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Troubleshooting Windows Instances via Oracle OCI VM Console Connection with SAC

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Abstract

This document explains how to troubleshoot malfunctioning OCI Windows VM instances remotely.

Console connections allow administrators to directly diagnose and fix issues with VMs that aren't working as expected. This is particularly helpful when an imported or custom image fails to boot, or when a previously working VM stops responding.

Using console connections, administrators can access the VM's serial output to make necessary repairs or changes, resolving issues quickly without needing physical access to the machine.

Table of Contents

About SAC

Windows SAC (Serial Access Console) allows administrators to troubleshoot and manage Windows instances remotely, especially when the instance is not responding or cannot be accessed through traditional methods like Remote Desktop Protocol (RDP).

Methods

There are two types of instance console connections:

1. Serial console connections
2. VNC console connections

Serial Console Connection

Use the serial console connection to remotely troubleshoot instance access issues or to recover from a lost key or password.

For Linux Instances:

Cloud Shell allows you to create a console connection quickly and easily.

When connecting to a Linux instance, you do not need to enter a username or password. If the instance is functional and the connection is active, the serial output will appear in your console upon restarting the instance.

For Windows Instances:

Create a local connection to check the instance status. Note that the output to the serial console is limited on Windows unless Special Administration Console (SAC) is enabled.

VNC Console Connection

For instances where the console connection fails, you may refer to the following troubleshooting steps:

Important Note: Ensure you use the PPK format private key to create the VNC console connection. Also, ensure that ports 443 and 3389 are open in your network security group.

Enabling SAC on Windows Instances

Connect to your OCI Windows VM instance and run the following commands in the command prompt:

Enable SAC:

```
cmd
bcdedit /ems {default} on
bcdedit /emssettings EMSPORT:1 EMSBAUDRATE:115200
```

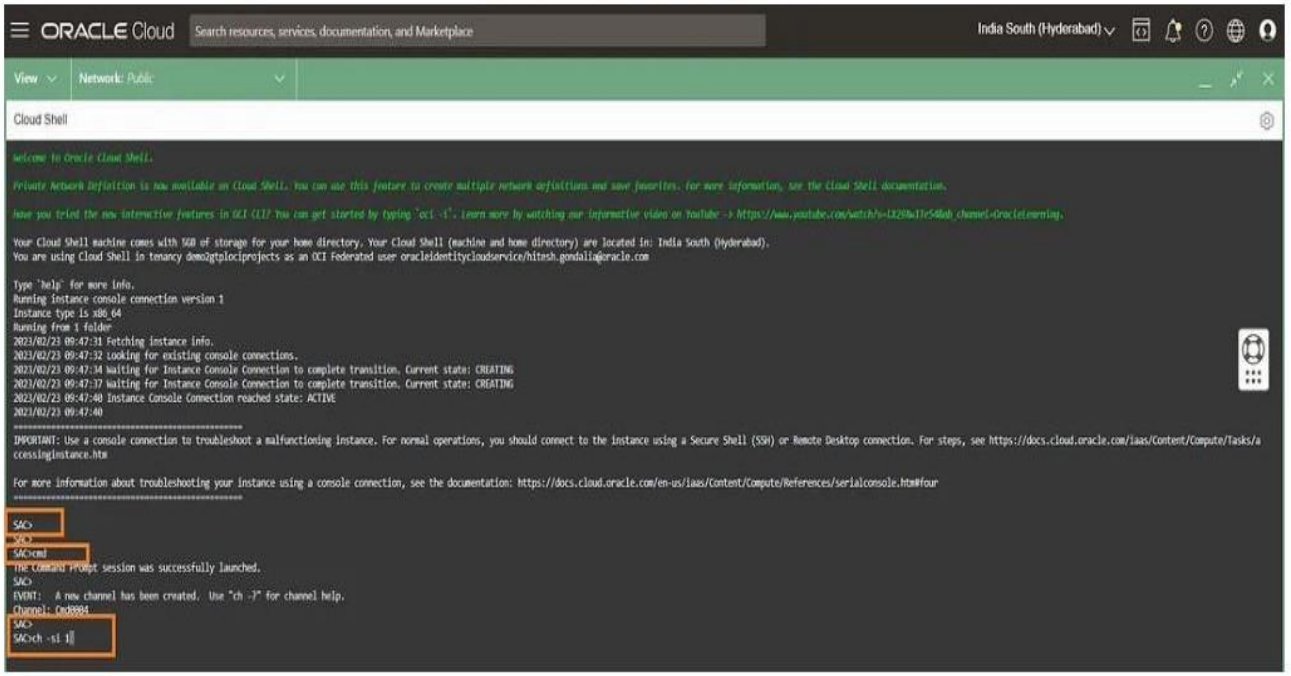
Enable the Boot Menu:

```
cmd
bcdedit /set {bootmgr} displaybootmenu yes
bcdedit /set {bootmgr} timeout 15
bcdedit /set {bootmgr} bootems yes
```

Reboot the Instance:

```
cmd
shutdown -r -t 0
```

Establishing Console connection



Establishing a Console Connection

Creating Console Connection

After enabling SAC, you can create a console connection:

Command References:

Type `SAC>` to access the SAC prompt.

To launch a Command Prompt session, type:

```
cmd
SAC>cmd
```

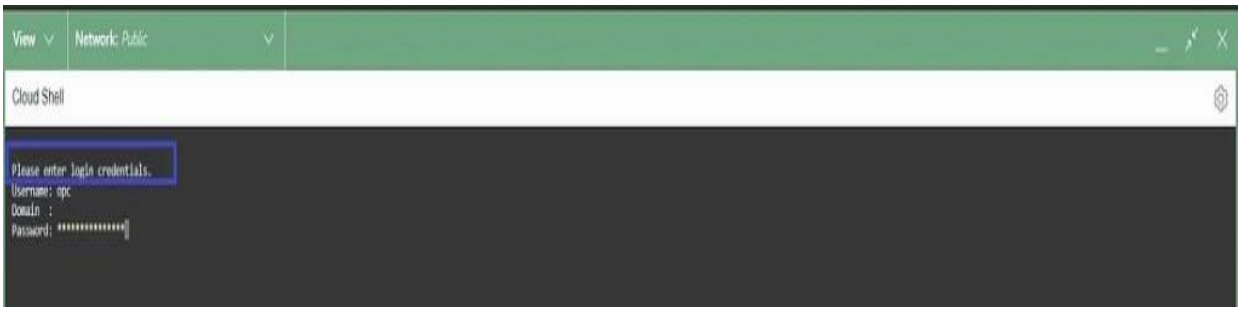
You will see:

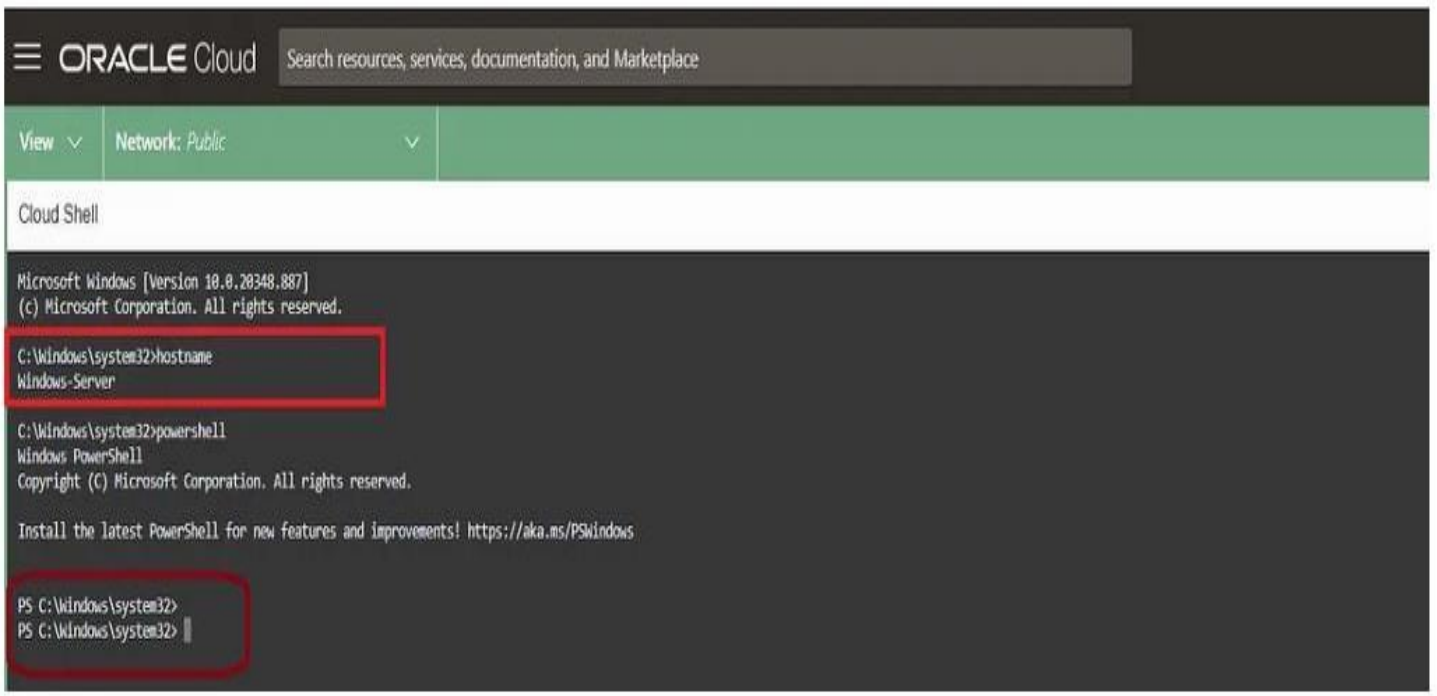
```
shell
The Command Prompt session was successfully launched.
SAC>
```

Channel Creation:

A new channel will be created. You can use the command:

```
cmd
SAC>ch -si 1
```





Login Credentials

You can now use PowerShell commands or any Windows command line utility to manage your system.

VNC Console Connection

For instances where the console connection fails, you may refer to the following troubleshooting steps:

Important Note:

Ensure you use the PPK format private key to create the VNC console connection. Ensure that ports 443 and 3389 are open in your network security group.

Creating a VNC Console Connection

Click on Create Console Connection and upload the public key saved from PuttyGen.

Reference Steps:

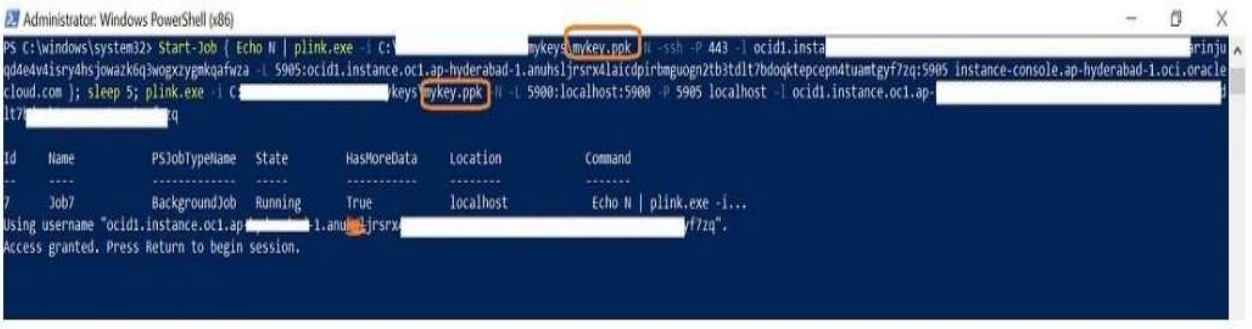
Click on the three dots on the right side to access options.

Replace Private Key Path:

Copy the following command into Notepad++ and replace the private key

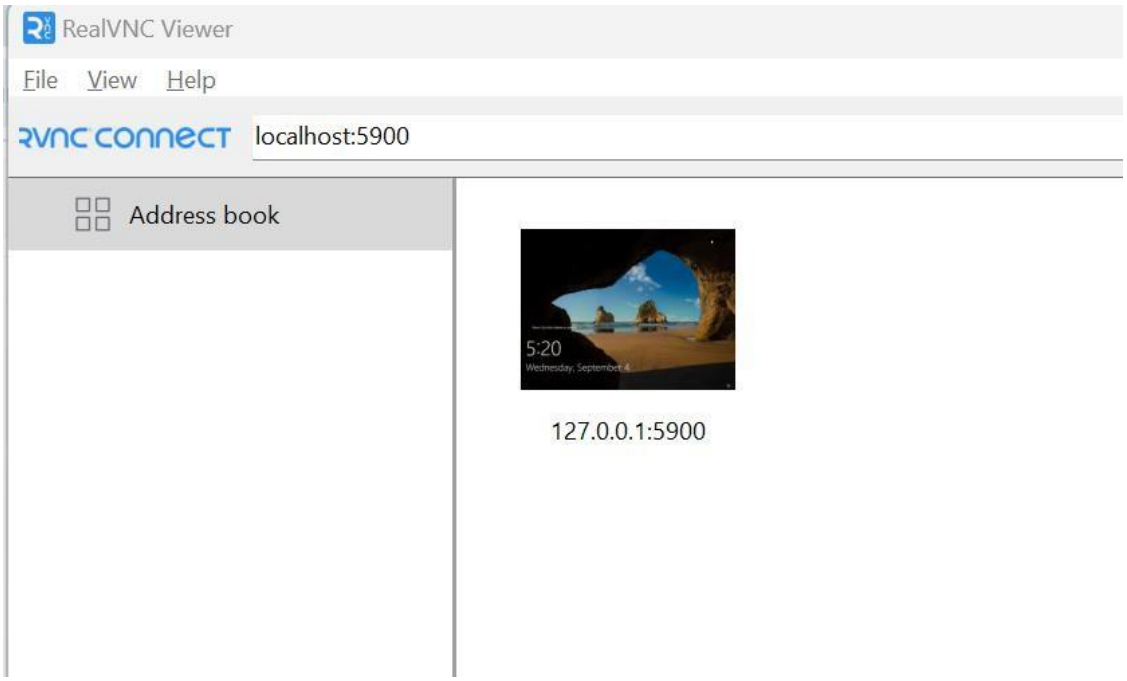
path:powershell

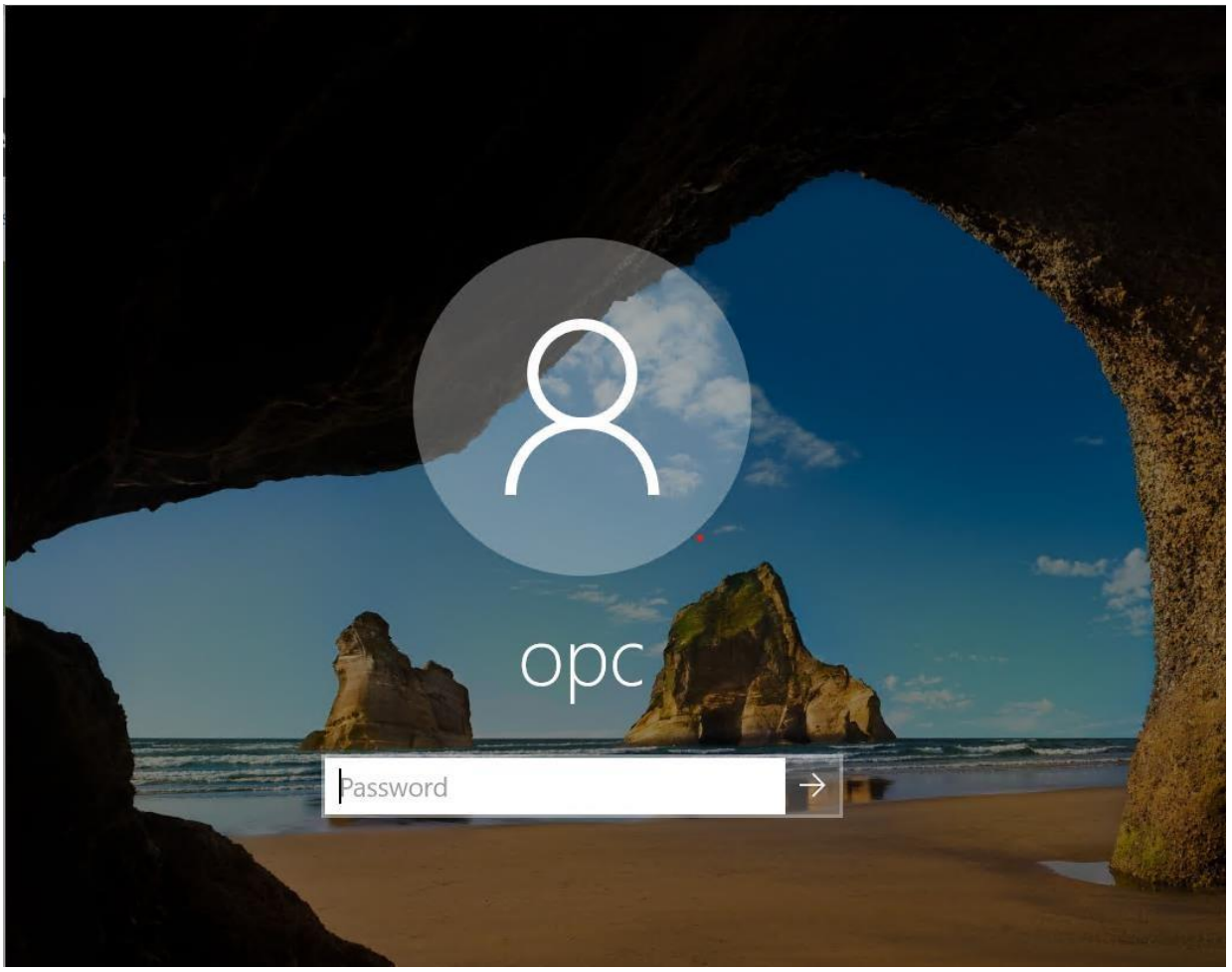
$env:homedrive$env:homepath\oci\console.ppk

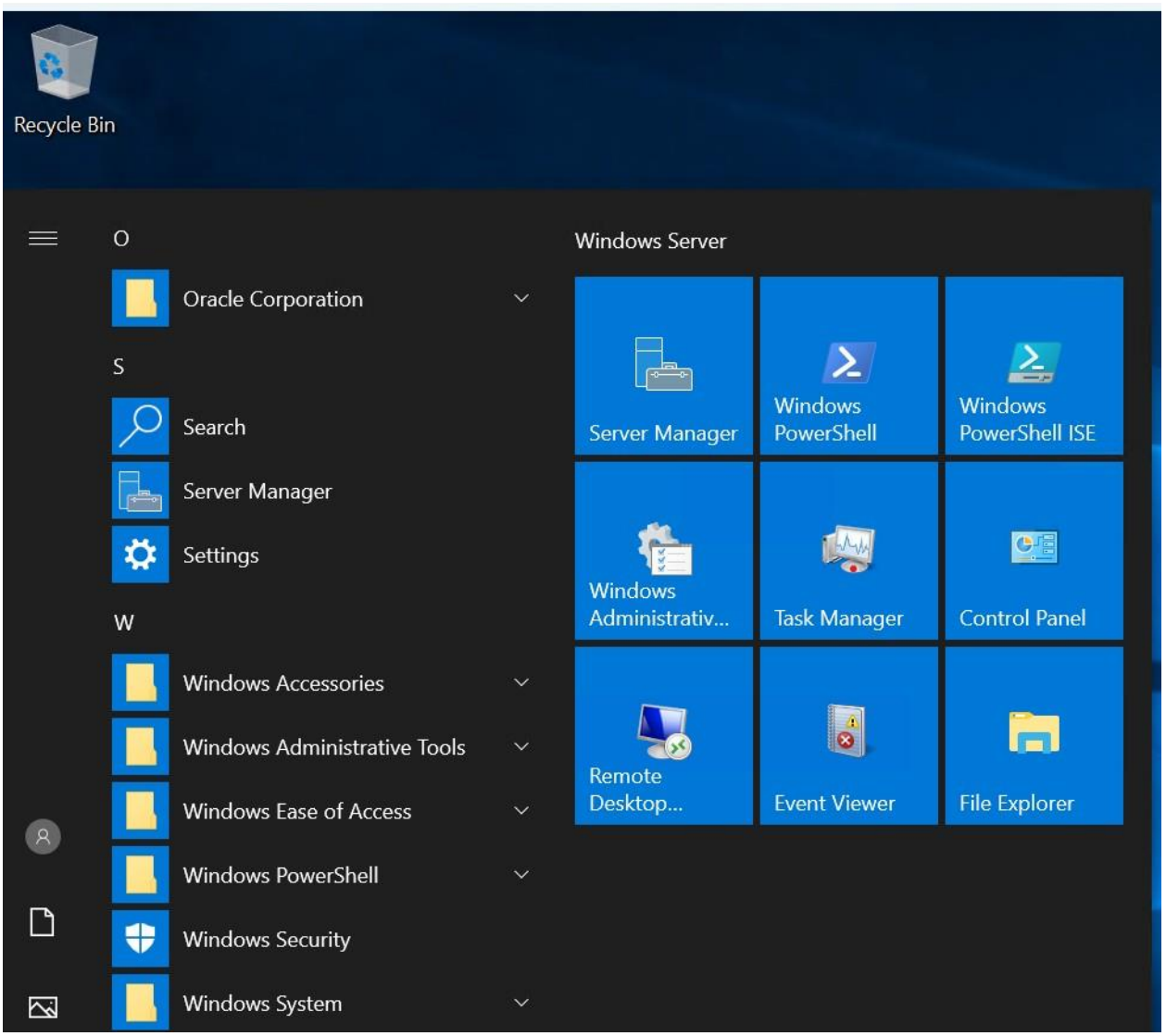


RealVNC Viewer:

Open the RealVNC Viewer and connect over localhost:5900.


RealVNC Viewer
File View Help
VNC CONNECT
localhost:5900
Address book
5:20
127.0.0.1:5900


opc
Password



VNC Access to the VM Host

To send a Ctrl + Alt + Del command, click on Function + F8 and select the appropriate option from the menu.

Summary

By utilizing both serial console and VNC console connections, you can effectively troubleshoot and resolve issues with Oracle OCI instances.

The serial console provides a text-based interface for diagnosing and repairing issues, such as access problems or recovery from a lost key or password. Meanwhile, the VNC console offers a graphical interface, allowing you to interact with the instance's desktop environment, which can be particularly useful for troubleshooting complex issues. To ensure successful connections and management, carefully follow the provided steps for configuring and accessing both console types. This process will enable you to monitor instance status, access logs, and perform recovery tasks efficiently.

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