Episode 8 (Creating a Virtualized Environment)

Kitsune! I've been hearing the term "metaverse" lately...does it have anything to do with computers?

The metaverse is a three-dimensional virtual space that is different from the real world. By placing an avatar in this virtual space that resembles you, you can make your alter ego act in the virtual space.

In Star Wars, there is a scene where an avatar is sent to another planet and talks with the inhabitants of that planet. Mars has no air, so actual humans cannot live there, but it may be possible in the near future to create a virtual space in a part of Mars and send your alter ego there at the speed of light. It would be fun to think of it that way.

I have digressed, but the term "virtual" is very important here. In the computer world, when the prefix "virtual" is added, it means something software-like, not something real (something that physically exists) that is created by a program.

For example, a virtual machine is something that is programmatically created to be equivalent to a computer that exists as hardware. For example, a keyboard displayed on the LCD panel of a smartphone can be used just as well as a physical keyboard. This is truly part of a virtual machine. Furthermore, since the virtual machine exists as a file, it can be transferred to another location (from Sapporo to Okinawa) at the speed of light. Naturally, avatars can be transferred as well. Virtual memory is also a DRAM that is software-generated in the HDD. Are you beginning to understand the meaning of virtualization used in the computer world, Tanuki?

Virtualization sounds kind of interesting, like witchcraft!

So, what are we virtualizing here? You're not going to turn me into a computer, are you?

Making a raccoon dog avatar sounds like fun, but unfortunately it's more serious. A raccoon dog probably has at least one computer. But, in order to practice a variety of practices, he would want an OS. But sometimes you may want another computer, or several computers, even if the OS is corrupted, in order to do various practices. In such a case, one computer can be used to create multiple computers (virtual machines). This allows you to test as many programs as you want on the virtual machine without worrying about corrupting the data or applications of the computer shared by your mother or father.

Of course, you can create a Windows virtual machine on Windows, or multiple virtual machines such as CentOS or Ubuntu on Windows. This is not a lie!

Kitsune! You, you think of a great idea.
You don't have to buy a computer, you save resources, and this is not SDGs. If I practice this instead of just listening to Kitsune's lectures, I'll be able to do better.

That's right. Maybe SDGs, since all we use is wisdom and electricity. But the computer that creates the virtual environment has to add more resources. I built my own PC, and it has an Intel Corel5 CPU with about 8GB of DRAM. I need more resources than that. But since I built it myself, it costs only 40,000 yen.

Kitsune, it's okay. A computer for games costs several hundred thousand to a million yen, so if it only costs a few tens of thousands of yen, it's light, light. And moreover, I'll use it to invest in myself since I got 100,000 yen for living expenses from the raccoon dog general at the Corona Disaster. I'll add another 8GB to my computer's CPU, which is a Corel5 with 4GB of DRAM, so 12GB should be enough.

OK! Let's start the practice of creating a virtual machine.
Let's proceed with the policy of putting CentOS7 on Windows10home edition as a virtual server. The Windows10home edition will be called the host OS and the CentOS7 virtual server will be called the guest OS.
The procedure for now is as follows. It is not difficult, just like installing an application on Windows. Download the virtualization software from the following link.

●Virtualization software （**VMware Workstation Player**）

URL :
https://www.vmware.com/jp/products/workstation-player/workstation-player-evaluation.html　and access

・[Try Workstation 15.5 Player for Windows]
「Click "Download Now."」
Save [VMware－player－15.5.2－15785246.exe] in an appropriate folder and double－click it.
and double－click on it.

・After that, please use the information on the Internet to complete the installation. Most of the time, I think it is good to agree and Yes. Most of the time, you will get a message "successful" at the end of the installation. At the end, you will see the message "successful" and The VMware logo will appear on the disk top.

This software is virtualization software provided by a company called VMware. The software used here is the simplest and easiest to use, creating a virtual machine on the host OS, but they also offer full-scale software for installing on multiple computers in a data center to build cloud systems, big data processing, and so on. There is also a software called "Control Center" that manages multiple virtual machines at once.

Workstation 15.5 Player for Windows" is available free of charge, but be aware that it is for personal study only. People sometimes say "cheap or bad," but this is free and it's excellent. I wonder why you all don't study with it. Is it because the pompous teacher of information at the Pompoko School doesn't want the raccoons to be better than he is? Or maybe they don't know that this kind of software exists. Anyway, it's a bit of a cop out, isn't it?

Kitsune! Stop badmouthing Dr. Clunkers and tell us how to make a guest OS and what makes VMware so special. Maybe Dr. Clanker doesn't feel the need to know how to make a guest OS or anything like that. I'm like him, I'm content with using Windows.

Maybe Tanuki is right, there might be a lot of information teachers who are satisfied with Windows Excel and Word experts.
Well, let's try to make one of the Linux CentOS7 as a guest OS. From here, it's the same as installing CentOS7 on a real machine (physical machine).
If you are at a loss, search for installation instructions on the Internet.
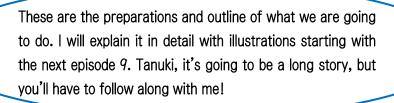
●Let's prepare the CentOS7 base file.

The software used here to install the CentOS7 OS is an iso file. Download and use this file. It is 4.5 GB in size, so it will take about one hour to download. There are various download sites. There are various download sites, so please use the site of your choice. For example,

URL: https://ftp.riken.jp/Linux/centos/7.8.2003/isos/x86_64/

download the "CentOS-7-x86_64-DVD-2003.iso4.5GB)" at the top and save it to your folder. It looks like this. The version provided will change over time.

●Building a virtual server machine (CentOS7)

・The image of a virtual machine as a software-built data file is the The point is that a virtual machine is a data file built by software. If it is a file, then copying (called cloning) and instantaneous transmission (in case of emergency). Although virtual machines are files, they can be handled just like physical servers. A network card (NIC) is also created. The network image can be understood by thinking that the private address assigned to the virtual machine is routed and translated into the private address of the physical Windows 10 NIC.

・Since virtual servers are files, if they fail to build, simply "delete" them and recreate them. Make as many mistakes as possible. Make as many mistakes as possible.

・There are some instructions on the net on how to install CentOS on Windows 10 using VMware. You can find a description of how to install CentOS on Windows 10 using VMware on the Internet. Please refer to it.

・I can't say for sure, but VMware is a type of app (middleware) on Windows, so I don't think it will destroy the host Windows 10.

These are the preparations and outline of what we are going to do. I will explain it in detail with illustrations starting with the next episode 9. Tanuki, it's going to be a long story, but you'll have to follow along with me!

I'll do my best to be helpful!

Okay, I'll take episode 9, please.

Translated at DeepL