Traffic Control: Network Access Control Lists and Security Groups Part 2

Brock Tubre

TECHNICAL INSTRUCTOR

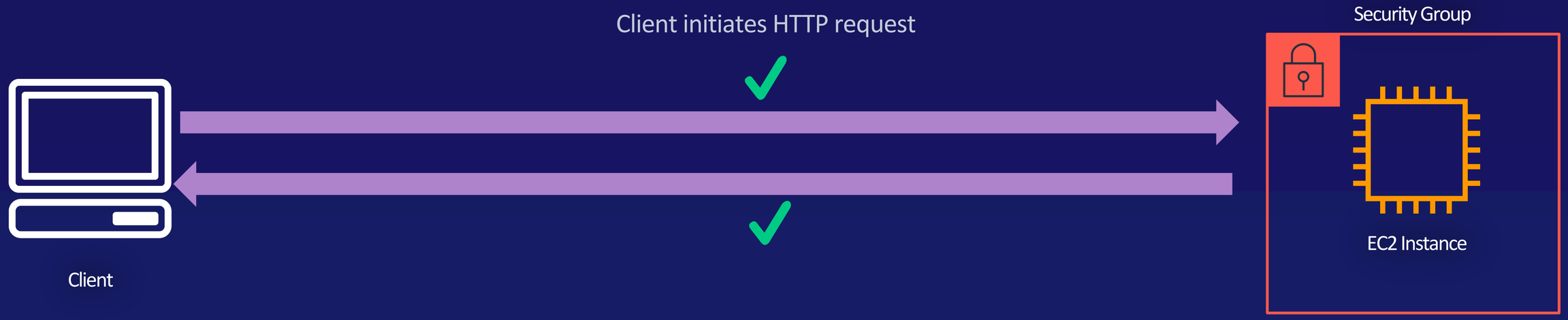
Stateful

A CLOUD GURU

Security Groups (Stateful)

Security Group - Inbound			
Type	Protocol	Port Range	Source
HTTP	TCP	80	0.0.0.0/0

Security Group - Outbound			
Type	Protocol	Port Range	Source
All Traffic	ALL	ALL	0.0.0.0/0



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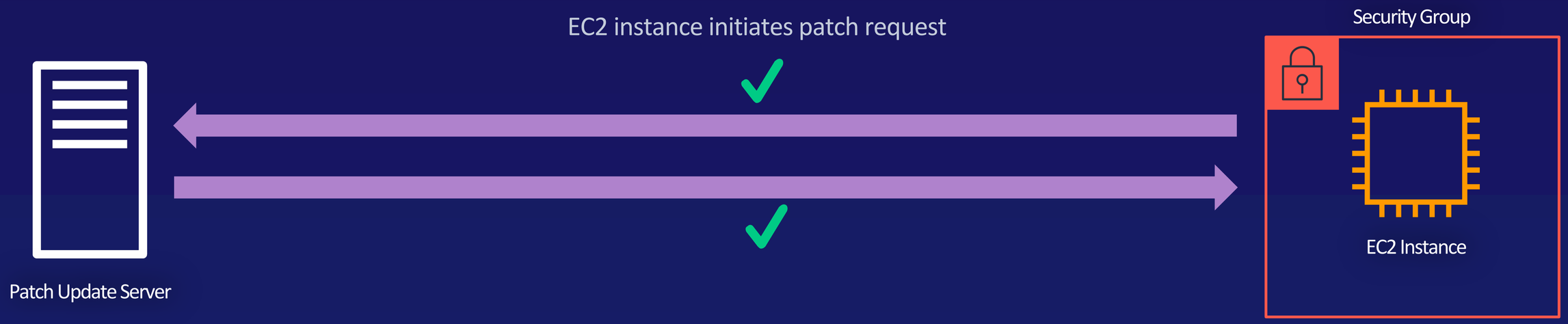

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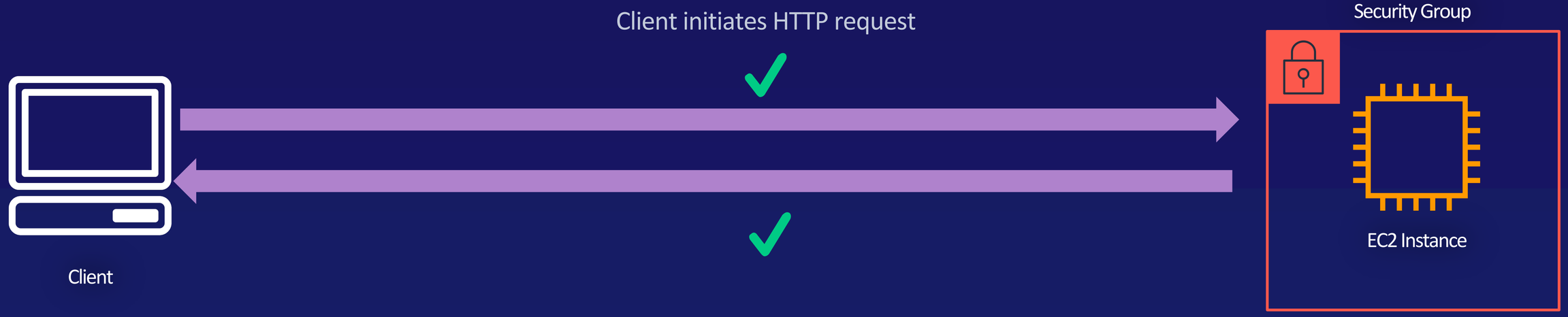

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Security Groups Self Referencing Feature

A CLOUD GURU

SG – Web Access (Inbound)			
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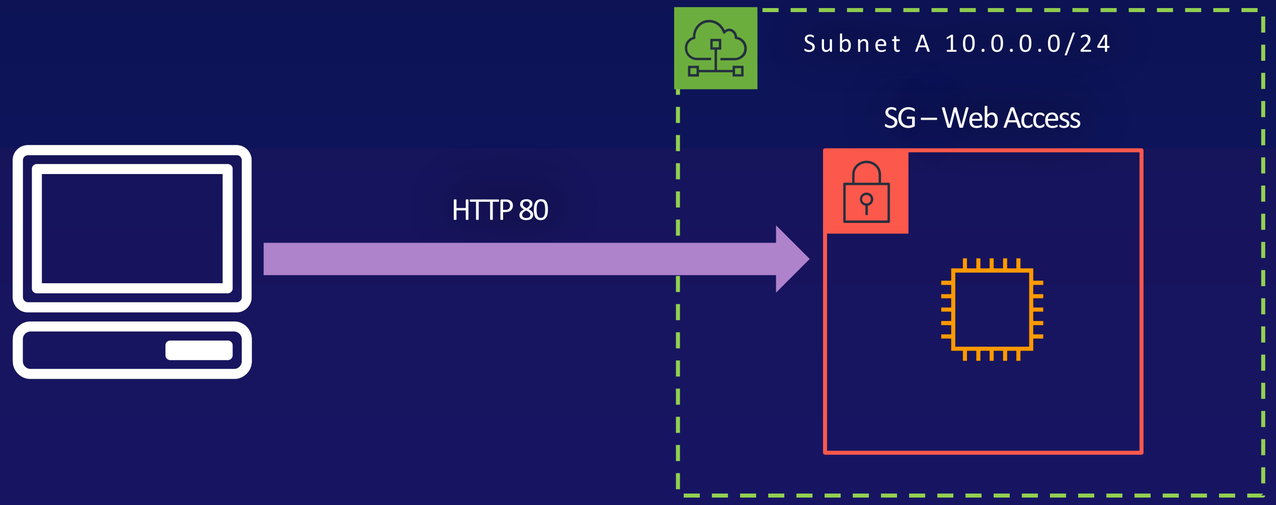
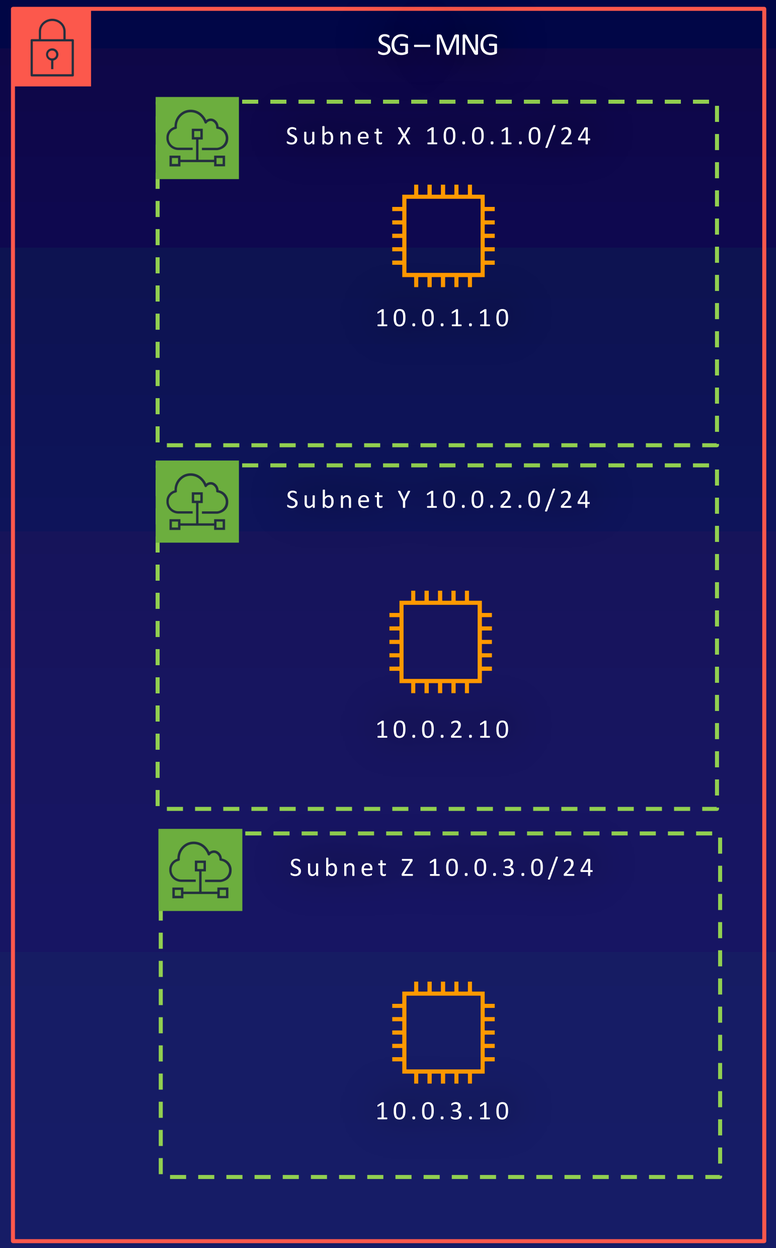
HTTP	TCP	80	0.0.0.0/0

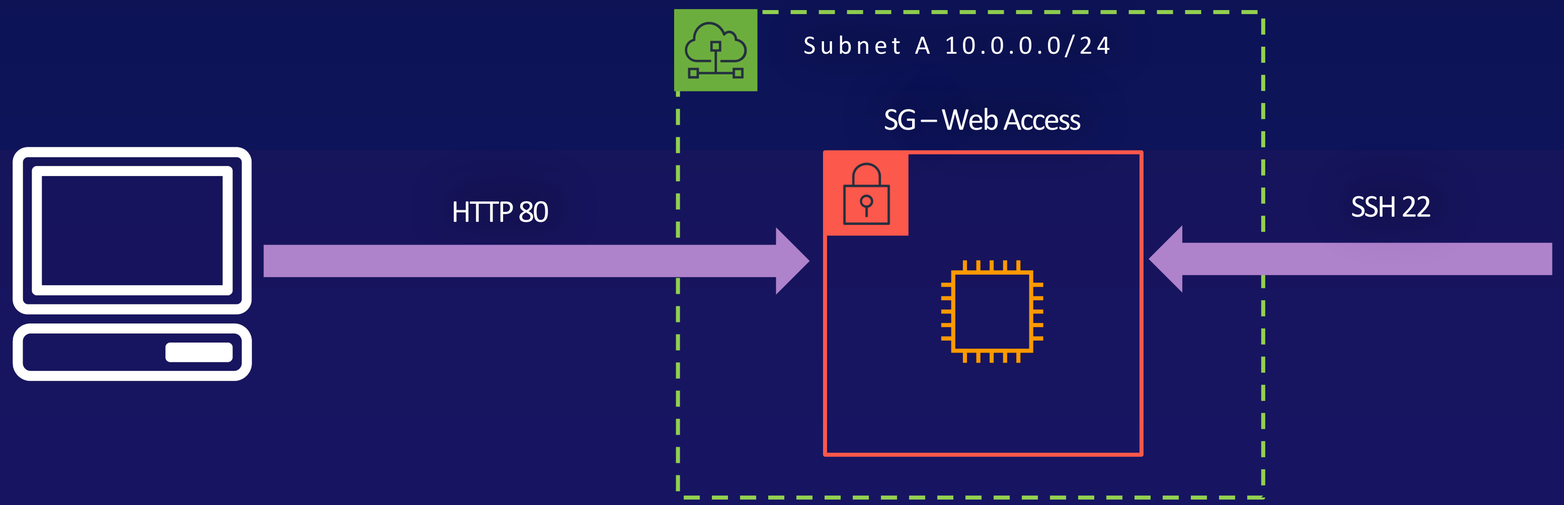


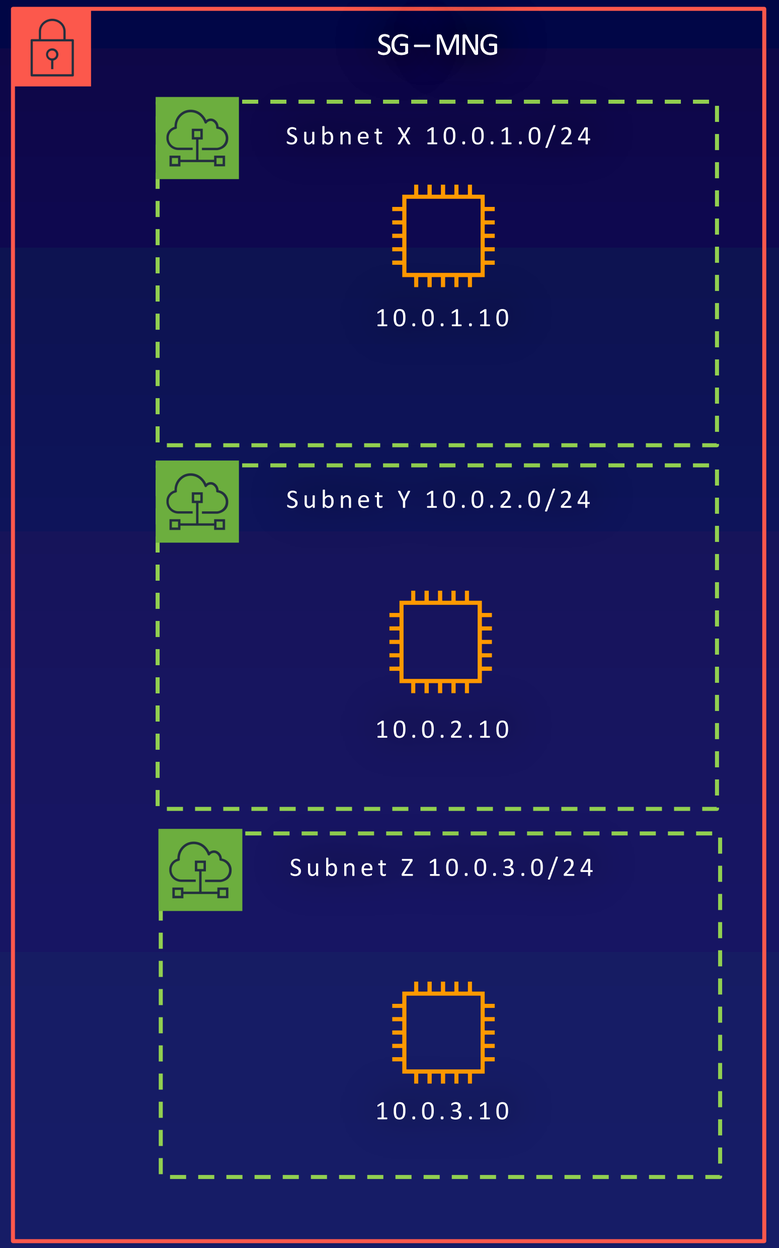


Security Groups Self Referencing Feature

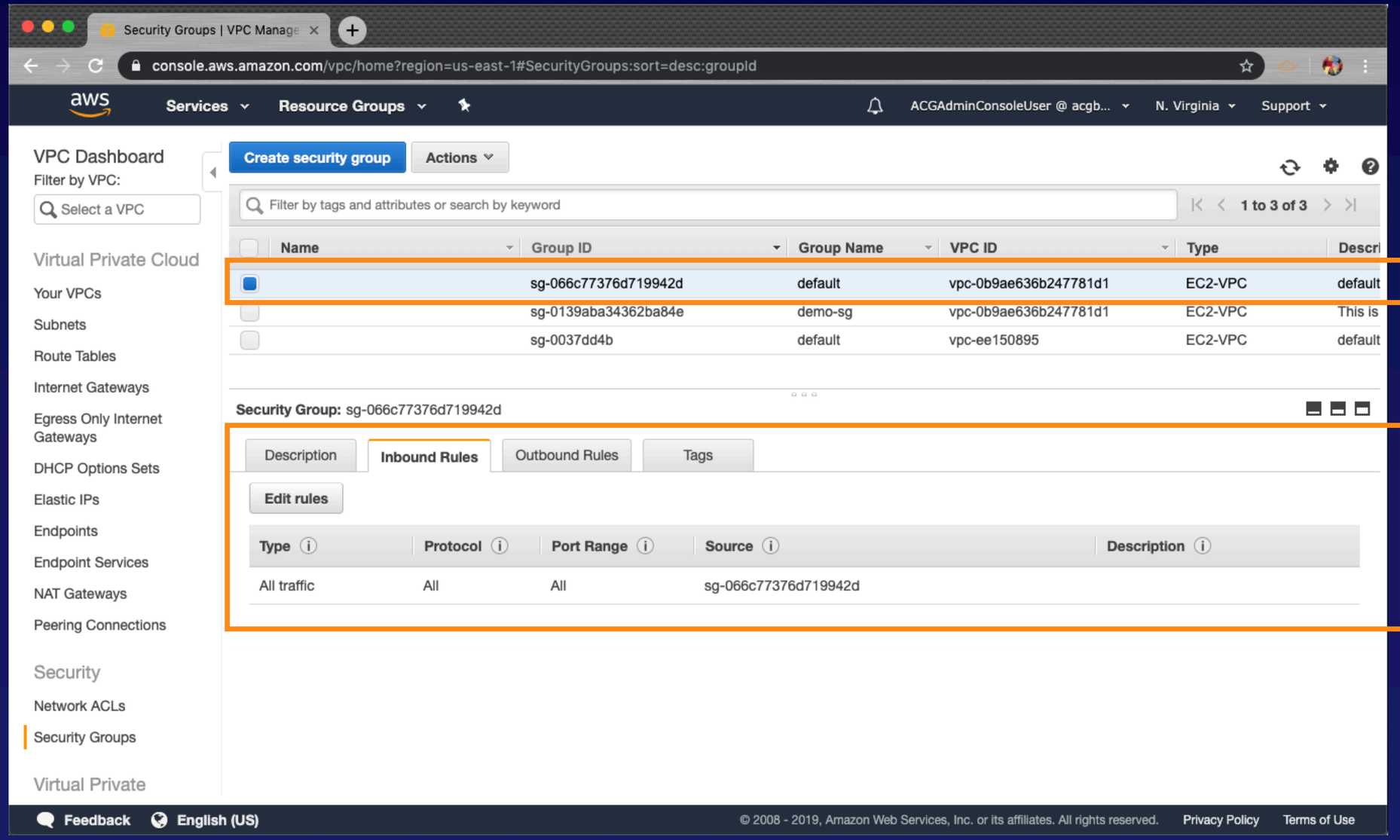
A CLOUD GURU

SG – Web Access (Inbound)			
Type	Protocol	Port Range	Source
HTTP	TCP	80	0.0.0.0/0
HTTP	TCP	22	SG - MNG





Security Groups Self Referencing Feature



NACLs and Rule Ordering

NACL (Inbound)					
Rule #	Type	Protocol	Port Range	Source	Allow/Deny
100	SSH	TCP	22	0.0.0.0/0	ALLOW
200	HTTP	TCP	80	1.2.3.4/32	DENY
300	HTTP	TCP	80	0.0.0.0/0	ALLOW
400	HTTPS	TCP	443	0.0.0.0/0	ALLOW
500	Custom TCP	TCP	49152-65535	0.0.0.0/0	ALLOW
*	All IPv4 traffic	All	All	0.0.0.0/0	DENY

Mandatory rule that cannot be edited or removed. It matches any request that has not matched any other rules. It always applies a DENY.

NACLs and Rule Ordering

HTTP 3.3.3.3

HTTP 1.2.3.4

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Stateless

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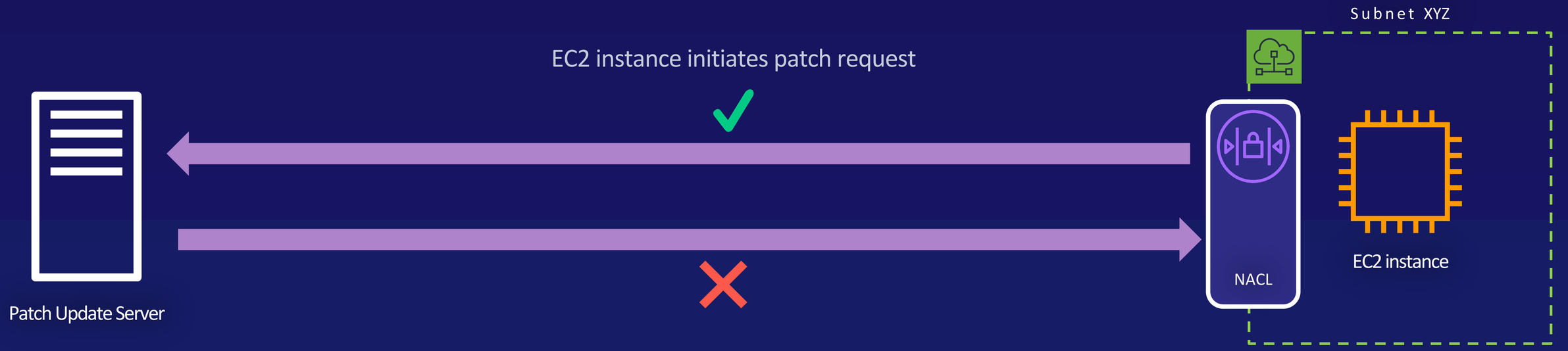
Network ACLs (Stateless)

NACL - Inbound					
Rule #	Type	Protocol	Port Range	Source	Allow/Deny
*	All IPv4 traffic	All	All	0.0.0.0/0	DENY

NACL - Outbound					
Rule #	Type	Protocol	Port Range	Destination	Allow/Deny
100	All IPv4 traffic	All	All	0.0.0.0/0	ALLOW
*	All IPv4 traffic	All	All	0.0.0.0/0	DENY



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Mandatory rule that cannot be edited or removed. It matches any request that has not matched any other rules. It always applies a DENY.

Implicit and Explicit

Implicit deny = default wildcard rule

Explicit allow = specific allow rule

Explicit deny = specific deny rule

Stateless

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Network ACLs (Stateless)

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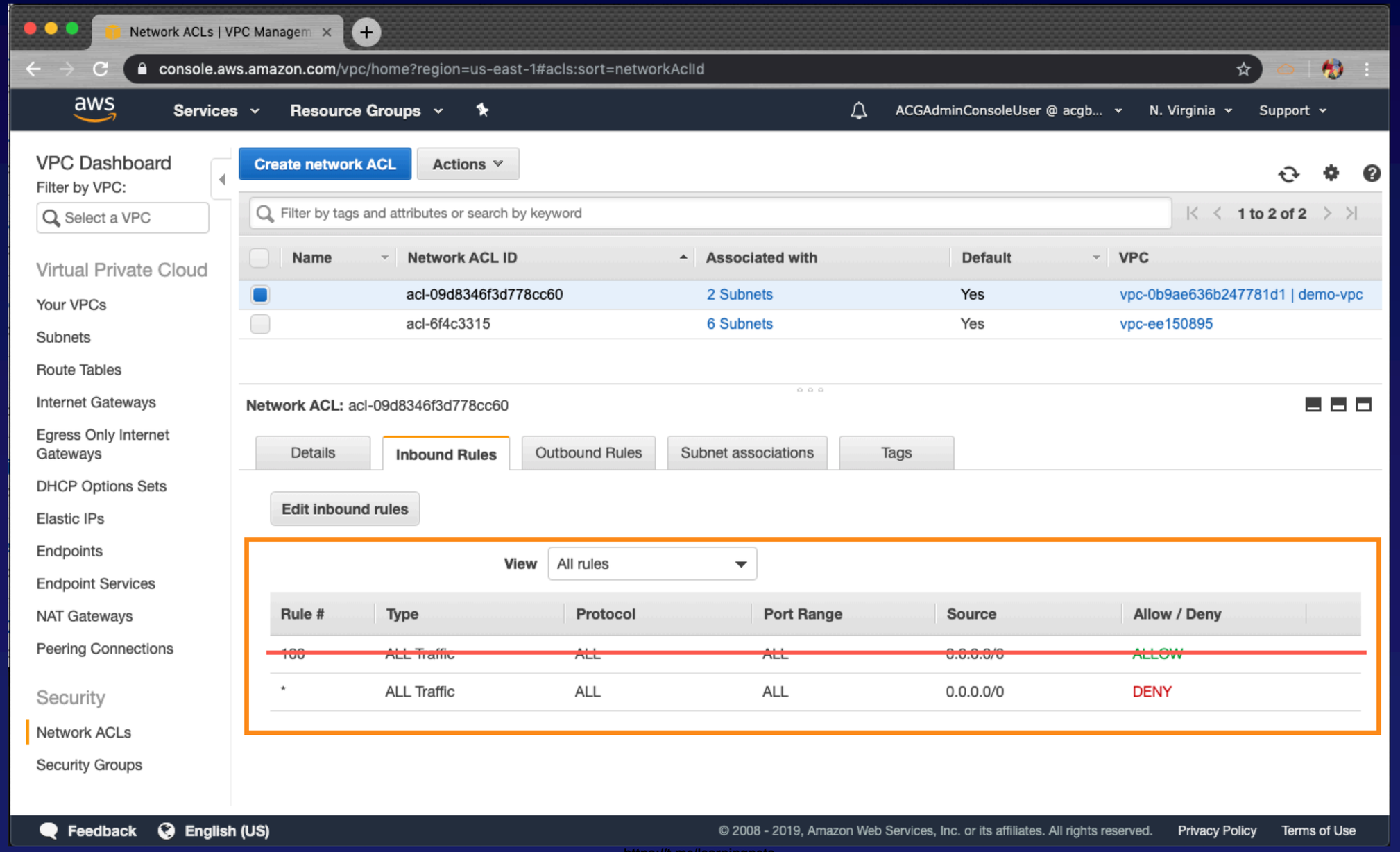
Default and Custom NACLs



Ephemeral

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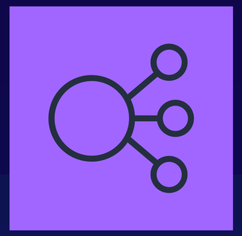
LASTING
FOR A VERY
SHORT TIME

ACG Dominates Deepracer

A CLOUD GURU

Ephemeral Ports

Linux
32768-61000

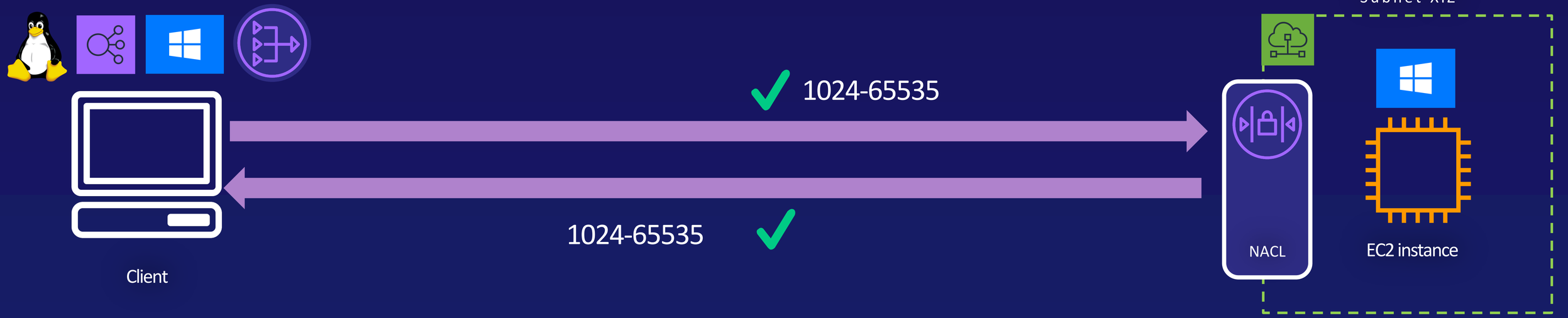


Elastic Load Balancer
32768-61000

Windows Server 2003
1025-5000

NAT Gateway
1024-65535

Windows Server 2008+
49152-65535



Fast Takeaways

You can assign multiple security groups to a single ENI

Security groups have allow rules but no deny rules

Security groups are stateful

Fast Takeaways

Every subnet must be associated with a NACL and operate at the subnet level

NACLs have both allow and deny rules

NACLs are stateless

Fast Takeaways

Use a deny all approach

Only allow access where access needs to be granted

Be able to diagnose network issues that could be caused by SGs and NACLs