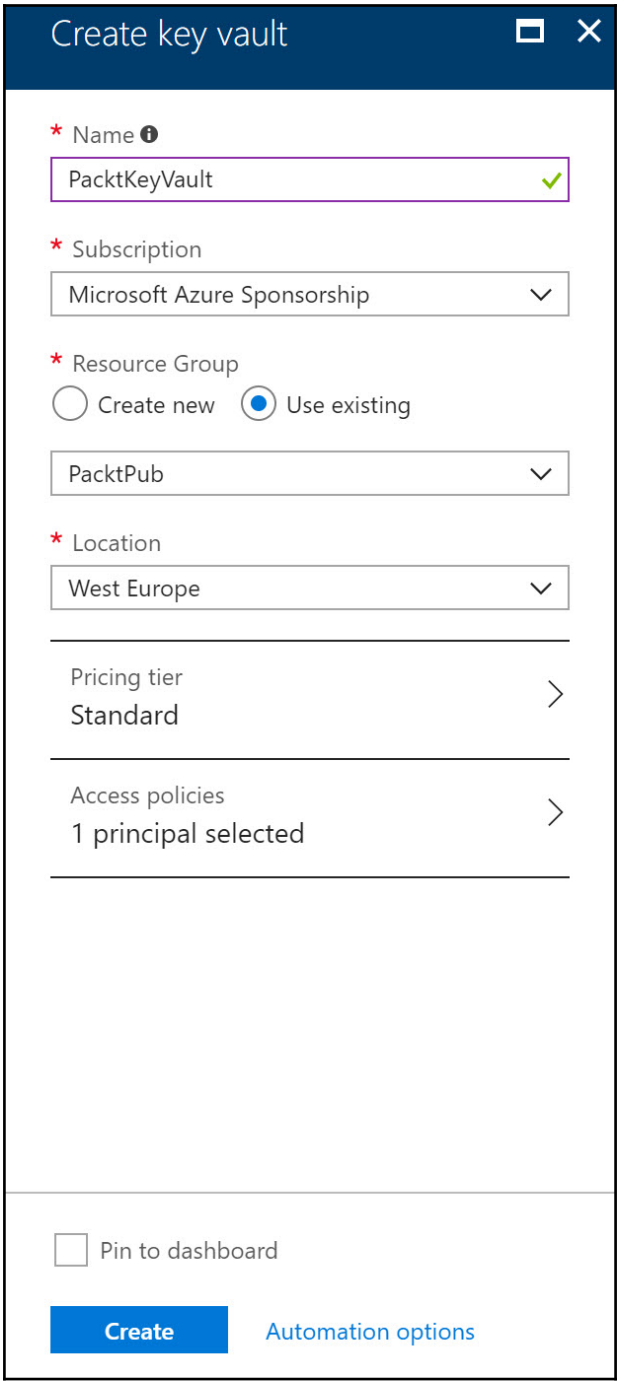

Add policy
New sign-in policy
* Name
PacktSigninGoogle
* Identity providers
0 Selected
Application claims
0 Selected
Multifactor authentication
Off
Page UI customization
Default
Create
Select identity providers
NAME
IDENTITY PROVIDER
PacktGoogleProvider
Google
Local Account SignIn
Local Account SignIn
OK

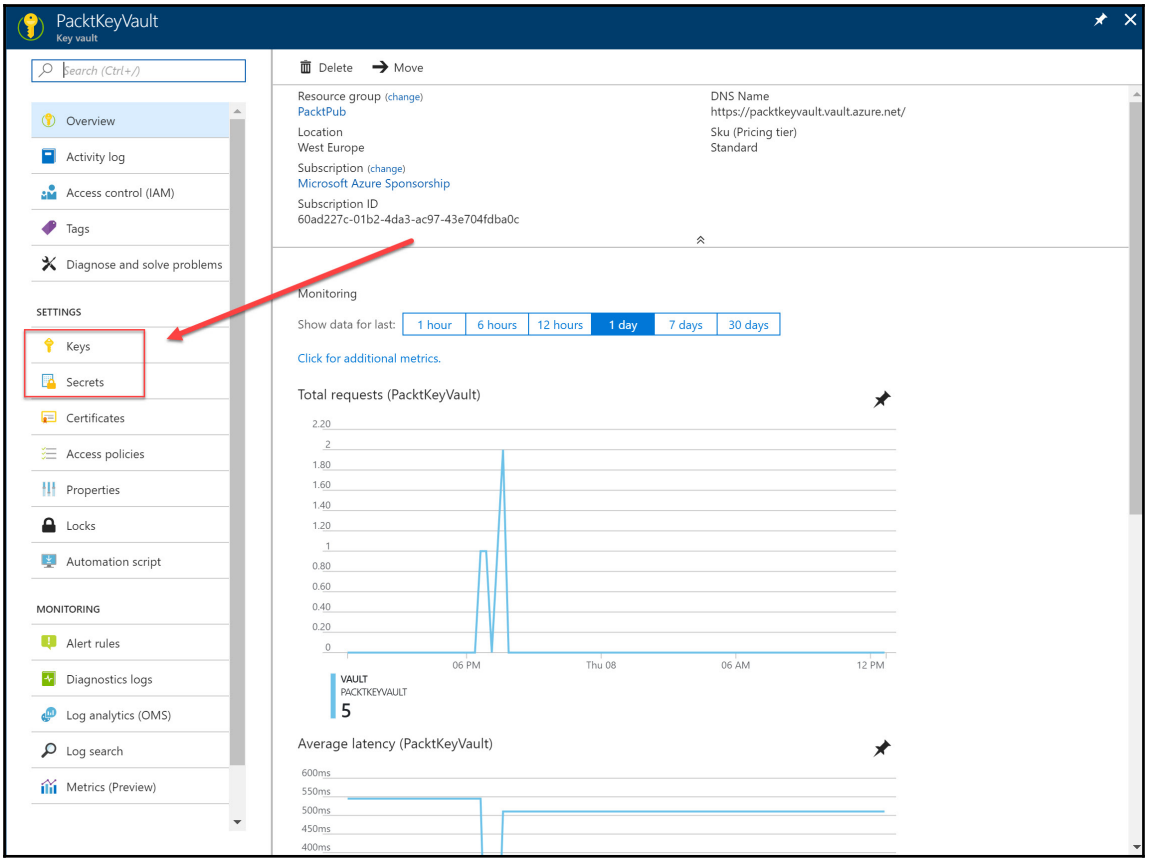

Add policy
New sign-in policy
* Name
PacktSigninGoogle
* Identity providers
1 Selected
Application claims
0 Selected
Multifactor authentication
Off
Page UI customization
Default
Create
Select application claims
NAME
CLAIM TYPE
DATA TYPE
DESCRIPTION
ATTRIBUTE TYPE
City
city
String
The city in which the user is located.
Built-in
Country/Region
country
String
The country/region in which the user is located.
Built-in
Display Name
displayName
String
Display Name of the User
Built-in
Email Addresses
emails
StringCollection
Email addresses of the user.
Built-in
Given Name
givenName
String
The user's given name (also known as first name).
Built-in
Identity Provider
identityProvider
String
The social identity provider used by the user to access to your a...
Built-in
Job Title
jobTitle
String
The user's job title.
Built-in
Postal Code
postalCode
String
The postal code of the user's address.
Built-in
State/Province
state
String
The state or province in user's address.
Built-in
Street Address
streetAddress
String
The street address where the user is located
Built-in
Surname
surname
String
The user's surname (also known as family name or last name).
Built-in
User's Object ID
objectId
String
Object identifier (ID) of the user object in Azure AD.
Built-in
OK

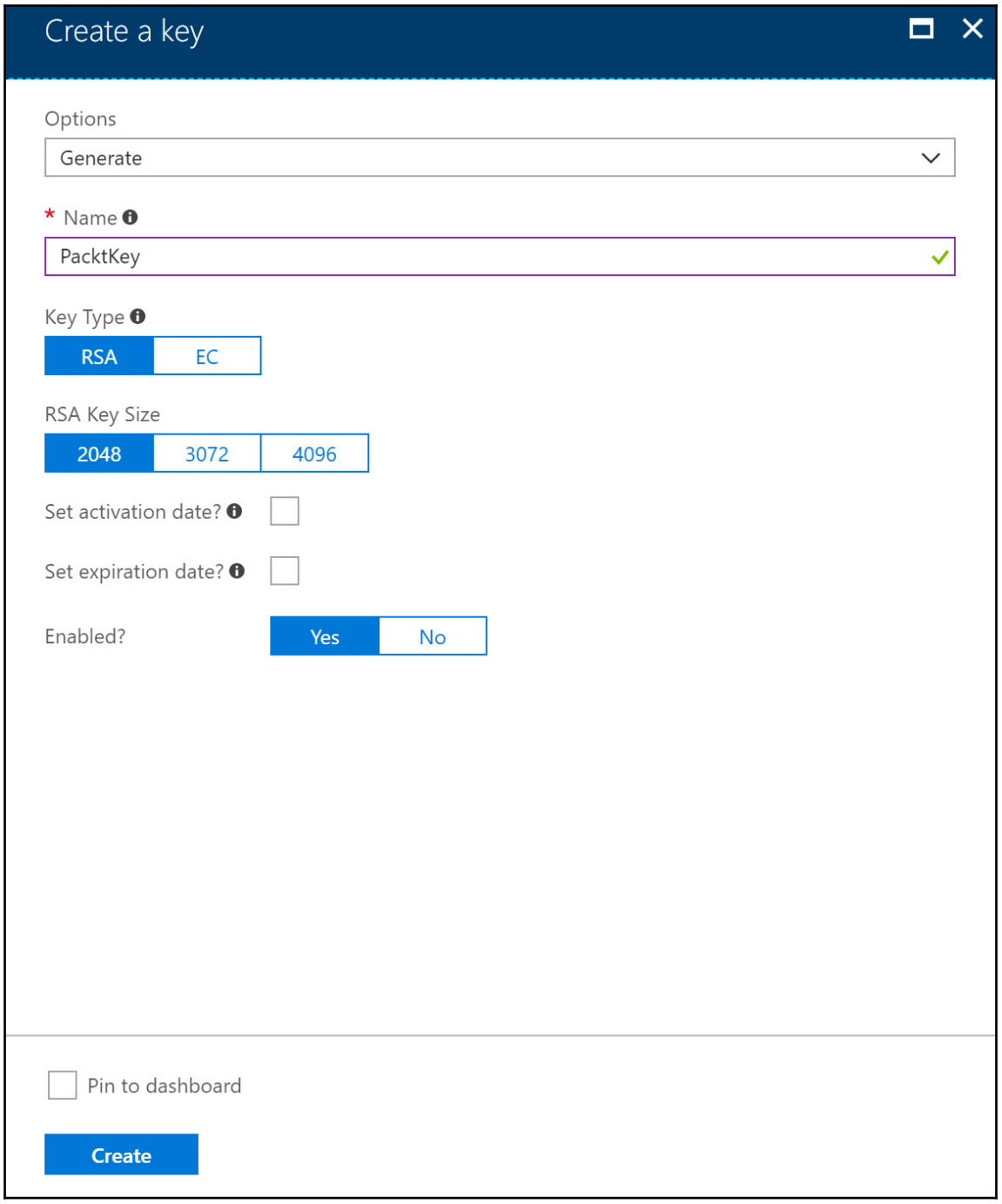

https://localhost:44316/
Application name
Home
About
Contact
Sign in
ASP.NET
ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS and JavaScript.
Learn more »
Getting started
ASP.NET MVC gives you a powerful, patterns-based way to build dynamic websites that enables a clean separation of concerns and gives you full control over markup for enjoyable, agile development.
Learn more »
Get more libraries
NuGet is a free Visual Studio extension that makes it easy to add, remove, and update libraries and tools in Visual Studio projects.
Learn more »
Web Hosting
You can easily find a web hosting company that offers the right mix of features and price for your applications.
Learn more »
© 2018 - My ASP.NET Application

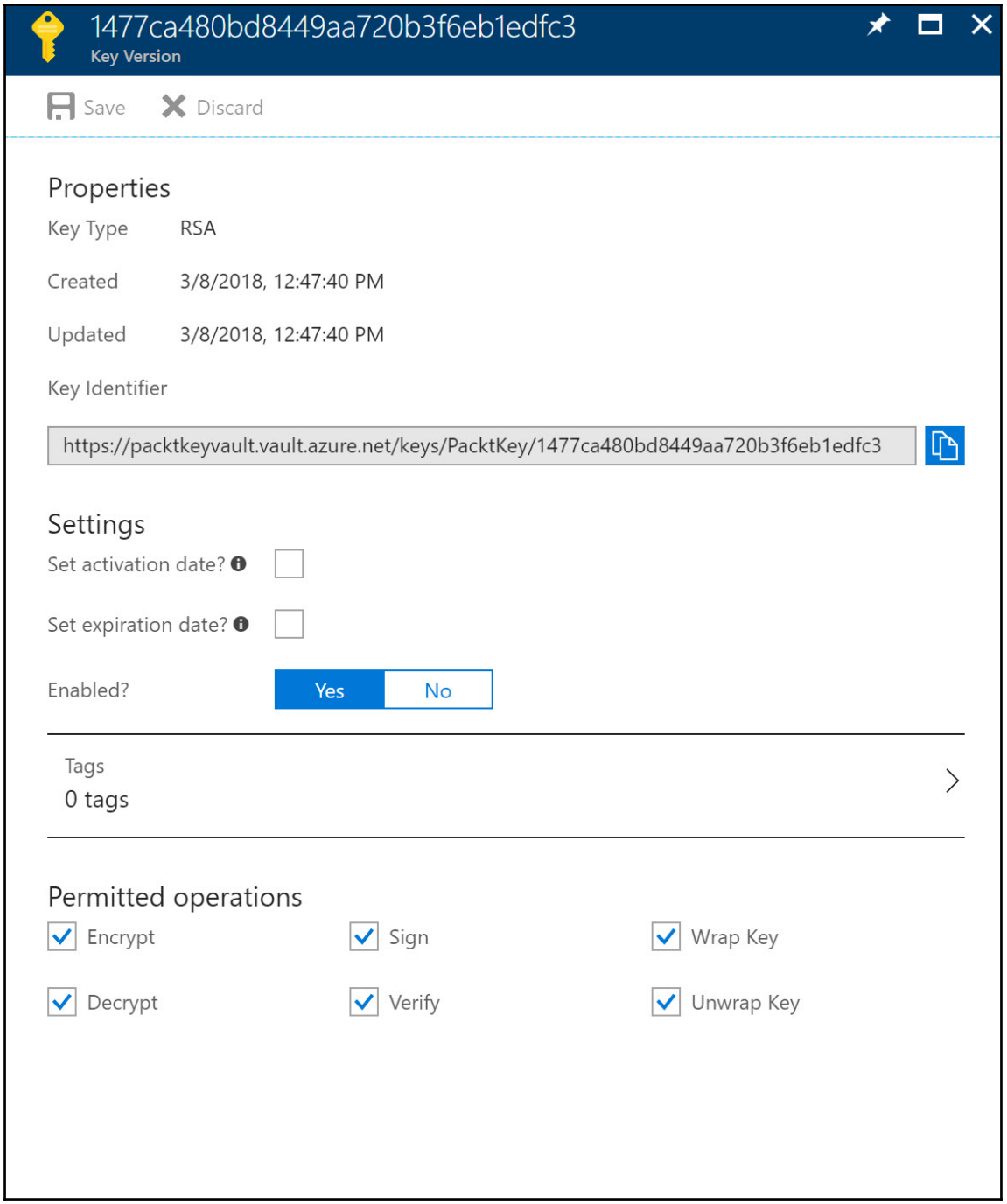
Chapter 10: Securing Your Data

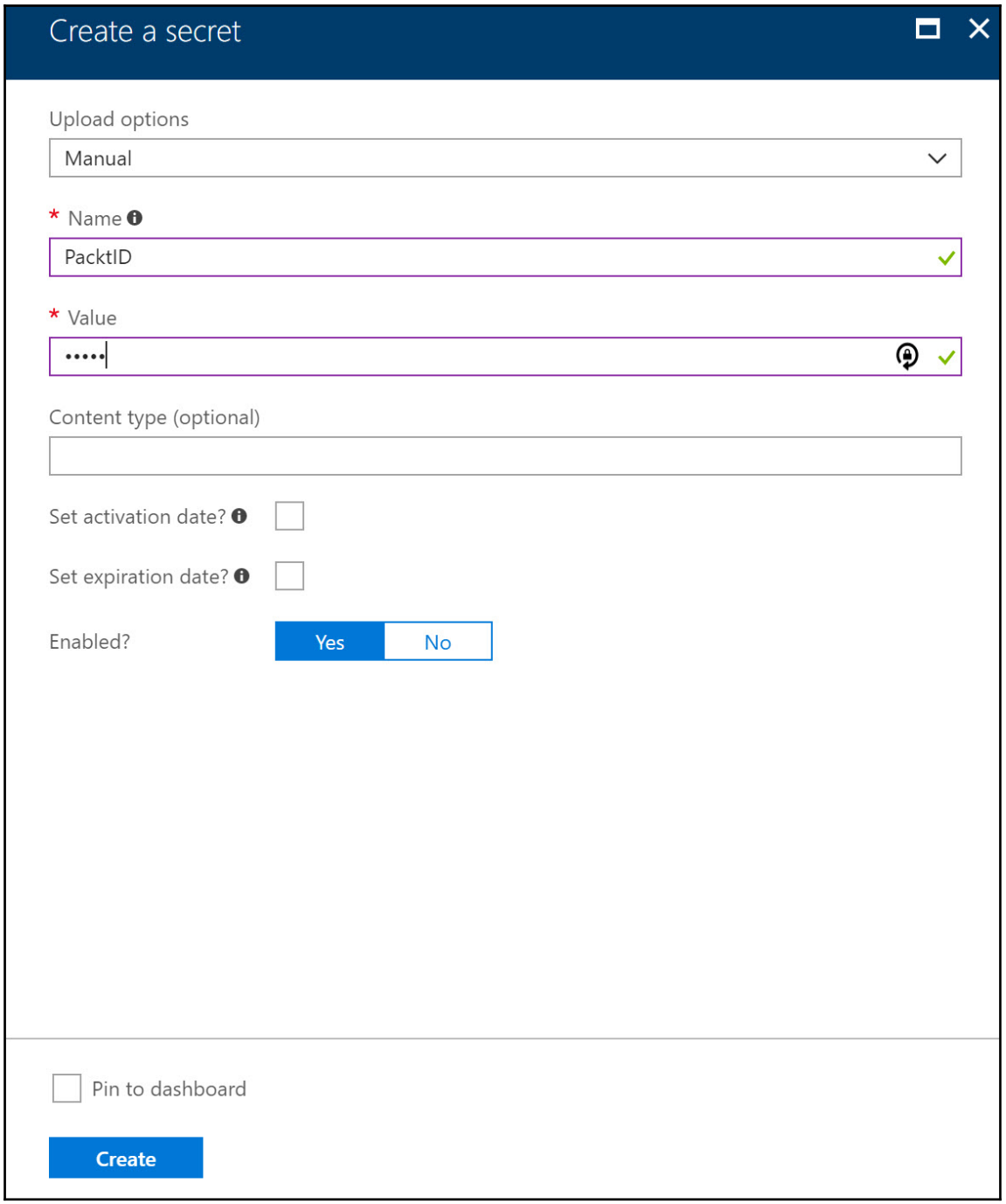

Key Vault
Microsoft
Enhance data protection and compliance
Secure key management is essential to protecting data in the cloud. With Azure Key Vault, you can safeguard encryption keys and application secrets like passwords using keys stored in hardware security modules (HSMs). For added assurance, you can import or generate your encryption keys in HSMs. If you choose to do this, Microsoft will process your keys in FIPS 140-2 Level 2 validated HSMs (hardware and firmware). Key Vault is designed so that Microsoft does not see or extract your keys. Monitor and audit key use with Azure logging–pipe logs into Azure HDInsight or your SIEM for additional analysis and threat detection.
All of the control, none of the work
With Key Vault, there's no need to provision, configure, patch, and maintain HSMs and key management software. You can provision new vaults and keys (or import keys from your own HSMs) in minutes and centrally manage keys, secrets, and policies. You maintain control over your keys–simply grant permission for your own and third-party applications to use them as needed. Applications never have direct access to keys. Developers easily manage keys used for Dev/Test and migrate seamlessly to production keys managed by security operations.
Boost performance and achieve global scale
Improve performance and reduce the latency of cloud applications by storing cryptographic keys in the cloud instead of on-premises. Key Vault rapidly scales to meet the cryptographic needs of your cloud applications and match peak demand without the cost associated with deploying dedicated HSMs. You can achieve global redundancy by provisioning vaults in Azure global datacenters–keep a copy in your own HSMs for added durability.
Create

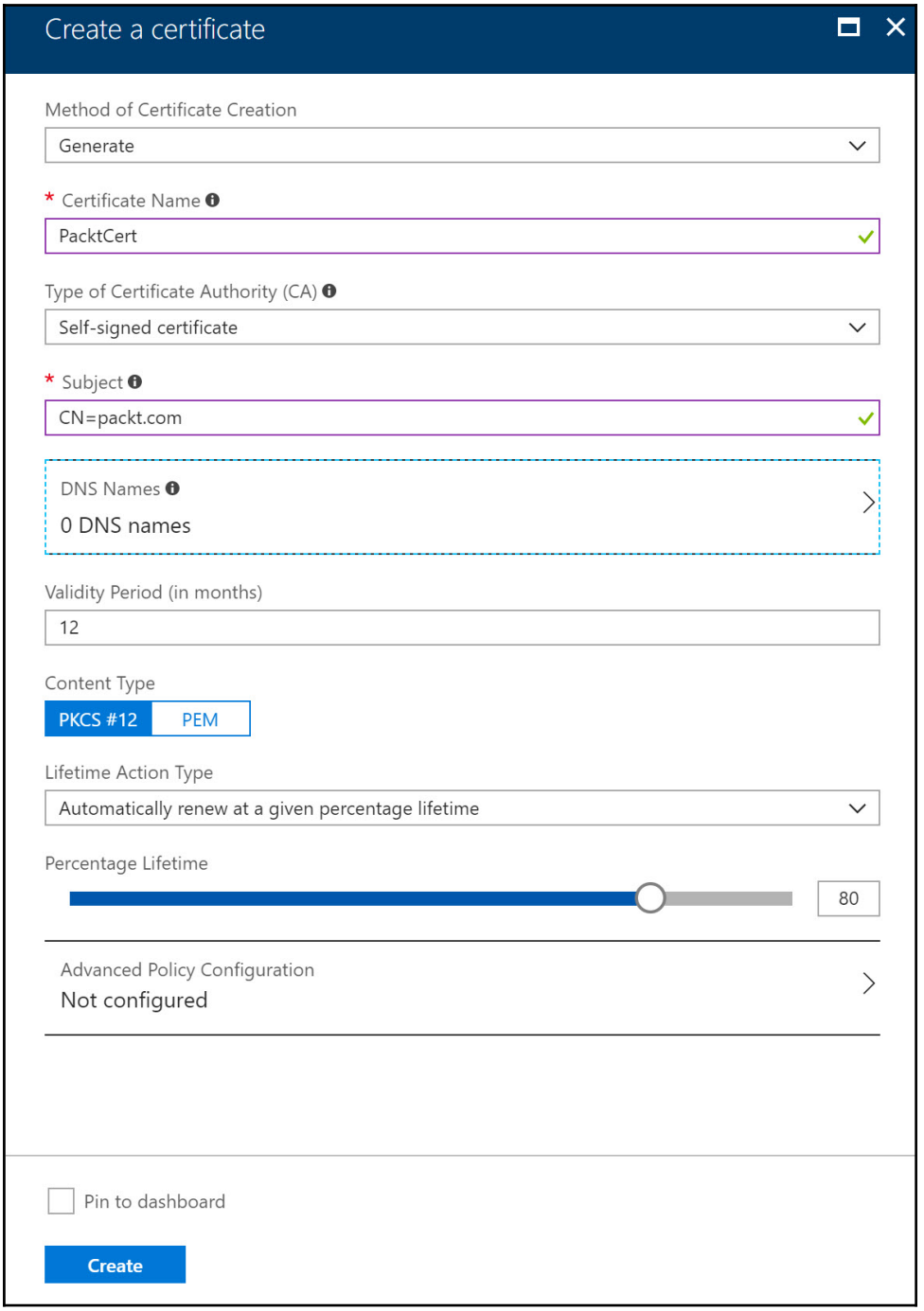

Create key vault
* Name
PacktKeyVault
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktPub
* Location
West Europe
Pricing tier
Standard
Access policies
1 principal selected
Pin to dashboard
Create
Automation options

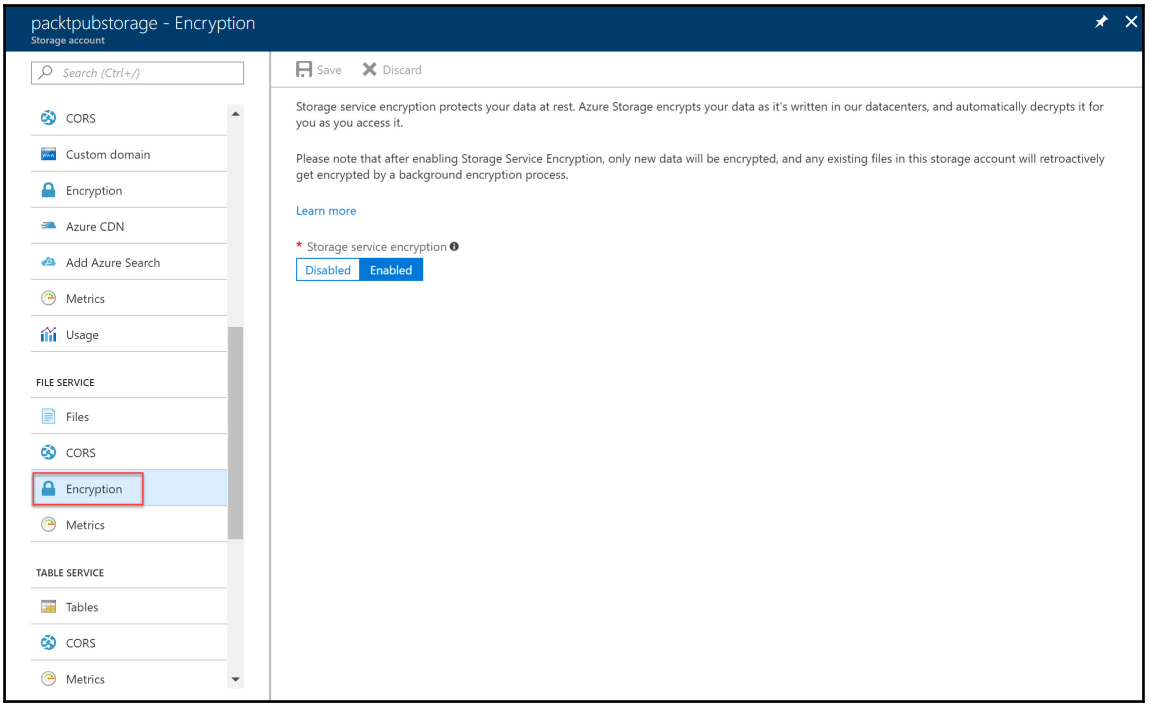

PacktKeyVault
Key vault
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Keys
Secrets
Certificates
Access policies
Properties
Locks
Automation script
MONITORING
Alert rules
Diagnostics logs
Log analytics (OMS)
Log search
Metrics (Preview)
Delete
Move
Resource group (change)
PacktPub
Location
West Europe
Subscription (change)
Microsoft Azure Sponsorship
Subscription ID
60ad227c-01b2-4da3-ac97-43e704fdba0c
DNS Name
https://packtkeyvault.vault.azure.net/
Sku (Pricing tier)
Standard
Monitoring
Show data for last:
1 hour
6 hours
12 hours
1 day
7 days
30 days
Click for additional metrics.
Total requests (PacktKeyVault)
2.20
2
1.80
1.60
1.40
1.20
1
0.80
0.60
0.40
0.20
0
06 PM
Thu 08
06 AM
12 PM
VAULT
PACKTKEYVAULT
5
Average latency (PacktKeyVault)
600ms
550ms
500ms
450ms
400ms

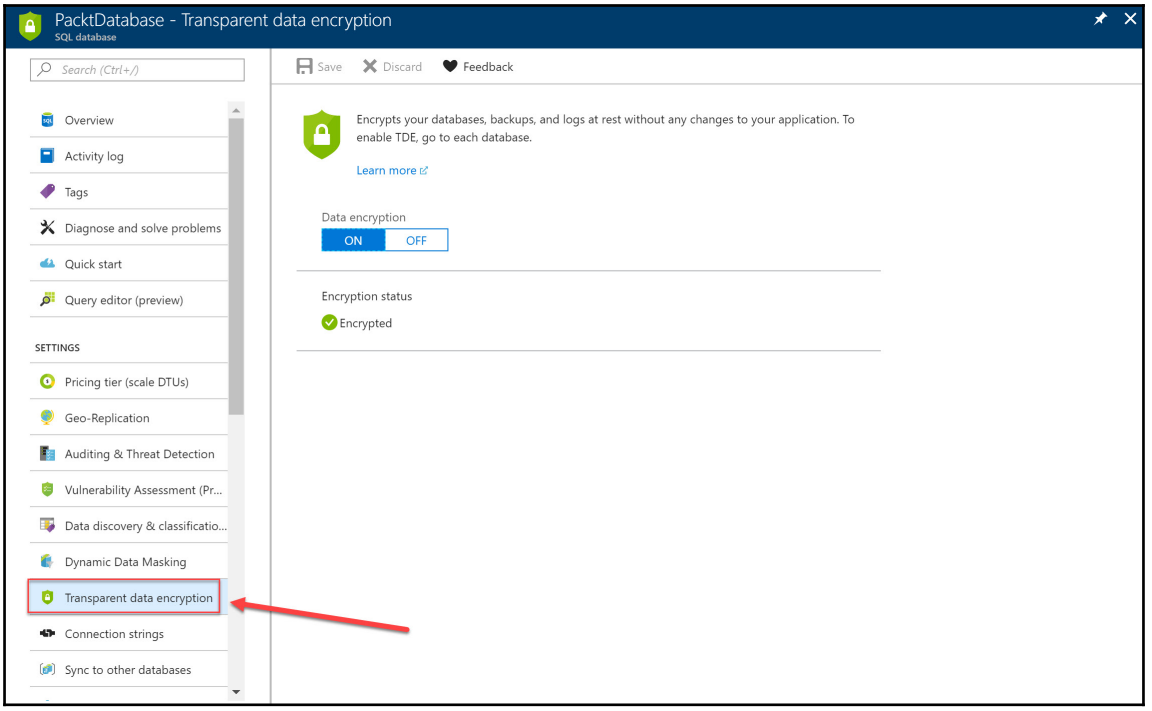

Create a key
Options
Generate
* Name
PacktKey
Key Type
RSA
EC
RSA Key Size
2048
3072
4096
Set activation date?
Set expiration date?
Enabled?
Yes
No
Pin to dashboard
Create

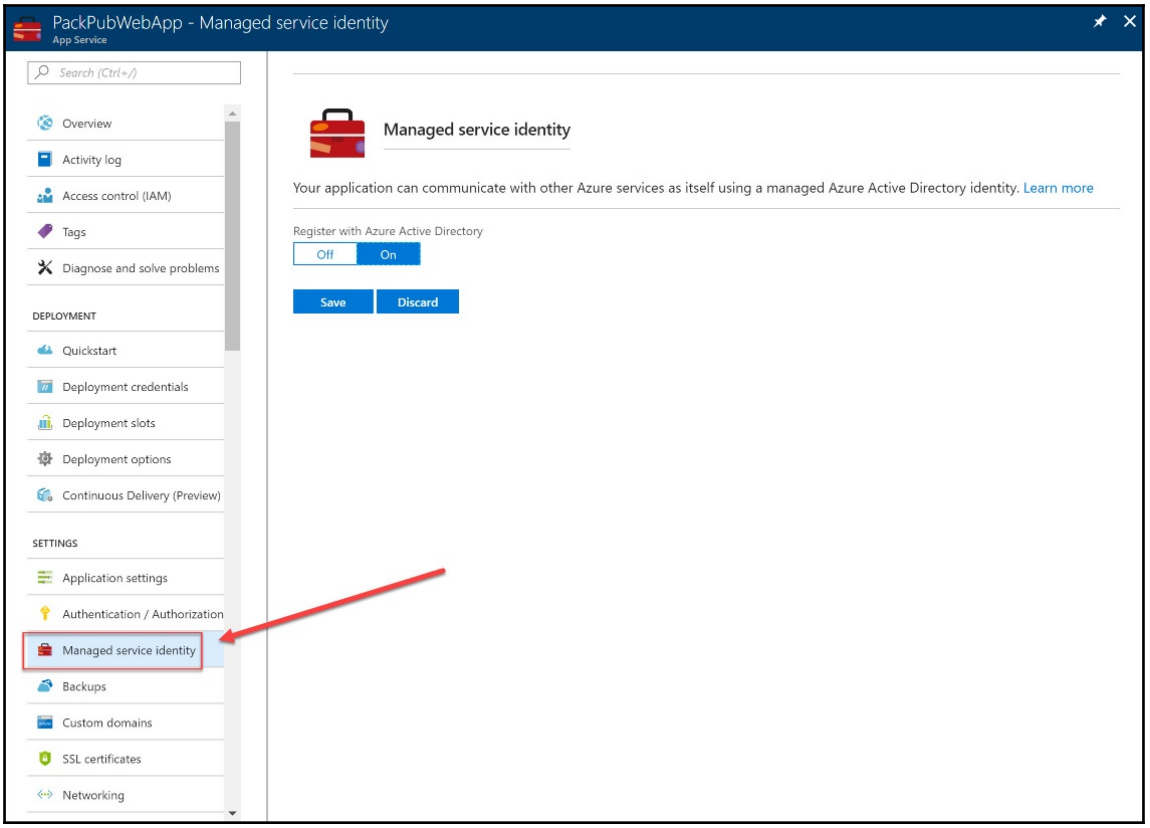

1477ca480bd8449aa720b3f6eb1edfc3
Key Version
Save
Discard
Properties
Key Type
RSA
Created
3/8/2018, 12:47:40 PM
Updated
3/8/2018, 12:47:40 PM
Key Identifier
https://packtkeyvault.vault.azure.net/keys/PacktKey/1477ca480bd8449aa720b3f6eb1edfc3
Settings
Set activation date?
Set expiration date?
Enabled?
Yes
No
Tags
0 tags
Permitted operations
Encrypt
Sign
Wrap Key
Decrypt
Verify
Unwrap Key


Create a secret
Upload options
Manual
* Name
PacktID
* Value
•••••
Content type (optional)
Set activation date?
Set expiration date?
Enabled?
Yes
No
Pin to dashboard
Create

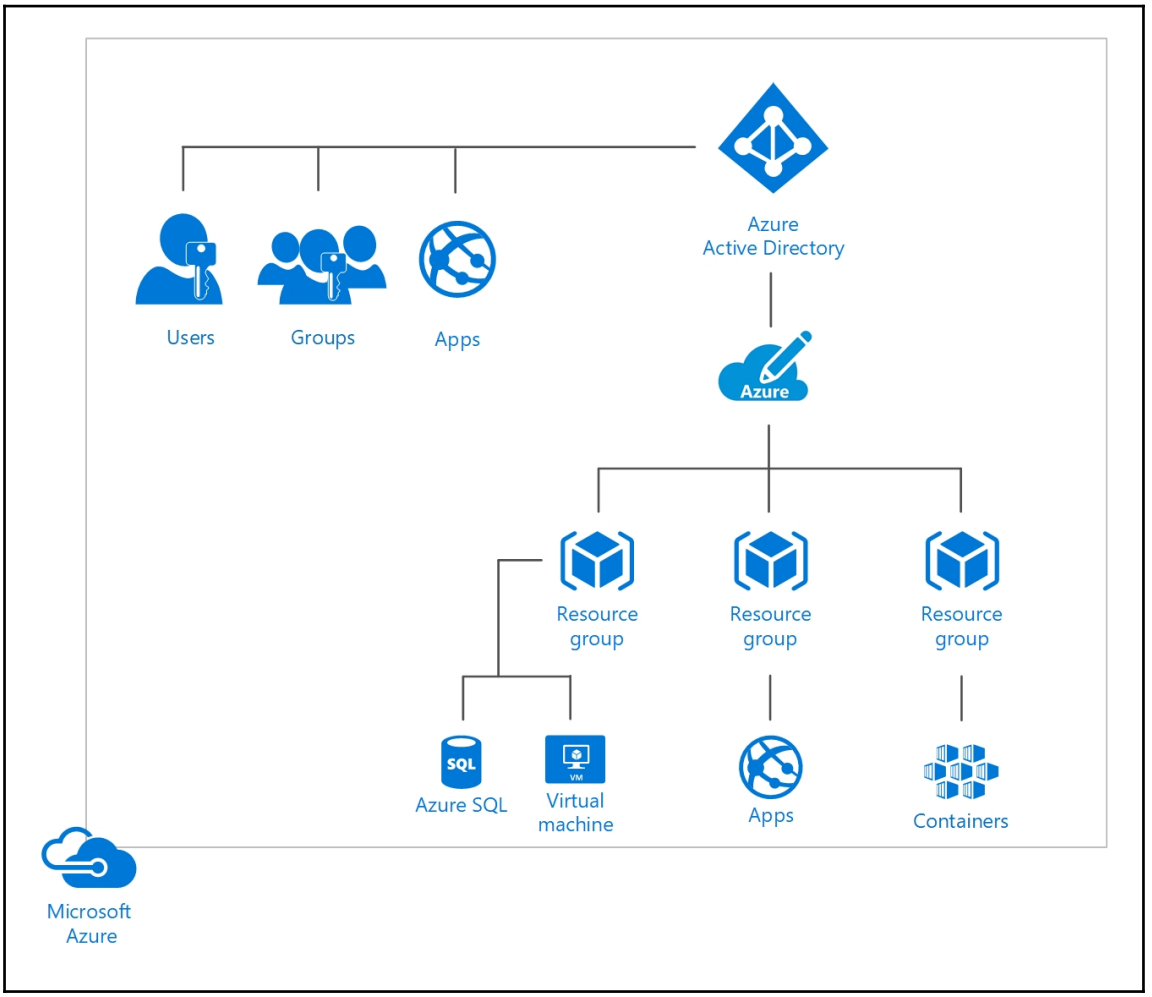

Create a certificate
Method of Certificate Creation
Generate
* Certificate Name
PacktCert
Type of Certificate Authority (CA)
Self-signed certificate
* Subject
CN=packt.com
DNS Names
0 DNS names
Validity Period (in months)
12
Content Type
PKCS #12
PEM
Lifetime Action Type
Automatically renew at a given percentage lifetime
Percentage Lifetime
80
Advanced Policy Configuration
Not configured
Pin to dashboard
Create

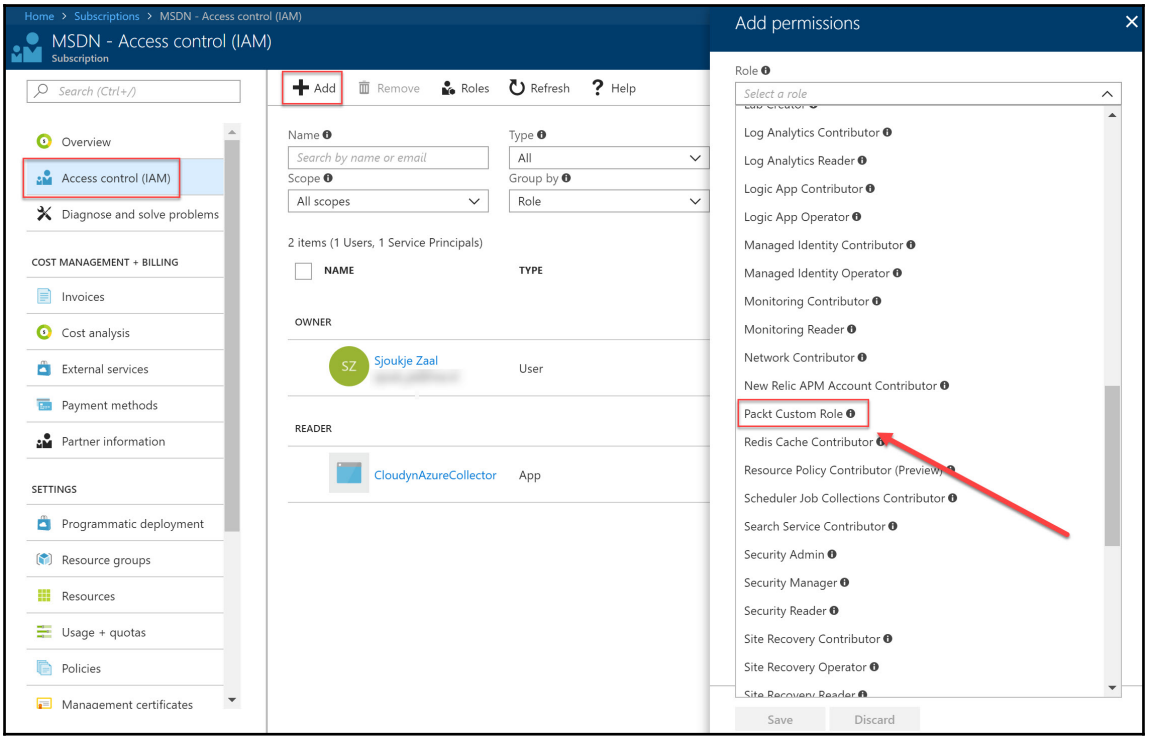

packtpubstorage - Encryption
Storage account
Search (Ctrl+/)
CORS
Custom domain
Encryption
Azure CDN
Add Azure Search
Metrics
Usage
FILE SERVICE
Files
CORS
Encryption
Metrics
TABLE SERVICE
Tables
CORS
Metrics
Save
Discard
Storage service encryption protects your data at rest. Azure Storage encrypts your data as it's written in our datacenters, and automatically decrypts it for you as you access it.
Please note that after enabling Storage Service Encryption, only new data will be encrypted, and any existing files in this storage account will retroactively get encrypted by a background encryption process.
Learn more
* Storage service encryption
Disabled
Enabled

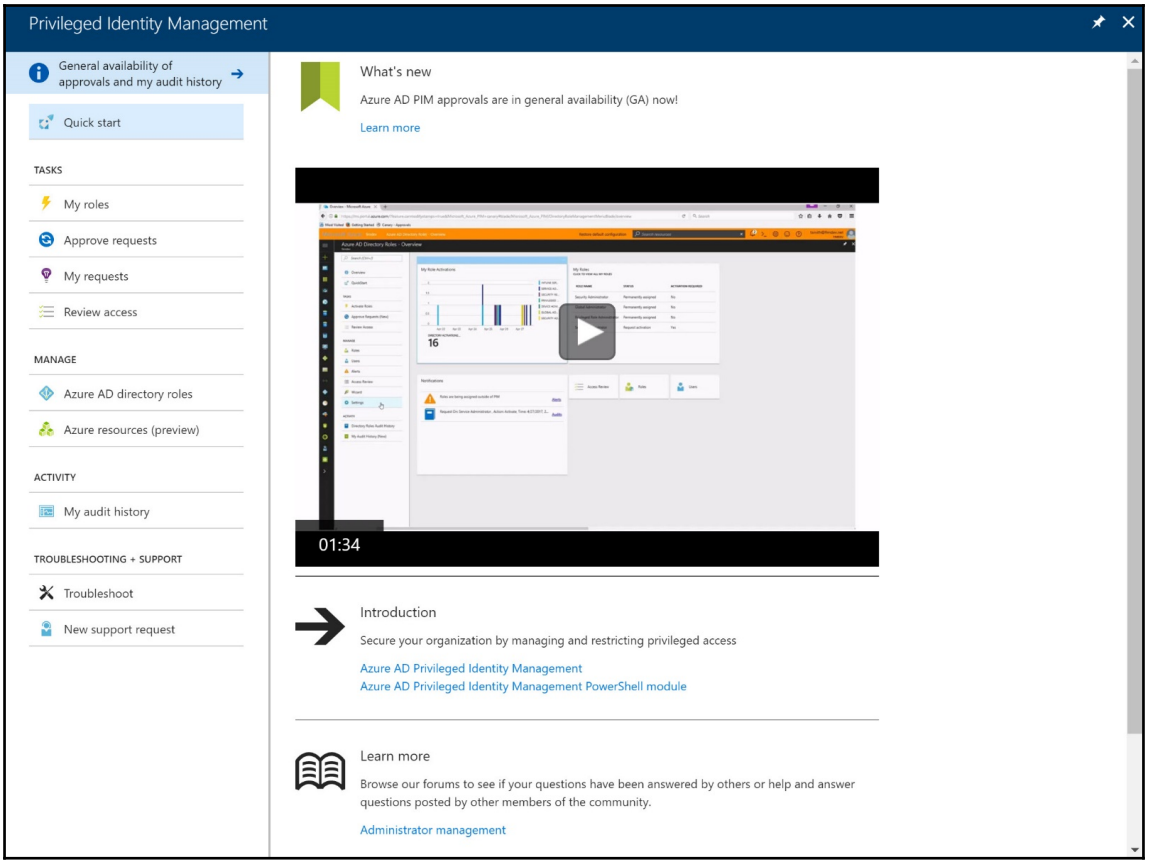

PacktDatabase - Transparent data encryption
SQL database
Search (Ctrl+/)
Overview
Activity log
Tags
Diagnose and solve problems
Quick start
Query editor (preview)
SETTINGS
Pricing tier (scale DTUs)
Geo-Replication
Auditing & Threat Detection
Vulnerability Assessment (Pr...
Data discovery & classificatio...
Dynamic Data Masking
Transparent data encryption
Connection strings
Sync to other databases
Save
Discard
Feedback
Encrypts your databases, backups, and logs at rest without any changes to your application. To enable TDE, go to each database.
Learn more
Data encryption
ON
OFF
Encryption status
Encrypted

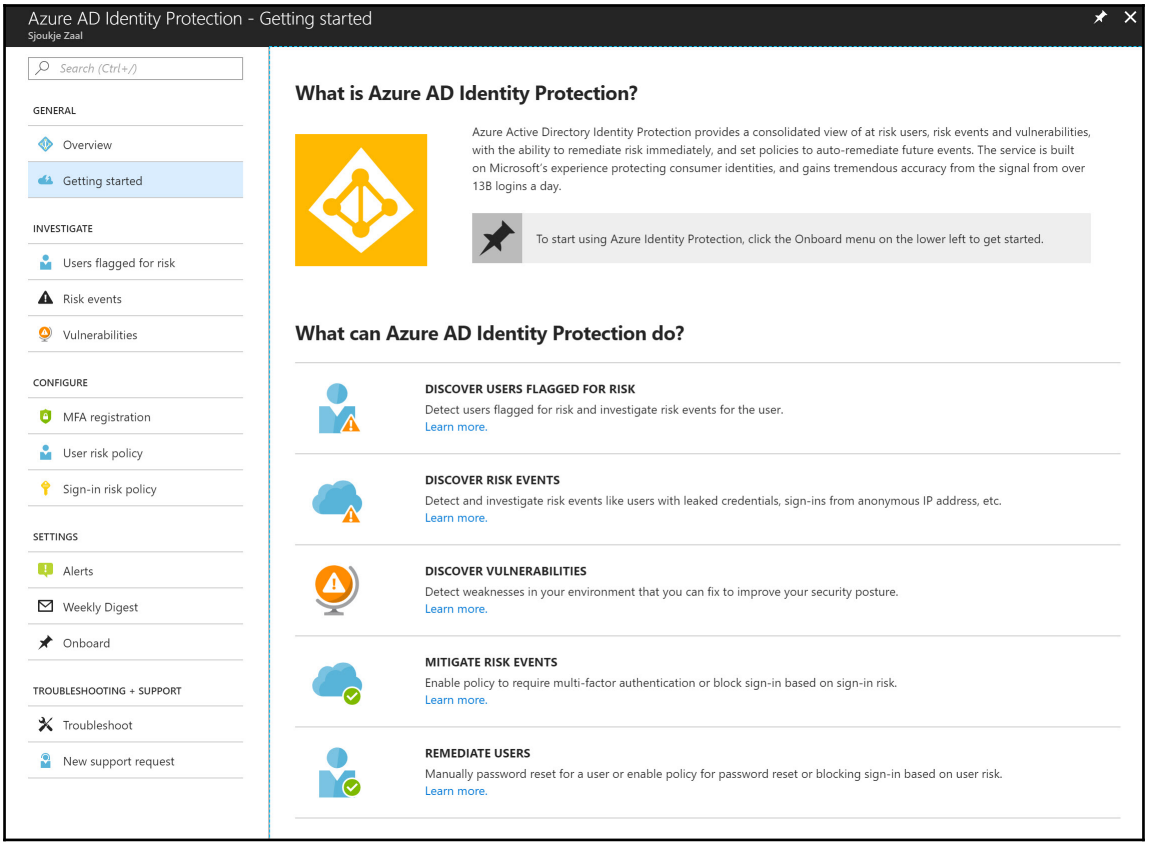

PackPubWebApp - Managed service identity
App Service
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
DEPLOYMENT
Quickstart
Deployment credentials
Deployment slots
Deployment options
Continuous Delivery (Preview)
SETTINGS
Application settings
Authentication / Authorization
Managed service identity
Backups
Custom domains
SSL certificates
Networking
Managed service identity
Your application can communicate with other Azure services as itself using a managed Azure Active Directory identity. Learn more
Register with Azure Active Directory
Off
On
Save
Discard

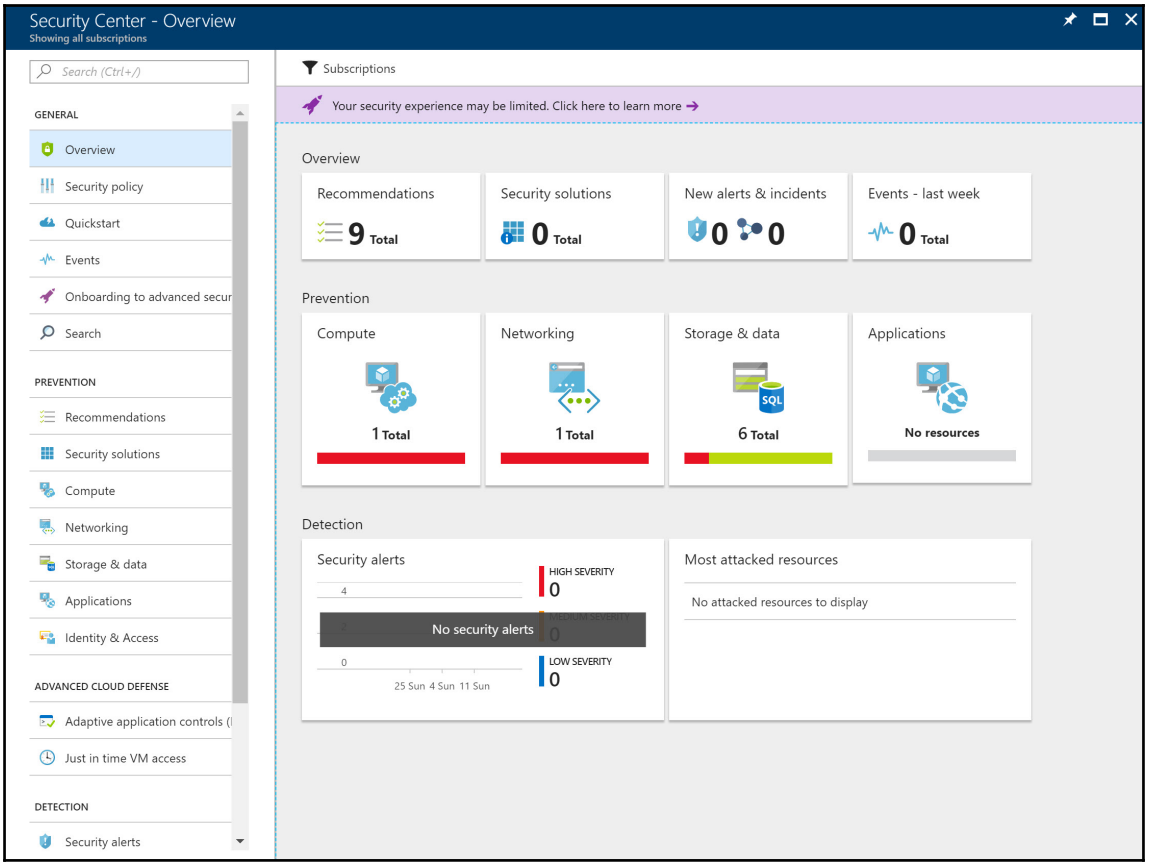
Chapter 11: Governance and Policies

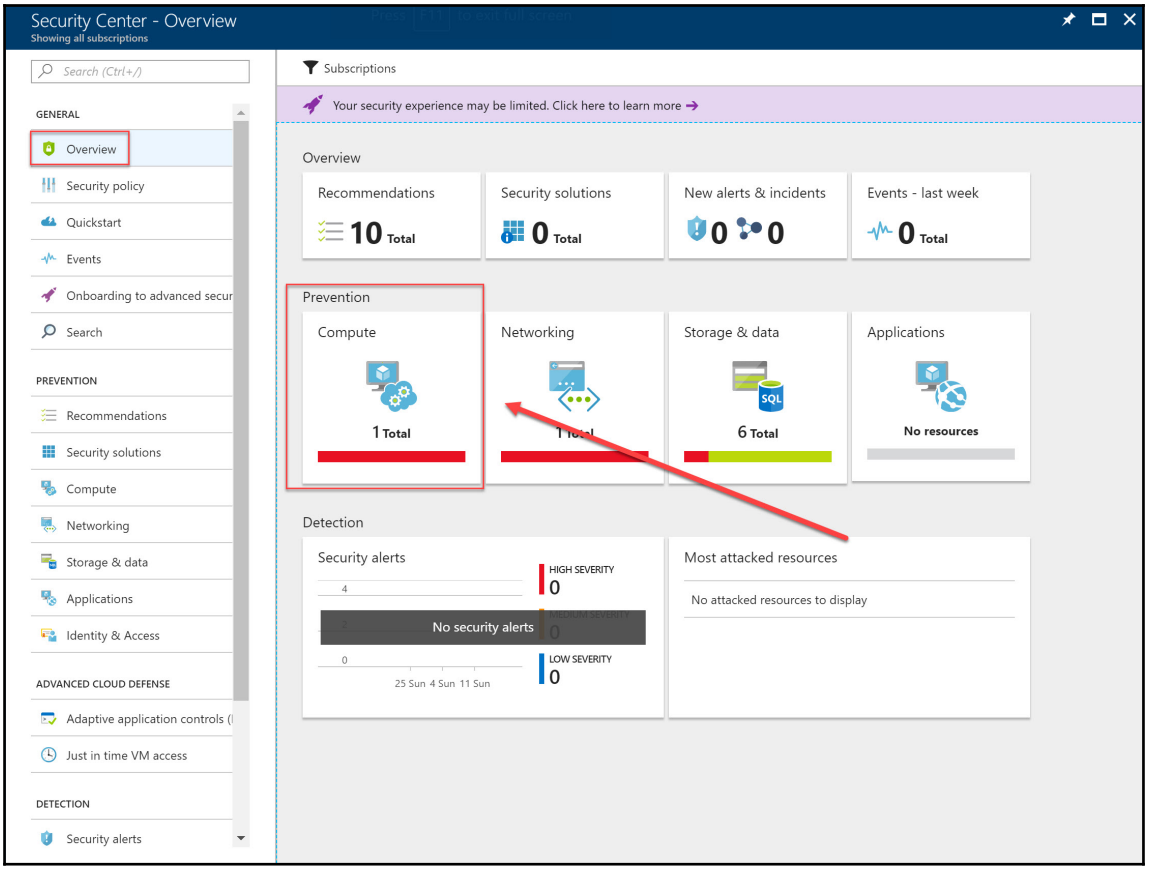


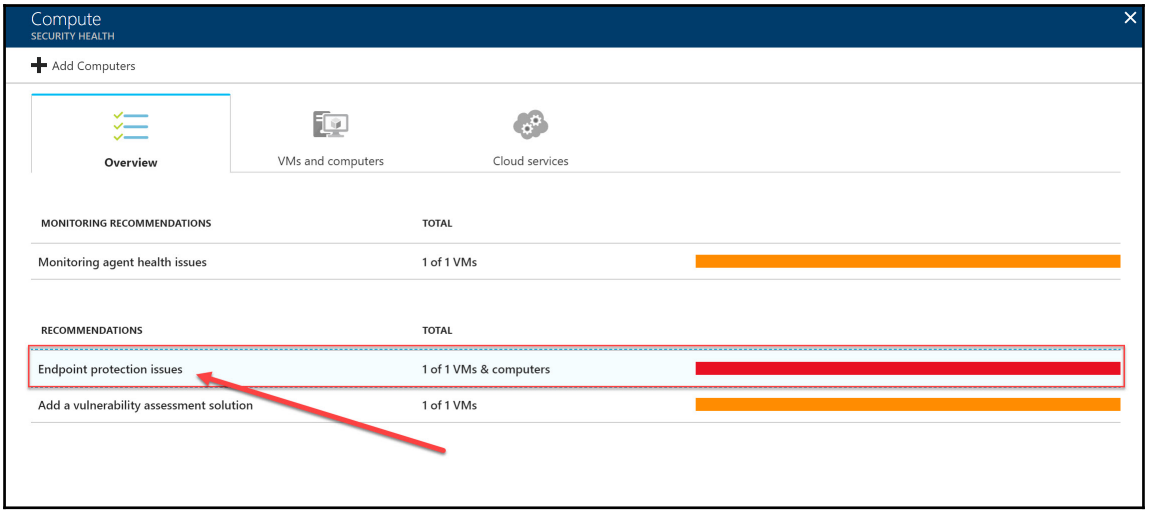

Home > Subscriptions > MSDN - Access control (IAM)
MSDN - Access control (IAM)
Subscription
Search (Ctrl+/)
Overview
Access control (IAM)
Diagnose and solve problems
COST MANAGEMENT + BILLING
Invoices
Cost analysis
External services
Payment methods
Partner information
SETTINGS
Programmatic deployment
Resource groups
Resources
Usage + quotas
Policies
Management certificates
Add
Remove
Roles
Refresh
Help
Name
Search by name or email
Type
All
Scope
All scopes
Group by
Role
2 items (1 Users, 1 Service Principals)
NAME
TYPE
OWNER
SZ
Sjoukje Zaal
User
READER
CloudynAzureCollector
App
Add permissions
Role
Select a role
Log Analytics Contributor
Log Analytics Reader
Logic App Contributor
Logic App Operator
Managed Identity Contributor
Managed Identity Operator
Monitoring Contributor
Monitoring Reader
Network Contributor
New Relic APM Account Contributor
Packt Custom Role
Redis Cache Contributor
Resource Policy Contributor (Preview)
Scheduler Job Collections Contributor
Search Service Contributor
Security Admin
Security Manager
Security Reader
Site Recovery Contributor
Site Recovery Operator
Save
Discard

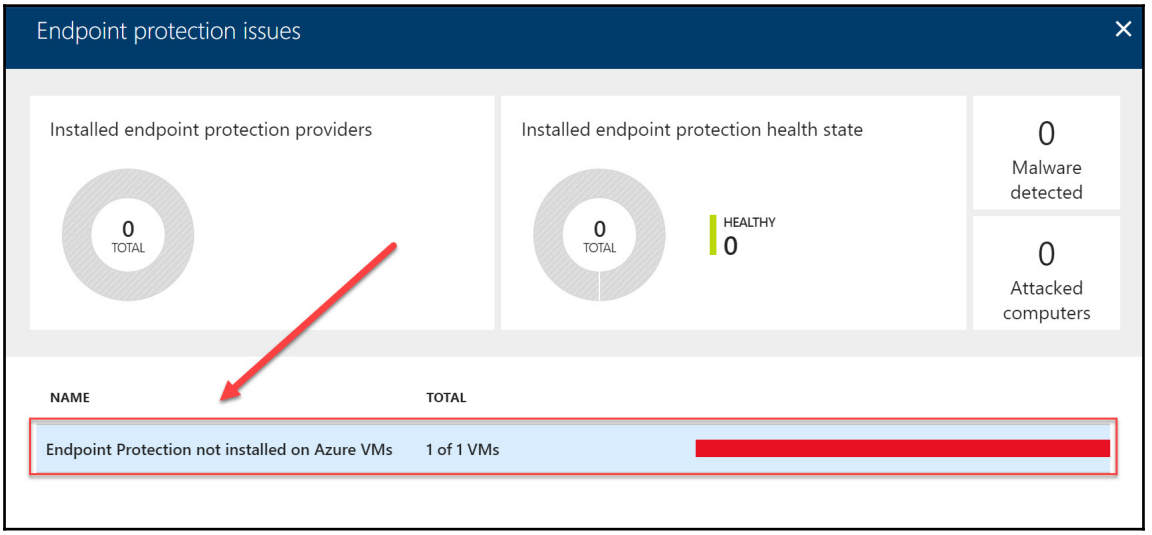

Privileged Identity Management
General availability of approvals and my audit history
Quick start
TASKS
My roles
Approve requests
My requests
Review access
MANAGE
Azure AD directory roles
Azure resources (preview)
ACTIVITY
My audit history
TROUBLESHOOTING + SUPPORT
Troubleshoot
New support request
What's new
Azure AD PIM approvals are in general availability (GA) now!
Learn more
01:34
Introduction
Secure your organization by managing and restricting privileged access
Azure AD Privileged Identity Management
Azure AD Privileged Identity Management PowerShell module
Learn more
Browse our forums to see if your questions have been answered by others or help and answer questions posted by other members of the community.
Administrator management

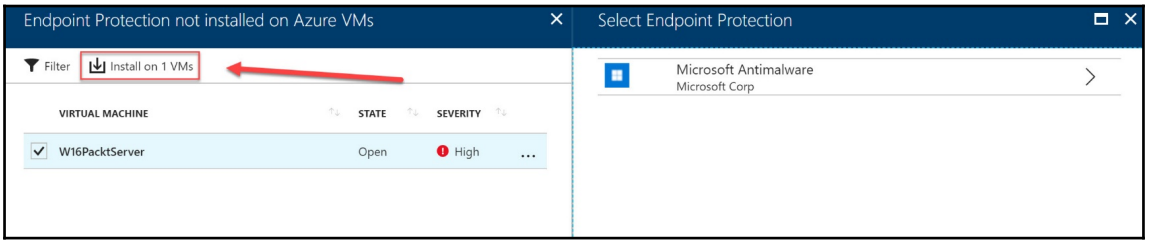

Azure AD Identity Protection - Getting started
Sjoukje Zaal
Search (Ctrl+/)
GENERAL
Overview
Getting started
INVESTIGATE
Users flagged for risk
Risk events
Vulnerabilities
CONFIGURE
MFA registration
User risk policy
Sign-in risk policy
SETTINGS
Alerts
Weekly Digest
Onboard
TROUBLESHOOTING + SUPPORT
Troubleshoot
New support request
What is Azure AD Identity Protection?
Azure Active Directory Identity Protection provides a consolidated view of at risk users, risk events and vulnerabilities, with the ability to remediate risk immediately, and set policies to auto-remediate future events. The service is built on Microsoft's experience protecting consumer identities, and gains tremendous accuracy from the signal from over 13B logins a day.
To start using Azure Identity Protection, click the Onboard menu on the lower left to get started.
What can Azure AD Identity Protection do?
DISCOVER USERS FLAGGED FOR RISK
Detect users flagged for risk and investigate risk events for the user.
Learn more.
DISCOVER RISK EVENTS
Detect and investigate risk events like users with leaked credentials, sign-ins from anonymous IP address, etc.
Learn more.
DISCOVER VULNERABILITIES
Detect weaknesses in your environment that you can fix to improve your security posture.
Learn more.
MITIGATE RISK EVENTS
Enable policy to require multi-factor authentication or block sign-in based on sign-in risk.
Learn more.
REMEDIATE USERS
Manually password reset for a user or enable policy for password reset or blocking sign-in based on user risk.
Learn more.

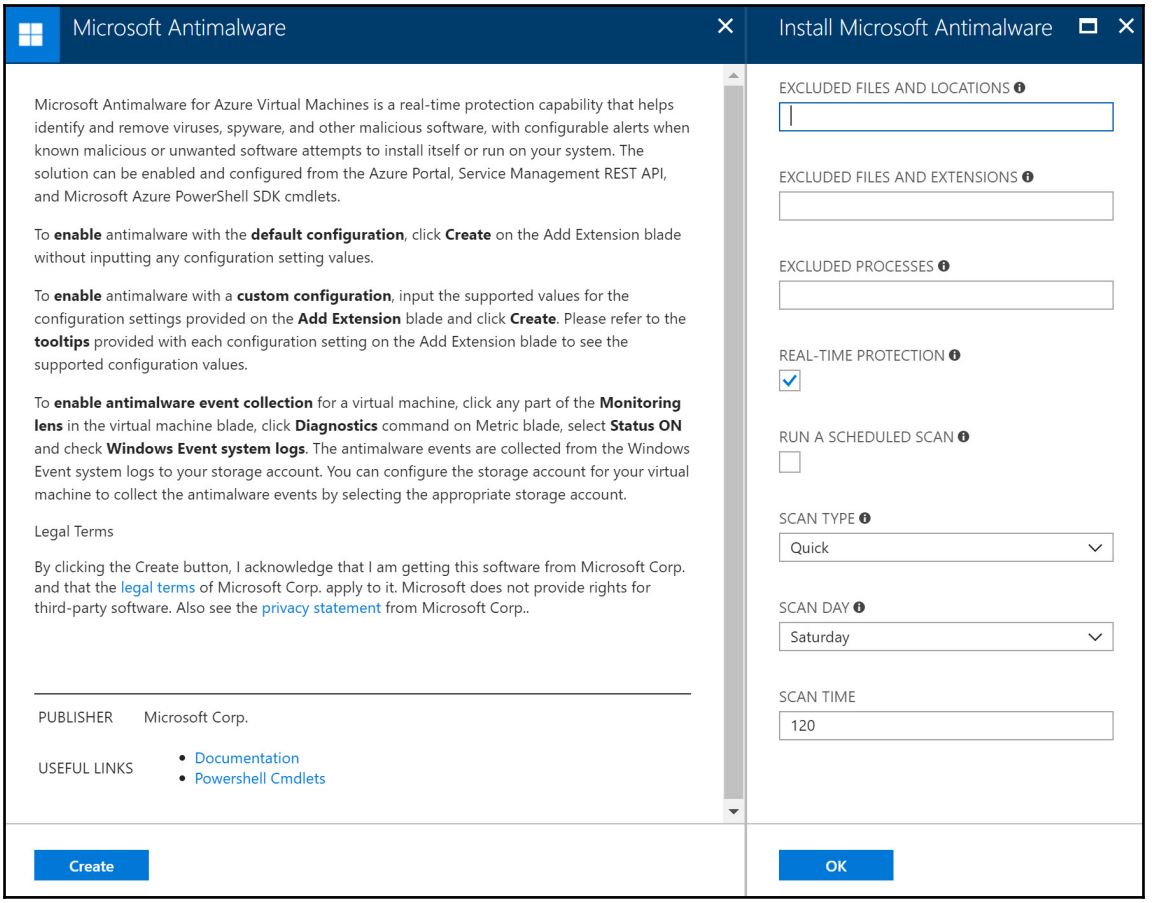

Security Center - Overview
Showing all subscriptions
Search (Ctrl+/)
GENERAL
Overview
Security policy
Quickstart
Events
Onboarding to advanced secur
Search
PREVENTION
Recommendations
Security solutions
Compute
Networking
Storage & data
Applications
Identity & Access
ADVANCED CLOUD DEFENSE
Adaptive application controls (
Just in time VM access
DETECTION
Security alerts
Subscriptions
Your security experience may be limited. Click here to learn more
Overview
Recommendations
9 Total
Security solutions
0 Total
New alerts & incidents
0
0
Events - last week
0 Total
Prevention
Compute
1 Total
Networking
1 Total
Storage & data
SQL
6 Total
Applications
No resources
Detection
Security alerts
4
0
25 Sun 4 Sun 11 Sun
No security alerts
HIGH SEVERITY
0
LOW SEVERITY
0
Most attacked resources
No attacked resources to display


Security Center - Overview
Showing all subscriptions
Search (Ctrl+/)
GENERAL
Overview
Security policy
Quickstart
Events
Onboarding to advanced secur
Search
PREVENTION
Recommendations
Security solutions
Compute
Networking
Storage & data
Applications
Identity & Access
ADVANCED CLOUD DEFENSE
Adaptive application controls (
Just in time VM access
DETECTION
Security alerts
Subscriptions
Your security experience may be limited. Click here to learn more
Overview
Recommendations
10 Total
Security solutions
0 Total
New alerts & incidents
0 0
Events - last week
0 Total
Prevention
Compute
1 Total
Networking
Storage & data
6 Total
Applications
No resources
Detection
Security alerts
HIGH SEVERITY
0
No security alerts
LOW SEVERITY
0
25 Sun 4 Sun 11 Sun
Most attacked resources
No attacked resources to display


Compute
SECURITY HEALTH
Add Computers
Overview
VMs and computers
Cloud services
MONITORING RECOMMENDATIONS
TOTAL
Monitoring agent health issues
1 of 1 VMs
RECOMMENDATIONS
TOTAL
Endpoint protection issues
1 of 1 VMs & computers
Add a vulnerability assessment solution
1 of 1 VMs


Endpoint protection issues
Installed endpoint protection providers
0
TOTAL
Installed endpoint protection health state
0
TOTAL
HEALTHY
0
0
Malware detected
0
Attacked computers
NAME
TOTAL
Endpoint Protection not installed on Azure VMs
1 of 1 VMs


Endpoint Protection not installed on Azure VMs
Filter
Install on 1 VMs
VIRTUAL MACHINE
STATE
SEVERITY
W16PacktServer
Open
High
Select Endpoint Protection
Microsoft Antimalware
Microsoft Corp


Microsoft Antimalware
Microsoft Antimalware for Azure Virtual Machines is a real-time protection capability that helps identify and remove viruses, spyware, and other malicious software, with configurable alerts when known malicious or unwanted software attempts to install itself or run on your system. The solution can be enabled and configured from the Azure Portal, Service Management REST API, and Microsoft Azure PowerShell SDK cmdlets.
To enable antimalware with the default configuration, click Create on the Add Extension blade without inputting any configuration setting values.
To enable antimalware with a custom configuration, input the supported values for the configuration settings provided on the Add Extension blade and click Create. Please refer to the tooltips provided with each configuration setting on the Add Extension blade to see the supported configuration values.
To enable antimalware event collection for a virtual machine, click any part of the Monitoring lens in the virtual machine blade, click Diagnostics command on Metric blade, select Status ON and check Windows Event system logs. The antimalware events are collected from the Windows Event system logs to your storage account. You can configure the storage account for your virtual machine to collect the antimalware events by selecting the appropriate storage account.
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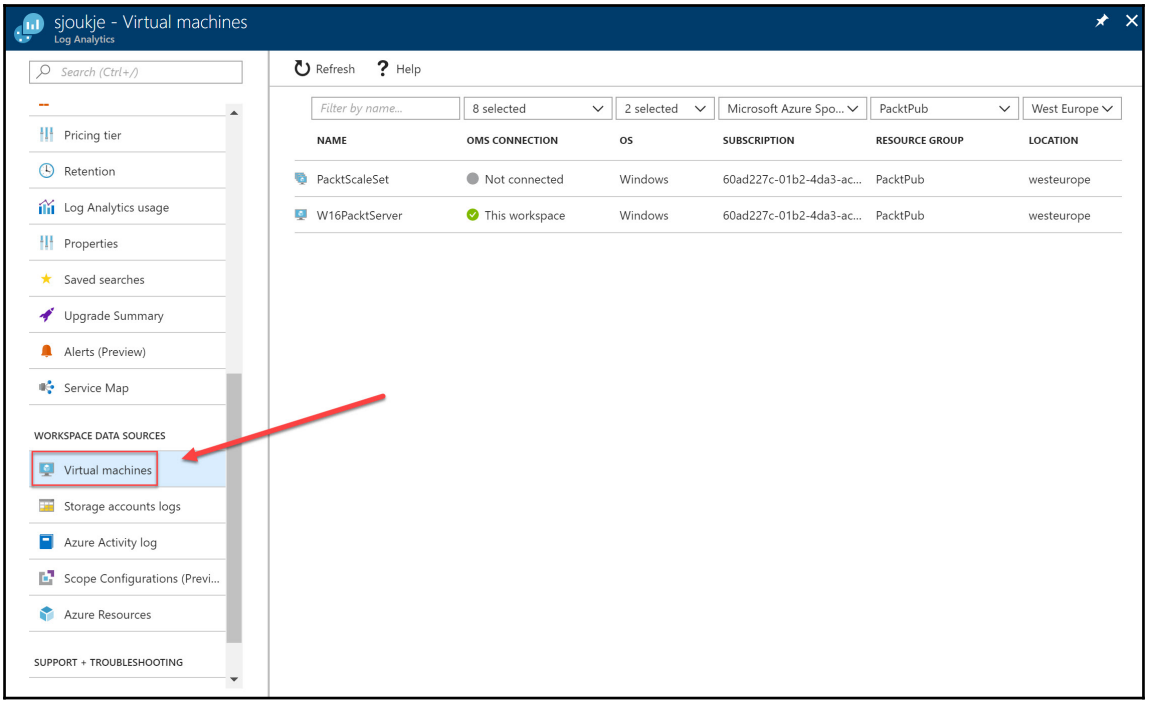
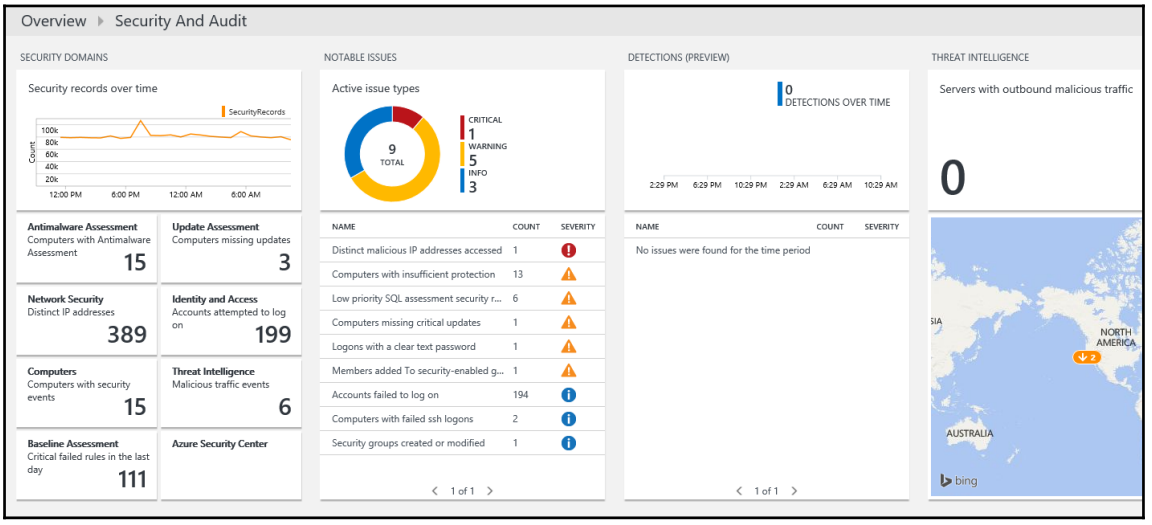
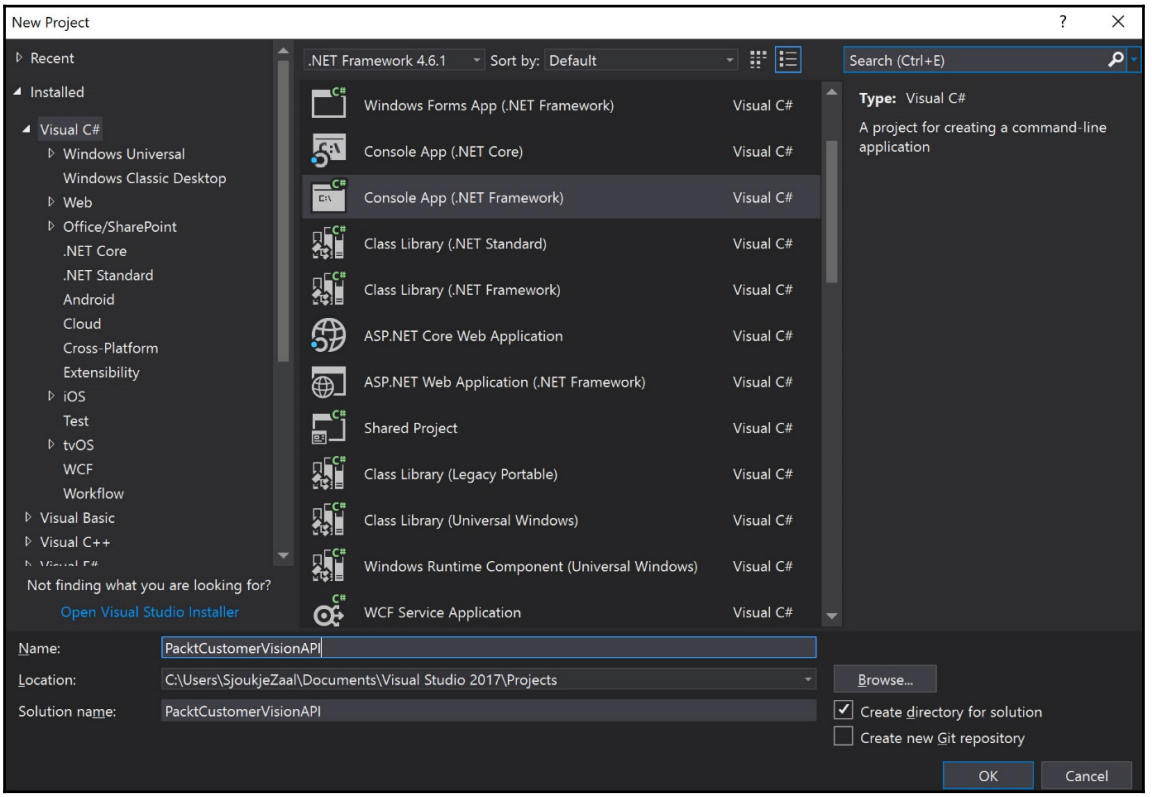
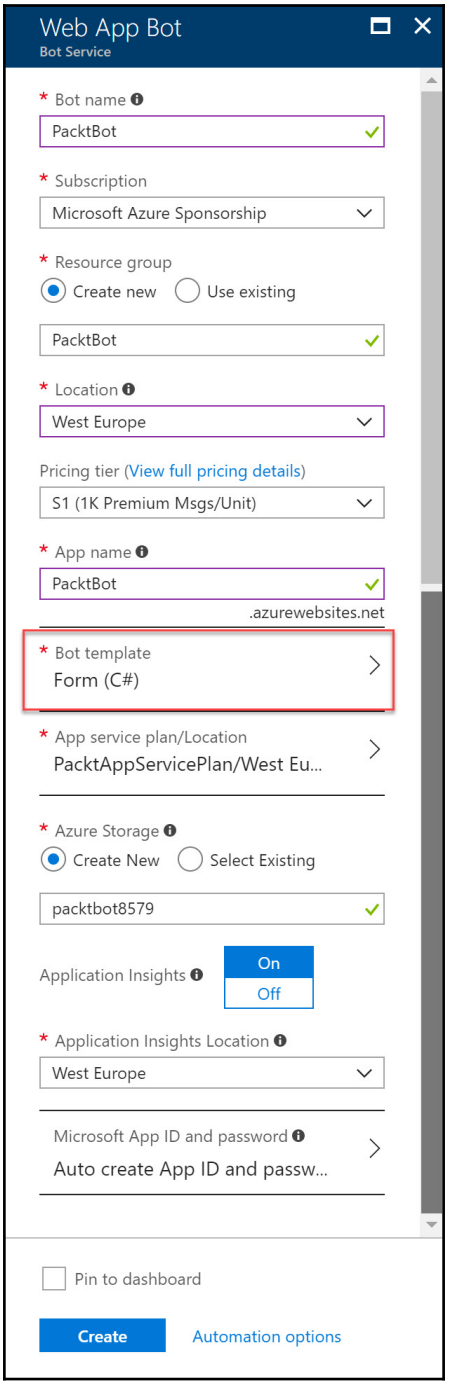
PUBLISHER
Microsoft Corp.
USEFUL LINKS
Documentation
Powershell Cmdlets
Create
Install Microsoft Antimalware
EXCLUDED FILES AND LOCATIONS
EXCLUDED FILES AND EXTENSIONS
EXCLUDED PROCESSES
REAL-TIME PROTECTION
RUN A SCHEDULED SCAN
SCAN TYPE
Quick
SCAN DAY
Saturday
SCAN TIME
120
OK

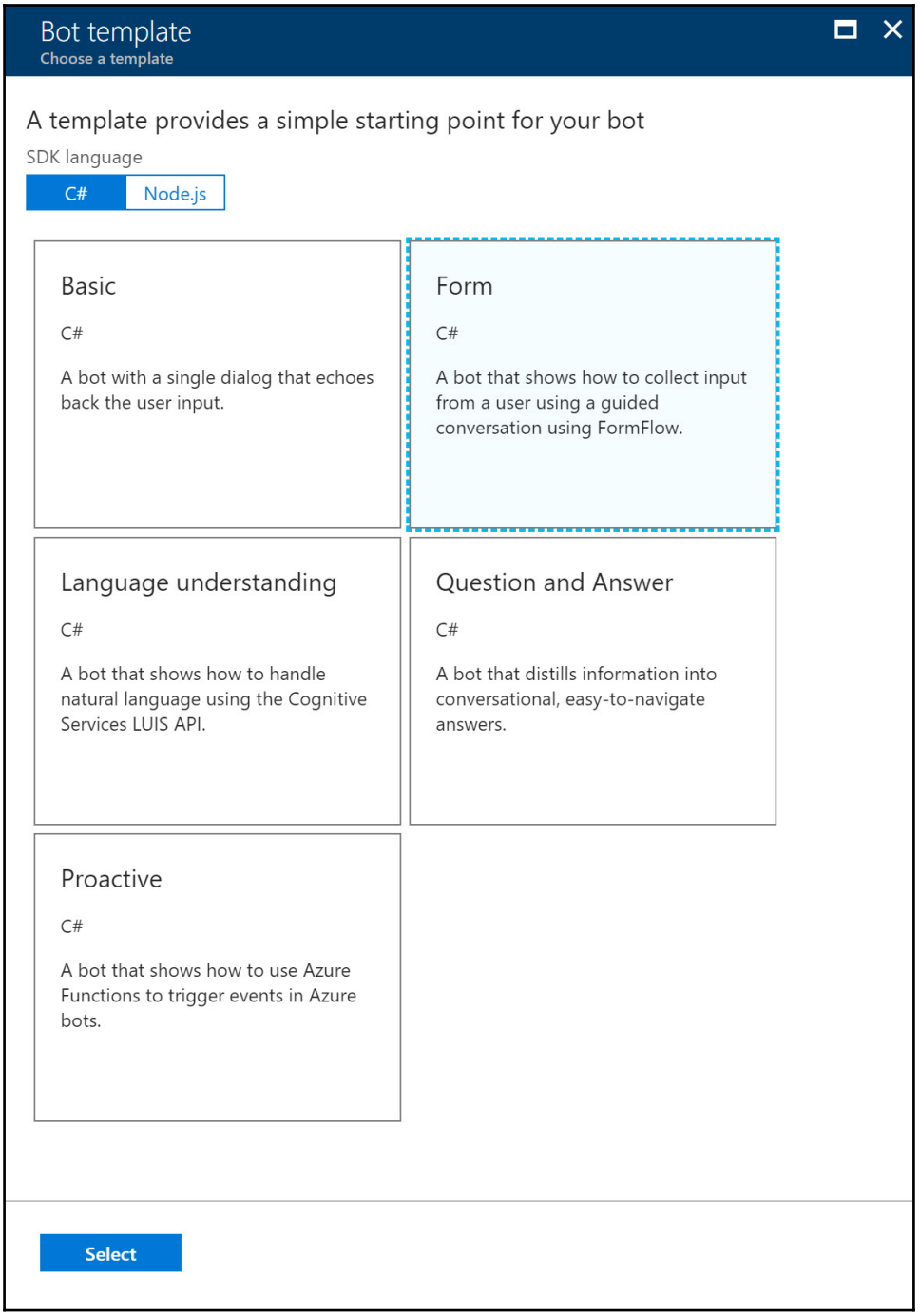

sjoukje - Virtual machines
Log Analytics
Search (Ctrl+/)
Refresh
Help
Filter by name...
8 selected
2 selected
Microsoft Azure Spo...
PacktPub
West Europe
NAME
OMS CONNECTION
OS
SUBSCRIPTION
RESOURCE GROUP
LOCATION
PacktScaleSet
Not connected
Windows
60ad227c-01b2-4da3-ac...
PacktPub
westeurope
W16PacktServer
This workspace
Windows
60ad227c-01b2-4da3-ac...
PacktPub
westeurope
Pricing tier
Retention
Log Analytics usage
Properties
Saved searches
Upgrade Summary
Alerts (Preview)
Service Map
WORKSPACE DATA SOURCES
Virtual machines
Storage accounts logs
Azure Activity log
Scope Configurations (Previ...
Azure Resources
SUPPORT + TROUBLESHOOTING

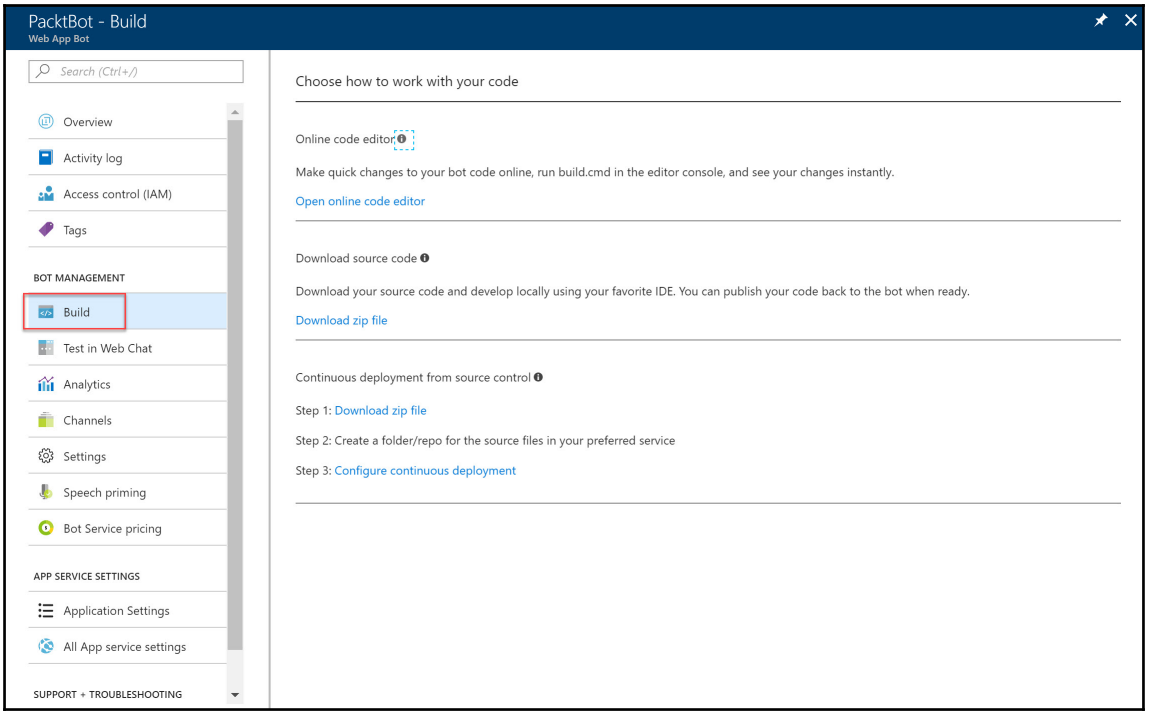

Overview
Security And Audit
SECURITY DOMAINS
Security records over time
SecurityRecords
Count
100k
80k
60k
40k
20k
12:00 PM
6:00 PM
12:00 AM
6:00 AM
Antimalware Assessment
Computers with Antimalware Assessment
15
Update Assessment
Computers missing updates
3
Network Security
Distinct IP addresses
389
Identity and Access
Accounts attempted to log on
199
Computers
Computers with security events
15
Threat Intelligence
Malicious traffic events
6
Baseline Assessment
Critical failed rules in the last day
111
Azure Security Center
NOTABLE ISSUES
Active issue types
9
TOTAL
CRITICAL
1
WARNING
5
INFO
3
NAME
COUNT
SEVERITY
Distinct malicious IP addresses accessed
1
Computers with insufficient protection
13
Low priority SQL assessment security r...
6
Computers missing critical updates
1
Logons with a clear text password
1
Members added To security-enabled g...
1
Accounts failed to log on
194
Computers with failed ssh logons
2
Security groups created or modified
1
1 of 1
DETECTIONS (PREVIEW)
0
DETECTIONS OVER TIME
2:29 PM
6:29 PM
10:29 PM
2:29 AM
6:29 AM
10:29 AM
NAME
COUNT
SEVERITY
No issues were found for the time period
1 of 1
THREAT INTELLIGENCE
Servers with outbound malicious traffic
0
NORTH AMERICA
AUSTRALIA
bing

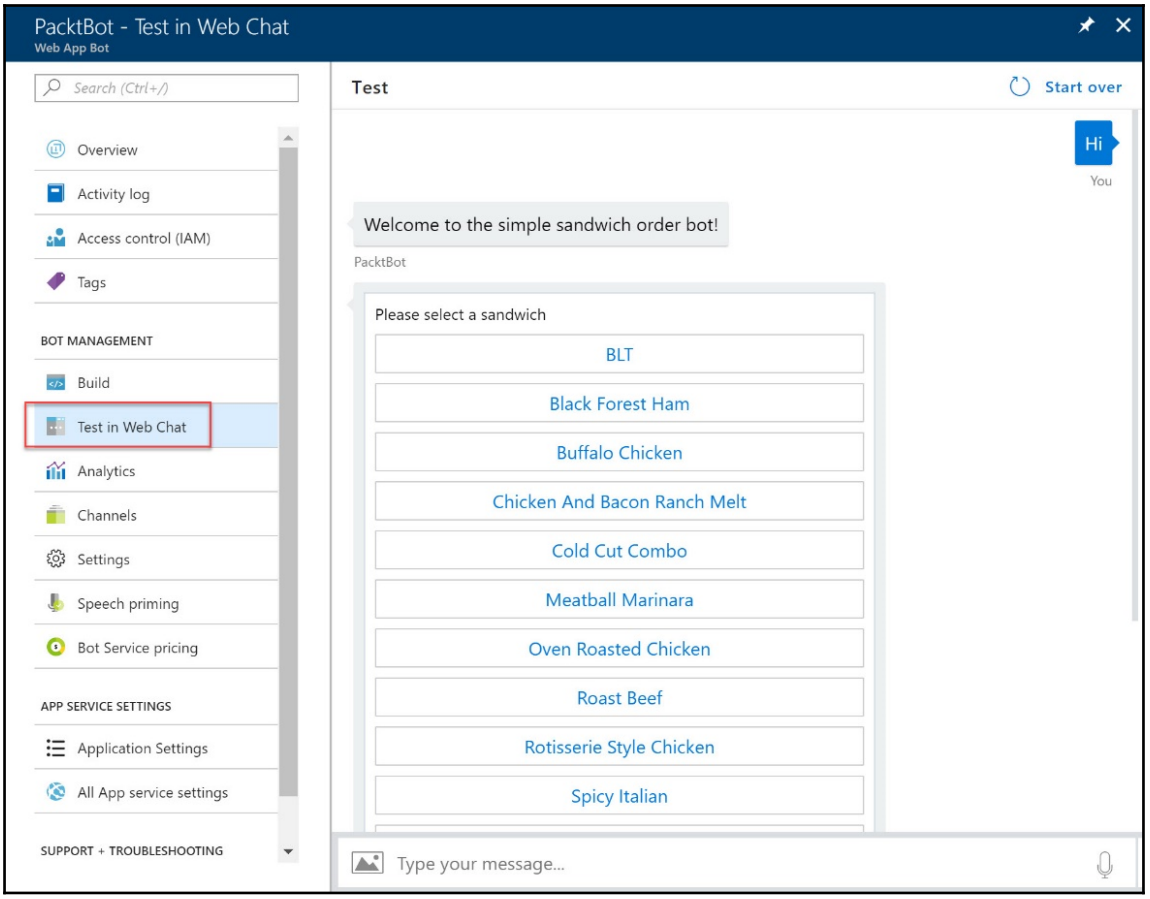
Chapter 12: Artificial Intelligence, IoT, and Media Services

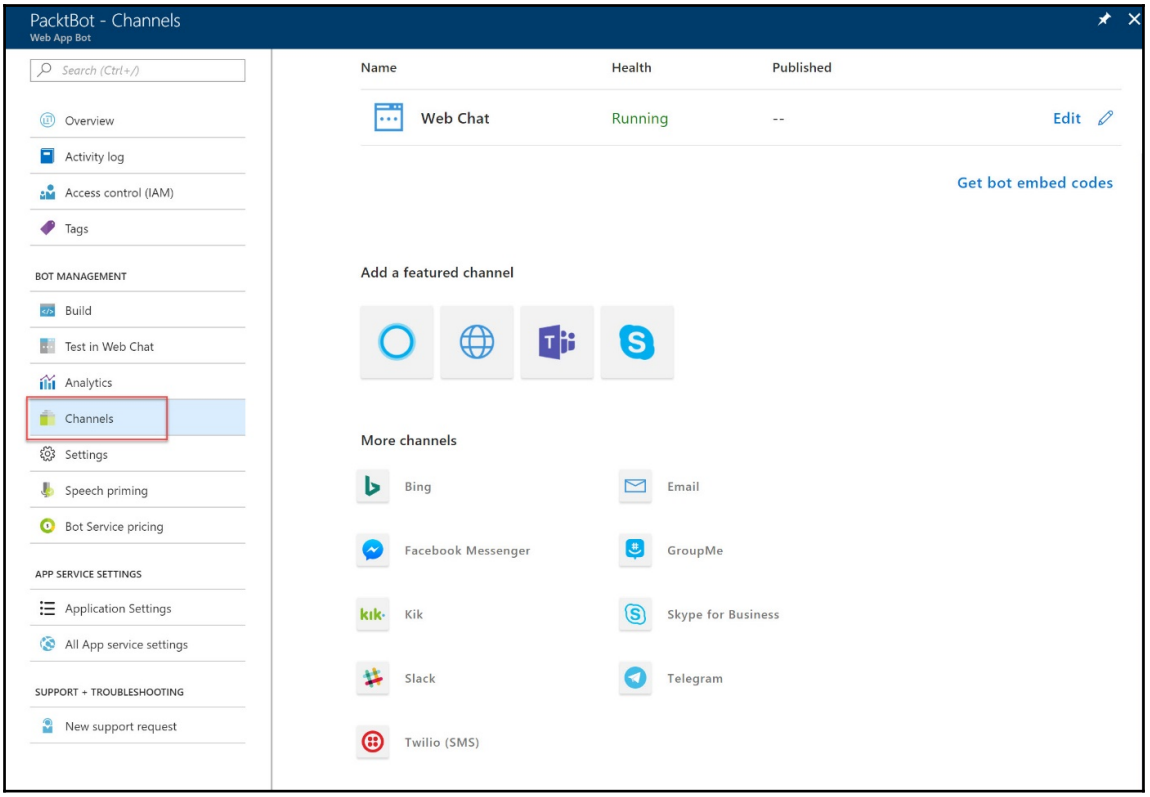


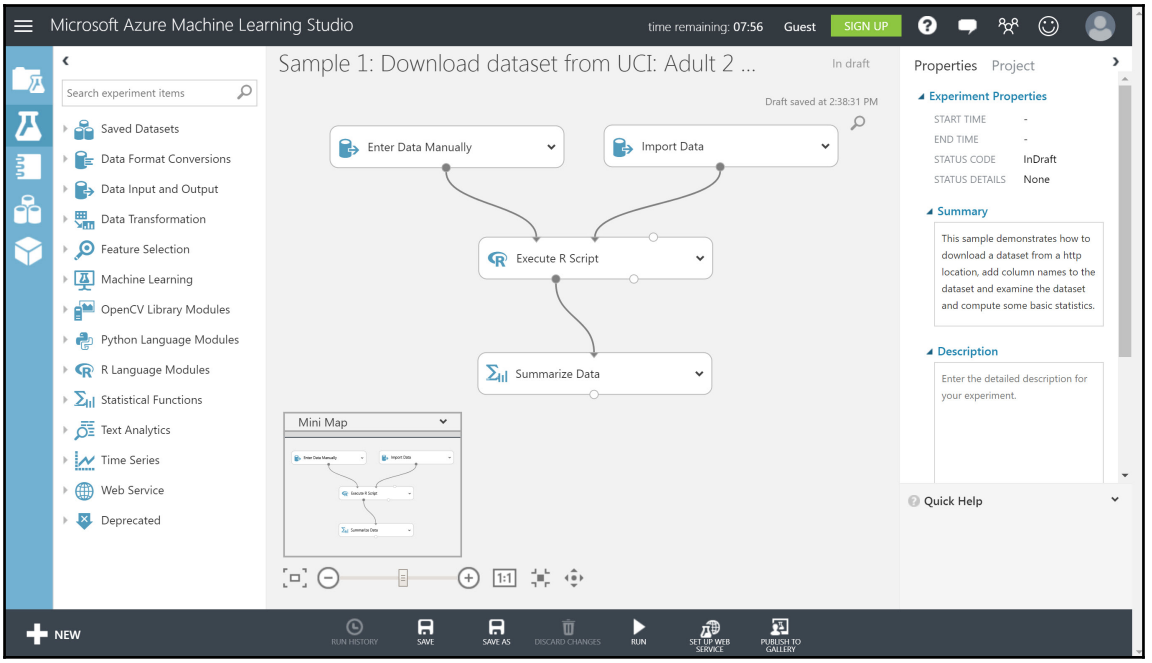

Web App Bot
Bot Service
* Bot name
PacktBot
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktBot
* Location
West Europe
Pricing tier (View full pricing details)
S1 (1K Premium Msgs/Unit)
* App name
PacktBot
.azurewebsites.net
* Bot template
Form (C#)
* App service plan/Location
PacktAppServicePlan/West Eu...
* Azure Storage
Create New
Select Existing
packtbot8579
Application Insights
On
Off
* Application Insights Location
West Europe
Microsoft App ID and password
Auto create App ID and passw...
Pin to dashboard
Create
Automation options

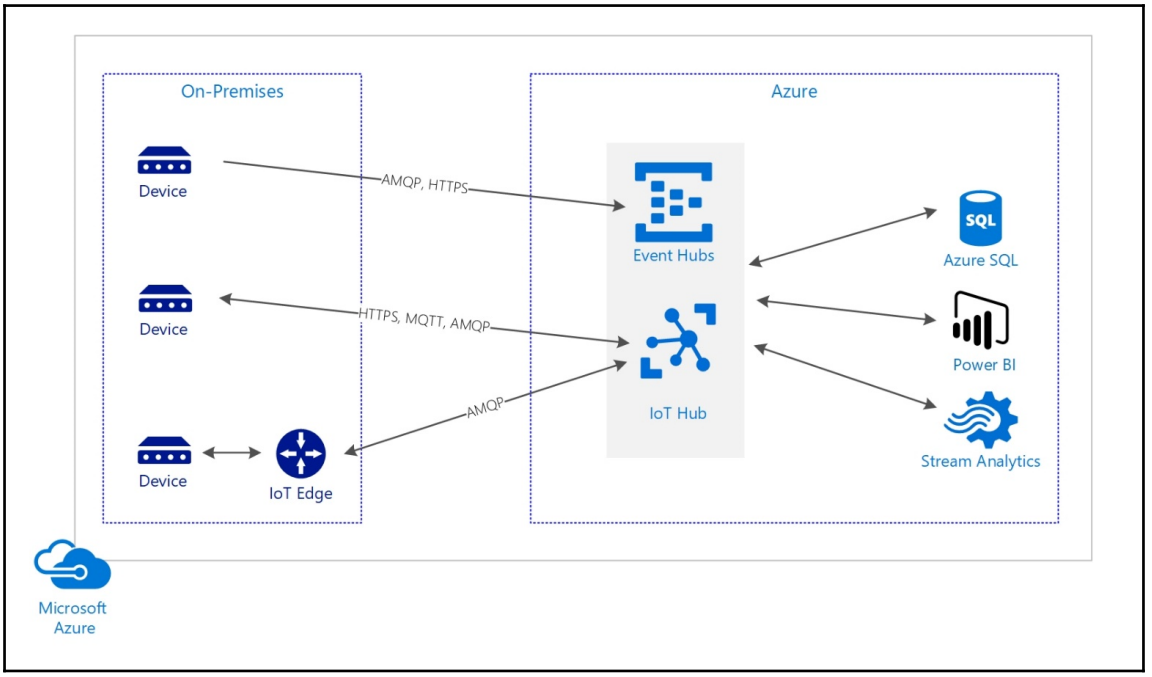

Bot template
Choose a template
A template provides a simple starting point for your bot
SDK language
C#
Node.js
Basic
C#
A bot with a single dialog that echoes back the user input.
Form
C#
A bot that shows how to collect input from a user using a guided conversation using FormFlow.
Language understanding
C#
A bot that shows how to handle natural language using the Cognitive Services LUIS API.
Question and Answer
C#
A bot that distills information into conversational, easy-to-navigate answers.
Proactive
C#
A bot that shows how to use Azure Functions to trigger events in Azure bots.
Select

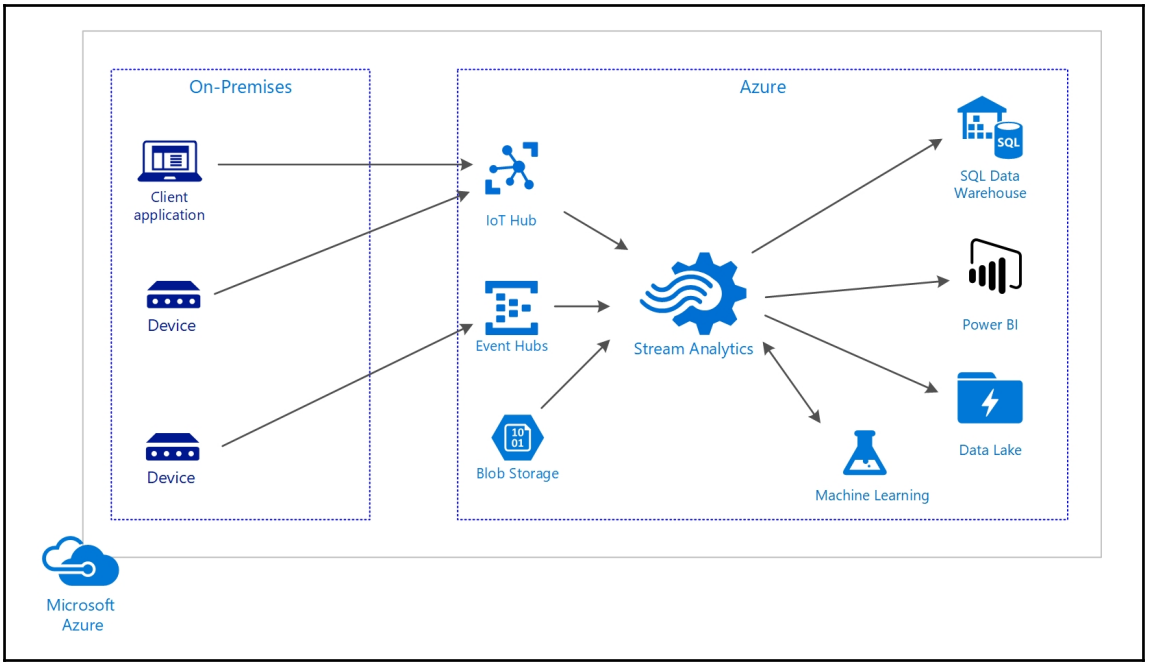

PacktBot - Build
Web App Bot
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
BOT MANAGEMENT
Build
Test in Web Chat
Analytics
Channels
Settings
Speech priming
Bot Service pricing
APP SERVICE SETTINGS
Application Settings
All App service settings
SUPPORT + TROUBLESHOOTING
Choose how to work with your code
Online code editor
Make quick changes to your bot code online, run build.cmd in the editor console, and see your changes instantly.
Open online code editor
Download source code
Download your source code and develop locally using your favorite IDE. You can publish your code back to the bot when ready.
Download zip file
Continuous deployment from source control
Step 1: Download zip file
Step 2: Create a folder/repo for the source files in your preferred service
Step 3: Configure continuous deployment

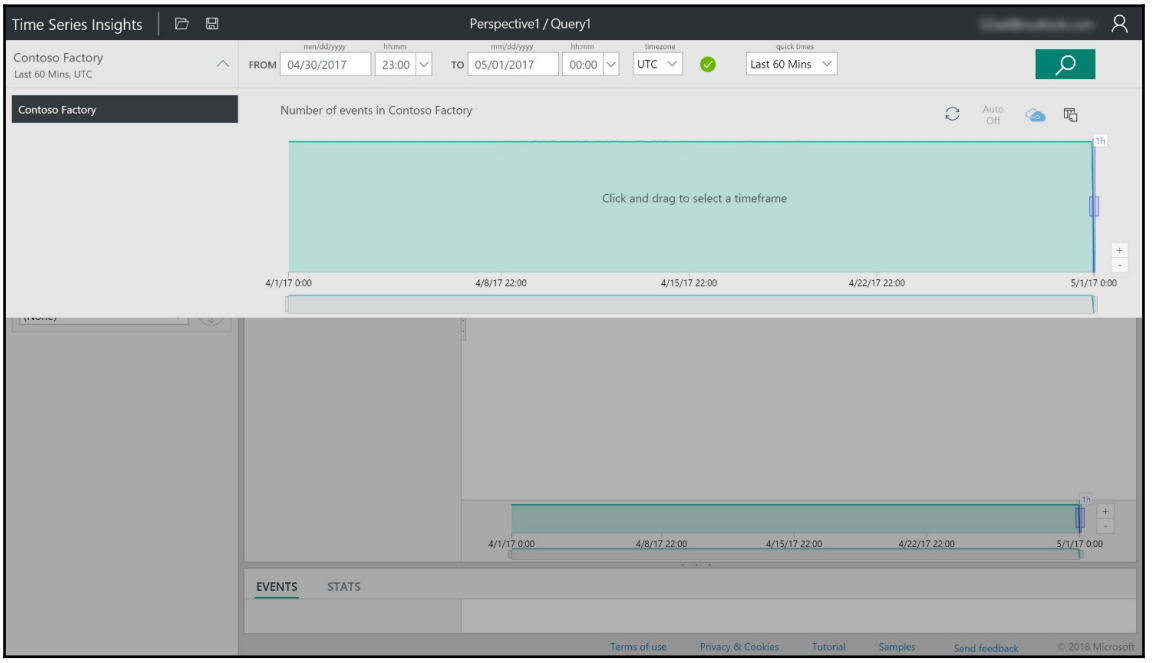

PacktBot - Test in Web Chat
Web App Bot
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
BOT MANAGEMENT
Build
Test in Web Chat
Analytics
Channels
Settings
Speech priming
Bot Service pricing
APP SERVICE SETTINGS
Application Settings
All App service settings
SUPPORT + TROUBLESHOOTING
Test
Start over
Hi
You
Welcome to the simple sandwich order bot!
PacktBot
Please select a sandwich
BLT
Black Forest Ham
Buffalo Chicken
Chicken And Bacon Ranch Melt
Cold Cut Combo
Meatball Marinara
Oven Roasted Chicken
Roast Beef
Rotisserie Style Chicken
Spicy Italian
Type your message...

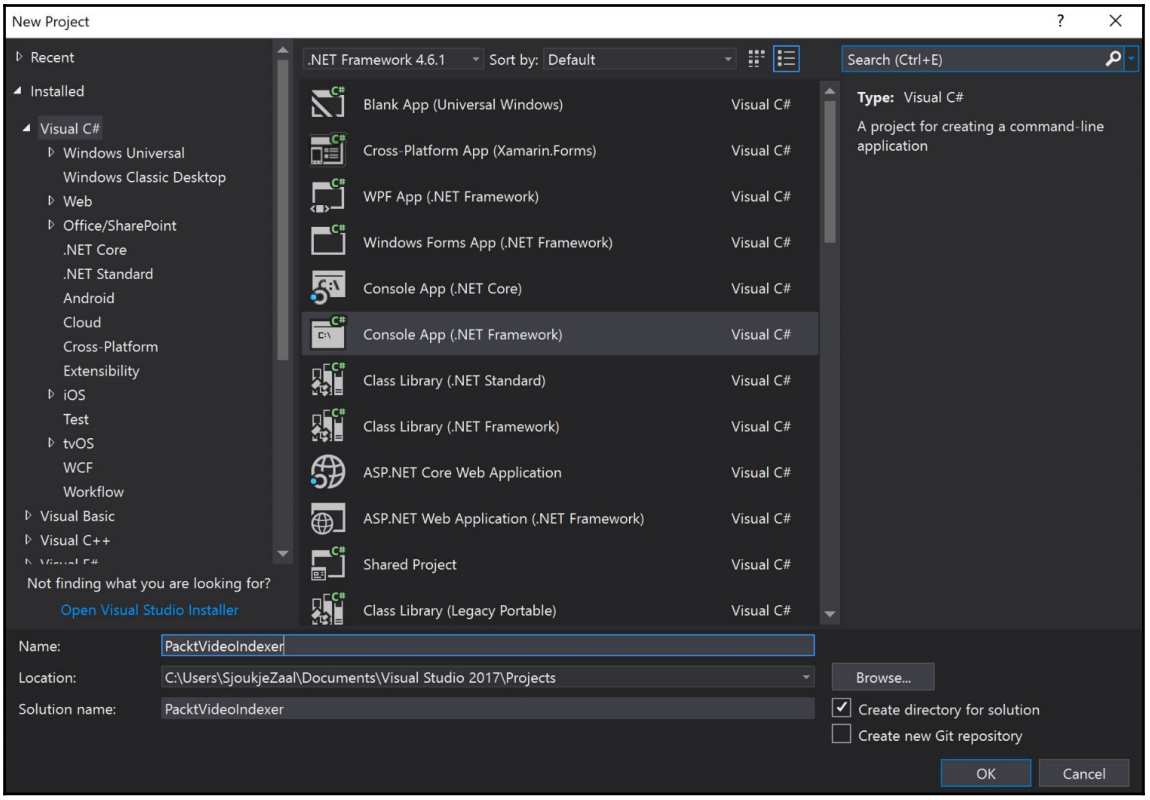

PacktBot - Channels
Web App Bot
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
BOT MANAGEMENT
Build
Test in Web Chat
Analytics
Channels
Settings
Speech priming
Bot Service pricing
APP SERVICE SETTINGS
Application Settings
All App service settings
SUPPORT + TROUBLESHOOTING
New support request
Name
Health
Published
Web Chat
Running
--
Edit
Get bot embed codes
Add a featured channel
More channels
Bing
Email
Facebook Messenger
GroupMe
Kik
Skype for Business
Slack
Telegram
Twilio (SMS)

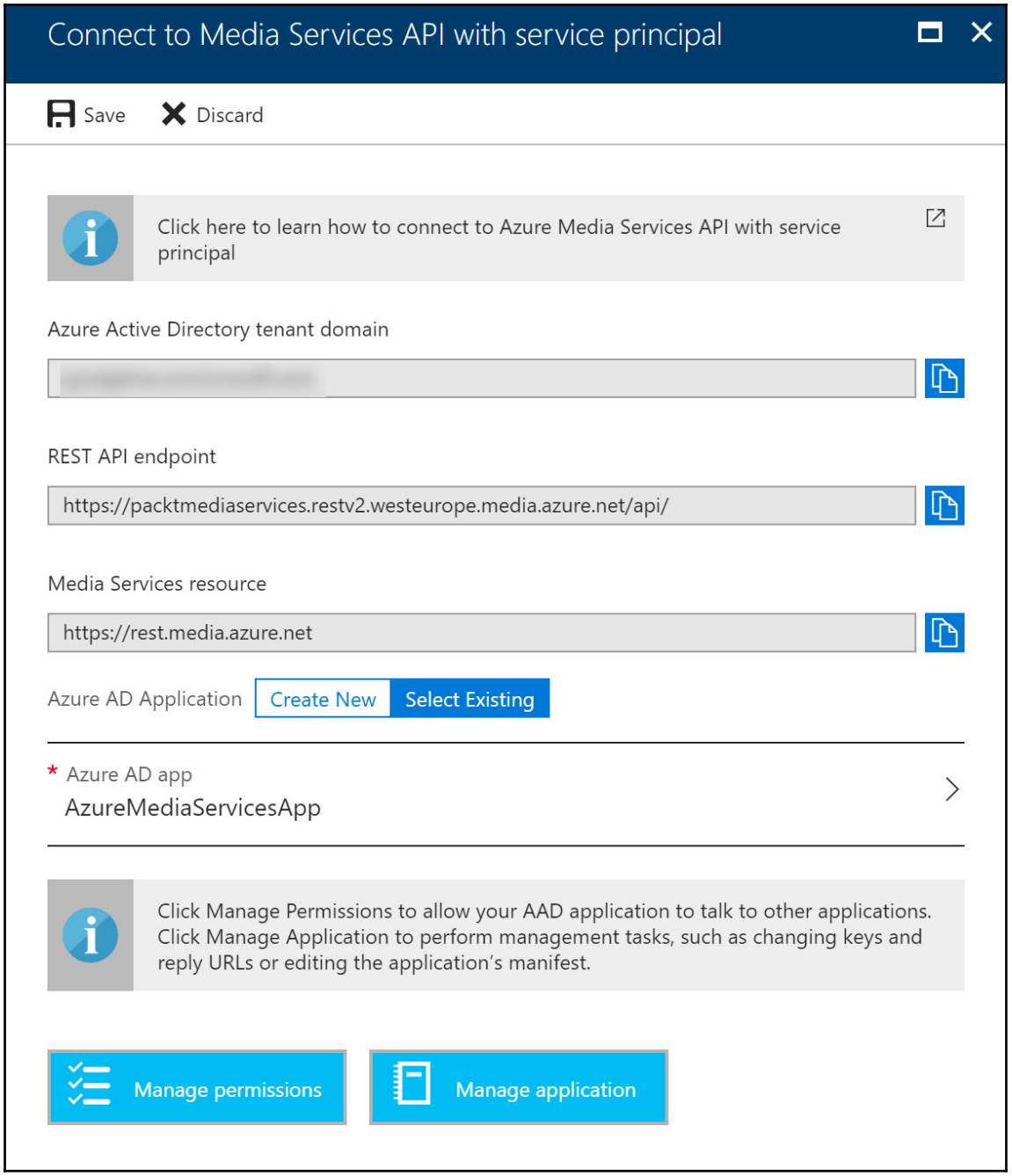

Microsoft Azure Machine Learning Studio
time remaining: 07:56
Guest
SIGN UP
Sample 1: Download dataset from UCI: Adult 2 ...
In draft
Draft saved at 2:38:31 PM
Search experiment items
Saved Datasets
Data Format Conversions
Data Input and Output
Data Transformation
Feature Selection
Machine Learning
OpenCV Library Modules
Python Language Modules
R Language Modules
Statistical Functions
Text Analytics
Time Series
Web Service
Deprecated
Enter Data Manually
Import Data
Execute R Script
Summarize Data
Mini Map
Properties
Project
Experiment Properties
START TIME
END TIME
STATUS CODE
InDraft
STATUS DETAILS
None
Summary
This sample demonstrates how to download a dataset from a http location, add column names to the dataset and examine the dataset and compute some basic statistics.
Description
Enter the detailed description for your experiment.
Quick Help
NEW
RUN HISTORY
SAVE
SAVE AS
DISCARD CHANGES
RUN
SET UP WEB SERVICE
PUBLISH TO GALLERY


On-Premises
Azure
Device
Device
Device
AMQP, HTTPS
HTTPS, MQTT, AMQP
AMQP
IoT Edge
Event Hubs
IoT Hub
Azure SQL
Power BI
Stream Analytics
Microsoft Azure

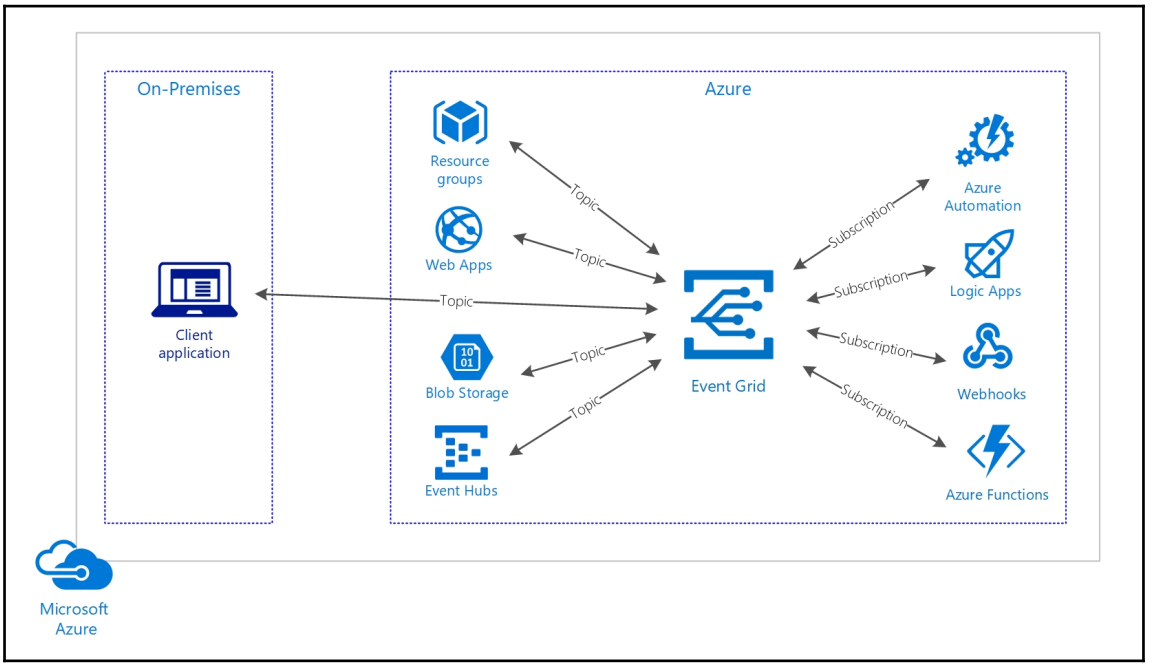

On-Premises
Azure
Client application
Device
Device
IoT Hub
Event Hubs
Blob Storage
Stream Analytics
SQL Data Warehouse
Power BI
Data Lake
Machine Learning
Microsoft Azure

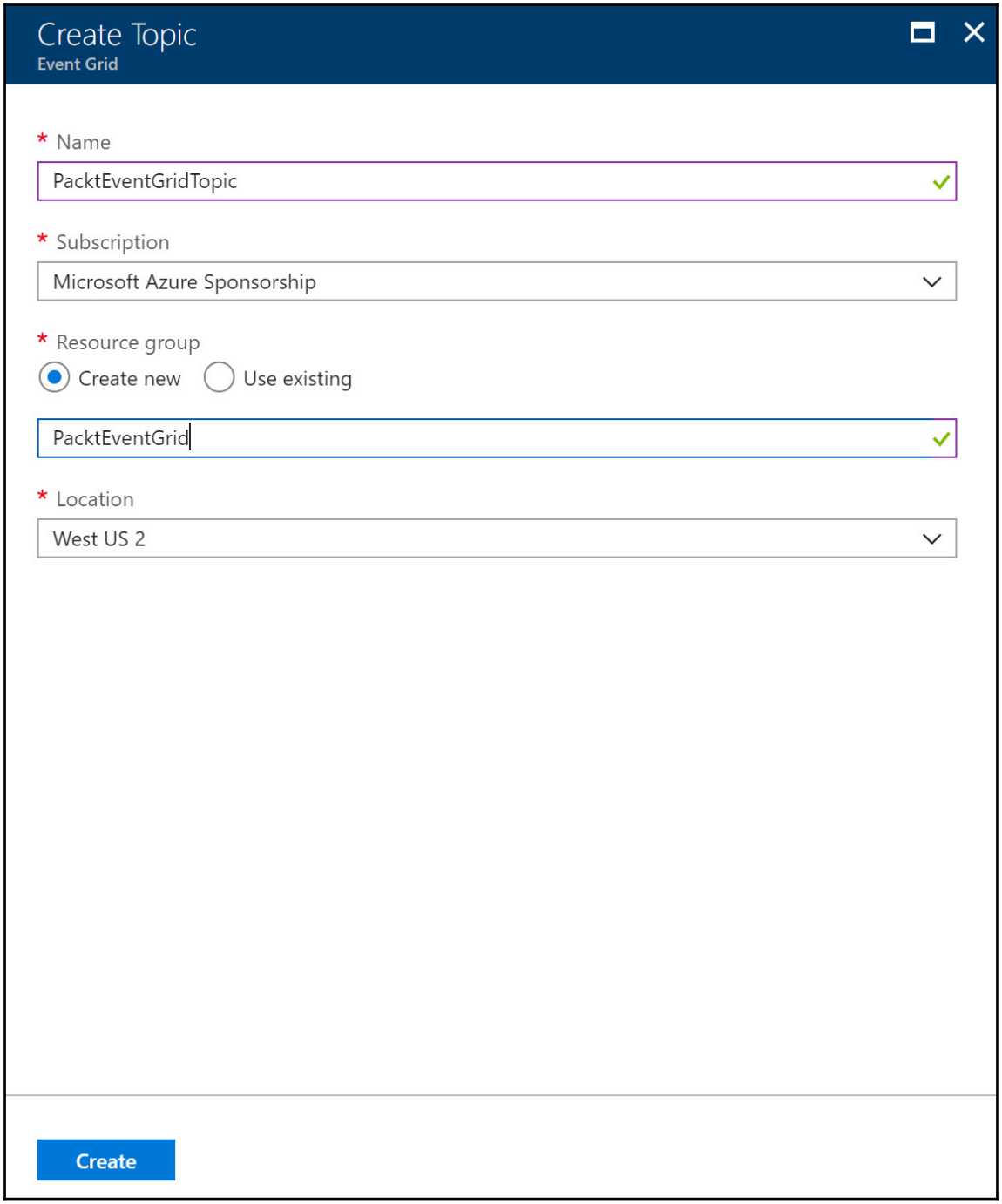

Time Series Insights
Perspective1 / Query1
Contoso Factory
Last 60 Mins, UTC
FROM 04/30/2017 23:00
TO 05/01/2017 00:00
UTC
Last 60 Mins
Contoso Factory
Number of events in Contoso Factory
Click and drag to select a timeframe
4/1/17 0:00
4/8/17 22:00
4/15/17 22:00
4/22/17 22:00
5/1/17 0:00
EVENTS
STATS
Terms of use
Privacy & Cookies
Tutorial
Samples
Send feedback
© 2018 Microsoft

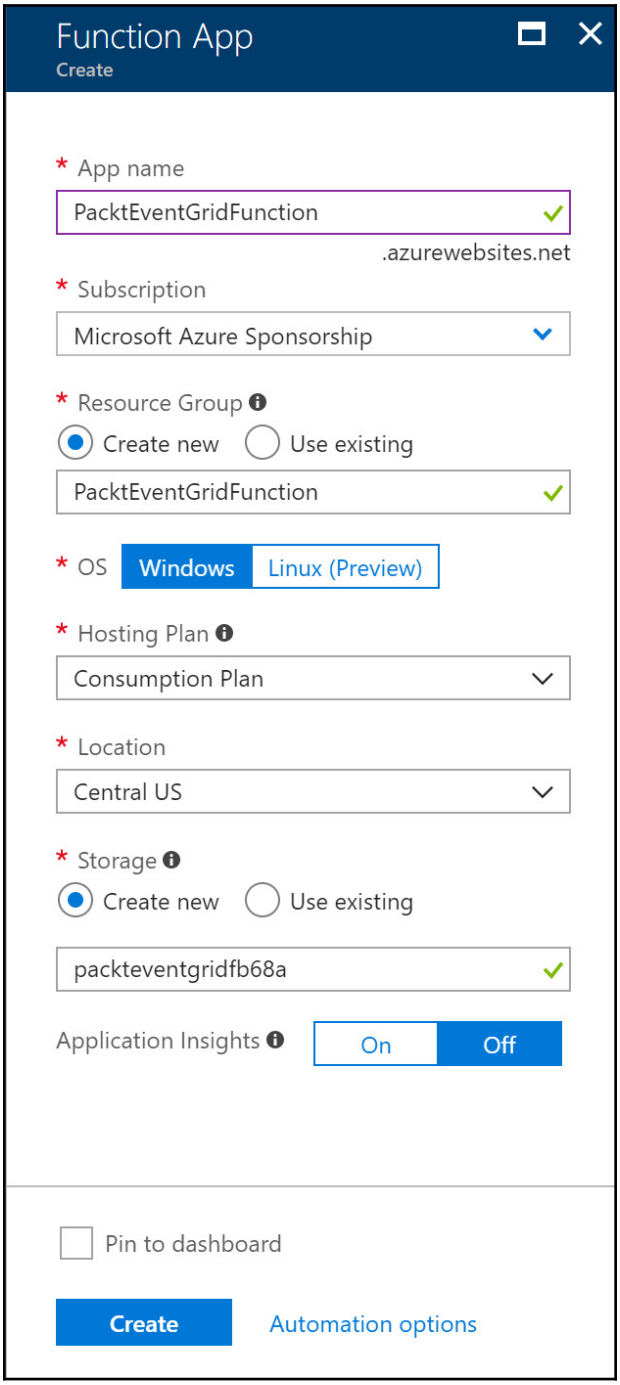

New Project
Recent
Installed
Visual C#
Windows Universal
Windows Classic Desktop
Web
Office/SharePoint
.NET Core
.NET Standard
Android
Cloud
Cross-Platform
Extensibility
iOS
Test
tvOS
WCF
Workflow
Visual Basic
Visual C++
Not finding what you are looking for?
Open Visual Studio Installer
.NET Framework 4.6.1
Sort by: Default
Search (Ctrl+E)
Blank App (Universal Windows) Visual C#
Cross-Platform App (Xamarin.Forms) Visual C#
WPF App (.NET Framework) Visual C#
Windows Forms App (.NET Framework) Visual C#
Console App (.NET Core) Visual C#
Console App (.NET Framework) Visual C#
Class Library (.NET Standard) Visual C#
Class Library (.NET Framework) Visual C#
ASP.NET Core Web Application Visual C#
ASP.NET Web Application (.NET Framework) Visual C#
Shared Project Visual C#
Class Library (Legacy Portable) Visual C#
Type: Visual C#
A project for creating a command-line application
Name: PacktVideoIndexer
Location: C:\Users\SjoukjeZaal\Documents\Visual Studio 2017\Projects
Solution name: PacktVideoIndexer
Browse...
Create directory for solution
Create new Git repository
OK
Cancel

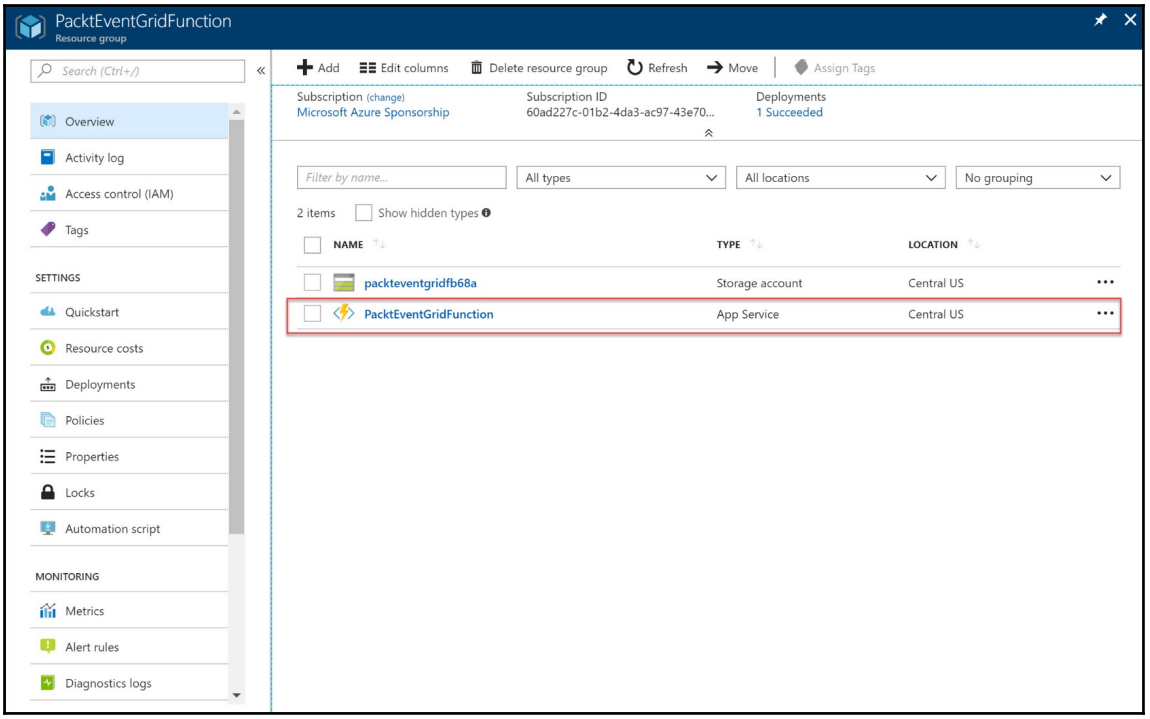

Connect to Media Services API with service principal
Save
Discard
Click here to learn how to connect to Azure Media Services API with service principal
Azure Active Directory tenant domain
REST API endpoint
https://packtmediaservices.restv2.westeurope.media.azure.net/api/
Media Services resource
https://rest.media.azure.net
Azure AD Application
Create New
Select Existing
* Azure AD app
AzureMediaServicesApp
Click Manage Permissions to allow your AAD application to talk to other applications. Click Manage Application to perform management tasks, such as changing keys and reply URLs or editing the application's manifest.
Manage permissions
Manage application

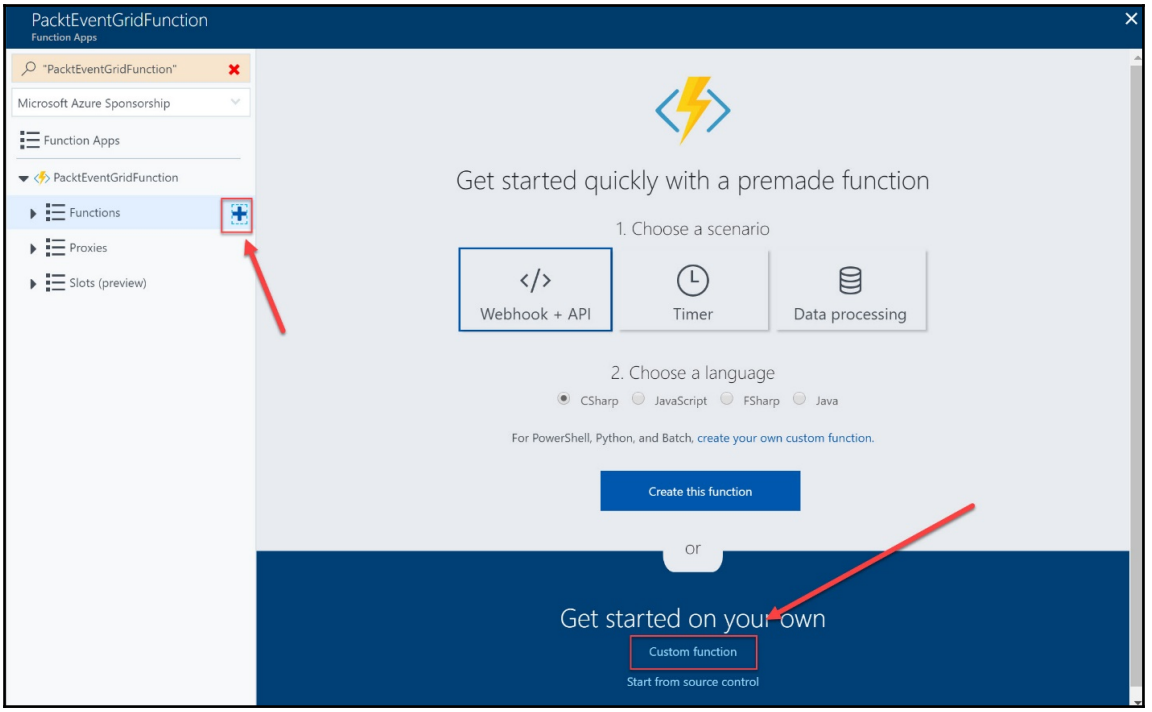
Chapter 13: Implementing Messaging Solutions

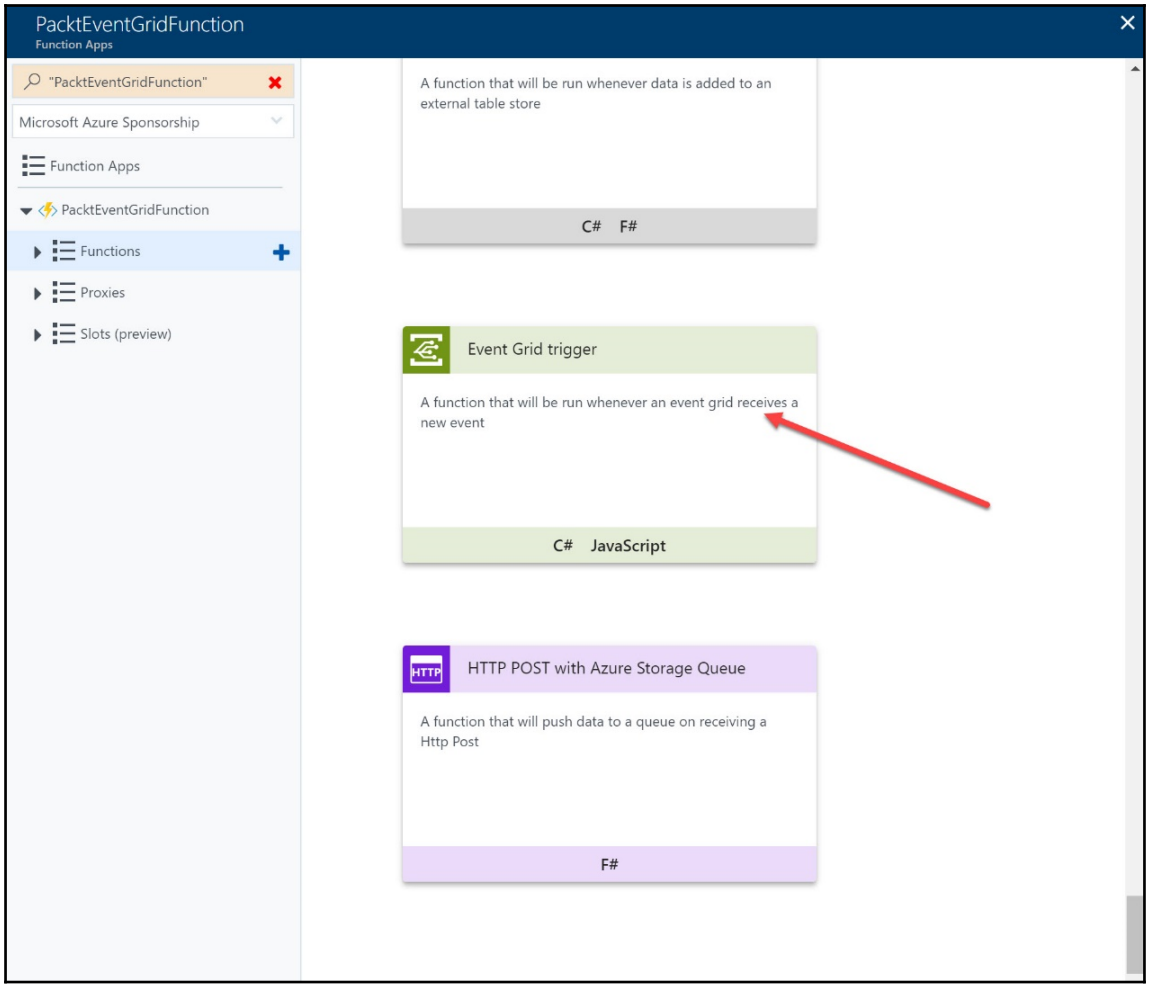


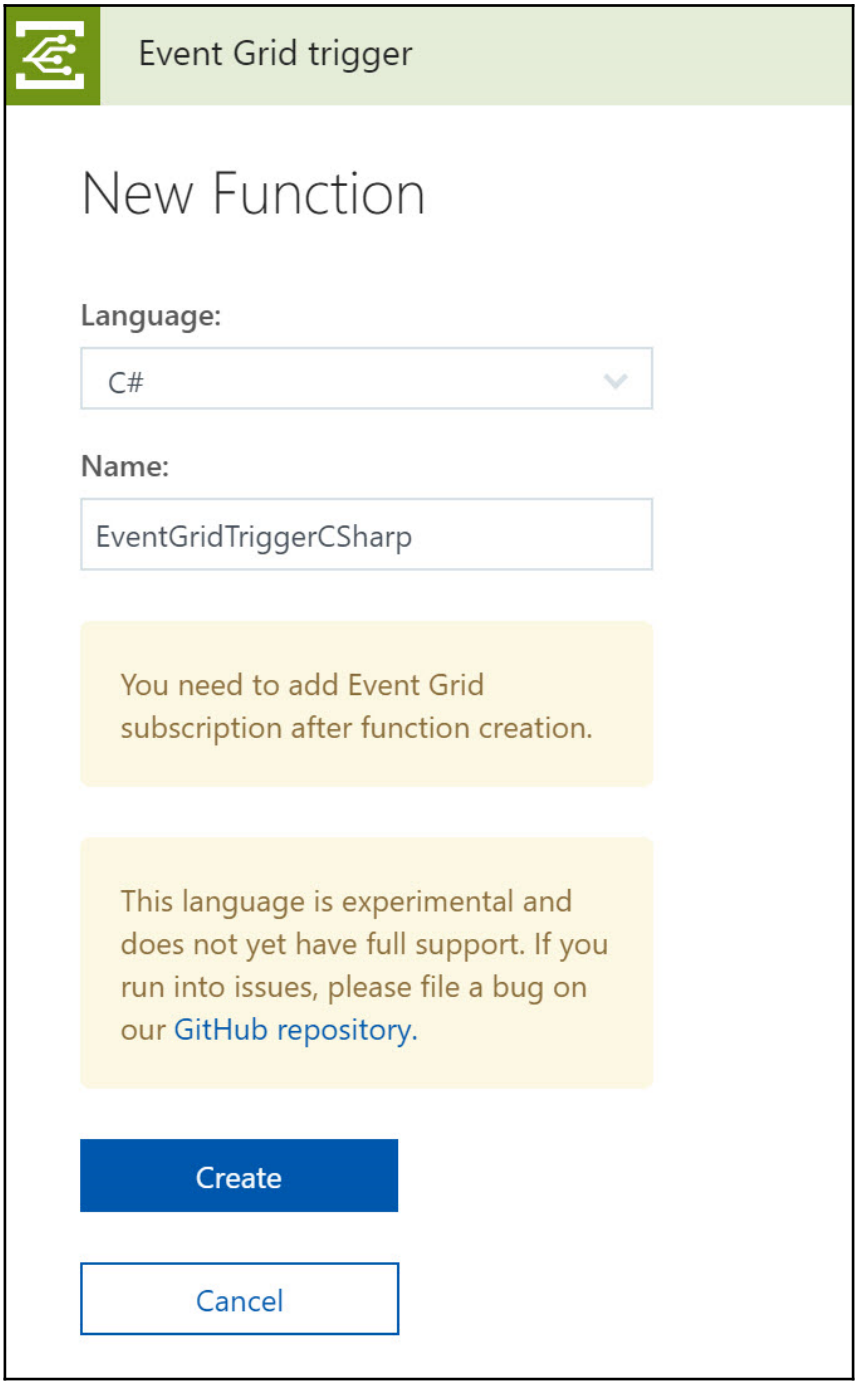

Create Topic
Event Grid
* Name
PacktEventGridTopic
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktEventGrid
* Location
West US 2
Create

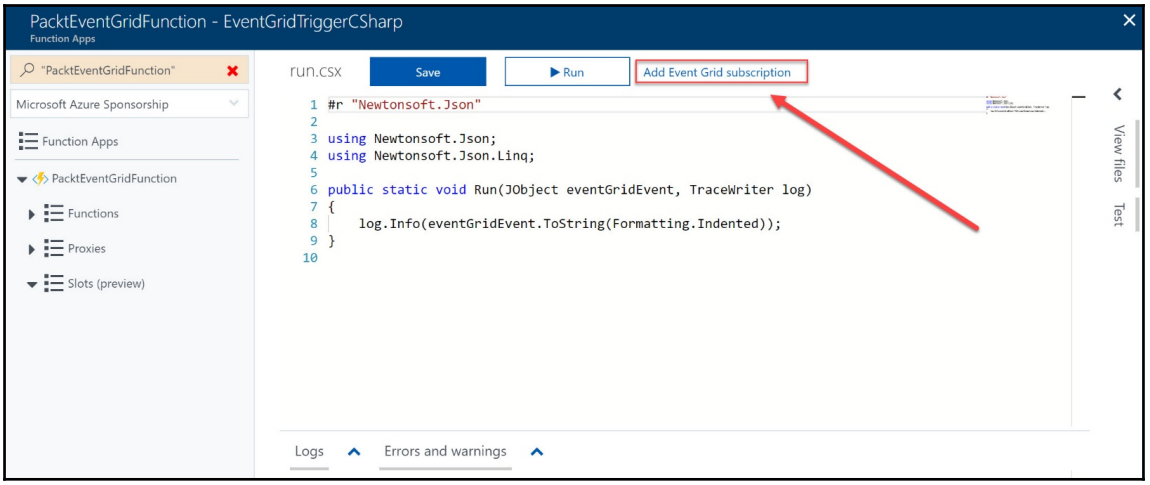

Function App
Create
* App name
PacktEventGridFunction
.azurewebsites.net
* Subscription
Microsoft Azure Sponsorship
* Resource Group
Create new
Use existing
PacktEventGridFunction
* OS
Windows
Linux (Preview)
* Hosting Plan
Consumption Plan
* Location
Central US
* Storage
Create new
Use existing
packteventgridfb68a
Application Insights
On
Off
Pin to dashboard
Create
Automation options

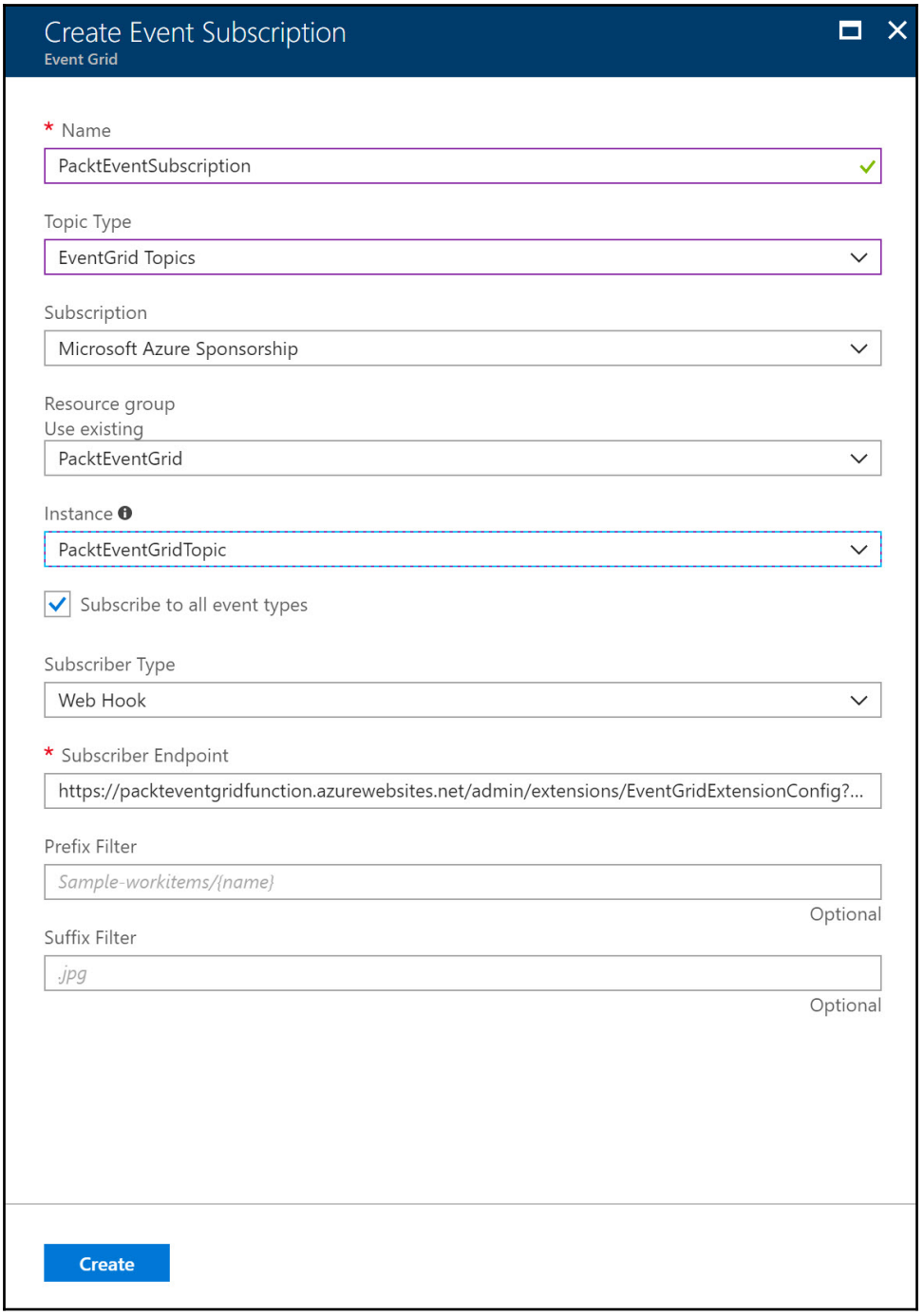

PacktEventGridFunction
Resource group
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
SETTINGS
Quickstart
Resource costs
Deployments
Policies
Properties
Locks
Automation script
MONITORING
Metrics
Alert rules
Diagnostics logs
Add
Edit columns
Delete resource group
Refresh
Move
Assign Tags
Subscription (change)
Microsoft Azure Sponsorship
Subscription ID
60ad227c-01b2-4da3-ac97-43e70...
Deployments
1 Succeeded
Filter by name...
All types
All locations
No grouping
2 items
Show hidden types
NAME
TYPE
LOCATION
packteventgridfb68a
Storage account
Central US
PacktEventGridFunction
App Service
Central US


PacktEventGridFunction
Function Apps
"PacktEventGridFunction"
Microsoft Azure Sponsorship
Function Apps
PacktEventGridFunction
Functions
Proxies
Slots (preview)
Get started quickly with a premade function
1. Choose a scenario
Webhook + API
Timer
Data processing
2. Choose a language
CSharp
JavaScript
FSharp
Java
For PowerShell, Python, and Batch, create your own custom function.
Create this function
or
Get started on your own
Custom function
Start from source control

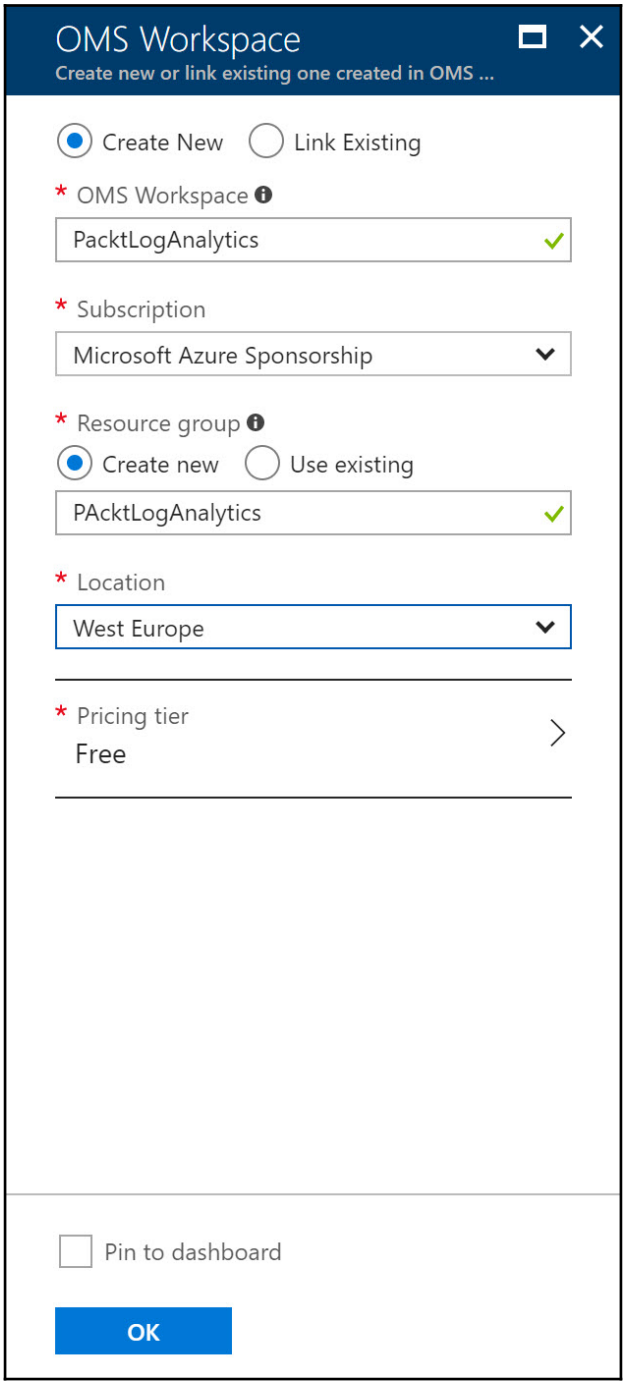

PacktEventGridFunction
Function Apps
"PacktEventGridFunction"
Microsoft Azure Sponsorship
Function Apps
PacktEventGridFunction
Functions
Proxies
Slots (preview)
A function that will be run whenever data is added to an external table store
C# F#
Event Grid trigger
A function that will be run whenever an event grid receives a new event
C# JavaScript
HTTP POST with Azure Storage Queue
A function that will push data to a queue on receiving a Http Post
F#

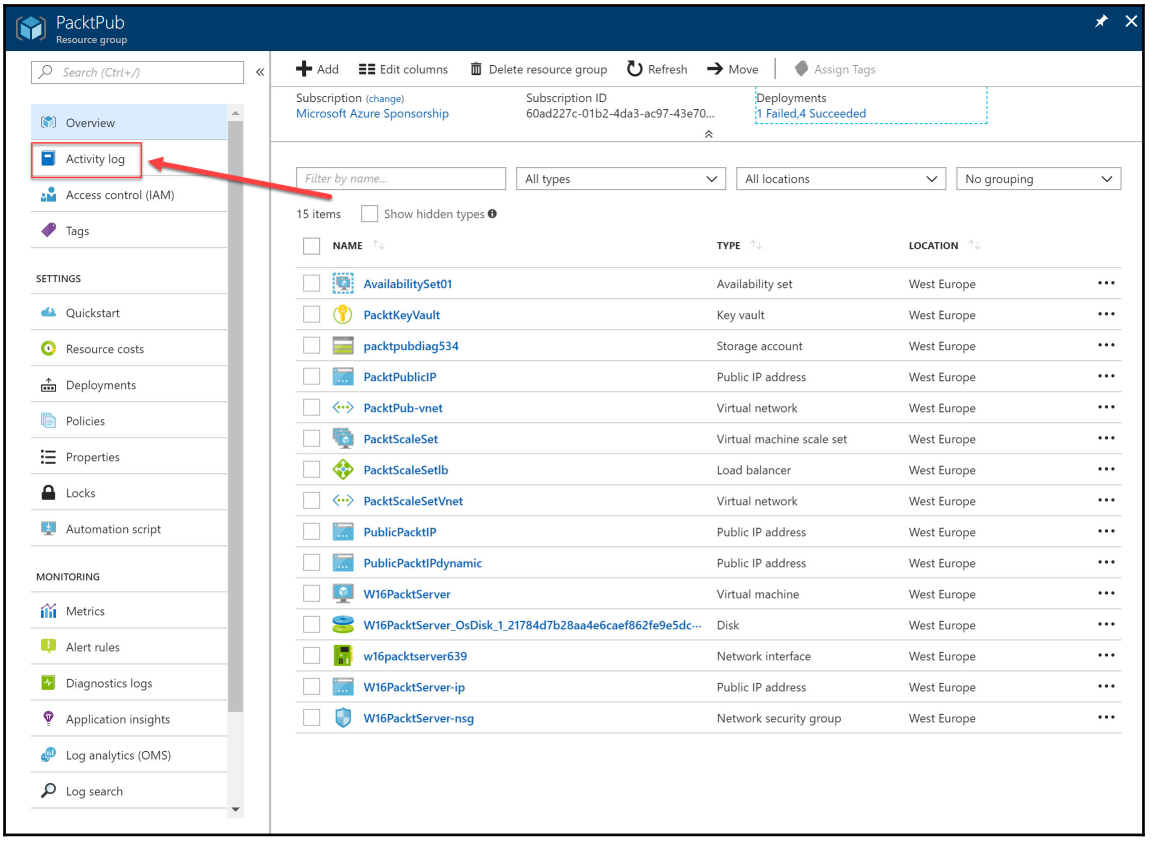

Event Grid trigger
New Function
Language:
C#
Name:
EventGridTriggerCSharp
You need to add Event Grid subscription after function creation.
This language is experimental and does not yet have full support. If you run into issues, please file a bug on our GitHub repository.
Create
Cancel

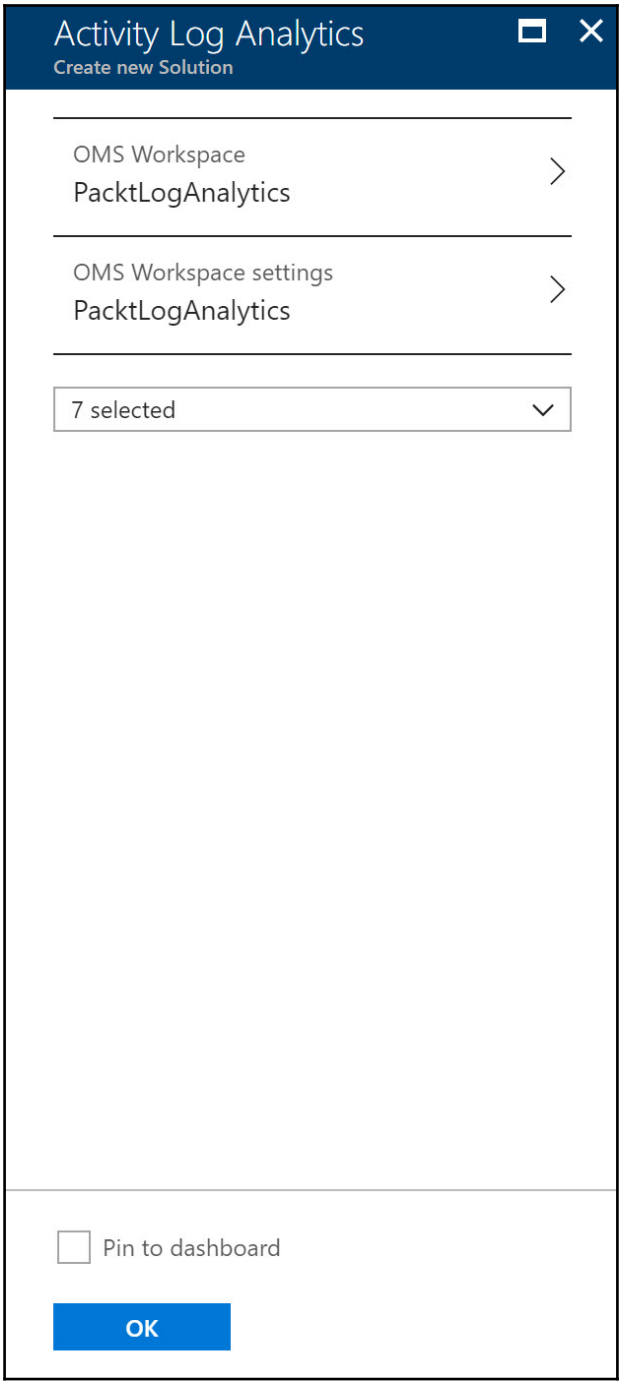

PacktEventGridFunction - EventGridTriggerCSharp
Function Apps
"PacktEventGridFunction"
Microsoft Azure Sponsorship
Function Apps
PacktEventGridFunction
Functions
Proxies
Slots (preview)
run.csx
Save
Run
Add Event Grid subscription
#r "Newtonsoft.Json"
using Newtonsoft.Json;
using Newtonsoft.Json.Linq;
public static void Run(JObject eventGridEvent, TraceWriter log)
{
log.Info(eventGridEvent.ToString(Formatting.Indented));
}
View files
Test
Logs
Errors and warnings

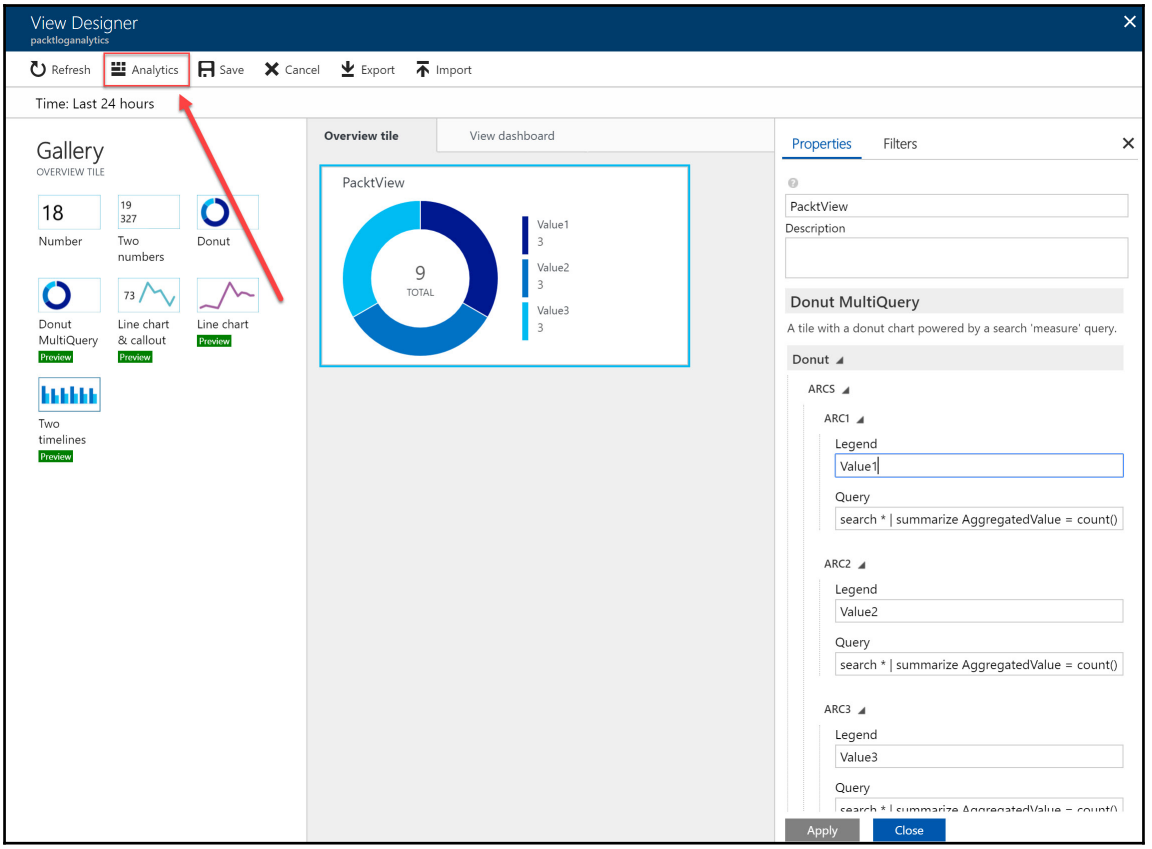

Create Event Subscription
Event Grid
* Name
PacktEventSubscription
Topic Type
EventGrid Topics
Subscription
Microsoft Azure Sponsorship
Resource group
Use existing
PacktEventGrid
Instance
PacktEventGridTopic
Subscribe to all event types
Subscriber Type
Web Hook
* Subscriber Endpoint
https://packteventgridfunction.azurewebsites.net/admin/extensions/EventGridExtensionConfig?...
Prefix Filter
Sample-workitems/{name}
Optional
Suffix Filter
.jpg
Optional
Create

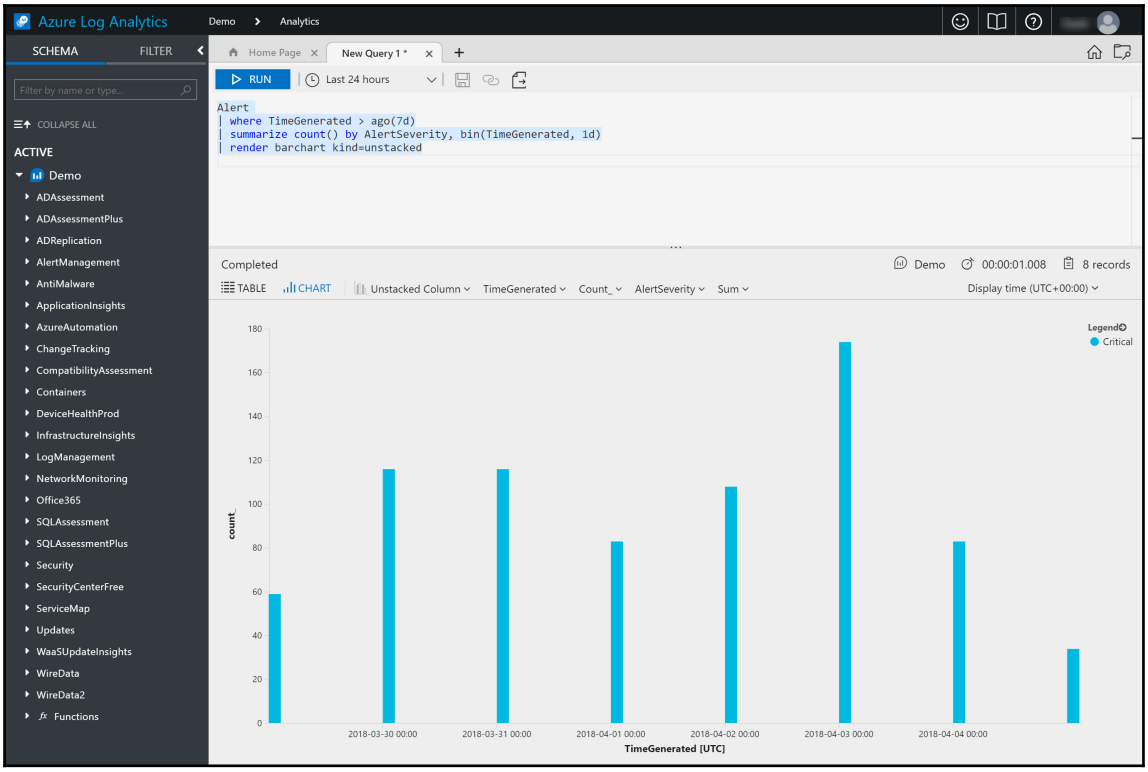
Chapter 14: Application Monitoring and Alerting Strategies

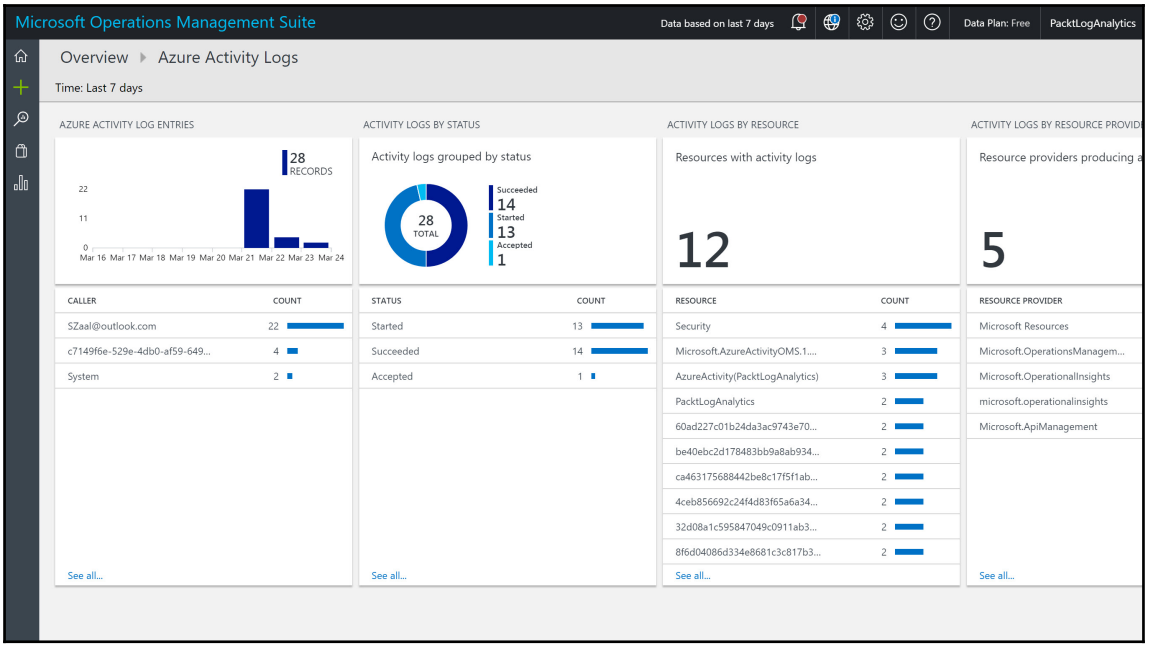

OMS Workspace
Create new or link existing one created in OMS ...
Create New
Link Existing
* OMS Workspace
PacktLogAnalytics
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PAcktLogAnalytics
* Location
West Europe
* Pricing tier
Free
Pin to dashboard
OK

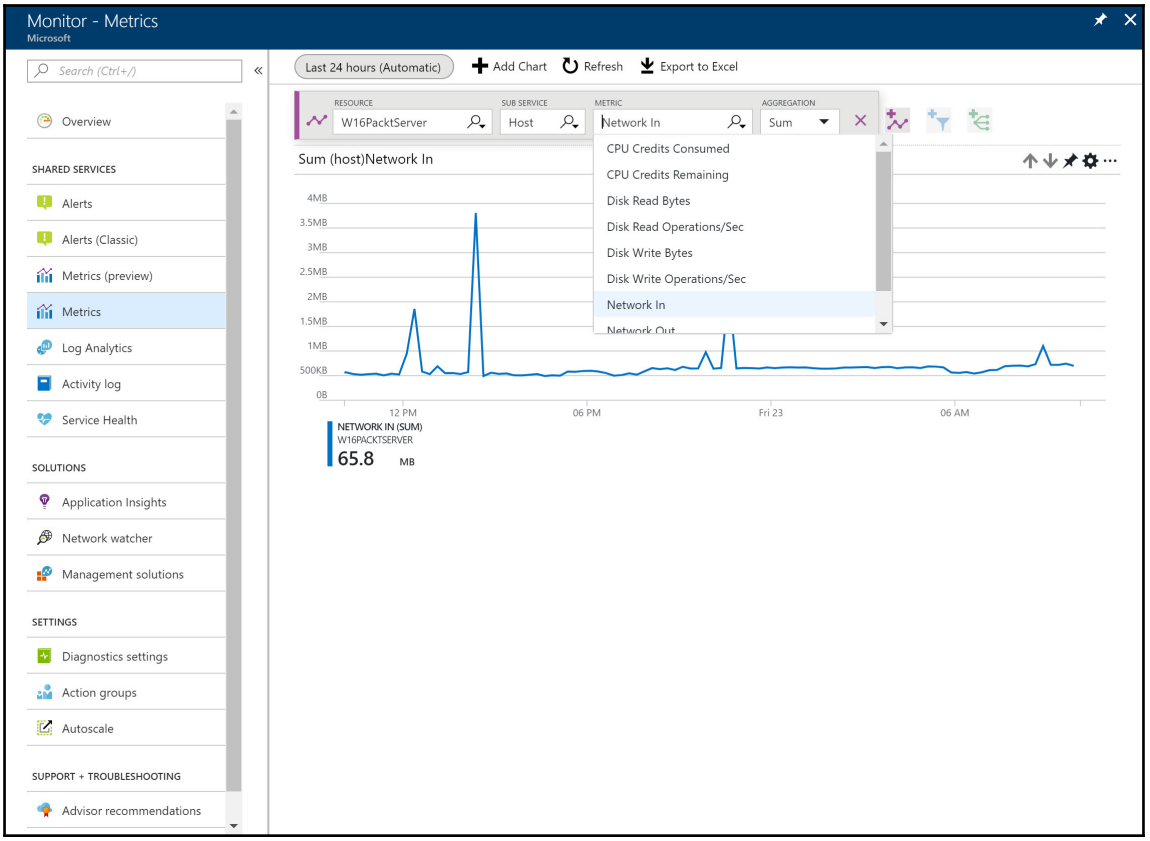

PacktPub
Resource group
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
SETTINGS
Quickstart
Resource costs
Deployments
Policies
Properties
Locks
Automation script
MONITORING
Metrics
Alert rules
Diagnostics logs
Application insights
Log analytics (OMS)
Log search
Add
Edit columns
Delete resource group
Refresh
Move
Assign Tags
Subscription (change)
Microsoft Azure Sponsorship
Subscription ID
60ad227c-01b2-4da3-ac97-43e70...
Deployments
1 Failed,4 Succeeded
Filter by name...
All types
All locations
No grouping
15 items
Show hidden types
NAME
TYPE
LOCATION
AvailabilitySet01 Availability set West Europe
PacktKeyVault Key vault West Europe
packtpubdiag534 Storage account West Europe
PacktPublicIP Public IP address West Europe
PacktPub-vnet Virtual network West Europe
PacktScaleSet Virtual machine scale set West Europe
PacktScaleSetlb Load balancer West Europe
PacktScaleSetVnet Virtual network West Europe
PublicPacktIP Public IP address West Europe
PublicPacktIPdynamic Public IP address West Europe
W16PacktServer Virtual machine West Europe
W16PacktServer_OsDisk_1_21784d7b28aa4e6caef862fe9e5dc... Disk West Europe
w16packtserver639 Network interface West Europe
W16PacktServer-ip Public IP address West Europe
W16PacktServer-nsg Network security group West Europe

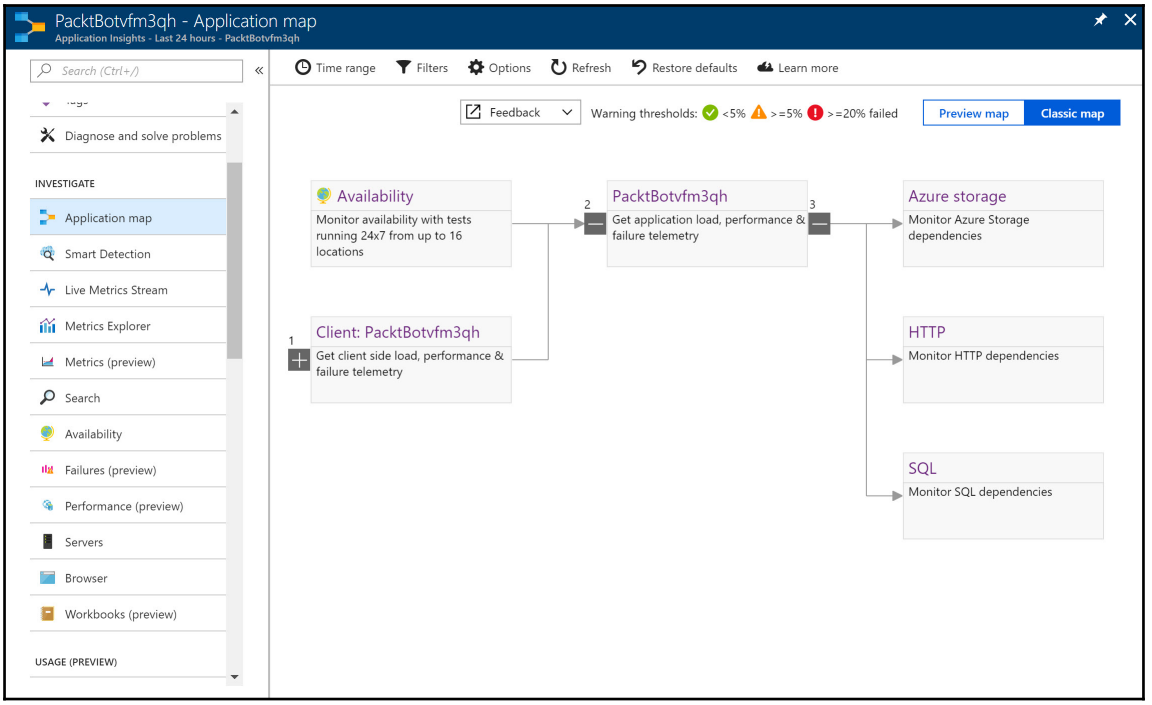

Activity Log Analytics
Create new Solution
OMS Workspace
PacktLogAnalytics
OMS Workspace settings
PacktLogAnalytics
7 selected
Pin to dashboard
OK

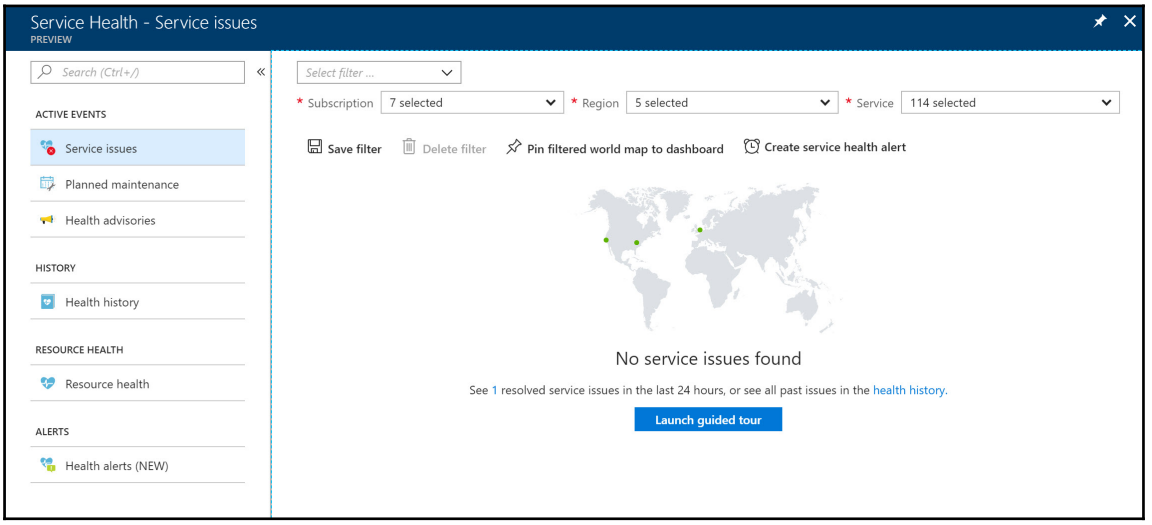

View Designer
packtloganalytics
Refresh
Analytics
Save
Cancel
Export
Import
Time: Last 24 hours
Gallery
OVERVIEW TILE
18
Number
19
327
Two numbers
Donut
Donut MultiQuery
Preview
73
Line chart & callout
Preview
Line chart
Preview
Two timelines
Preview
Overview tile
View dashboard
PacktView
9
TOTAL
Value1
3
Value2
3
Value3
3
Properties
Filters
PacktView
Description
Donut MultiQuery
A tile with a donut chart powered by a search 'measure' query.
Donut
ARCS
ARC1
Legend
Value1
Query
search * | summarize AggregatedValue = count()
ARC2
Legend
Value2
Query
search * | summarize AggregatedValue = count()
ARC3
Legend
Value3
Query
Apply
Close

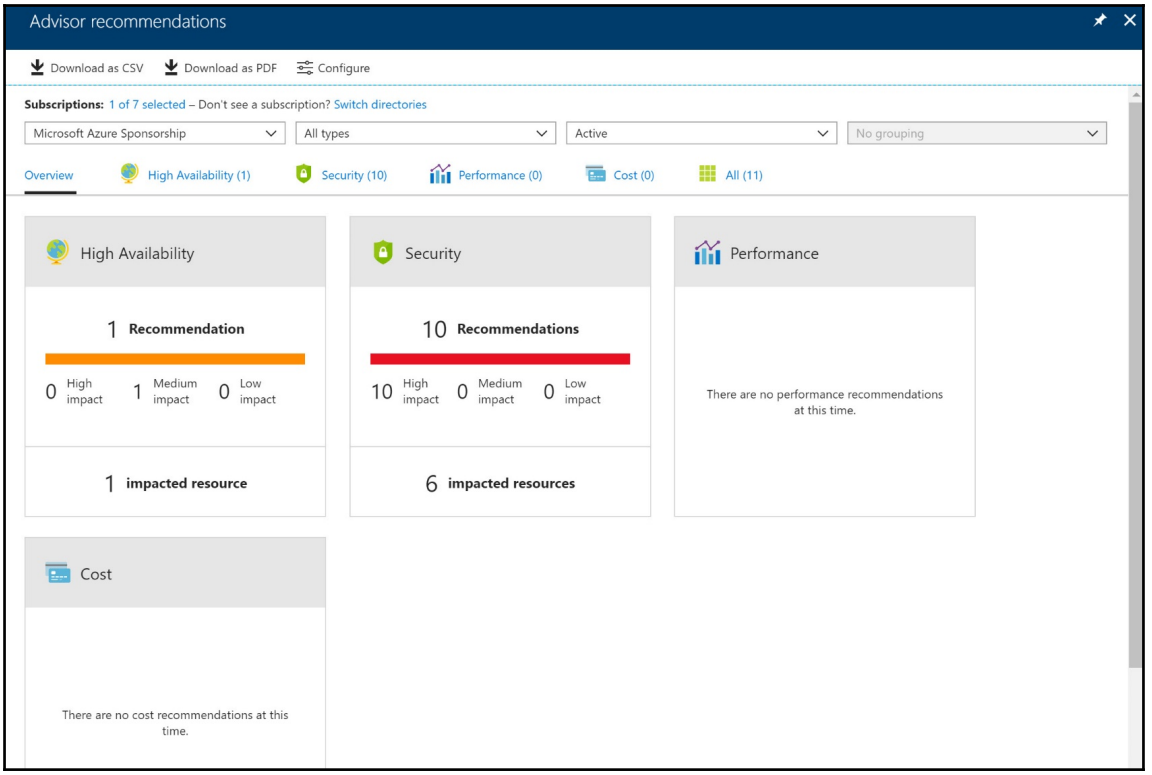

Azure Log Analytics
Demo
Analytics
SCHEMA
FILTER
Filter by name or type...
COLLAPSE ALL
ACTIVE
Demo
ADAssessment
ADAssessmentPlus
ADReplication
AlertManagement
AntiMalware
ApplicationInsights
AzureAutomation
ChangeTracking
CompatibilityAssessment
Containers
DeviceHealthProd
InfrastructureInsights
LogManagement
NetworkMonitoring
Office365
SQLAssessment
SQLAssessmentPlus
Security
SecurityCenterFree
ServiceMap
Updates
WaaSUpdateInsights
WireData
WireData2
Functions
Home Page
New Query 1 *
RUN
Last 24 hours
Alert
| where TimeGenerated > ago(7d)
| summarize count() by AlertSeverity, bin(TimeGenerated, 1d)
| render barchart kind=unstacked
Completed
Demo
00:00:01.008
8 records
TABLE
CHART
Unstacked Column
TimeGenerated
Count_
AlertSeverity
Sum
Display time (UTC+00:00)
Legend
Critical
count_
180
160
140
120
100
80
60
40
20
0
2018-03-30 00:00
2018-03-31 00:00
2018-04-01 00:00
2018-04-02 00:00
2018-04-03 00:00
2018-04-04 00:00
TimeGenerated [UTC]

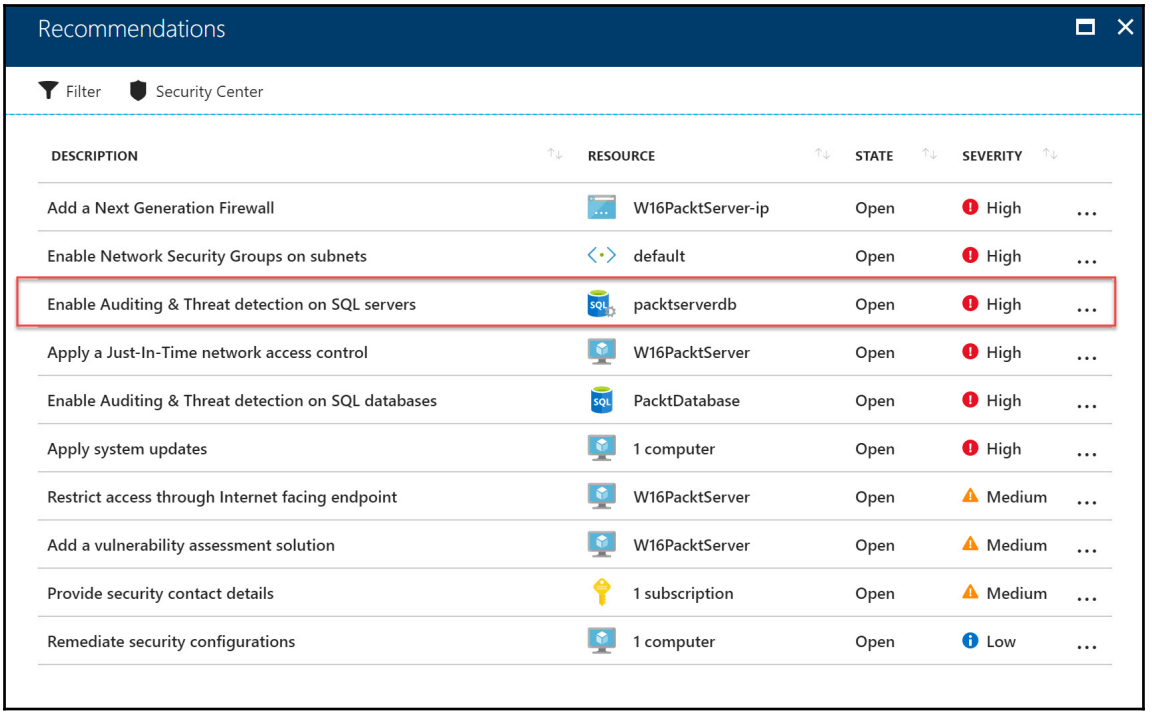

Microsoft Operations Management Suite
Data based on last 7 days
Data Plan: Free
PacktLogAnalytics
Overview
Azure Activity Logs
Time: Last 7 days
AZURE ACTIVITY LOG ENTRIES
28
RECORDS
22
11
0
Mar 16 Mar 17 Mar 18 Mar 19 Mar 20 Mar 21 Mar 22 Mar 23 Mar 24
ACTIVITY LOGS BY STATUS
Activity logs grouped by status
28
TOTAL
Succeeded
14
Started
13
Accepted
1
ACTIVITY LOGS BY RESOURCE
Resources with activity logs
12
ACTIVITY LOGS BY RESOURCE PROVID
Resource providers producing a
5
CALLER
COUNT
SZaal@outlook.com
22
c7149f6e-529e-4db0-af59-649...
4
System
2
See all...
STATUS
COUNT
Started
13
Succeeded
14
Accepted
1
See all...
RESOURCE
COUNT
Security
4
Microsoft.AzureActivityOMS.1....
3
AzureActivity(PacktLogAnalytics)
3
PacktLogAnalytics
2
60ad227c01b24da3ac9743e70...
2
be40ebc2d178483bb9a8ab934...
2
ca463175688442be8c17f5f1ab...
2
4ceb856692c24f4d83f65a6a34...
2
32d08a1c595847049c0911ab3...
2
8f6d04086d334e8681c3c817b3...
2
See all...
RESOURCE PROVIDER
Microsoft Resources
Microsoft.OperationsManagem...
Microsoft.OperationalInsights
microsoft.operationalinsights
Microsoft.ApiManagement
See all...

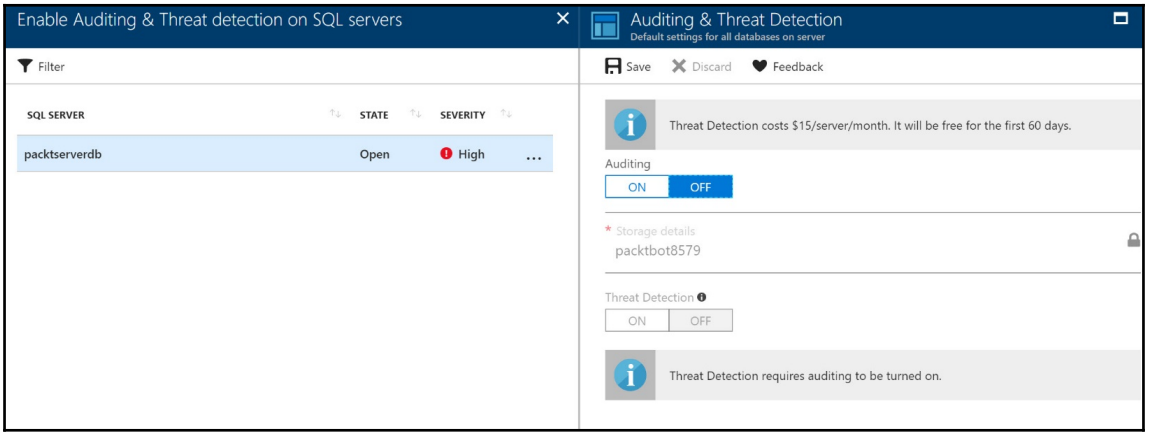

Monitor - Metrics
Microsoft
Search (Ctrl+/)
Overview
SHARED SERVICES
Alerts
Alerts (Classic)
Metrics (preview)
Metrics
Log Analytics
Activity log
Service Health
SOLUTIONS
Application Insights
Network watcher
Management solutions
SETTINGS
Diagnostics settings
Action groups
Autoscale
SUPPORT + TROUBLESHOOTING
Advisor recommendations
Last 24 hours (Automatic)
Add Chart
Refresh
Export to Excel
RESOURCE
W16PacktServer
SUB SERVICE
Host
METRIC
Network In
AGGREGATION
Sum
CPU Credits Consumed
CPU Credits Remaining
Disk Read Bytes
Disk Read Operations/Sec
Disk Write Bytes
Disk Write Operations/Sec
Network In
Network Out
Sum (host)Network In
4MB
3.5MB
3MB
2.5MB
2MB
1.5MB
1MB
500KB
0B
12 PM
06 PM
Fri 23
06 AM
NETWORK IN (SUM)
W16PACKTSERVER
65.8
MB

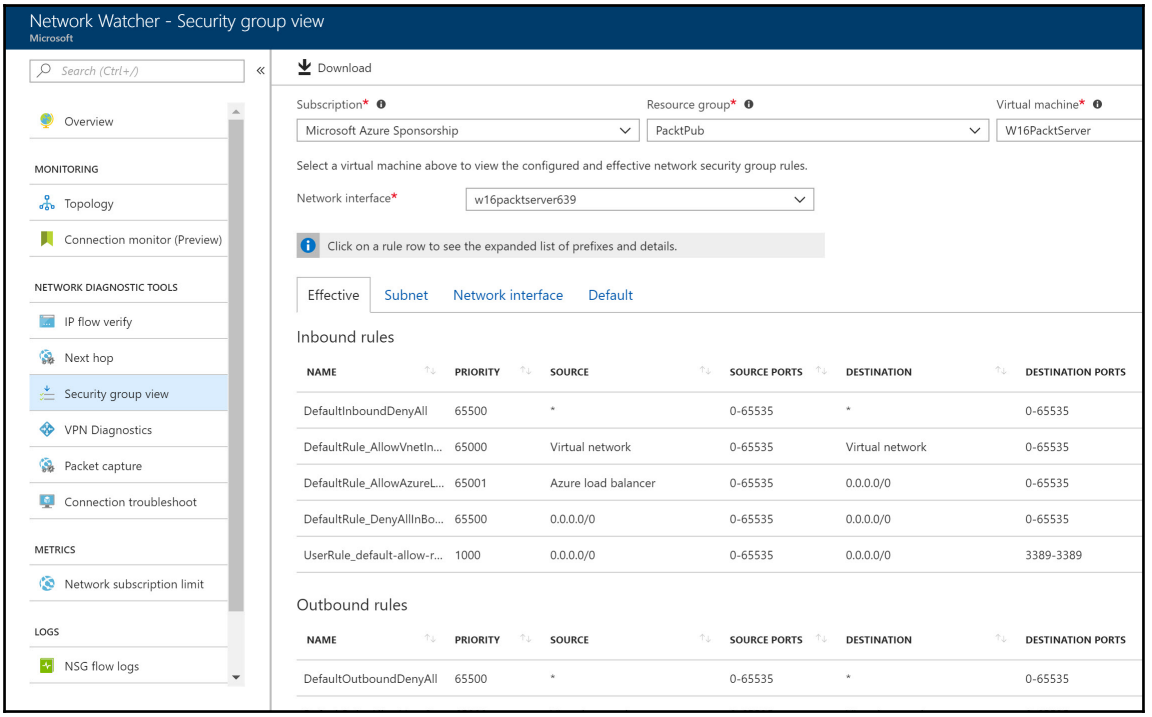

PacktBotvfm3qh - Application map
Application Insights - Last 24 hours - PacktBotvfm3qh
Search (Ctrl+/)
Diagnose and solve problems
INVESTIGATE
Application map
Smart Detection
Live Metrics Stream
Metrics Explorer
Metrics (preview)
Search
Availability
Failures (preview)
Performance (preview)
Servers
Browser
Workbooks (preview)
USAGE (PREVIEW)
Time range
Filters
Options
Refresh
Restore defaults
Learn more
Feedback
Warning thresholds: <5% >=5% >=20% failed
Preview map
Classic map
Availability
Monitor availability with tests running 24x7 from up to 16 locations
2
PacktBotvfm3qh
Get application load, performance & failure telemetry
3
Azure storage
Monitor Azure Storage dependencies
1
Client: PacktBotvfm3qh
Get client side load, performance & failure telemetry
HTTP
Monitor HTTP dependencies
SQL
Monitor SQL dependencies


Service Health - Service issues
PREVIEW
Search (Ctrl+/)
ACTIVE EVENTS
Service issues
Planned maintenance
Health advisories
HISTORY
Health history
RESOURCE HEALTH
Resource health
ALERTS
Health alerts (NEW)
Select filter ...
* Subscription
7 selected
* Region
5 selected
* Service
114 selected
Save filter
Delete filter
Pin filtered world map to dashboard
Create service health alert
No service issues found
See 1 resolved service issues in the last 24 hours, or see all past issues in the health history.
Launch guided tour

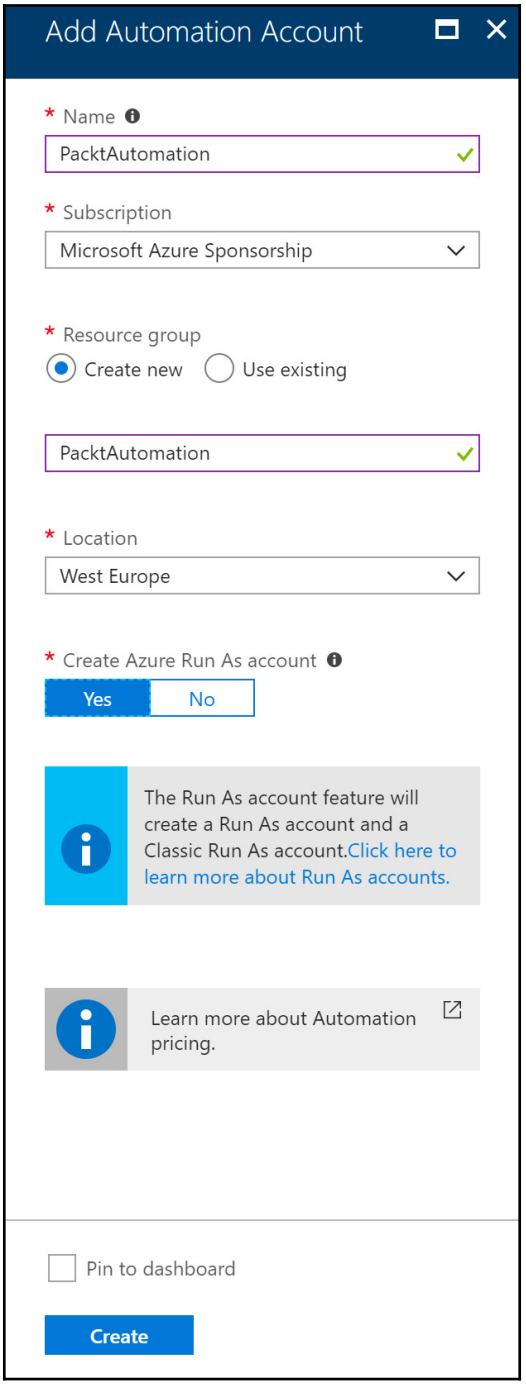

Advisor recommendations
Download as CSV
Download as PDF
Configure
Subscriptions: 1 of 7 selected – Don't see a subscription? Switch directories
Microsoft Azure Sponsorship
All types
Active
No grouping
Overview
High Availability (1)
Security (10)
Performance (0)
Cost (0)
All (11)
High Availability
1 Recommendation
0 High impact
1 Medium impact
0 Low impact
1 impacted resource
Security
10 Recommendations
10 High impact
0 Medium impact
0 Low impact
6 impacted resources
Performance
There are no performance recommendations at this time.
Cost
There are no cost recommendations at this time.

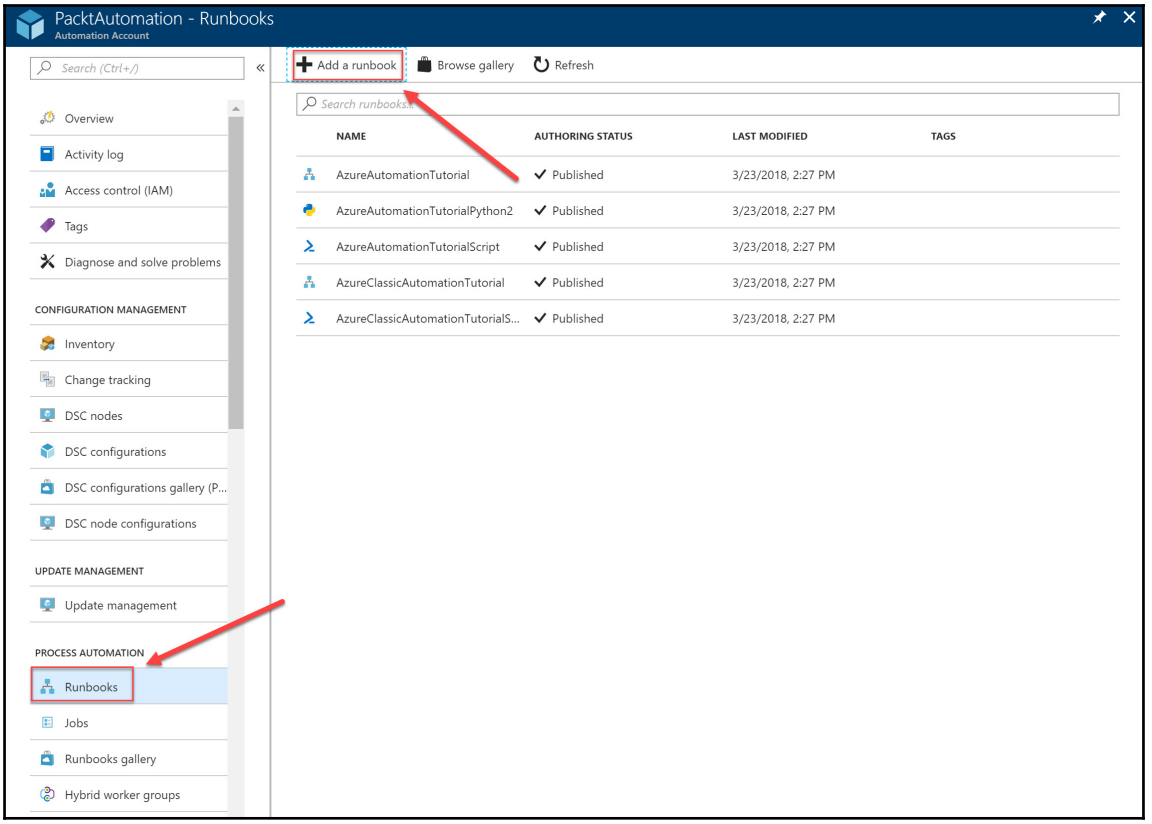

Recommendations
Filter
Security Center
DESCRIPTION
RESOURCE
STATE
SEVERITY
Add a Next Generation Firewall
W16PacktServer-ip
Open
High
Enable Network Security Groups on subnets
default
Open
High
Enable Auditing & Threat detection on SQL servers
packtserverdb
Open
High
Apply a Just-In-Time network access control
W16PacktServer
Open
High
Enable Auditing & Threat detection on SQL databases
PacktDatabase
Open
High
Apply system updates
1 computer
Open
High
Restrict access through Internet facing endpoint
W16PacktServer
Open
Medium
Add a vulnerability assessment solution
W16PacktServer
Open
Medium
Provide security contact details
1 subscription
Open
Medium
Remediate security configurations
1 computer
Open
Low

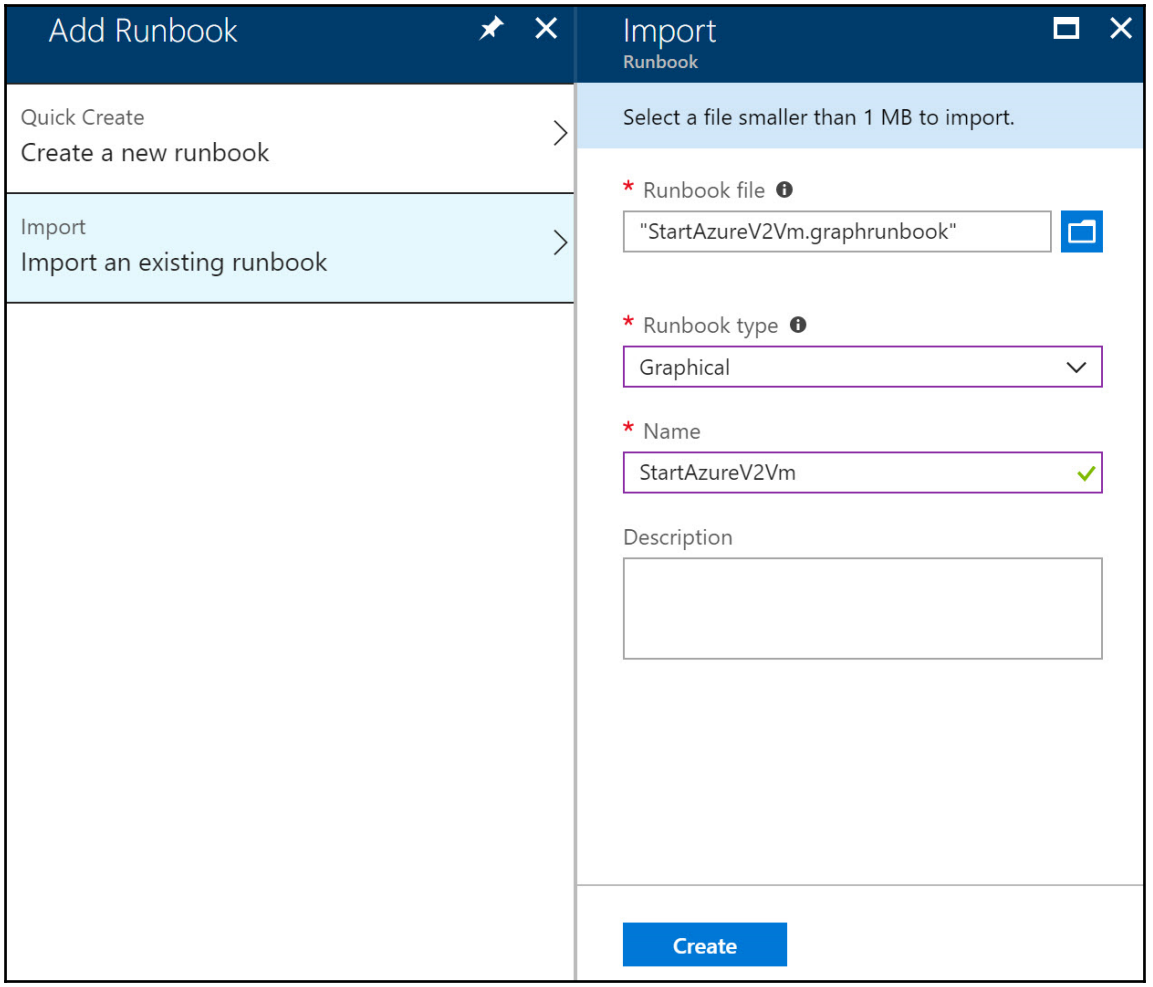

Enable Auditing & Threat detection on SQL servers
Filter
SQL SERVER
STATE
SEVERITY
packtserverdb
Open
High
Auditing & Threat Detection
Default settings for all databases on server
Save
Discard
Feedback
Threat Detection costs $15/server/month. It will be free for the first 60 days.
Auditing
ON
OFF
* Storage details
packtbot8579
Threat Detection
ON
OFF
Threat Detection requires auditing to be turned on.

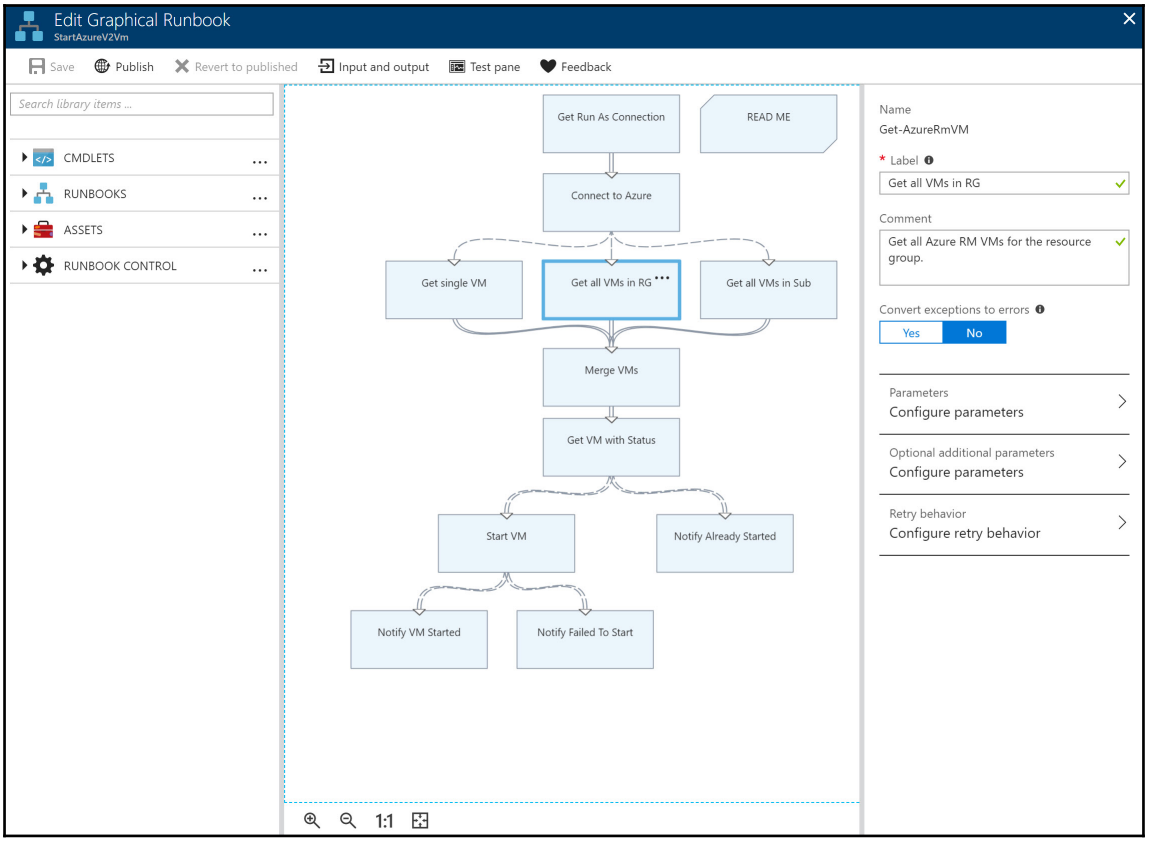

Network Watcher - Security group view
Microsoft
Search (Ctrl+/)
Overview
MONITORING
Topology
Connection monitor (Preview)
NETWORK DIAGNOSTIC TOOLS
IP flow verify
Next hop
Security group view
VPN Diagnostics
Packet capture
Connection troubleshoot
METRICS
Network subscription limit
LOGS
NSG flow logs
Download
Subscription*
Microsoft Azure Sponsorship
Resource group*
PacktPub
Virtual machine*
W16PacktServer
Select a virtual machine above to view the configured and effective network security group rules.
Network interface*
w16packtserver639
Click on a rule row to see the expanded list of prefixes and details.
Effective
Subnet
Network interface
Default
Inbound rules
NAME
PRIORITY
SOURCE
SOURCE PORTS
DESTINATION
DESTINATION PORTS
DefaultInboundDenyAll 65500 * 0-65535 * 0-65535
DefaultRule_AllowVnetIn... 65000 Virtual network 0-65535 Virtual network 0-65535
DefaultRule_AllowAzureL... 65001 Azure load balancer 0-65535 0.0.0.0/0 0-65535
DefaultRule_DenyAllInBo... 65500 0.0.0.0/0 0-65535 0.0.0.0/0 0-65535
UserRule_default-allow-r... 1000 0.0.0.0/0 0-65535 0.0.0.0/0 3389-3389
Outbound rules
NAME
PRIORITY
SOURCE
SOURCE PORTS
DESTINATION
DESTINATION PORTS
DefaultOutboundDenyAll 65500 * 0-65535 * 0-65535

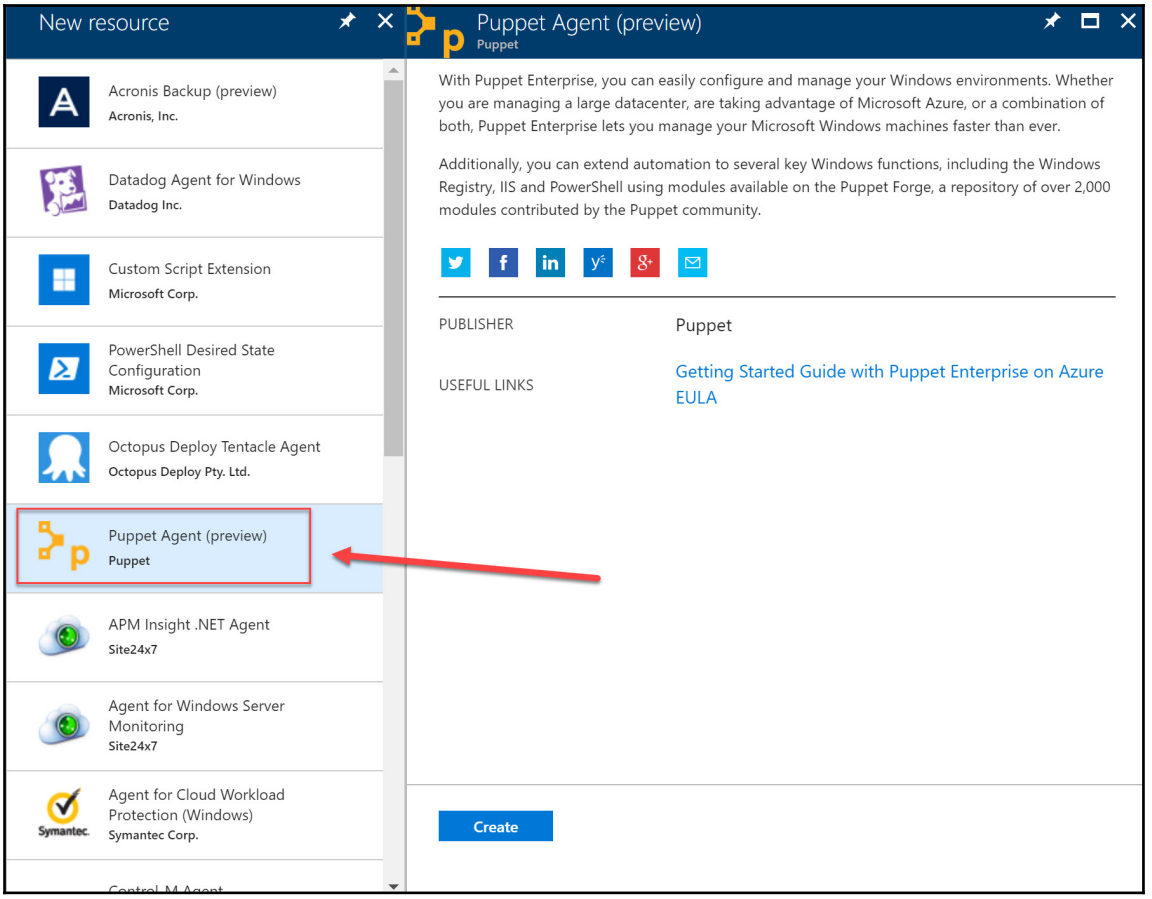
Chapter 15: Exploring Operations Automation Strategies

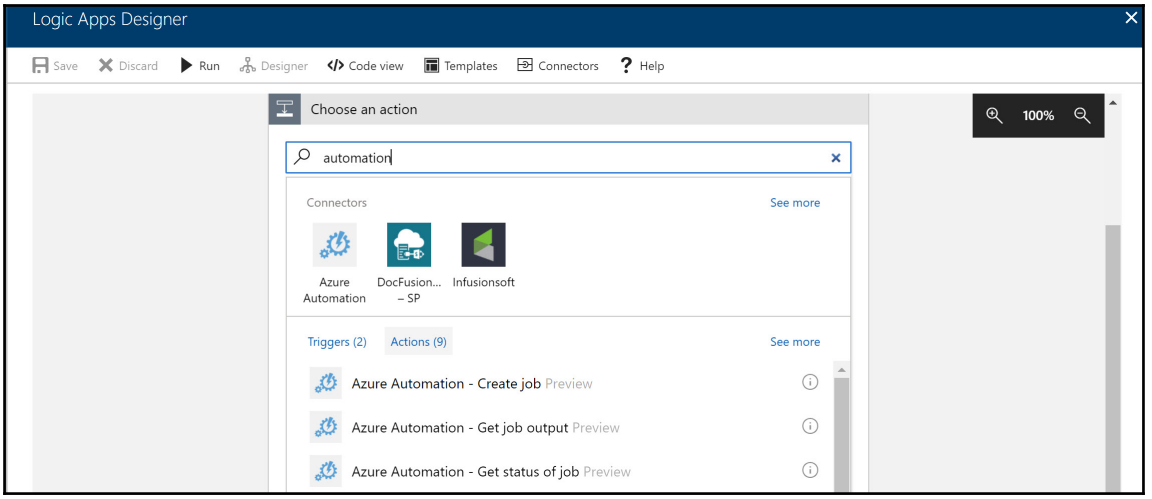

Add Automation Account
* Name
PacktAutomation
* Subscription
Microsoft Azure Sponsorship
* Resource group
Create new
Use existing
PacktAutomation
* Location
West Europe
* Create Azure Run As account
Yes
No
The Run As account feature will create a Run As account and a Classic Run As account.Click here to learn more about Run As accounts.
Learn more about Automation pricing.
Pin to dashboard
Create


PacktAutomation - Runbooks
Automation Account
Search (Ctrl+/)
Add a runbook
Browse gallery
Refresh
Search runbooks
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
CONFIGURATION MANAGEMENT
Inventory
Change tracking
DSC nodes
DSC configurations
DSC configurations gallery (P...
DSC node configurations
UPDATE MANAGEMENT
Update management
PROCESS AUTOMATION
Runbooks
Jobs
Runbooks gallery
Hybrid worker groups
NAME
AUTHORING STATUS
LAST MODIFIED
TAGS
AzureAutomationTutorial
Published
3/23/2018, 2:27 PM
AzureAutomationTutorialPython2
Published
3/23/2018, 2:27 PM
AzureAutomationTutorialScript
Published
3/23/2018, 2:27 PM
AzureClassicAutomationTutorial
Published
3/23/2018, 2:27 PM
AzureClassicAutomationTutorialS...
Published
3/23/2018, 2:27 PM


Add Runbook
Quick Create
Create a new runbook
Import
Import an existing runbook
Import
Runbook
Select a file smaller than 1 MB to import.
* Runbook file
"StartAzureV2Vm.graphrunbook"
* Runbook type
Graphical
* Name
StartAzureV2Vm
Description
Create


Edit Graphical Runbook
StartAzureV2Vm
Save
Publish
Revert to published
Input and output
Test pane
Feedback
Search library items ...
CMDLETS
RUNBOOKS
ASSETS
RUNBOOK CONTROL
Get Run As Connection
READ ME
Connect to Azure
Get single VM
Get all VMs in RG
Get all VMs in Sub
Merge VMs
Get VM with Status
Start VM
Notify Already Started
Notify VM Started
Notify Failed To Start
1:1
Name
Get-AzureRmVM
* Label
Get all VMs in RG
Comment
Get all Azure RM VMs for the resource group.
Convert exceptions to errors
Yes
No
Parameters
Configure parameters
Optional additional parameters
Configure parameters
Retry behavior
Configure retry behavior


New resource
Acronis Backup (preview)
Acronis, Inc.
Datadog Agent for Windows
Datadog Inc.
Custom Script Extension
Microsoft Corp.
PowerShell Desired State Configuration
Microsoft Corp.
Octopus Deploy Tentacle Agent
Octopus Deploy Pty. Ltd.
Puppet Agent (preview)
Puppet
APM Insight .NET Agent
Site24x7
Agent for Windows Server Monitoring
Site24x7
Agent for Cloud Workload Protection (Windows)
Symantec Corp.
Puppet Agent (preview)
Puppet
With Puppet Enterprise, you can easily configure and manage your Windows environments. Whether you are managing a large datacenter, are taking advantage of Microsoft Azure, or a combination of both, Puppet Enterprise lets you manage your Microsoft Windows machines faster than ever.
Additionally, you can extend automation to several key Windows functions, including the Windows Registry, IIS and PowerShell using modules available on the Puppet Forge, a repository of over 2,000 modules contributed by the Puppet community.
PUBLISHER
Puppet
USEFUL LINKS
Getting Started Guide with Puppet Enterprise on Azure
EULA
Create


Logic Apps Designer
Save
Discard
Run
Designer
Code view
Templates
Connectors
Help
Choose an action
100%
automation
Connectors
See more
Azure Automation
DocFusion... – SP
Infusionsoft
Triggers (2)
Actions (9)
See more
Azure Automation - Create job Preview
Azure Automation - Get job output Preview
Azure Automation - Get status of job Preview