

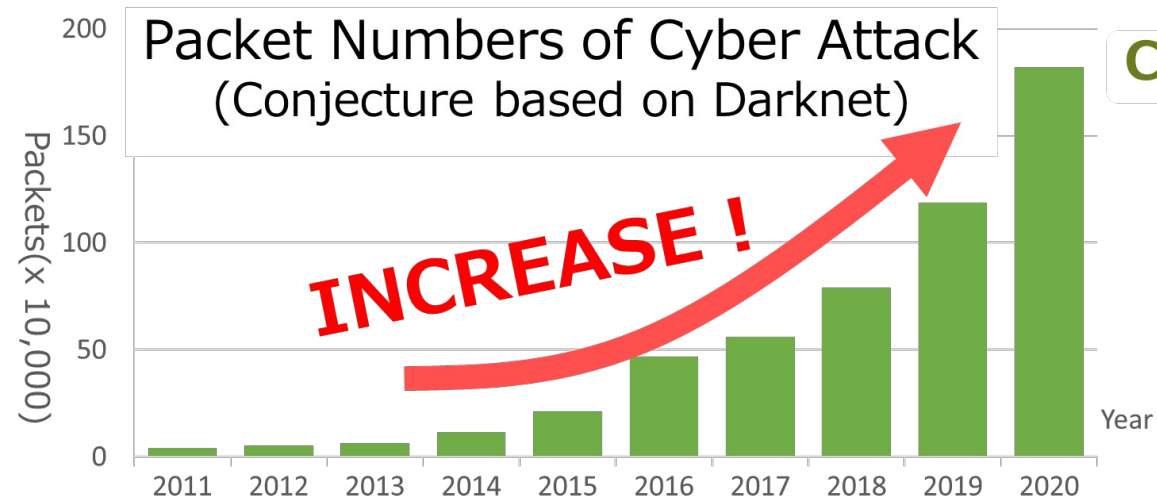
# Security Exercise System

Ichitoshi TAKEHARA (Doctor's Course First year)

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## ● Trend of Security Damage



Corporation

### Supply chain Attack

Corporation and SMEs  
Enterprises at risk

Cyber Attack

SMEs IT  
Enterprise

Large IT  
Enterprise



## ● Need to Develop Security Personnel

	Job Description	Action When Find Cyber Attack	Education for Cyber Attack
Corporation	Using inventory management tools	The most priority is to contact SMEs IT Enterprise	Employee training Documentation
SMEs IT Enterprise	Software improvements for Corporation	<b>Investigate the extent of impact and report to relevant parties</b>	<b>Security Exercise</b>
Large IT Enterprise	Take measures for world's first attack	Identify the cause from attack behavior	<b>Graduate school CTF</b>

This is an **exercise** in which **multiple people** work together to protect a **simulated system** such as a EC site from being tampered with or cracked by eavesdropping.



Abilities gained through exercises

How to manage accounts

System monitoring and Maintenance



Reporting of incident details and extent of impact



## ● Issues and Solutions for Security Exercise

### Environment

**Difficult to prepare the exercise system.**

**Lack of instructor knowledge, budget and time**

### Method

**Difficult to cooperate with others during exercises.**

**Lack of students knowledge, experience and communication skills**

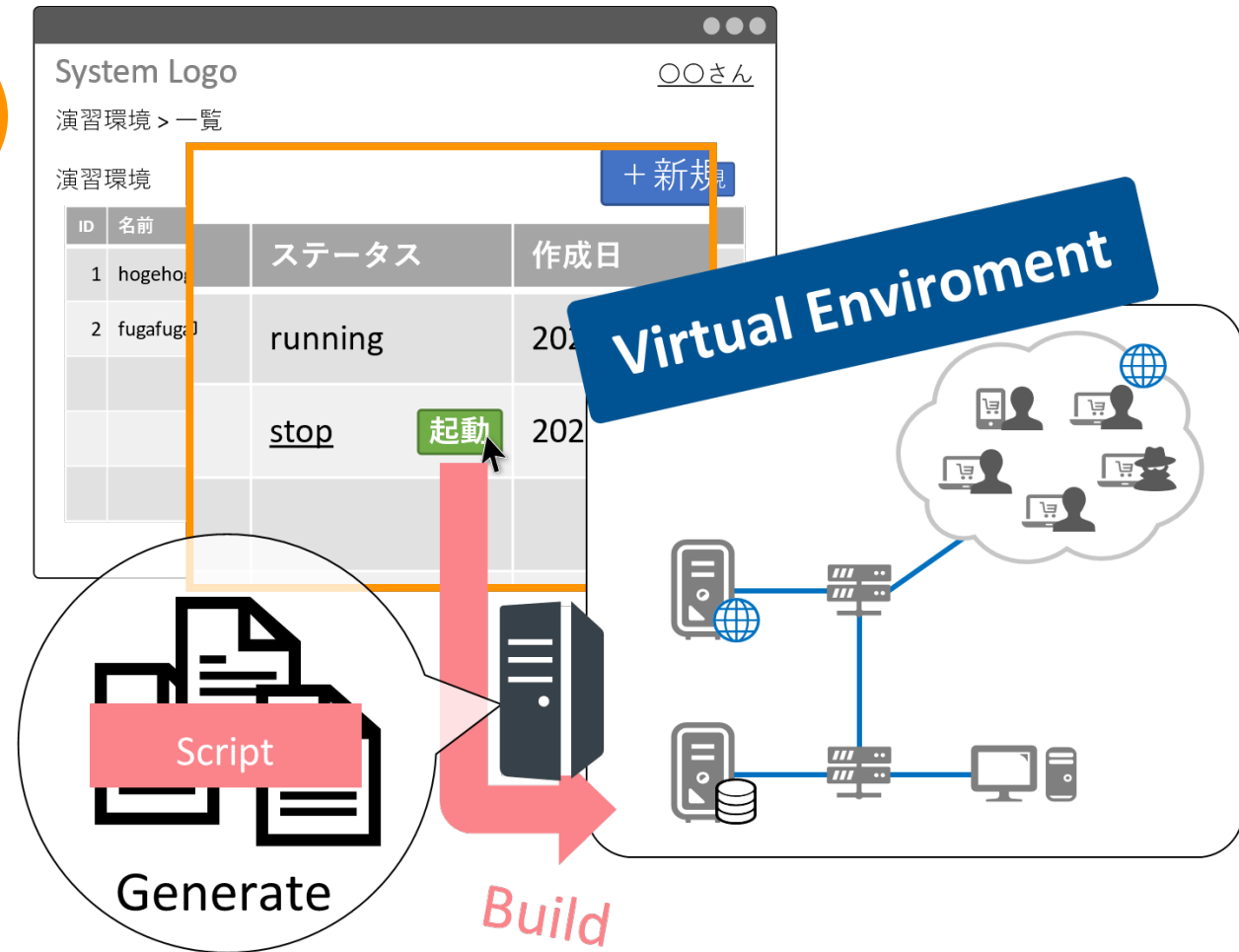
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# ● Issues and Solutions for Security Exercise Environment

Easy setting for beginners (GUI)

Automatically prepare the environment (Script)

Multiple computers on one (virtualization)



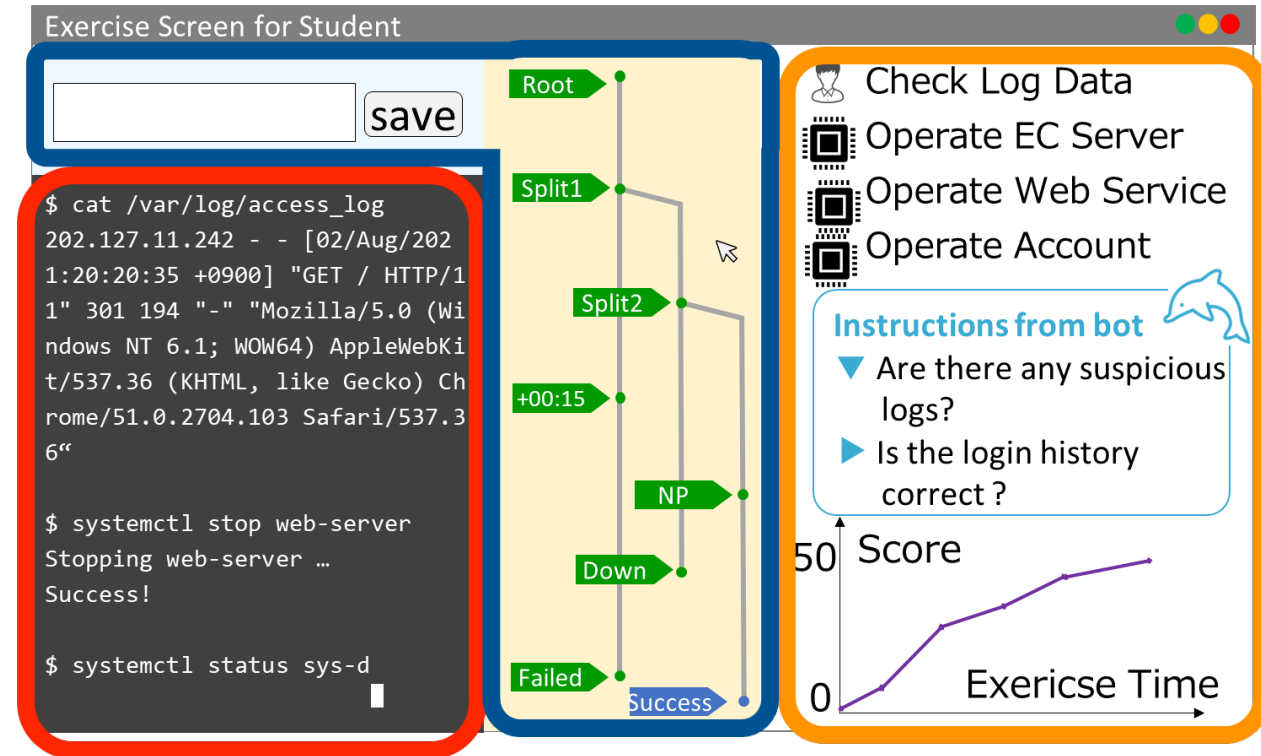
# ● Issues and Solutions for Security Exercise

## Method

You can practice by yourself  
(Terminal)

Trial and Error many times until  
there is no "Lack of" (Snapshot)

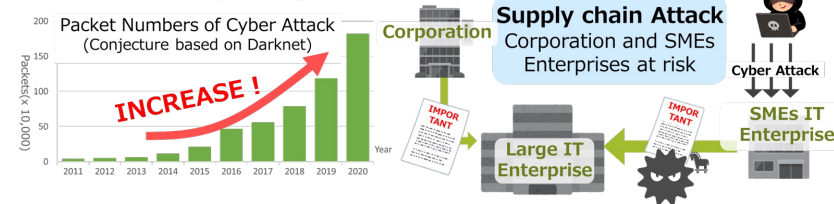
Automated program supports  
instead of human (Bot)



# This presentation was on an open campus poster.

## Security Exercise System

### ● Trend of Security Damage



### ● Need to Develop Security Personnel

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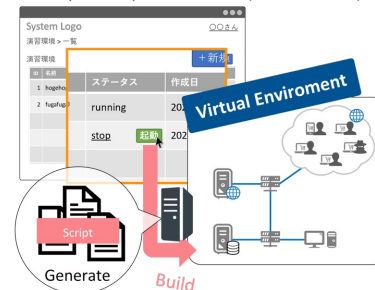
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### ● Issues and Solutions for Security Exercise

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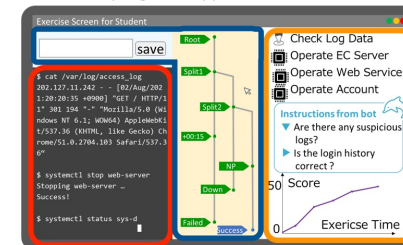


Mirei ISHIZUKA (Master's Course First year)

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