

Cloud Services I

Networking I





**AWS Cloud Practitioner Essentials (Second Edition):
AWS Networking Services**

VPC concepts and fundamentals

What is a VPC ?



VPC concepts and fundamentals



IP addressing



Creating
subnets



Routing in a
VPC



DNS in-VPC
with Amazon
Route 53



Security

Choosing an IP address range

Choosing an IP address range for your VPC



Avoid ranges that overlap with other networks to which you might connect

Size your VPC appropriately

Ability to summarize VPC CIDRs into a superset is a plus

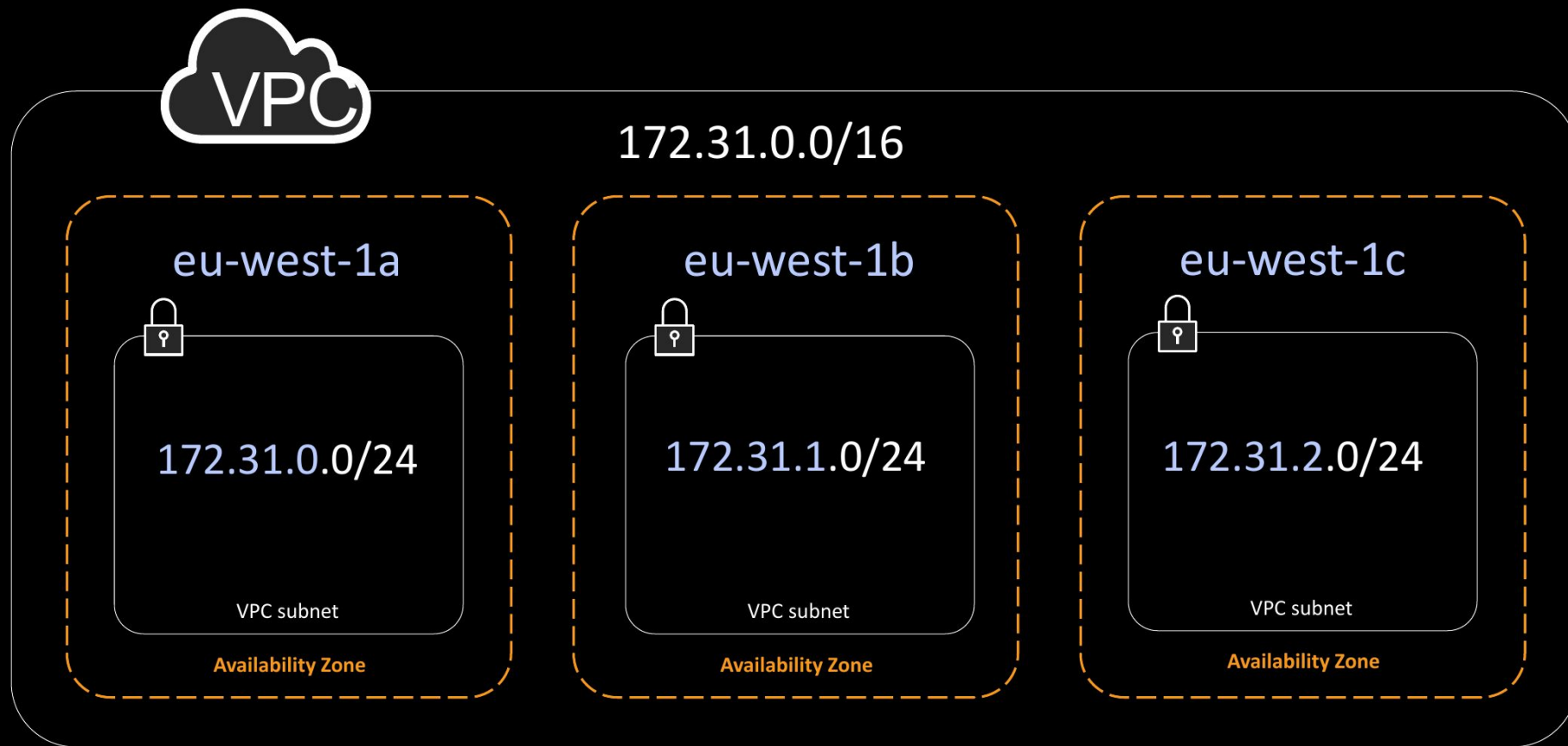
172.31.0.0/16

Recommended: RFC1918
range

Expandable

Creating subnets in a VPC

VPC subnets and Availability Zones

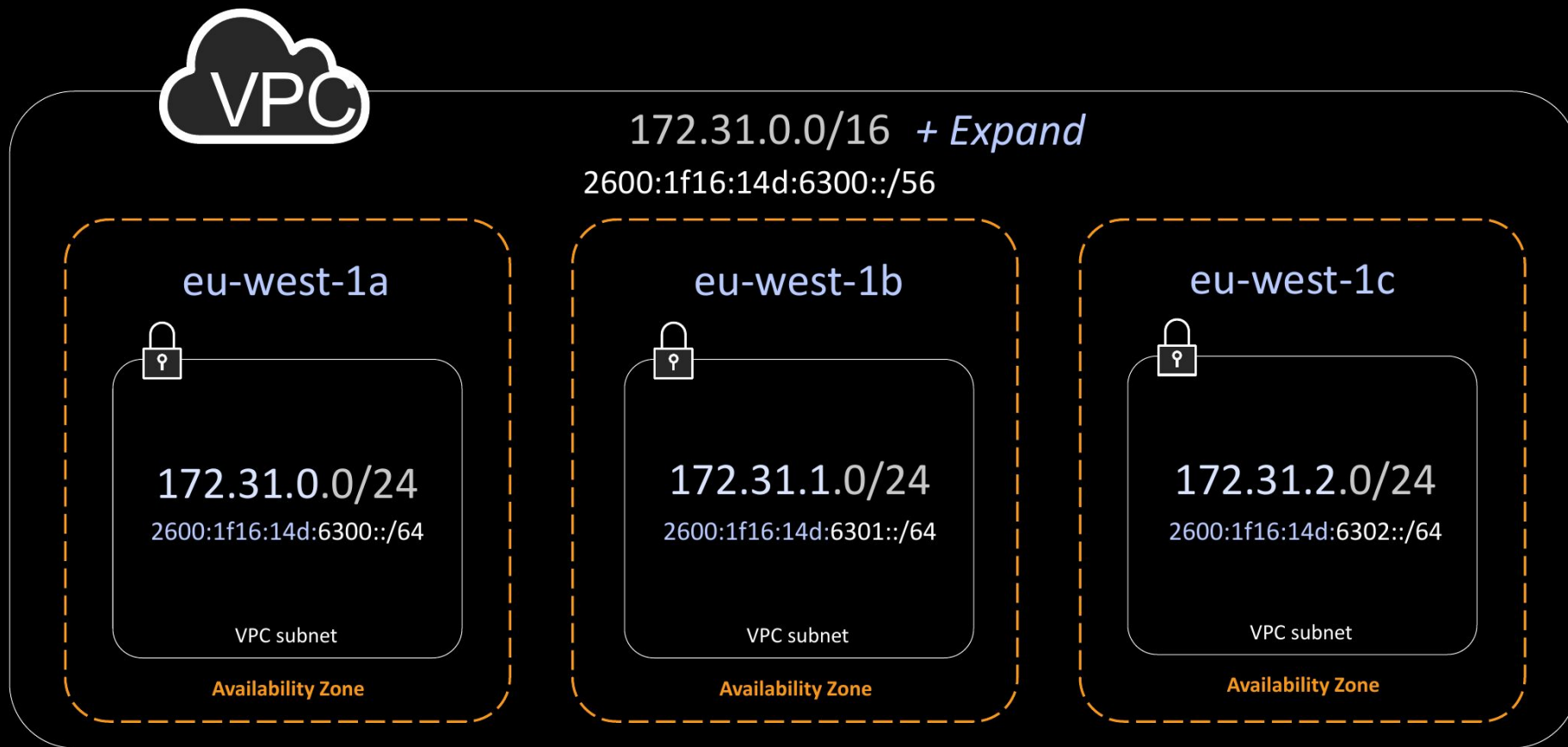


IPv6 in your VPC

- Can have a dual-stack VPC by adding an IPv6 CIDR
- Fixed sizes for VPC and subnets:
 - /56 VPC (4,722,366,482,869,645,213,696 addresses)
 - /64 subnets (18,446,744,073,709,551,616 addresses)

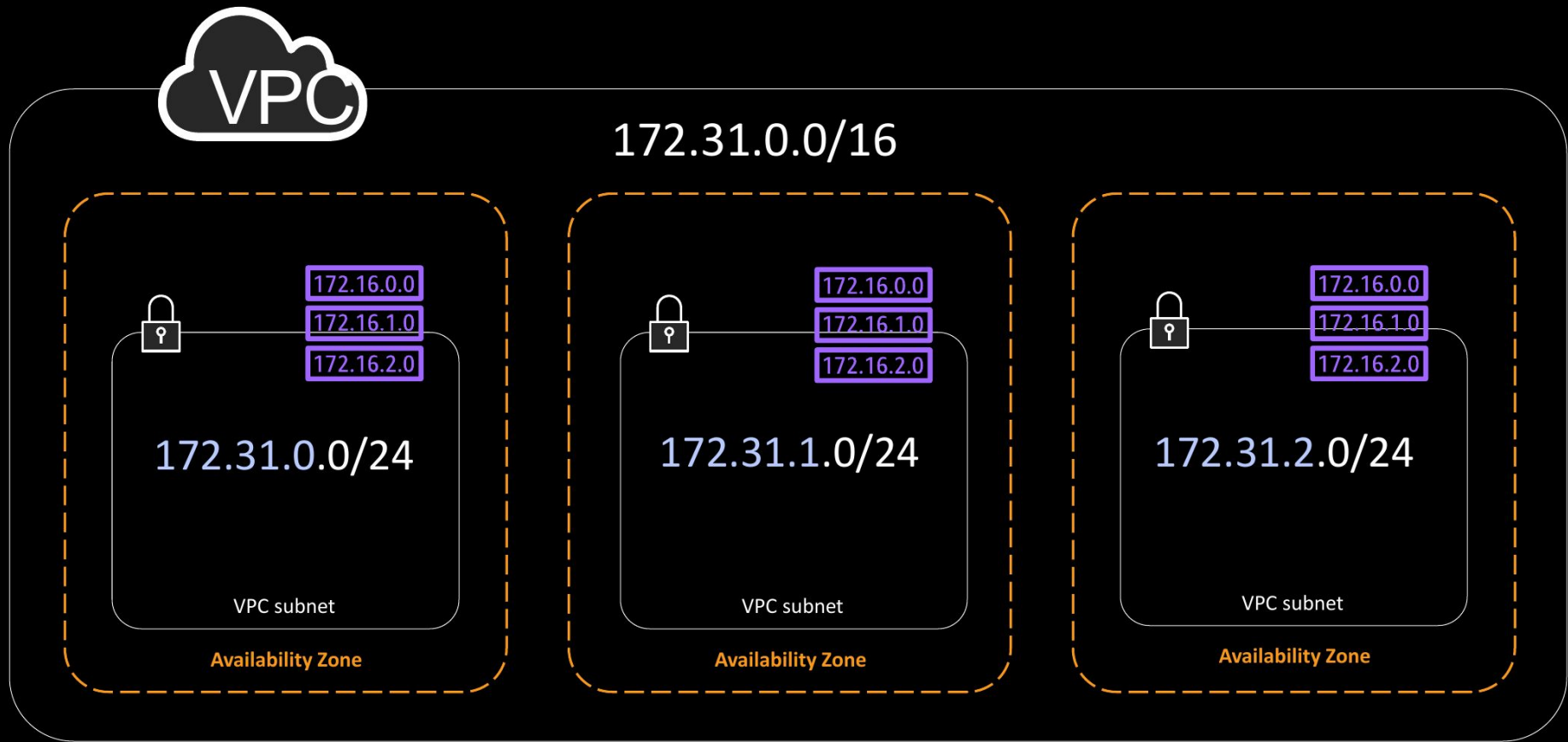


VPC subnets and Availability Zones



Routing in a VPC

Route tables



Route Table: rtb-0ea57a71



Summary

Routes

Subnet Associations

Route Propagation

Tags

Edit routes

Traffic destined for my VPC
stays in my VPC

Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No
0.0.0.0/0	igw-062f547f	active	No
10.0.0.0/16	pcx-4844e820	active	No

DNS in a VPC

VPC DNS options

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set
<input checked="" type="checkbox"/>	myVPC	vpc-0bcb5110cf0ce088b	available	172.31.0.0/16	2600:1f16:14d:6300::/56	dopt-c8cf28a1

vpc-0bcb5110cf0ce088b | myVPC

Summary | CIDR Blocks | Flow Logs | Tags

VPC ID: vpc-0bcb5110cf0ce088b | myVPC

State: available

IPv4 CIDR: 172.31.0.0/16

IPv6 CIDR: 2600:1f16:14d:6300::/56

DHCP options set: dopt-c8cf28a1

Route table: rtb-0028d8ca88068723d

Network ACL: acl-0eb64...2bbc5a5

Tenancy: Default

DNS resolution: yes

DNS hostnames: yes

Have EC2 auto-assign DNS host names to instances

Use Amazon DNS server

Amazon Route 53 private hosted zones

Back to Hosted Zones Create Record Set Import Zone File Delete Record Set Test Record Set

Record Set Name X Any Type Aliases Only

Weighted Only

Displaying 1 to 2 out of 6

example.demohostedzone.org → 172.31.0.99

demohostedzone.org.	NS	ns-0.awsdns-00.com. ns-1024.awsdns-00.org. ns-512.awsdns-00.net.
demohostedzone.org.	SOA	ns-1536.awsdns-00.co.uk. awsdns-hostmaster

Create Record Set

Name: example.demohostedzone.org.

Type: A – IPv4 address

Alias: ☐ Yes ☒ No

TTL (Seconds): 300 1m 5m 1h 1d

Value: 172.31.0.99

IPv4 address. Enter multiple addresses on separate lines.
Example:
192.0.2.235
198.51.100.234

Amazon Route 53 Resolver for hybrid clouds

Step1
Configure endpoints

Step2
Configure inbound
endpoint

Step3
Configure outbound
endpoint

Step4
Create rule

Step5
Review and create

Configure endpoints

Endpoints provide the information that Resolver needs to route DNS queries from your VPCs to your network, from your network to your VPCs, or both.



You are signed in to the following region: us-west-2
To change your region use the region selector in the upper-right corner.

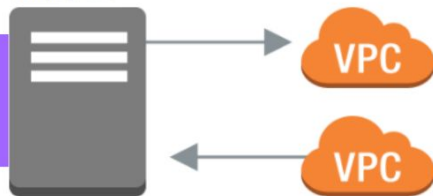
Basic configuration

Direction of DNS queries [info](#)

You can configure endpoints for inbound DNS queries (to your VPC), outbound DNS queries (from your VPC), or both.

☒ Inbound and outbound

Configure endpoints that allows DNS queries both to and from your VPC



☐ Inbound only

Configure an endpoint that allows DNS queries to your VPC from an on-premises network or another VPC.



☐ Outbound Only

Configure an endpoint that allows DNS queries from your VPC to an on-premises network or another VPC.



Conditional forwarding
rules

Route 53 Resolver
endpoints

Cancel

Previous

Next

Networking labs

- [Online lab platform](#)
 - AWSGen (networking lab part 1)
 - Create a VPC with public and private networks
 - Provide a bastion host to access VPC resources on AWS
 - Use Route53 Resolvers and traffic flow policies

