

## INTRODUCTION TO CLOUD COMPUTING

### Lab Task 03 (Implement Virtual Networking)

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Section: SE 7-B

## Task 1: Create a virtual network with subnets using the portal.

- Create a Virtual network “CoreServicesVnet”:

Microsoft Azure

Home > Network foundation > Virtual networks >

### Create virtual network

Basics Security IP addresses Tags Review + create

Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more](#)

**Project details**

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* Azure for Students

Resource group \* 01461 az104-rg4 [Create new](#)

**Instance details**

Virtual network name \* CoreServicesVnet

Region \* (Asia Pacific) East Asia [Deploy to an Azure Extended Zone](#)

Previous Next Review + create

- Configure IP Address Space & Create SharedServicesSubnet:

Microsoft Azure

Home > Network foundation > Virtual networks >

### Create virtual network

Basics Security IP addresses Tags Review + create

Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. [Learn more](#)

Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segment the virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, Azure assigns the resource an IP address from the subnet. [Learn more](#)

☐ Allocate using IP address pools. [Learn more](#)

+ Add a subnet

10.20.0.0/16 [Delete address space](#)

10.20.0.0 /16 65,536 addresses

Subnets	IP address range	Size	NAT gateway
default	10.20.0.0 - 10.20.0.255	/24 (256 addresses)	-

**Add a subnet**

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select services later. [Learn more](#)

Subnet purpose Default

Name \* SharedServicesSubnet

**IPv4**

Include an IPv4 address space ☒

IPv4 address range 10.20.0.0/16 10.20.0.0 - 10.20.255.255

Starting address \* 10.20.10.0

Size /24 (256 addresses)

Subnet address range 10.20.10.0 - 10.20.10.255

**IPv6**

Include an IPv6 address space ☐ This virtual network has no IPv6 address ranges.

**Private subnet**

Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide

Add Cancel

Previous Next Review + create

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- **Create DatabaseSubnet:**

The screenshot shows the 'Add a subnet' dialog in the Microsoft Azure portal. The dialog is for a virtual network named 'CoreServicesVnet'. The 'Subnet purpose' is set to 'Default'. The 'Name' is 'DatabaseSubnet'. The 'IPv4' section is expanded, showing 'Include an IPv4 address space' checked. The 'IPv4 address range' is '10.20.0.0/16'. The 'Starting address' is '10.20.0.0'. The 'Size' is '/24 (256 addresses)'. The 'Subnet address range' is '10.20.0.0 - 10.20.255.255'. The 'IPv6' section is collapsed. The 'Private subnet' section is also collapsed. The 'Add' button is visible at the bottom right of the dialog.

Subnets	IP address range	Size	NAT gateway
default	10.20.0.0 - 10.20.0.255	/24 (256 addresses)	-
SharedServicesSubnet	10.20.10.0 - 10.20.10.255	/24 (256 addresses)	-

- **Verify Virtual Network and Subnets:**

The screenshot shows the 'CoreServicesVnet | Address space' page in the Microsoft Azure portal. The page displays the address space for the virtual network. The address space is '10.20.0.0/16'. The address range is '10.20.0.0 - 10.20.255.255'. The address count is '65,536 addresses'. The 'Peered virtual network address space' section is empty, showing 'No items found'.

Address space	Address range	Address count
10.20.0.0/16	10.20.0.0 - 10.20.255.255	65,536 addresses

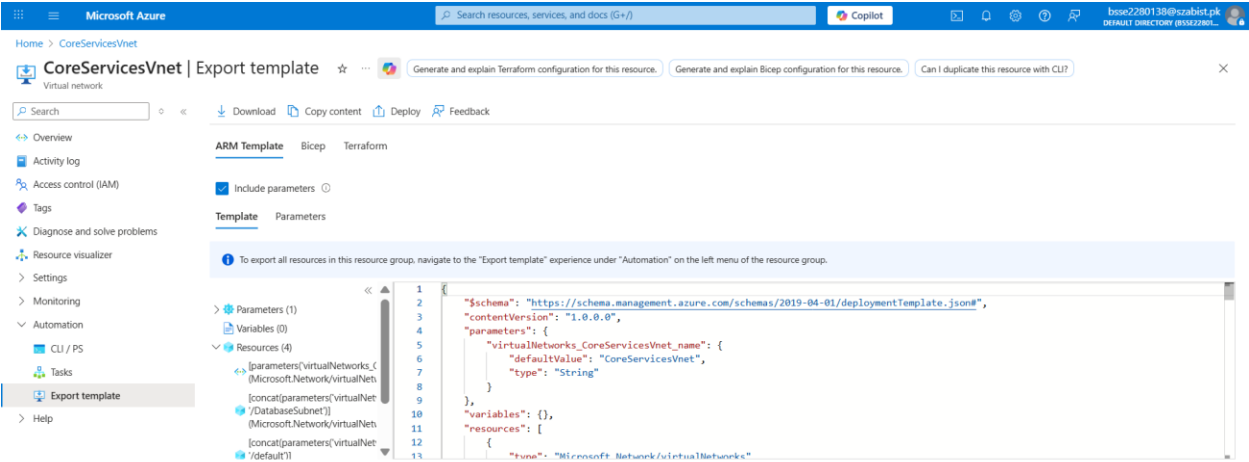
The screenshot shows the 'CoreServicesVnet | Subnets' page in the Microsoft Azure portal. The page displays a list of subnets for the virtual network. The subnets are 'default', 'SharedServicesSubnet', and 'DatabaseSubnet'. The 'DatabaseSubnet' is highlighted.

Name	IPv4	IPv6	Available IPs	Delegated to	Security group	Route table
default	10.20.0.0/24	-	251	-	-	-
SharedServicesSubnet	10.20.10.0/24	-	251	-	-	-
DatabaseSubnet	10.20.20.0/24	-	251	-	-	-

INTRODUCTION TO CLOUD COMPUTING

Lab Task 03 (Implement Virtual Networking)

• Export ARM Template:



Downloads > ExportedTemplate-az104-rg4				
<div>Sort View ...</div>				
Name	Date modified	Type	Size	
Today				
parameters	12/20/2025 7:32 PM	JSON Source File	1 KB	
template	12/20/2025 7:32 PM	JSON Source File	6 KB	

**Task 2: Create a virtual network and subnets using a template.**

- Edit ARM Template for ManufacturingVnet & Modify Address Space and Subnets:**

C: > Users > hp > Downloads > ExportedTemplate-az104-rg4 > {} template.json > {} resources > {} 0 > {} properties > {} subnets > {} 1 > {} properties >

```

1  {
2      "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
3      "contentVersion": "1.0.0.0",
4      "parameters": {
5          "virtualNetworks_ManufacturingVnet_name": {
6              "defaultValue": "ManufacturingVnet",
7              "type": "String"
8          }
9      },
10     "variables": {},
11     "resources": [
12         {
13             "type": "Microsoft.Network/virtualNetworks",
14             "apiVersion": "2024-07-01",
15             "name": "[parameters('virtualNetworks_ManufacturingVnet_name')]",
16             "location": "eastasia",
17             "properties": {
18                 "addressSpace": {
19                     "addressPrefixes": [
20                         "10.30.0.0/16"
21                     ]
22                 },
23                 "encryption": {
24                     "enabled": false,
25                     "enforcement": "AllowUnencrypted"
26                 },
27                 "privateEndpointVNetPolicies": "Disabled",
28                 "subnets": [
29

```

C: > Users > hp > Downloads > ExportedTemplate-az104-rg4 > {} template.json > {} resources > {} 0 > {} properties > {} subnets > {} 1 > {} properties > ~~privateLinkServiceNetworkPolicies~~

```

11
12
17  "s": {
18      "name": "default",
19      "id": "[resourceId('Microsoft.Network/virtualNetworks/subnets', parameters('virtualNetworks_ManufacturingVnet_name'), 'default')]",
20      "properties": {
21          "addressPrefixes": [
22              "10.30.0.0/24"
23          ],
24          "delegations": [],
25          "privateEndpointNetworkPolicies": "Disabled",
26          "privateLinkServiceNetworkPolicies": "Enabled"
27      },
28      "type": "Microsoft.Network/virtualNetworks/subnets"
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53

```

```

"name": "SensorSubnet2",
"id": "[resourceId('Microsoft.Network/virtualNetworks/subnets', parameters('virtualNetworks_ManufacturingVnet_name'), 'SensorSubnet2')]",
"properties": {
    "addressPrefixes": [
        "10.30.21.0/24"
    ],
    "delegations": [],
    "privateEndpointNetworkPolicies": "Disabled",
    "privateLinkServiceNetworkPolicies": "Enabled"
},
"type": "Microsoft.Network/virtualNetworks/subnets"

```

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### Lab Task 03 (Implement Virtual Networking)

```
73     {
74         "type": "Microsoft.Network/virtualNetworks/subnets",
75         "apiVersion": "2024-07-01",
76         "name": "[concat(parameters('virtualNetworks_ManufacturingVnet_name'), '/SensorSubnet2')]",
77         "dependsOn": [
78             "[resourceId('Microsoft.Network/virtualNetworks', parameters('virtualNetworks_ManufacturingVnet_name'))]"
79         ],
80         "properties": {
81             "addressPrefixes": [
82                 "10.30.21.0/24"
83             ],
84             "delegations": [],
85             "privateEndpointNetworkPolicies": "Disabled",
86             "privateLinkServiceNetworkPolicies": "Enabled"
87         }
88     },
89     {
90         "type": "Microsoft.Network/virtualNetworks/subnets",
91         "apiVersion": "2024-07-01",
92         "name": "[concat(parameters('virtualNetworks_ManufacturingVnet_name'), '/default')]",
93         "dependsOn": [
94             "[resourceId('Microsoft.Network/virtualNetworks', parameters('virtualNetworks_ManufacturingVnet_name'))]"
95         ],
96         "properties": {
97             "addressPrefixes": [
98                 "10.30.0.0/24"
99             ],
100             "delegations": [],
101             "privateEndpointNetworkPolicies": "Disabled",
102             "privateLinkServiceNetworkPolicies": "Enabled"
103         }
104     },
105     {
106         "type": "Microsoft.Network/virtualNetworks/subnets",
107         "apiVersion": "2024-07-01",
108         "name": "[concat(parameters('virtualNetworks_ManufacturingVnet_name'), '/SensorSubnet1')]",
109         "dependsOn": [
110             "[resourceId('Microsoft.Network/virtualNetworks', parameters('virtualNetworks_ManufacturingVnet_name'))]"
111         ],
112         "properties": {
113             "addressPrefixes": [
114                 "10.30.20.0/24"
115             ],
116             "delegations": [],
117             "privateEndpointNetworkPolicies": "Disabled",
118             "privateLinkServiceNetworkPolicies": "Enabled"
119         }
120     }
121 ]
122 }
```

- **Update Parameters File:**

```
LAB_04-Implement_Virtual_Networking.md {} parameters.json • {} template.json 1
C: > Users > hp > Downloads > ExportedTemplate-az104-rg4 > {} parameters.json > ...
1  {
2      "$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
3      "contentVersion": "1.0.0.0",
4      "parameters": {
5          "virtualNetworks_ManufacturingVnet_name": {
6              "value": null
7          }
8      }
9  }
10
```

# INTRODUCTION TO CLOUD COMPUTING

## Lab Task 03 (Implement Virtual Networking)

### • Deploy Custom ARM Template:

The screenshot shows the 'Custom deployment' page in the Microsoft Azure portal. The page title is 'Custom deployment' with a subtitle 'Deploy from a custom template'. There are three tabs: 'Select a template', 'Basics', and 'Review + create'. The 'Select a template' tab is active. It contains a section 'Common templates' with links to 'Create a Linux virtual machine', 'Create a Windows virtual machine', 'Create a web app', 'Create a SQL database', and 'Azure landing zone'. Below this is a section 'Start with a quickstart template or template spec' with a 'Template source' dropdown set to 'Quickstart template' and a 'Quickstart template (disclaimer)' dropdown.

The screenshot shows the 'Edit template' page in the Microsoft Azure portal. The page title is 'Edit template' with a subtitle 'Edit your Azure Resource Manager template'. There are three tabs: 'Add resource', 'Quickstart template', and 'Load file'. The 'Load file' tab is active. It shows a JSON ARM template for a virtual network. The template includes parameters for 'virtualNetworks\_ManufacturingVnet\_name', variables for 'addressSpace', and resources for 'Microsoft.Network/virtualNetworks'. The 'Save' button is visible at the bottom left.

The screenshot shows the 'Review + create' page in the Microsoft Azure portal. The page title is 'Custom deployment' with a subtitle 'Deploy from a custom template'. It features a 'Template' section with a 'Customized template' link and '4 resources'. Below this is a 'Project details' section with 'Subscription' (Azure for Students), 'Resource group' (az104-rg4), and 'Instance details' (Region: (Asia Pacific) East Asia, Virtual Networks\_Manufacturing Vnet\_name: ManufacturingVnet). At the bottom are 'Previous', 'Next', and 'Review + create' buttons.

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### Lab Task 03 (Implement Virtual Networking)

- **Verify ManufacturingVnet and Subnets:**

The screenshot shows the Microsoft Azure portal interface. The top navigation bar includes the Microsoft Azure logo, a search bar, and user information. The main content area displays the 'ManufacturingVnet' overview page. On the left, there is a sidebar with navigation links: Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Resource visualizer, Settings, Monitoring, Automation, CLI / PS, Tasks, Export template, and Help. The main content area is divided into sections: Essentials, Capabilities (5), Recommendations, and Tutorials. The Essentials section shows key information: Resource group (az104-rg4), Location (East Asia), Subscription ID (57a8b5a5-89cd-44d7-aaaf-c65ebd15a43), Address space (10.30.0.0/16), Subnets (3 subnets), DNS servers (Azure provided DNS service), BGP community string (Configure), and Virtual network ID (21f31b26-beef-4e77-a124-72b1ef0d2b33). The Capabilities section shows four cards: DDoS protection (Not configured), Azure Firewall (Not configured), Peerings (Not configured), and Microsoft Defender for Cloud (Strengthen the security posture of your environment).

The screenshot shows the 'ManufacturingVnet | Address space' page in the Microsoft Azure portal. The left sidebar is the same as the previous screenshot. The main content area shows the 'Address space' section. It includes a search bar, a '+ Add address space' button, and a 'Refresh' button. Below this, there is a table showing the address space configuration. The table has columns for 'Address space', 'Address range', and 'Address count'. The first row shows the address space '10.30.0.0/16' with an address range of '10.30.0.0 - 10.30.255.255' and an address count of '65,536 addresses'. Below the table, there is a section for 'Peered virtual network address space' with a search bar and a table showing peering information. The table has columns for 'Peering name', 'Peered to', 'Address space', and 'Address range'. The table is currently empty, showing 'Showing all 0 items'.

The screenshot shows the 'ManufacturingVnet | Subnets' page in the Microsoft Azure portal. The left sidebar is the same as the previous screenshots. The main content area shows the 'Subnets' section. It includes a search bar, a '+ Subnet' button, a 'Refresh' button, and buttons for 'Manage users', 'Delete', and 'Export to CSV'. Below this, there is a table showing the subnet configuration. The table has columns for 'Name', 'IPv4', 'IPv6', 'Available IPs', 'Delegated to', 'Security group', and 'Route table'. The table contains three rows: 'default' (IPv4: 10.30.0.0/24, Available IPs: 251), 'SensorSubnet1' (IPv4: 10.30.20.0/24, Available IPs: 251), and 'SensorSubnet2' (IPv4: 10.30.21.0/24, Available IPs: 251). Below the table, there is a section for 'Showing 3 subnets'.

## Task 3: Create and configure communication between an Application Security Group and a Network Security Group.

### • Create Application Security Group (ASG):

Microsoft Azure | Search resources, services, and docs (G+/I) | Copilot | bssn2280138@szabist.pk | DEFAULT DIRECTORY (85522801...)

Home > Create an application security group

Validation passed

Basics Tags Review + create

**Basics**

Subscription	Azure for Students
Resource group	az104-rg4
Location	East Asia
Name	asg-web

Create < Previous Next > Download a template for automation

Microsoft Azure | Search resources, services, and docs (G+/I) | Copilot | bssn2280138@szabist.pk | DEFAULT DIRECTORY (85522801...)

Home > CreateApplicationSecurityGroupBladeViewModel | Overview

asg-web Application security group

How do I troubleshoot issues with this resource? Show me metrics for this Application Security Group. List security rules for this Application Security Group.

Search

Overview

- Activity log
- Access control (IAM)
- Tags
- Resource visualizer
- Settings
- Monitoring
- Automation
- Help

Essentials

Virtual Network

Resource group (move) az104-rg4

Location (move) East Asia

Subscription (move) Azure for Students

Subscription ID 57a8b5a5-89cd-44d7-aaaf-cf5ebdf15a43

Provisioning state Succeeded

Tags (edit) Add tags

JSON View

Get the approval flowchart for requesting a role assignment

### • Create Network Security Group (NSG):

Microsoft Azure | Search resources, services, and docs (G+/I) | Copilot | bssn2280138@szabist.pk | DEFAULT DIRECTORY (85522801...)

Home > Network foundation | Network security groups > Create network security group

Validation passed

Basics Tags Review + create

**Basics**

Subscription	Azure for Students
Resource group	az104-rg4
Region	East Asia
Name	myNSGSecure

**Tags**

None

Create < Previous Next > Download a template for automation

Deployment succeeded

Deployment 'CreateNetworkSecurityGroupBladeV2-20251220200604' to resource group 'az104-rg4' was successful.

Go to resource Pin to dashboard



- Associate NSG with Subnet:

Microsoft Azure | Search resources, services, and docs (G+/I)

Home > CreateNetworkSecurityGroupBladeV2-20251220200604 | Overview > myNSGSecure

myNSGSecure | Subnets

Network security group

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Associate

Search subnets

Name	Address range	Virtual network
SharedServicesSubnet	10.20.10.0/24	CoreServicesVnet

Give feedback

Saving subnet  
Successfully saved network security group for subnet 'SharedServicesSubnet'.

- Configure Inbound Rule to Allow ASG Traffic:

Microsoft Azure | Search resources, services, and docs (G+/I)

Home > CreateNetworkSecurityGroupBladeV2-20251220200604 | Overview > myNSGSecure

myNSGSecure | Inbound security rules

Network security group

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

Inbound security rules

Outbound security rules

Network interfaces

Subnets

Properties

Locks

Monitoring

Automation

Help

Filter by name

Port == all

Protocol == all

Source == all

Destination == all

Priority	Name	Port	Protocol	Source
65000	AllowVnetInBound	Any	Any	VirtualNetwork
65001	AllowAzureLoadBalancerInBo...	Any	Any	AzureLoadBalancer
65500	DenyAllInBound	Any	Any	Any

Add inbound security rule

Source

Application security group

Source application security groups

asg-web

No application security groups found

Source port ranges

\*

Destination

Any

Service

Custom

Destination port ranges

80,443

Protocol

Any

TCP

UDP

ICMPv4

Add

Cancel

Give feedback

## Action

☒ Allow☐ Deny

Priority \*

100

Name \*

AllowASG

Description

Add

Cancel

Give feedback

Priority	Name	Port	Protocol	Source	Destination	Action
<input type="checkbox"/> 100	AllowASG	80,443	TCP	ASG-WEB	Any	Allow
<input type="checkbox"/> 65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
<input type="checkbox"/> 65001	AllowAzureLoadBalancerInBo...	Any	Any	AzureLoadBalancer	Any	Allow
<input type="checkbox"/> 65500	DenyAllInBound	Any	Any	Any	Any	Deny

• **Configure Outbound Rule to Deny Internet Access:**

Microsoft Azure

Search resources, services, and docs (G+/?)

Copilot

bsae2280138@szabist.pk  
DEFAULT DIRECTORY (BSAE2280138@szabist.pk)

Home > CreateNetworkSecurityGroupBladeV2-20251220200604 | Overview > myNSGSecure

myNSGSecure | Outbound security rules

Network security group

Search

+ Add Hide default rules Refresh Delete Give feedback

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems  
Resource visualizer  
Settings  
Inbound security rules  
Outbound security rules  
Network interfaces  
Subnets  
Properties  
Locks  
Monitoring  
Automation  
Help

Network security group security rules are evaluated by priority using the combination of source, source port, destination, destination port, and protocol. You can't delete default security rules, but you can override them with rules that have a higher priority. [Learn more](#)

Filter by name Port == all Protocol == all Source == all Destination == all

Priority	Name	Port	Protocol	Source
65000	AllowVnetOutBound	Any	Any	VirtualNetwork
65001	AllowInternetOutBound	Any	Any	Any
65500	DenyAllOutBound	Any	Any	Any

Add outbound security rule

myNSGSecure

Source Any

Source port ranges \*

Destination Service Tag

Destination service tag Internet

Service Custom

Destination port ranges \*

Protocol Any

Any

TCP

UDP

ICMPv4

ICMPv6

Add Cancel

Give feedback

Action

☐ Allow

☒ Deny

Priority \* ⓘ

4096

Name \*

DenyInternetOutbound

Microsoft Azure

Search resources, services, and docs (G+/?)

Copilot

bsae2280138@szabist.pk  
DEFAULT DIRECTORY (BSAE2280138@szabist.pk)

Home > CreateNetworkSecurityGroupBladeV2-20251220200604 | Overview > myNSGSecure

myNSGSecure | Outbound security rules

Network security group

Search

+ Add Hide default rules Refresh Delete Give feedback

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems  
Resource visualizer  
Settings  
Inbound security rules  
Outbound security rules  
Network interfaces  
Subnets  
Properties  
Locks  
Monitoring  
Automation  
Help

Network security group security rules are evaluated by priority using the combination of source, source port, destination, destination port, and protocol to allow or deny the traffic. A security rule can't have the same priority and direction as an existing rule. You can't delete default security rules, but you can override them with rules that have a higher priority. [Learn more](#)

Filter by name Port == all Protocol == all Source == all Destination == all Action == all

Priority	Name	Port	Protocol	Source	Destination	Action
4096	DenyInternetOutbound	Any	Any	Any	Internet	Deny
65000	AllowVnetOutBound	Any	Any	VirtualNetwork	VirtualNetwork	Allow
65001	AllowInternetOutBound	Any	Any	Any	Internet	Allow
65500	DenyAllOutBound	Any	Any	Any	Any	Deny

## Task 4: Configure public and private Azure DNS zones.

### Public DNS Zone

- **Create Public DNS Zone:**

Microsoft Azure

Home > DNS zones > Create a DNS Zone

Validation passed

Basics DNS Zone Editor Tags Review + Create

View automation template

**Basics**

Subscription: Azure for Students  
Resource group: az104-rg4  
Resource group location: East Asia  
Name: contoso.azure-dns.com

**DNS Zone Record Set(s)**

Number of record sets: 0 record set(s)

Create < Previous Next > Give feedback

- **Add A Record (www):**

Microsoft Azure

Home > contoso.azure-dns.com | Overview > contoso.azure-dns.com

contoso.azure-dns.com | Recordsets

Search

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Resource visualizer Settings DNS Management DNSSEC Monitoring Automation Help

Recordsets

Recordsets

Recordset details:

Name	Type	TTL	Value
@	NS	172800	ns1-05.azure-dns.com, ns2-05.azure-dns.net, ns3-05.azure-dns.org, ns4-05.azure-dns.info
@	SOA	3600	Email: azure-dns-hostmaster.microsoft.com, Host: ns1-05.azure-dns.com, Refresh: 3600, Retry: 300, Expire: 2419200, Minimum TTL: 300, Serial number: 1

Add record set

Name: www

Type: A - IPv4 Address records

Alias record set: No

TTL: 1

TTL unit: Hours

IP address: 10.1.1.4

Add Cancel Give feedback

Microsoft Azure

Home > contoso.azure-dns.com | Overview > contoso.azure-dns.com

contoso.azure-dns.com | Recordsets

Search

Overview Activity log Access control (IAM) Tags Diagnose and solve problems Resource visualizer Settings DNS Management DNSSEC Monitoring Automation Help

Recordsets

Recordsets

Recordset details:

Name	Type	TTL	Value	Alias resource type	Alias target
@	NS	172800	ns1-05.azure-dns.com, ns2-05.azure-dns.net, ns3-05.azure-dns.org, ns4-05.azure-dns.info		
@	SOA	3600	Email: azure-dns-hostmaster.microsoft.com, Host: ns1-05.azure-dns.com, Refresh: 3600, Retry: 300, Expire: 2419200, Minimum TTL: 300, Serial number: 1		
www	A	3600	10.1.1.4		

Add record set

Name: www

Type: A - IPv4 Address records

Alias record set: No

TTL: 1

TTL unit: Hours

IP address: 10.1.1.4

Add Cancel Give feedback

## INTRODUCTION TO CLOUD COMPUTING

### Lab Task 03 (Implement Virtual Networking)

- **Verify DNS Resolution Using nslookup:**

```
PS /home/ariha> nslookup www.contoso.az104 ns1-05.azure-dns.com
Server:      ns1-05.azure-dns.com
Address:     13.107.236.5#53

Name:   www.contoso.az104
Address: 10.1.1.4
```

## Private DNS Zone

- **Create Private DNS Zone:**

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

bsse2280138@szabist.pk  
DEFAULT DIRECTORY (BSSE2280138@szabist.pk)

Home > Private DNS zones >

Create Private DNS Zone

Validation passed

Basics Private DNS Zone Editor Virtual Network Links Tags Review + Create

View automation template

**Basics**

Subscription Azure for Students

Resource group az104-rg4

Resource group location East Asia

Name private.contoso.az104

**DNS Zone Record Set(s)**

Number of record sets 0 record set(s)

**Virtual network link(s)**

Number of Virtual Network Links 0 virtual network link(s)

Create < Previous Next > Give feedback

- **Link Private DNS Zone to Virtual Network:**

Microsoft Azure

Search resources, services, and docs (G+)

Copilot

bsse2280138@szabist.pk  
DEFAULT DIRECTORY (BSSE2280138@szabist.pk)

Home > private.contoso.az104\_1766245871614 | Overview > private.contoso.az104

private.contoso.az104 | Virtual Network Links

Private DNS zone

Search

+ Add Refresh Delete Give feedback

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

DNS Management

Recordsets

Virtual Network Links

Monitoring

Automation

Help

Search virtual network links

Fetches 1 virtual Network link(s).

0 Virtual Network links selected

Link Name	Link Status	Virtual Network	Auto-Registration	Fallback to Internet
manufacturing-link	Completed	ManufacturingVnet	Disabled	Disabled

Creating virtual network link  
Successfully created virtual network link 'manufacturing-link'.

## INTRODUCTION TO CLOUD COMPUTING

### Lab Task 03 (Implement Virtual Networking)

- **Add Private DNS A Record:**

The screenshot shows the Microsoft Azure portal interface. The main pane displays the 'private.contoso.az104' Private DNS zone with a table of record sets. The table has columns: Name, Type, TTL, and Value. It shows one record set: a SOA record with Name '@', Type 'SOA', and TTL '3600'. The Value field is expanded, showing details like Email, Host, Refresh, Retry, Expire, Minimum TTL, and Serial number. On the right, the 'Add record set' dialog is open. It has fields for Name (set to 'sensorvm'), Type (set to 'A - IPv4 Address records'), TTL (set to '1'), and TTL unit (set to 'Hours'). The IP address field is set to '10.1.1.4'. There are 'Add', 'Cancel', and 'Give feedback' buttons at the bottom.

Name	Type	TTL	Value
@	SOA	3600	Email: azureprivatedns-hostmicrosoft.com Host: azureprivatedns.net Refresh: 3600 Retry: 300 Expire: 2419200 Minimum TTL: 10 Serial number: 1

The screenshot shows the Microsoft Azure portal interface. The main pane displays the 'private.contoso.az104' Private DNS zone with a table of record sets. The table has columns: Name, Type, TTL, Value, and Auto registered. It shows two record sets: an A record with Name 'sensorvm', Type 'A', TTL '3600', Value '10.1.1.4', and Auto registered 'False'; and a SOA record with Name '@', Type 'SOA', TTL '3600', and Auto registered 'False'. The Value field for the SOA record is expanded, showing details like Email, Host, Refresh, Retry, Expire, Minimum TTL, and Serial number. On the right, the 'Add record set' dialog is open, showing the same fields as in the previous screenshot.

Name	Type	TTL	Value	Auto registered
sensorvm	A	3600	10.1.1.4	False
@	SOA	3600	Email: azureprivatedns-hostmicrosoft.com Host: azureprivatedns.net Refresh: 3600 Retry: 300 Expire: 2419200 Minimum TTL: 10 Serial number: 1	False