

DEPLOYING ORACLE SBC IN MICROSOFT AZURE PUBLIC CLOUD

Technical Application Note





The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

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Intended Audience

This document is intended for use by Oracle Systems Engineers, third party Systems Integrators, and end users of the Oracle Enterprise Session Border Controller (E-SBC). It assumes that the reader is familiar with basic operations of the Oracle Communications Enterprise Session Border Controller and Azure Cloud Deployments.

Document Overview

You can deploy the Oracle Communications Session Border Controller (OCSBC) on Azure public cloud. Azure provides multiple ways of managing your environment(s), including via its web portal, using its PowerShell and its CLI interfaces. This document focuses on the portal. The portal provides navigation via a web-page pane with links to specified functions on the left side of portal pages. These procedures also assume you have reviewed Azure documentation and can access portal pages and navigation.

Related Documentation

Oracle SBC

- Oracle® Communications Session Border Controller Platform Preparation and Installation Guide
- Oracle® Enterprise Session Border Controller Web GUI User Guide
- Oracle® Enterprise Session Border Controller Configuration Guide
- Oracle® Enterprise Session Border Controller Release Notes

Microsoft Azure

- Introduction to Azure
- Get started with Azure
- Azure security best practices and patterns

Requirements

1) A subscription for Azure portal

Tip: You can utilize the search bar at the top of the Azure portal to quickly locate any element, resource or document during configuration and deployment of the Oracle SBC in Azure Public Cloud.

Create and Deploy on Azure

Prerequisites to Deploying an Azure Instance

You can create some of the objects required during the SBC deployment procedure prior to or during the deployment. When created prior to SBC deployment, these objects become selectable, typically from drop-down lists in the appropriate deployment dialogs. You may use these objects for a single deployment or for multiple deployments.

These Objects are as follows:

- 1) Resource Group
 - i) Subscription
 - ii) Region
- 2) Networking
 - i) Virtual Networks
 - ii) Subnets
 - iii) Network Security Groups

Resource Group

Resource group is a container that holds related resources like storage accounts, virtual networks, and VMs for an Azure solution. In Azure, you logically group related resources to deploy, manage, and maintain them as a single entity.

Creating a Resource Group

From the Azure Portal Home Page, on the left side, select "Resource Group", and then click "Add"

- Choose the correct Subscription from the drop down,
- Give the resource group a name
- Select the region that is right for you and your customers.
- At the bottom, click "Next : Tags"

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Network Security Groups

Network Security Groups are used to provide traffic control at the packet level.

You can filter network traffic to and from Azure resources in an Azure virtual network with a network security group. A network security group contains security rules that allow or deny inbound network traffic to, or outbound traffic from, several types of Azure resources.

For more detailed information, please see:

Enable Network Security Groups in Azure Security Center

Creating Network Security Groups

For Oracle SBC deployment in Azure, each Security Group specifies the type of traffic allowed on a particular type of subnet. The SBC has 3 types of vNICs, including management (wancom0), and Media (s0p0, s1p0 etc). To maintain traffic separation, each of the vNICs should be connected to a separate subnet that can be configured and assigned to the Oracle SBC in Azure.

From Azure's navigation list on the left side of the portal, click Create a resource, Networking, Network Security Group.

Management Security Rules

Configure the following For Management Interface Network Security Group:

- Name
- Resource Group
- Location
- At the bottom, click "Next : Tags"

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	Instance details								
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	Region *	East US 2 🗸							
	Review + create	< Previous Next : Tags > Download a template for automation							

- Enter a unique identifier under name
- Click Next: Review + Create

Once the security group is created, you should see it under Home/Recent Resources. Open it.

Under Settings, click on "inbound security rules", then "add"

The following TCP/UDP protocols and/or ports should be opened for the Management Interface NSG.

Please note, the port matrix below is an example only. The ports opened during installation should depend on the environment needs and user preferences.

Protocol	Port	ТСР	UDP
SSH	22	Х	
SNMP	161/162	Х	Х
Radius	1812	Х	Х
NTP	123		Х
HTTPS	443	Х	
HTTP	80	Х	
Tacacs	49	X	
Diameter	3868	X	

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Home > SolutionsLab-MGMT-Secur	[™] MT-Security Inbour	nd security rules —				Add inbound security rule SoutionsLab-MGMT-Security	×
Network security group							
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Support + troubleshooting							
📩 Effective security rules						Add Cancel	
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• Click "Add" at the bottom

Next, follow the same procedure as above to create a second inbound security rule for ICMP traffic, using the following parameters:

- Source: Any
- Source Port Ranges: *
- Destination: Any
- Destination Port Ranges: *
- Priority: 130
- Name: MGMT_ICMP



Media Security Rules

Following the same procedure above under Creating Network Security Groups, configure the following for the Media Interface Network Security Group:

- Name
- Resource Group
- Location
- At the bottom, click "Next : Tags"

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Region *	East US 2 V									
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- Enter a unique identifier under name
- Click Next: Review + Create

The following TCP/UDP protocols and/or ports should be opened for the Media Interface NSG. This is not a complete list but should work for most applications.

Please note, the port matrix below is an example only. The ports opened during installation should depend on the environment needs and user preferences.

Protocol	Port	ТСР	UDP
IKE	500		Х
SIP	5060	X	Х
SIPS	5061	X	
H.323	1719	X	Х
H.323	1720	X	
RTP	10000-65535	X	Х

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Overview -	P Filter by name	Port == all P	otocol == all Source == all	Destination == all	Action == all	Any Source port ranges * ①	
A Access control (IAM)	Priority 1	Name 14	Port 14	Protocol 14	Source †4		
Tags	100	SolutionsLab-Media-Inbound	5060-5067,500,1719,1720,10000-6	Any	Any	Destination ()	
Diagnose and solve problems	110	Teams	3478-3481	UDP	Any	Any	
	65000	AllowVnetinBound	Any	Any	VirtualNetwork	Service ()	
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Click "Add"

Virtual Networks

Azure Virtual Network enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. A virtual network is scoped to a single region; however, multiple virtual networks from different regions can be connected together using Virtual Network Peering.

To deploy the SBC in a particular Resource Group, at least one virtual network (VN) must be created.

Creating a Virtual Network

From the Azure portal Home Screen, Select "Virtual networks" from the left side menu, then click "Add":

Provide the following information in the designated fields:

- Subscription
- Resource Group (created above)
- Virtual Network Name
- Region (same as Resource Group location)
- At the bottom, click "Next : IP Addresses"

Home > Virtual networks >		
Create virtual netwo	nrk …	
create virtual netwo		
Basics Security IP addresses	s Tags Review + create	
Select the subscription to manage de	eployed resources and costs. Use resource groups like folders to organize and manage all	
your resources.		
Subscription *	Microsoft Azure Enterprise - SBC 🗸	
Resource group *	SolutionsLab	
	Create new	
Instance details		
Virtual network name *	Solutions-Lab-Virtual_Network	
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You can select the appropriate values in Security tab.

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• IPv4 Address Space: (Ex..10.4.0.0/16)

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virtu	al network address space into gns the resource an IP address	smaller ranges for use by your applications. When you deploy resources into a subnet, Azi from the subnet. Learn more 🖻	ire						
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We'll also be creating the first subnet which will be used for the management interface (wancom0) of the SBC instance

- Click Add Subnet
- Subnet Name
- Subnet Address Range: (Ex..10.4.1.0/24)
- Click Add

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	Add a subnet	×
	Select an address space and configure select services later. Learn more	e your subnet. You can customize a default subnet or select from subnet templates if you plan to add
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- At the bottom, click "Next : Tags"
- Enter a unique identifier under name

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• Click "Next : Review + Create" and the Virtual network is created successfully.

Once the Virtual network is successfully created, open it by clicking on the virtual network name, from here we will create the additional subnets needed for deployment.

Creating Additional Subnets

In this document, the Oracle SBC has 2 types of vNICs

- Management (wancom0)
- Media (s0p0, s1p0 etc.)



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- At the top, click "+Subnet" Name (S0P0) •
- •
- Address Range (CIDR block) (10.4.2.0/24) Network Security Group: (SolutionsLab-Media-Security) •
- Click "Save" •

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🔒 Locks						None
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na Metrics						
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Repeat these steps to create additional subnets for your deployment needs. For the purpose of this example, we'll create one additional subnet with name of S1P0, and Address range of 10.4.3.0/24 to be used for a second media interface.

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Service endpoints							
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Create a Virtual Machine

This is the main instance configuration procedure. It includes a multi-dialog wizard that presents configuration options in the preferred sequence. The result of this wizard is an installed, operational OCSBC. You add media interfaces after deployment.

• From the Marketplace, at the marketplace search bar, search for "Oracle Enterprise Session Border Controller"



• Select "Oracle Enterprise Session Border Controller" and this should bring you the screen from where you can create the SBC instance and you can also select the image for SBC (we have 9.0, 9.1 and 9.2 as of now)

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Overview Direct Routir	Plans + Pricing	Usage Information + Support	Ratings + Reviews of choice to your Microsoft Teams users.							
Deploying the certified Oracle Enterprise Session Border Controller on Microsoft Azure provides you with government grade security and enterprise reliability. Using the Oracle Enterprise Session Border Controller brings the following advantages: • Connect to your carrier of choice, • Get flexibility without vendor lock-in,										
And e The Oracle E hardware ap e Enter	 Gen nextbinity without version lock-in, Connect to your existing communication platforms as IP PBX systems, contact centers or analog devices, And enables controlled migration. The Oracle Enterprise Session Border Controller secures the enterprise network and is used for SIP protocol handling and translation. It is available as virtual deployment and hardware appliance, using the same software image and same capabilities amongst all models and sizes. For more information : Enterprise Session Border Controller product page 									

• Click "Create" and follow the below sequence of steps to create a VM

The instance deployment wizard sequence includes:

- 1. Basics
- 2. Disks
- 3. Networking
- 4. Management
- 5. Monitoring
- 6. Advanced
- 7. Tags
- 8. Review and Create

Your Azure workspace may present dialogs and fields that differ from this procedure. For full information on deploying Azure instances, see the Azure documentation.

Basics

You will need to provide:

- Resource Group
- Virtual machine Name
- Image should be populated with Marketplace image name (E.g., Oracle Enterprise Session Border Controller 9.2.0.0.1 - x64 Gen1)
- Size: You must research size types and select the type you prefer prior to deployment, as it cannot be changed after deployment. For a list of Azure instances you can use for OCSBC, please see the <u>Platform and</u> _ <u>Preparation Guide</u>.
- Administrator Account (Create SSH public key pair and store it for future use in order to connect to your virtual machine)
- Inbound Port Rules (Check off all available in the drop-down menu under this field)

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Try out the Microsoft Copilot for Azu	ire for additional recommendations when creating a virtual machine.				
🧑 Help me create a low cost	VM Help me create a VM optimized for high availability 🧔 Help me	choose the right	VM size f	or my	worklo
Subscription *	Microsoft Azure Enterprise - SBC	~]			
Resource group * 🛈	SolutionsLab	~			
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Virtual machine name * 🛛	OracleESBC	~			
Region * ①	(US) East US 2	~			
Availability options ①	Availability zone	~			
Availability zone * 🕕	Zone 1	\sim			
	You can now select multiple zones. Selecting multiple zones will create one VN per zone. Learn more C ³	1			
< Previous Next : Disks >	Review + create				

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Security type ①	Standard	/							
Image * 🕕	Oracle Enterprise Session Border Controller 9.2.0.0.1 - x64 Gen1 🗸								
	See all images Configure VM generation								
VM architecture ①	Arm64								
	• x64								
	 Arm64 is not supported with the selected image. 								
Due with Aruse Cost discount									
Size * 🕕	Standard_F4s - 4 vcpus, 8 GiB memory (\$145.27/month)	/							
	See all sizes								
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Administrator account					
Authentication type 🕕	• SSH public key				
	O Password				
	(j) Azure now automatically generates an SSH key pair for you and allows you to				
	store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.				
Username * 🕕	azureuser	✓			
SSH public key source	Generate new key pair	~			
SSH Key Type	RSA SSH Format				
	C Ed25519 SSH Format				
	Ed25519 offers better performance and security with a smaller key size, while RSA is				
< Previous Next : Disks	> Review + create				

• Click "Next : Disks"

Disks

• Disk configuration includes setting the OS disk type to Premium SSD

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		5			
OS disk					
	Image default (19 GiB)	\sim			
OS disk type 🔨 🕕	Premium SSD (locally-redundant storage)	\sim			
Delete with VM ①					
Key management 🕕	Platform-managed key	\sim			
Enable Ultra Disk compatibility 🕕					
Data diska fan Ora da FCDC					
You can add and configure additio	nal data disks for your virtual machine or attach existing disks. This VM also comes with a				
temporary disk.					
< Previous Next : Netwo	rking > Review + create				

• Click "Next: Networking"

Networking

Configuration Fields:

- Virtual Network
- Subnet (Select < your_management_subnet> from drop down)
- Public IP (give it a name or use default name provided)
- Network Security Group (move radio button to advanced, and select the MGMT NSG configured previously in this document)
- Accelerated Networking set to "Off"
- Load Balancing set to "No"

Note: It is recommended to disable Accelerated Networking on management interface. Enable it for media network interfaces for low network latency and increased network performance but doing so might incur additional charges from Azure.

Refer <u>https://docs.microsoft.com/en-us/azure/virtual-network/create-vm-accelerated-networking-cl</u>i for additional information related to Accelerated networking.

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🤣 Help me create a low cost VM	🔵 🚺 Help me create a VM optimized for high availability 🛛 🧔 Help me choose the right V	M size for my worklo	ad		
the state of the second					
Network Interface					
When creating a virtual machine, a netwo	rk interface will be created for you.				
Virtual network * 🕕	Solutions-Lab-Virtual-Network \checkmark				
	Create new				
Subnet * 🛈	OracleESBC_MGMT (10.4.1.0/24)				
	Manage subnet configuration				
Public IP ①	(new) OracleESBC-ip				
	Create new				
NIC network security group 🕕	O None				
	O Basic				
	Advanced				
	The selected subnet 'OracleESBC_MGMT (10.4.1.0/24)' is already associated to a network security group 'SolutionsLab-MGMT-Security'. We recommend				
	managing connectivity to this virtual machine via the existing network security				
< Previous Next : Management	> Review + create				

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Home > Virtual machines >					
Create a virtual machir	ne				
i Try out the Microsoft Copilot for Azure for	additional recommendations when creating a virtual machine.				
Help me create a low cost VM	Help me create a VM optimized for high availability	ize for my worklo	ad		
Configure network security group *	SolutionsLab-MGMT-Security Create new				
Delete public IP and NIC when VM is deleted ①					
Enable accelerated networking \bigcirc					
Load balancing					
You can place this virtual machine in the l	backend pool of an existing Azure load balancing solution. Learn more 🖻				
Load balancing options 🕕	None				
	 Azure load balancer Supports all TCP/UDP network traffic, port-forwarding, and outbound flows. 				
	 Application gateway Web traffic load balancer for HTTP/HTTPS with URL-based routing, SSL termination, session persistence, and web application firewall. 				
< Previous Next : Managemen	t > Review + create				

• Click "Next : Management"



Select the default options in this tab.

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Microsoft Defender for Cloud Microsoft Defender for Cloud provides unified security is workloads. Learn more C Vour subscription is protected by Foundational Cloud	management and advanced threat protection across hy ud Security Posture Management Free Plan.	brid cloud				
Identity Enable system assigned managed identity ① Microsoft Entra ID						
Login with Microsoft Entra ID ①	itra ID.					
<pre></pre>	w + create					

Click "Next : Monitoring" ٠

Monitoring

Monitoring Configuration Includes:

- Boot Diagnostics: Enable with managed storage account (recommended) Leave all other fields set to OFF. •
- ٠

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Create a virtual machine	· ···				
• • • • • • • • • • • • •					
Try out the Microsoft Copilot for Azure for add	ditional recommendations when creating a virtual machine.	ize for my worklo	he		
		ize for my workio	au		
Basics Disks Networking Manag	gement Monitoring Advanced Tags Review + create				
Configure monitoring options for your VM.					
Alerts					
Enable recommended alert rules ①					
Diagnostics	_				
Boot diagnostics ①	 Enable with managed storage account (recommended) 				
(Enable with custom storage account 				
() Disable				
Enable OS guest diagnostics 🕕					
Health					
Enable application health monitoring 🕕					
< Previous Next : Advanced >	Review + create				
Next Auvanced >					

Click "Next : Advanced" ٠

Advanced

- No Changes Necessary in the Advanced configuration Page
- Click "Next : Tags"

Tags

- Define the Tag we have been using throughout this guide.
- Select it from the drop down menu, Under Name

	\wp Search resources, servi	ices, and docs (G+/)		🤣 Copilot	2	Û	ŝ
Home > Marketplace > Oracle Enterprise Se	ession Border Controller >						
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Help me create a low cost VM	🧑 Help me create a VM optimized f	for high availability 🛛 🧔 He	p me choose the right VM si	ze for my worklo	ad		
Basics Disks Networking Manage	ment Monitoring Advanced	Tags Review + create					
Tags are name/value pairs that enable you to ca	ategorize resources and view consolida	ated billing by applying the same to	ng to				
Note that if you create tags and then change re	more about tags 🗹 esource settings on other tabs, your tag	as will be automatically updated.					
Name () Va	lue ()	Resource					
SolutionsLab :		13 selected V					
:		13 selected 🗸 🗸					
<pre>< Previous Next : Review + create ></pre>	Review + create						

• Click "Next: Review + Create"

Review and Create

- Review the information for accuracy for your deployment.
- Verify Validation Passed is displayed at the top of the screen.

Microsoft Azure	\mathcal{P} Search resources, services, and docs (G+/)	🍫 Copilot 📐	Ф 🐯
Home > Marketplace > Oracle Ente	erprise Session Border Controller >		
Create a virtual mach	nine		
Validation passed			
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Help me create a low cost V	M Help me create a VM optimized for high availability G Help me choose the rig	ht VM size for my workload	
Basics			
Subscription	Microsoft Azure Enterprise - SBC		
Resource group	SolutionsLab		
Virtual machine name	OracleESBC		
Region	East US 2		
Availability options	Availability zone		
As an High Hill As a second	1		
Availability zone			
Security type	Standard		
Availability zone Security type Image	Standard Oracle Enterprise Session Border Controller 9.2.0.0.1 - Gen1		
Availability zone Security type Image VM architecture	Standard Oracle Enterprise Session Border Controller 9.2.0.0.1 - Gen1 x64		
Availability zone Security type Image VM architecture Size	Standard Oracle Enterprise Session Border Controller 9.2.0.0.1 - Gen1 x64 Standard F4s (4 vcpus, 8 GiB memory)		
Availability zone Security type Image VM architecture Size Enable Hibernation	Standard Oracle Enterprise Session Border Controller 9.2.0.0.1 - Gen1 x64 Standard F4s (4 vcpus, 8 GiB memory) No		

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Create a virtual machi	ne …			
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Help me create a low cost VM	A Help me create a VM ontimized for high availability	ht VM size for my workload		
Monitoring				
Alerts	Off			
Boot diagnostics	On			
Enable OS guest diagnostics	Off			
Enable application health monitoring	Off			
Advanced				
Extensions	None			
VM applications	None			
Cloud init	No			
User data	No			
Disk controller type	-			
Proximity placement group	None			
	N			
< Previous Next > Crea	ate		Downl	за

• Click Create, and you should see: "Your Deployment is Underway" progress page

		; services, and docs (G+/)	🚺 Copilot 🕞 💭 🔅				
Home >							
CreateVm-oracle.oracle_virtual_esbc-oracle_evsbc20240723123944 Overview ☆ … Deployment P Search × « In Delete S Cancel ↑ Redeploy ↓ Download C Refresh							
	🗊 Delete 🚫 Cancel ሰ Re	edeploy 🞍 Download 💍 Refresh					
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🔄 Inputs		in progress					
Microsoft Azure Search resources, services, and docs (G+/) Image: Copilot Image							
📄 Template	Resource group: Solutions	Lab					
	∧ Deployment details						
	Resource	Type Status	Operation details				
	OracleESBC	Microsoft.Compute/virtualM Created	Operation details				
	✓ oracleesbc490_z1	Microsoft.Network/networkl OK	Operation details				
	OracleESBC-ip	Microsoft.Network/publiclp OK	Operation details				

Create Networking for Media Interfaces

Creation of the SBC virtual machine includes establishing networking to the primary management interface, wancom0. Now we need to create networking for all other interfaces. Azure requires that we stop the SBC instance before we can create or attach additional networking interfaces for Media.

From Azure's navigation list, on the left side of the portal, select "Virtual machines"

Select the instance we have just created. Once you select it, you will see displayed an instance-specific navigation pane on the left side of the dialog.

≡	Microsoft Azure	ch resources, services, and docs (G+/)	🚺 🙆 Copilot 🖸 🗘 🐯 🕜 🖓 sankar.raman@oracle.c
Ho »	ne > Virtual machines > OracleESBC ☆ ☆ Virtual machine		X Contract III Delete () Refereto II Conseinementile (2) Escutherto (4)
	Overview Activity log	Contract Contract	JSON View
	 Access control (IAM) 	Salutionstand Status Running	Gperaamg system Linux Size Standard F4s (4 vcpus, 8 GiB memory)
	Connect Naturalize	Location East US 2 (Zone 1) Subscription (<u>move</u>)	Public IP address <u>20.55 208.8</u> Virtual network/subnet
	 Settings Availability + scale 	Microsoft Azure Enterprise - SBC Subscription ID ed1754e1-ae6b-4642-a110-487c4a800bd9	Solutions-Lab-Virtual-Network/OracleESBC_MGMT DNS name Not configured
	 > Security > Backup + disaster recovery 	Availability zone 1	Health state - Time created 7/23/2024, 7:45 AM UTC
	> Operations> Monitoring	Tags (edit) SolutionsLab :	
	> Automation > Help	Properties Monitoring Capabilities (7) Recommendation	ons Tutorials

- At the top, click on "Stop"
- Once the VM is stopped and deallocated, click on Networking under Settings in the instance specific navigation menu.
- Next, "Attach Network Interface" then" Create and attach network Interface"

Но	me > OracleESBC		
V	OracleESBC Networ	k settings 🕱 🗠	
2	Search	This is a new experience. <u>Please provide feedback</u>	
	Overview	Attach network interface	
	Activity log	Attach existing network interface	
প্থ	Access control (IAM)	Create and attach network interface	
-	Tags	Ok Cancel	
×	Diagnose and solve problems	∧ Essentials	
>	Connect	Network interface : oracleesbc490 z1	Load balancers : 0 (Configure)
\sim	Networking	Virtual network / subn : Solutions-Lab-Virtual-Network / OracleESBC_MGMT	Application security g : 0 (Configure)
	🧟 Network settings	Public IP address : 20.55.208.8	Network security group : SolutionsLab-MGMT-Security
	🚸 Load balancing	Private IP address : 10.4.1.4	Accelerated networking : Enabled
	Application security groups	Admin security rules : 0 (Configure)	Effective security rules : 0
	🧟 Network manager		
>	Settings	Rules \land Collapse all	
>	Availability + scale		
>	Security	Network security group SolutionsLab-MGMT-Security (attached to subnet: Impacts 1 subnets, 5 network interfaces	OracleESBC_MGMT)
>	Backup + disaster recovery		
>	Operations		
>	Monitoring	Source == all Destination == all Protocol	== all Action == all
>	Automation	Priority Name Port	Protocol Source Desti

Create Network Interfaces

Configure the applicable Create Network interface fields, including:

- Name: S0P0
- Subnet: From the drop down, select the subnet created for S0P0 interface
- Network Security Group (move radio button to advanced, and select the Media NSG configured previously in this document)
- Private IP: Set to static
- Private IP Address: Set to an address within the subnet, in this case, we're using 10.4.2.5
- Accelerated Networking set to "Disabled" by default by Azure. The steps to enable the parameter is given in the next section for user information.

Home > OracleESBC Network settings >		
Create network interface		
Project details		
Subscription ①		
Microsoft Azure Enterprise - SBC	\sim	
Resource group * 🛈		
SolutionsLab	\sim	
Create new		
Location ①		
(US) East US 2	\sim	
Network interface Name *		
5070	~	
Virtual network ①		
Solutions-Lab-Virtual-Network		
Subnet * 🕕		
SOP0 (10.4.2.0/24)	\sim	
NIC network security group ① O None Basic Advanced		
Create		

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Home > OracleESBC Network settings >			
Create network interface			
Solutions-Lab-Virtual-Network			
Subnet * 🛈			
SOPO (10.4.2.0/24)	~		
NIC network security group ① 〇 None			
O Basic			
 Advanced 			
Configure network security group *			
SolutionsLab-Media-Security	~		
Create new			
Private IP address assignment			
Dynamic Static			
Private IP address *			
10.4.2.5	✓		
Private IP address (IPv6)			
Accelerated networking ③			
Disabled Enabled			
Create			

• At the bottom, Click "Create"

Once you press Create it will create the New Network Interface and also attach network interface, later it will bring you back to the main networking dialog.

		🕐 Copilot 🕞 💭 🍪 🥥 🦻	sankar.raman@oracle.c ORACLE CORPORATION (ORAC		
Home > OracleESBC	Home > OracleESBC				
Situal machine	rk settings 🙁 🗠		×		
♀ Search < «	① This is a new experience. Please provide feedback		×		
 Overview Activity log 	${\cal S}$ Attach network interface ${\cal S}$ Detach network interface $~~$ Wiew topology	🙊 Troubleshoot 🗠 💍 Refresh 🔗 Give feedback			
^A Q Access control (IAM) ✓ Tags 	Network interface / IP configuration SOPO / ipconfig1 (primary)]			
✗ Diagnose and solve problems	oracleesbc490_z1 (primary) / ipconfig1 (primary)				
> Connect	S0P0 / ipconfig1 (primary)	Load balancers : 0 (Configure)			
\checkmark Networking	Virtual network / subn : Solutions-Lab-Virtual-Network / S0P0	Application security g : 0 (Configure)			
Network settings	Public IP address : - (Configure)	Network security group : SolutionsLab-Media-Security			
🚸 Load balancing	Private IP address : 10.4.2.5	Accelerated networking : Disabled			
Application security groups	Admin security rules : 0 (Configure) Effective security rules : 0				
🧟 Network manager	Rules < Collapse all				
> Settings					
> Availability + scale					
> Security	Network security group SolutionsLab-Media-Security (attached to networkInterface: SOPO) Create port rule Create port rule				
> Backup + disaster recovery					
> Operations					
> Monitoring	Search rules Source == all Destination == all	Protocol == all Action == all			
https://portal.azure.com/#	Priority 1 Name Por	t Protocol Source Dest	ination Action		

In case you want to edit the settings of the accelerated networking for the media interfaces (S0P0, S1P0 etc.), please follow the steps given below.

- 1) From the Azure portal page for the VM, select Networking from the left menu.
- 2) On the Networking page, select the Network Interface and click on the network interface name.
- 3) At the top of the NIC Overview page, select Edit accelerated networking.
- 4) Select the options that you may require (Automatic, Enabled, or Disabled) and then select Save. In our example, we have enabled the option.

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Hon	Home > Virtual machines > OracleESBC							
*	OracleESBC Networ	k settings 🙁 🗠						×
		() This is a new experience. Please provide feedback						×
	Access control (IAM)	Attack natural interface of Datach natural interface 🗧 View tanalogy 🗿 Traublacha	at V () Refrach	Chuo foo	dback			
	🧳 Tags	C Attach network internace C Detach network internace one view topology X indubies internace	or • O Reflesh	X Give lee	CUDDUK			
	🗙 Diagnose and solve problems	Network interface / IP configuration						
٠.	> Connect	SOPO / ipconfig1 (primary)						
	✓ Networking	- Frankleh						
	🧟 Network settings	> Essentiais						
	4 Load balancing	Network interface : SOPO	d balancers	: 0 (Configu	ure)			
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	🧟 Network manager	Private IP address : 10.4.2.5 Acc	elerated networki	: Disabled	Lab-Ivieula	security		
	> Settings	Admin security rules : 0 (Configure) Effe	ctive security rules	: 0				
	> Availability + scale							
	> Security	Rules 🔗 Collapse all						
	> Backup + disaster recovery							
	> Operations	Network security group SolutionsLab-Media-Security (attached to networkInter	face: SOPO)					
	> Monitoring	Impacts 0 subnets, 5 network interfaces					- create port rule	
	\checkmark Automation							
	Tasks (preview)	Source == all Destination == all Protocol == all	all Action == a	all				
	😫 Export template	Priority † Name Port	Protocol	Source		De	stination	Action



Follow this same procedure to create a second network interface with the following configuration:

- Name: S1P0
- Subnet: From the drop down, select the subnet created for S0P0 interface
- Network Security Group (move radio button to advanced, and select the Media NSG configured previously in this document)
- Private IP: Set to static
- Private IP Address: Set to an address within the subnet, in this case, we're using 10.4.3.5

Start your instance after creating and attaching all interfaces. Use the instance's Serial Console to connect to the virtual COM1 serial port. After boot-up, proceed with setting your OCSBC passwords from the OCSBC command line interface.

Initial access to SBC

The procedure now turns to accessing the OCSBC, and steps required for initial setup

At this point, you could access the SBC in two ways:

- 1. SSH to the public IP address (or option DNS label name if configured), assigned to the management interface which can be easily located under the VME's "Overview" page
- 2. Access the SBC via the serial console in the Azure Portal (Only if custom storage account is enable in Boot Diagnostics setting)

For the purposes of this example, we will be utilizing the serial console for the initial access and setup procedure.

• To access the SBC serial console, click on serial console, under "Help"

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Home > OracleESBC					
OracleESBC Serial console)				
	back 🖸 🔯 🕛 💼				
> Settings Set defa	ault gateway to 10.4.1.1				
> Availability + scale Starting	g tServiceHealth				
> Security Starting	g tAtcpd				
> Backup + disaster recovery Starting	g tAsetpa g tMbed				
> Operations Starting	g tCommMonitord g tFped				
> Monitoring Starting	g tAlgd g tRadd				
V Automation Starting	j tEbmd				
Tasks (preview)	g tH323d				
Export template	tIPTd				
✓ Help Starting Starting	g tSecured g tAuthd				
The second starting Starting The second starting Starting	g tCertd g tIked				
Boot diagnostics Starting	g tFcgid				
Serial console Starting	g tauditpusher				
Reset password Start password	Latform alarm				
Connection troubleshoot Bringing	g tIFMIBd g up shell				
Performance diagnostics Starting	g acliMgr				
VM Inspector (Preview) password Admin Se	d secure mode is enabled ecurity is disabled				
Redeploy + reapply Password	a: []				

Set User and Admin Passwords

You will need to set both the user and admin passwords when logging in for the first time

- At the password prompt, enter "acme" (if accessing the SBC via SSH, username:"user", password: "acme")
- When prompted, enter the new SBC user password twice, paying close attention to the rules displayed in the output



- At the prompt, type "enable"
- Password: "packet"
- Enter the new admin password twice, paying close attention to the password rules displayed.

```
Password is acceptable.
Password changed successfully
Notifications:
- No Valid License Present! (aid: 327702, tid: 2907)
 Product not initialized; Please use 'setup product' (aid: 327725, tid: 2907)
> en
rassword:
20
% Only alphabetic (upper or lower case), numeric and punctuation
% characters are allowed in the password.
% Password must be 8 - 64 characters,
\ensuremath{\$} and have 3 of the 4 following character classes :
olo
      - lower case alpha
      - upper case alpha
olo
Olo
      - numerals
olo
      - punctuation
olo
Vo
Enter New Password:
```

Interface Mapping

The final step in deploying the Oracle SBC in Azure Public cloud is to verify the network interfaces have MAC addresses assigned to them.

- Access the serial console through the azure portal under support + troubleshooting
- Log into enable mode
- Run the command

>show interface mapping Interface Mapping Info:

<pre>\$ show interface mapping Interface Mapping Info</pre>				
Eth-IF	MAC-Addr	Label		
wancom0	60:45:BD:79:B3:11	#generic		
wancom1	00:22:48:4E:28:7D	fgeneric #		
s0p0	00:22:48:4E:27:37	fgeneric #		
wancom2	FF:FF:FF:FF:FF	#dummy		
spare	FF:FF:FF:FF:FF	#dummy		
s1p0	FF:FF:FF:FF:FF	#dummy		
s0p1	FF:FF:FF:FF:FF	#dummy		
s1p1	FF:FF:FF:FF:FF	#dummy		
s0p2	FF:FF:FF:FF:FF	#dummy		
s1p2	FF:FF:FF:FF:FF	#dummy		
s0p3	FF:FF:FF:FF:FF	#dummy		
s1p3	FF:FF:FF:FF:FF	#dummy		

- As you can see above, since we have not configured all eight network interfaces possible on the SBC, we'll
 need to correct the interface to MAC address mappings.
- The interface-mapping branch on the SBC includes a swap command, which allows us to make those adjustments. A reboot is required for the changes to take effect.

• While in enable mode in the SBC CLI, type:

# interface-mapping				
(interfa	<pre>ice-mapping) # swap wancor</pre>	ml slp0		
Interfac	Interface Mapping Info after swapping			
Eth_TE				
ECH-IF	60.45.PD.70.P2.11			
wancomu	60:43:BD:79:B3:11	#deneric		
wandomi	FF:FF:FF:FF:FF:FF	#aummy		
s0p0	00:22:48:4E:27:37	#generic		
wancom2	FF:FF:FF:FF:FF	#dummy		
spare	FF:FF:FF:FF:FF	#dummy		
s1p0	00:22:48:4E:28:7D	#generic		
s0p1	FF:FF:FF:FF:FF	#dummy		
s1p1	FF:FF:FF:FF:FF	#dummy		
s0p2	FF:FF:FF:FF:FF	#dummy		
s1p2	FF:FF:FF:FF:FF	#dummy		
s0p3	FF:FF:FF:FF:FF	#dummy		
s1p3	FF:FF:FF:FF:FF	#dummy		
Changes	could affect service, an	nd Requires Reboot to become effective.		
Continue [y/n]?: y				
WARNING: This change requires a reboot to become effective.				
(interface-mapping)#				

When the SBC comes back up from reboot, it is now ready for full configuration.

Refer to the <u>Oracle® Communications Session Border Controller Configuration Guide</u> after you have completed this deployment for administrative and service configuration, including product setup and entitlement setup configuration.



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Integrated Cloud Applications & Platform Services

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