

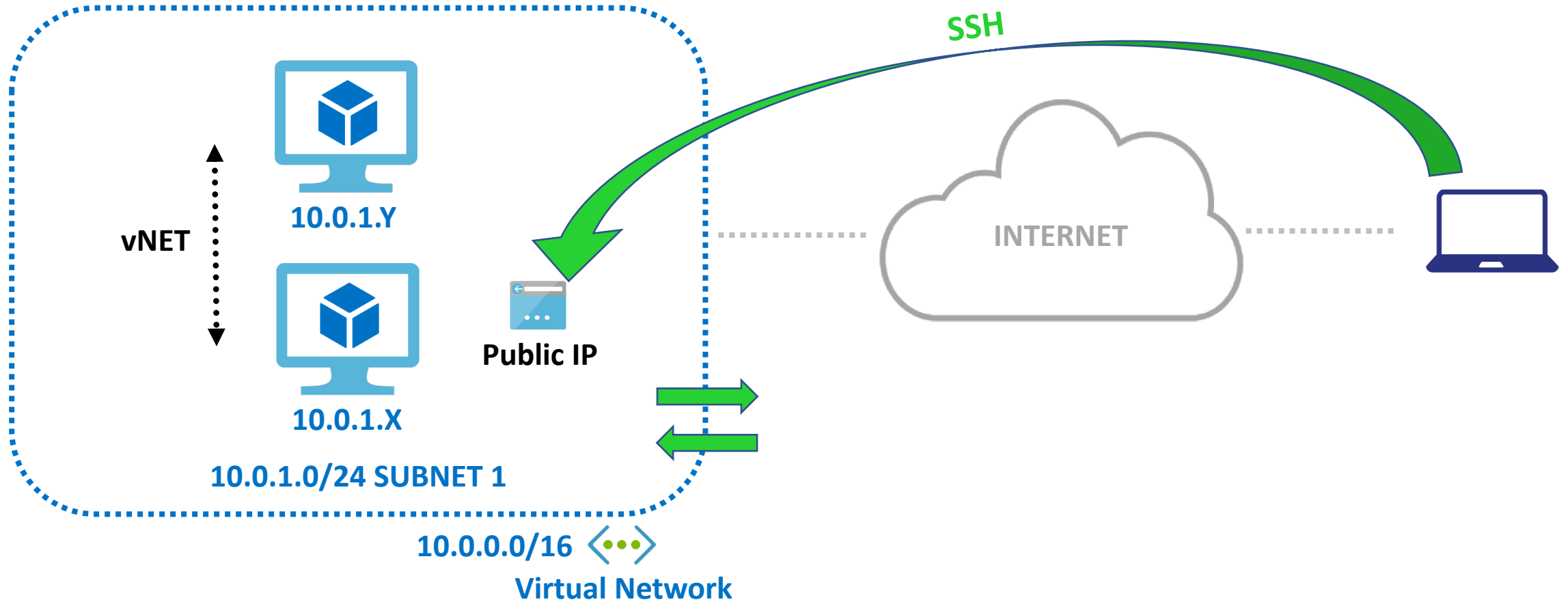
Microsoft Azure Fundamentals
Training Bootcamp

Azure VMs Networking and High Availability Fundamentals 101

VMs Networking Basics – Azure vNETs

- ❑ Azure Virtual Networks (vNETs) are the fundamental building block for your private network in Azure (your own DC in the Azure cloud)
- ❑ vNETs enable VMs to communicate between them, over the internet and with your on-prem DC
- ❑ Think of your traditional IP network that you need to setup in your organization or your DC; vNETs are your dedicated network, running in Azure

VMs Networking Basics – Azure vNETs

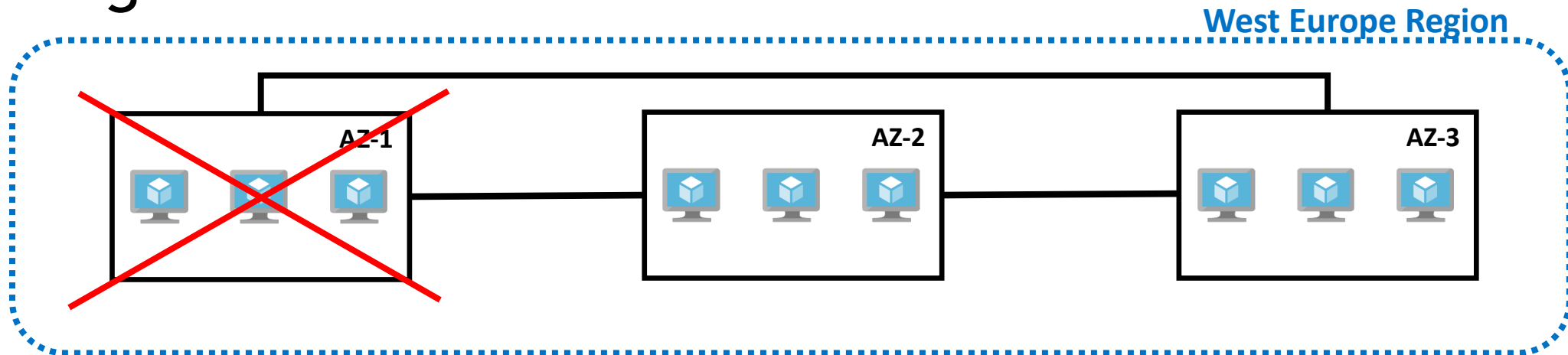


VMs Availability Options in Azure Cloud

- ❑ There are few options that Azure provides to achieve High Availability, Scalability and Redundancy
- ❑ We will now briefly touch on the following:
 - ❑ High Availability
 - ❑ Availability Sets
 - ❑ Virtual Machine Scale Sets
 - ❑ Azure Batch

VMs High Availability – Availability Zones

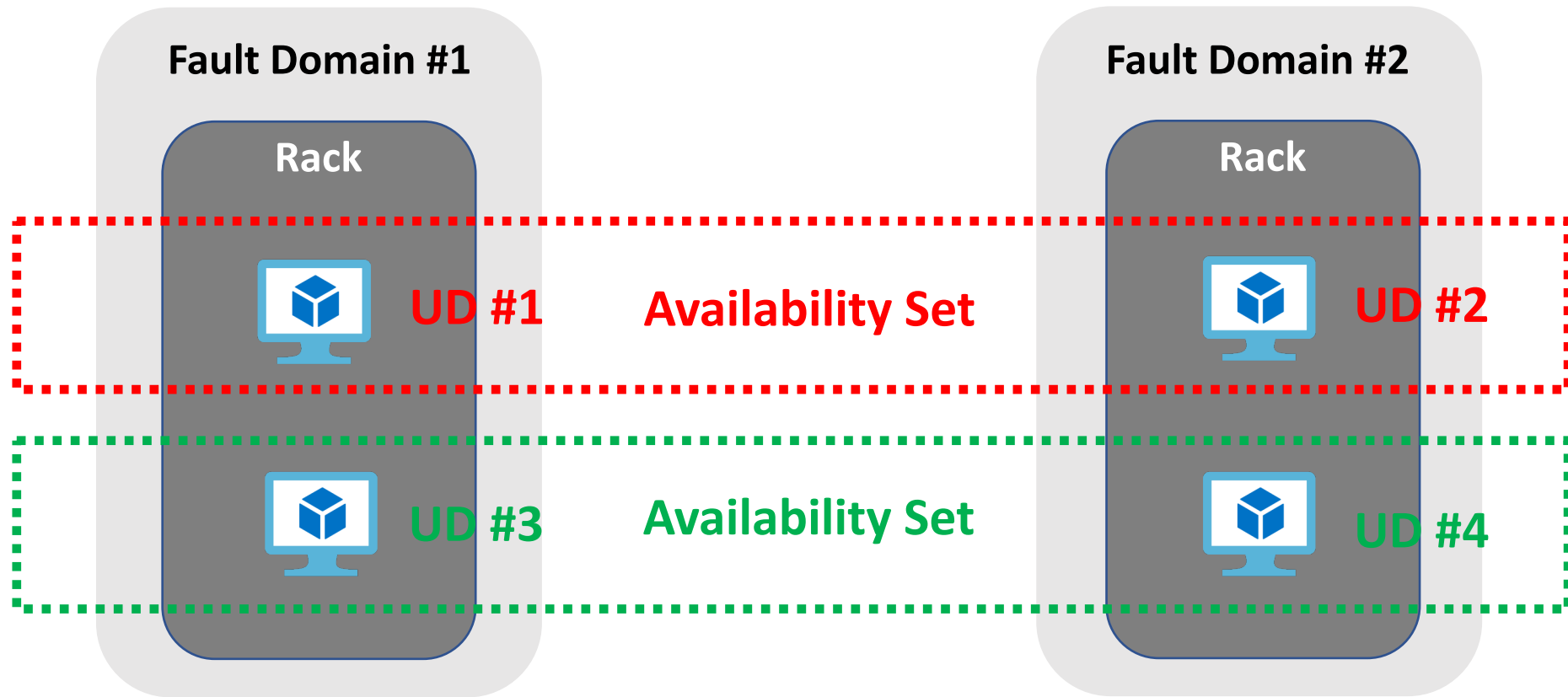
- ❑ When deploying highly available, mission-critical apps, it's a good idea to use Azure Availability Zones
- ❑ Availability Zones are physically separate datacenters within an Azure region, with independent power, network and cooling



VMs High Availability – Availability Sets

- ❑ An availability set is a logical grouping of two or more VMs within a DC that allows Azure to understand how your App is built to provide redundancy and availability
- ❑ With availability sets, Azure will split your fleet of VMs on different racks of servers, which are called *fault domains*; prevents app outage in case of unplanned maintenance events (power, hw failure, etc)
- ❑ *Update domains* can prevent application outage in case of VM reboot or planned maintenance windows in Azure

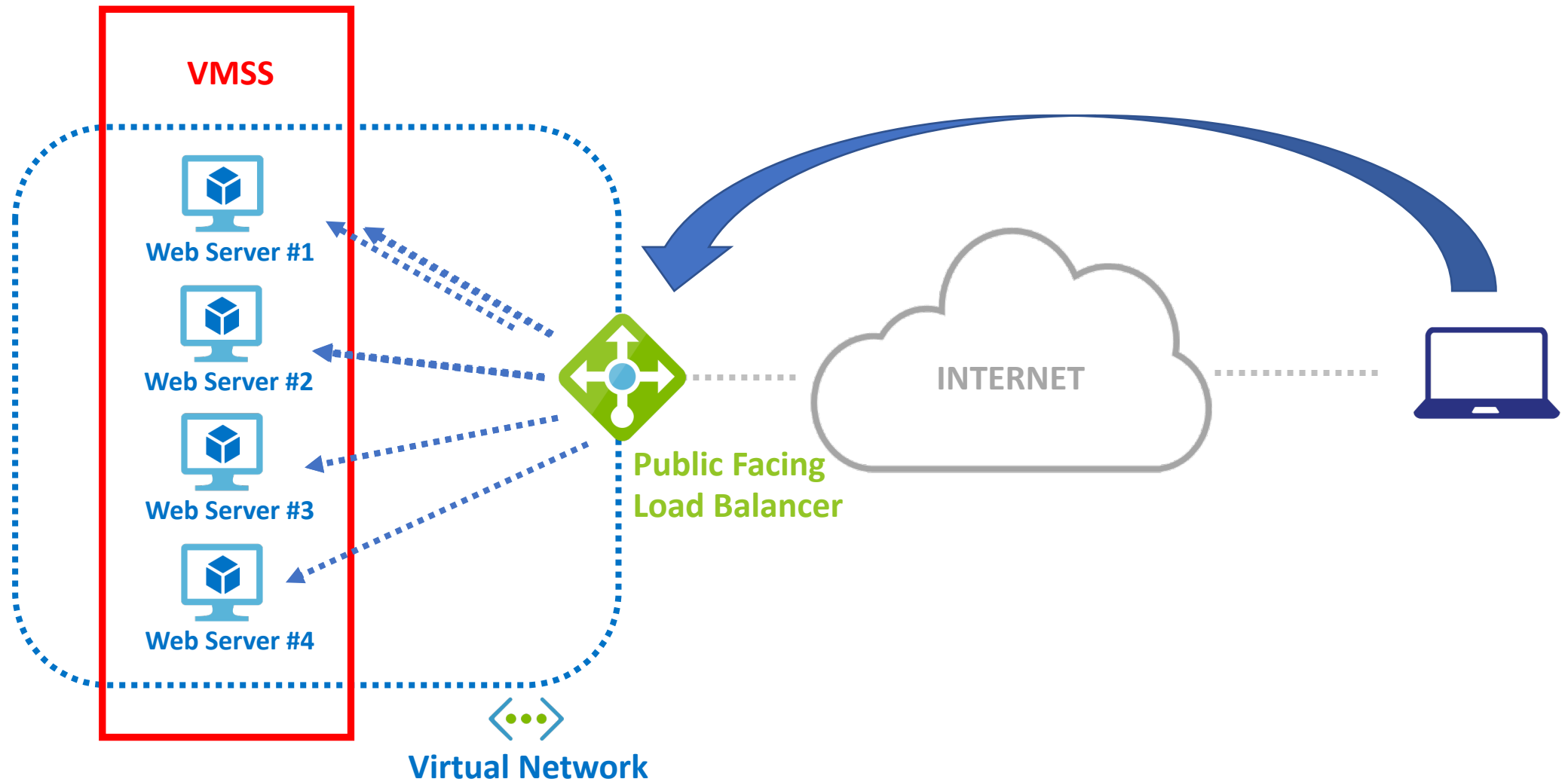
VMs High Availability – Availability Sets




Virtual Machine Scale Sets (VMSS)

- ❑ Azure virtual machine scale sets let you create and manage a group of identical load balanced VMs
- ❑ The number of VM instances can automatically increase or decrease in response to traffic demand or a defined schedule
- ❑ In order to achieve high availability, a minimum of 2 VMs should be placed in a VMSS; 99,95% Azure SLA met

Virtual Machine Scale Sets (VMSS)



Azure Batch

- ❑ Azure Batch enables large-scale job scheduling and compute management with the ability to scale to tens, hundreds or thousands of VMs
 - ❑ Shortly put:
 - ❑ Initiate a pool of VMs
 - ❑ Configure them as needed
 - ❑ Run jobs
 - ❑ Scale down the pool
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Thank you