CONTAINER INFRASTRUCTURE

조훈, 심근우, 문성주 지음

컨테이너 인프라 환경 구축을 위한
쿠버네티스/도커

새로운 인프라 환경을 이해하고 직접 구축 해보자!

쿠버네티스, 도커, 젠킨스, 프로메테우스와 그라파나 각 도구들의 개념과 사용 방법을 정확히 이해하고 컨테이너 환경을 구성하는 모든 과정을 경험한다. 직접 인프라 환경을 구축하고 모니터링해서 관리 자동화까지 구현해 보자!

길벗

실습 이슈#1 - VritualBox host-only Network(MAC,Linux)

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VirtualBox 6.1.28 이후 버전에서 Vagrant를 통한 host-only network 설정이 정상적으로 이루어지지 않는 이슈 (MAC, Linux 사용자)

MAC 또는 Linux를 호스트로 사용하면서, **VirtualBox 6.1.28** 이후 버전에 **Vagrant**를 통해서 host-only network 설정의 변경을 시도하는 경우 다음과 같은 에러가 발생하면서 진행이 되지 않습니다. 윈도우 시스템에는 영향이 없습니다.

그림1 host-only network 설정 에러

```
The IP address configured for the host-only network is not within the
allowed ranges. Please update the address used to be within the allowed
ranges and run the command again.

  Address: 192.168.1.11
  Ranges: 192.168.56.0/21

Valid ranges can be modified in the /etc/vbox/networks.conf file. For
more information including valid format see:

  https://www.virtualbox.org/manual/ch06.html#network_hostonly
```

이는 VirtualBox 6.1.28 버전에서 다음과 같은 내용으로 업데이트했기 때문입니다.

On Linux, Mac OS X and Solaris Oracle VM VirtualBox will only allow IP addresses in 192.168.56.0/21 range to be assigned to host-only adapters. For IPv6 only link-local addresses are allowed

이를 해결하기 위한 방법은 크게 두가지의 방법이 있습니다.

1) Allow-list를 호스트 시스템의 /etc/vbox/networks.conf에 생성하는 것입니다.

예시는 다음과 같습니다.

```
* 10.0.0.0/8 192.168.0.0/16
* 2001::/64
```

2) VirtualBox 6.1.28 이전 버전을 사용하는 것입니다.

예상하기로는 Vagrant에서 위의 networks.conf를 생성하는 것으로 스크립트가 변경될 것으로 예상되지만 언제 변경될지는 예상되지 않습니다. 따라서 우선 VirtualBox 이전 버전을 사용하는 것이 좋은 해결책이 될 것입니다. 이를 위한 패키지는 다음의 경로에 마련되어 있습니다.

VirtualBox 6.1.12, vagrant 2.2.9

[윈도우 사용자](#) [맥OS 사용자](#)

사용하시는 환경에 따라 이 버전으로 정상적인 설치가 되지 않을 수 있습니다. 이 경우에는 6.1.28 이전 버전 중에 현재 사용하시는 환경에서 정상적으로 동작하는 버전을 선택하여 사용하시기 바랍니다.

<참조>

host-only network 설정

For host-only networking, as with internal networking, you may find the DHCP server useful that is built into Oracle VM VirtualBox. This is enabled by default and manages the IP addresses in the host-only network. Without the DHCP server you would need to configure all IP addresses statically.

- In the VirtualBox Manager you can configure the DHCP server by choosing **File**, **Host Network Manager**. The Host Network Manager lists all host-only networks which are presently in use. Select the network name and then use the **DHCP Server** tab to configure DHCP server settings.
- Alternatively, you can use the **VBoxManage dhcpserver** command. See Section 8.42, "VBoxManage dhcpserver".

5.4.2. **Note**

On Linux and Mac OS X hosts the number of host-only interfaces is limited to 128. There is no such limit for Oracle Solaris and Windows hosts.

On Linux, Mac OS X and Solaris Oracle VM VirtualBox will only allow IP addresses in 192.168.56.0/21 range to be assigned to host-only adapters. For IPv6 only link-local addresses are allowed. If other ranges are desired, they can be enabled by creating `/etc/vbox/networks.conf` and specifying allowed ranges there. For example, to allow 10.0.0.0/8 and 192.168.0.0/16 IPv4 ranges as well as 2001::/64 range put the following lines into `/etc/vbox/networks.conf`:

```
* 10.0.0.0/8 192.168.0.0/16
* 2001::/64
```

Lines starting with the hash **#** are ignored. Next example allows any addresses, effectively disabling range control:

```
* 0.0.0.0/0 ::/0
```

If the file exists, but no ranges are specified in it, no addresses will be assigned to host-only adapters. The following example effectively disables all ranges:

```
# No addresses are allowed for host-only adapters
```

https://www.virtualbox.org/manual/ch06.html

Change log

VirtualBox 6.1.30 (released November 22 2021)

This is a maintenance release. The following items were fixed and/or added:

- VMM: Fixed 6.1.28 regression preventing VMs starting when using Hyper-V mode on Windows 10
- GUI: Fixed inability to complete First Run wizard after browsing for an external image
- GUI: Fixed crash on macOS Big Sur while browsing for an external image from First Run wizard
- GUI: Fixed bug on Windows with inability to save taken screenshot under a folder with native name (bug #15561)
- GUI: Fixed bug on X11 with drag and drop initiated on single mouse click in VM storage settings
- GUI: Fixed settings check on machines not supporting hardware virtualization
- GUI: Non critical media related errors should not cause modal pop-up error messages
- Host-only networking: Fixed crash parsing /etc/vbox/networks.conf
- DVD: Fixed drive lock handling across VM reset
- VBoxHeadless: Fixed crash when running on macOS Monterey (bug #20636)
- VBoxManage: Fixed incorrect help text for "hostonlyif"
- vboximg-mount: Error message if no image is specified
- macOS host: fix multiple bugs specific to macOS Monterey in installer and startup of kernel extensions
- macOS host: show message indicating the unsupported CPU on M1 based Macs and abort installation
- Linux host: For all distribution specific packages (deb/rpm format) fix the packaging so that the feature for unattended installation of guest OSes works
- Linux host and guest: Introduced initial support for kernel 5.16
- Shared Clipboard: Improved communication between guest and host when guest has no clipboard data to report
- Linux Guest Additions: Allow running only one VBoxDRMClient instance (bug #19373)

VirtualBox 6.1.28 (released October 19 2021)

This is a maintenance release. The following items were fixed and/or added:

- VMM: Fixed guru meditation while booting nested-guests accessing debug registers under certain conditions
- UI: Bug fixes for touchpad-based scrolling
- VMSVGA: Fixed VM black screen issue on first resize after restoring from saved state (bug #20067)
- VMSVGA: Fixed display corruption on Linux Mint (bug #20513)
- Storage: Fixed a possible write error under certain circumstances when using VHD images (bug #20512)
- Network: Multiple updates in virtio-net device support
- Network: Disconnecting cable in saved VM state now is handled properly by virtio-net
- Network: More administrative control over host-only network ranges to prevent trouble due to misconfiguration, see user manual. Check updated documentation or your VMs may stop working!
- NAT: Fixed not rejecting TFTP requests with absolute pathnames (bug #20589)
- Audio: Fixed VM session aborting after PC hibernation (bug #20516)
- Audio: Fixed setting the line-in volume of the HDA emulation on modern Linux guests
- Audio: Fixed resuming playback of the AC'97 emulation while a snapshot has been taken
- API: Added bindings support for Python 3.9 (bug #20252)
- API: Fixed rare hang of VM when changing settings at runtime

- Linux host: Improved kernel modules installation detection which prevents unnecessary modules rebuild
- Windows Host: Sped up large page allocations on Windows 8 and later
- Windows Host: Fixed VBoxHeadless process sticking around after VM is closed (bug [#20574](#))
- Host Services: Shared Clipboard: Prevent guest clipboard reset when clipboard sharing is disabled (bug [#20487](#))
- Host Services: Shared Clipboard over VRDP: Fixed to continue working when guest service reconnects to host (bug [#20366](#))
- Host Services: Shared Clipboard over VRDP: Fixed preventing remote RDP client to hang when guest has no clipboard data to report
- Linux Host and Guest: Introduced initial support for kernels 5.14 and 5.15
- Linux Host and Guest: Introduced initial support for RHEL 8.5 kernel
- Windows Guest: Introduced Windows 11 guest support, including unattended installation