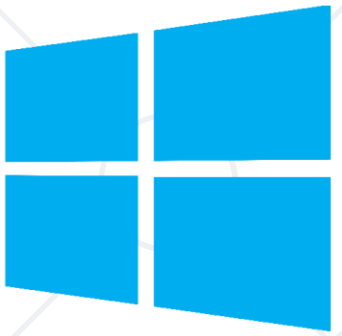


System Monitoring and Maintenance

Monitoring. Troubleshooting. Backup and Restore.
Scheduling



Windows Server

SoftUni Team
Technical Trainers



SoftUni



Software University

<https://softuni.bg>

Have a Question?

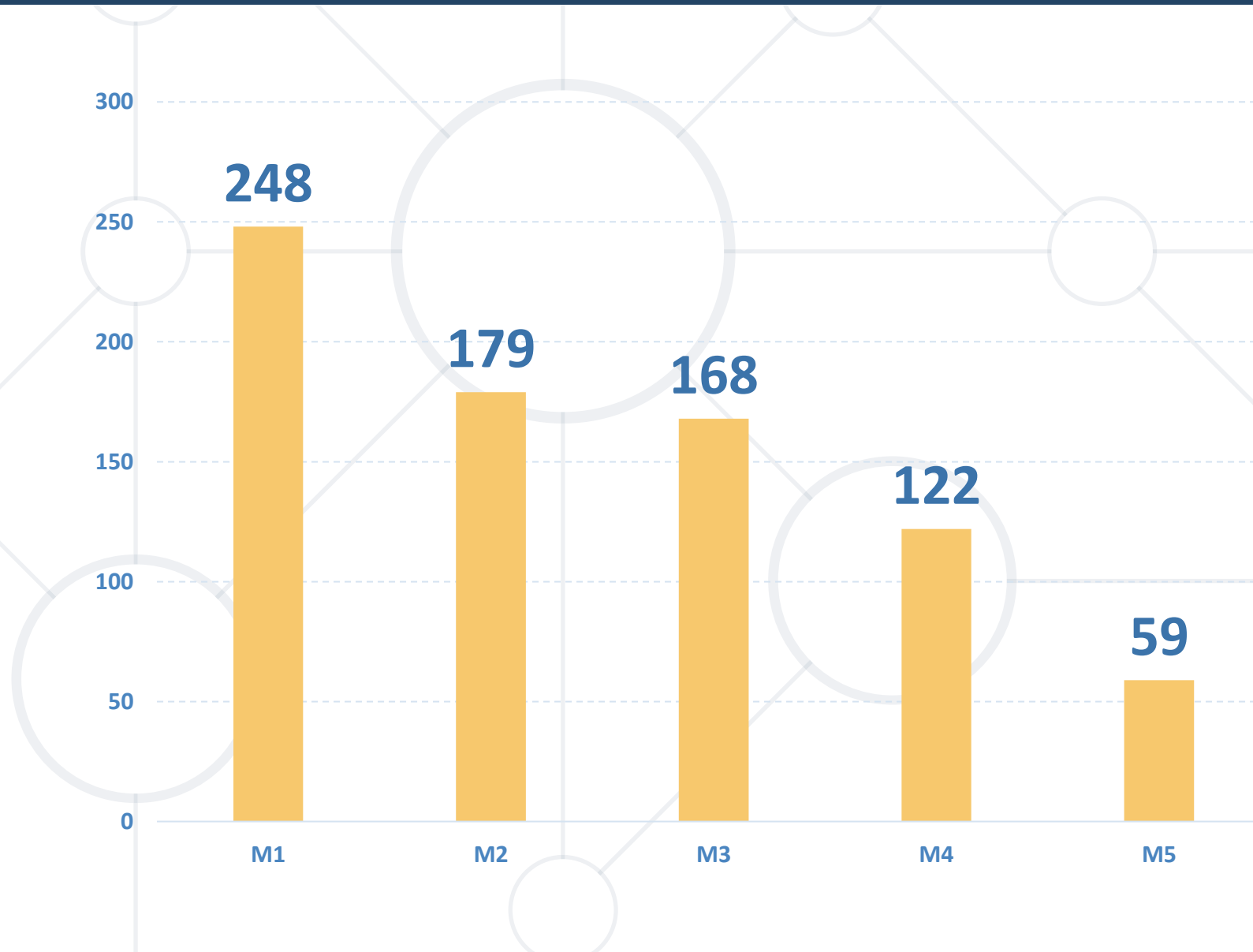
sli.do

#WSA

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WindowsSystemAdministrationMarch2023/

Homework Progress



Submit M5
until 23:59:59
on 05.05.2023

Submit M6
until 23:59:59
on 12.05.2023



Previous Module (M5)

Quick overview

What We Covered

- Additional Features and Techniques
- Group Policy Objects
- Group Policy Preferences



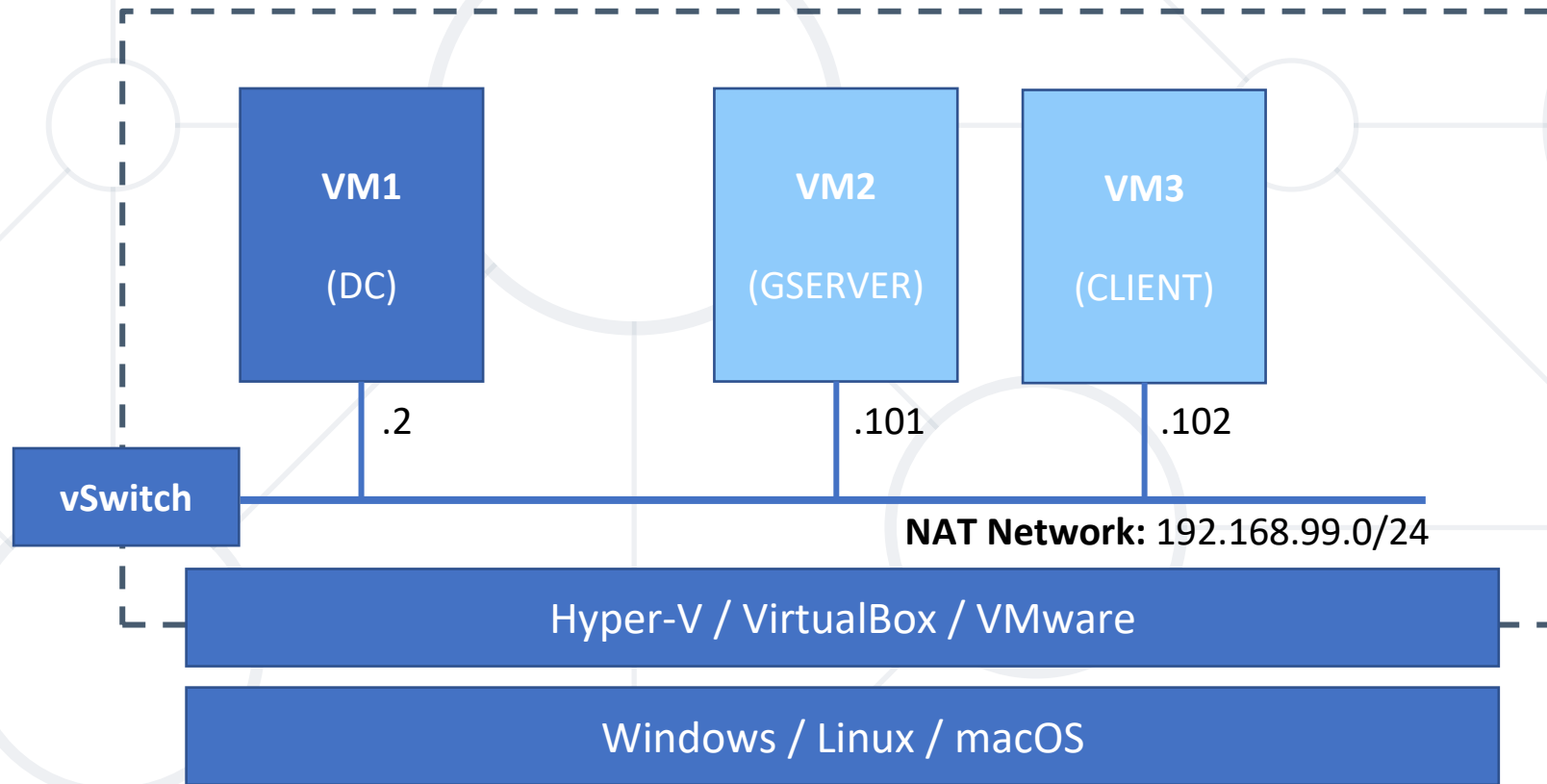
This Module (M6)

Topics

Table of Contents

1. Troubleshooting
2. Monitoring
3. Backup and Restore
4. Scheduling

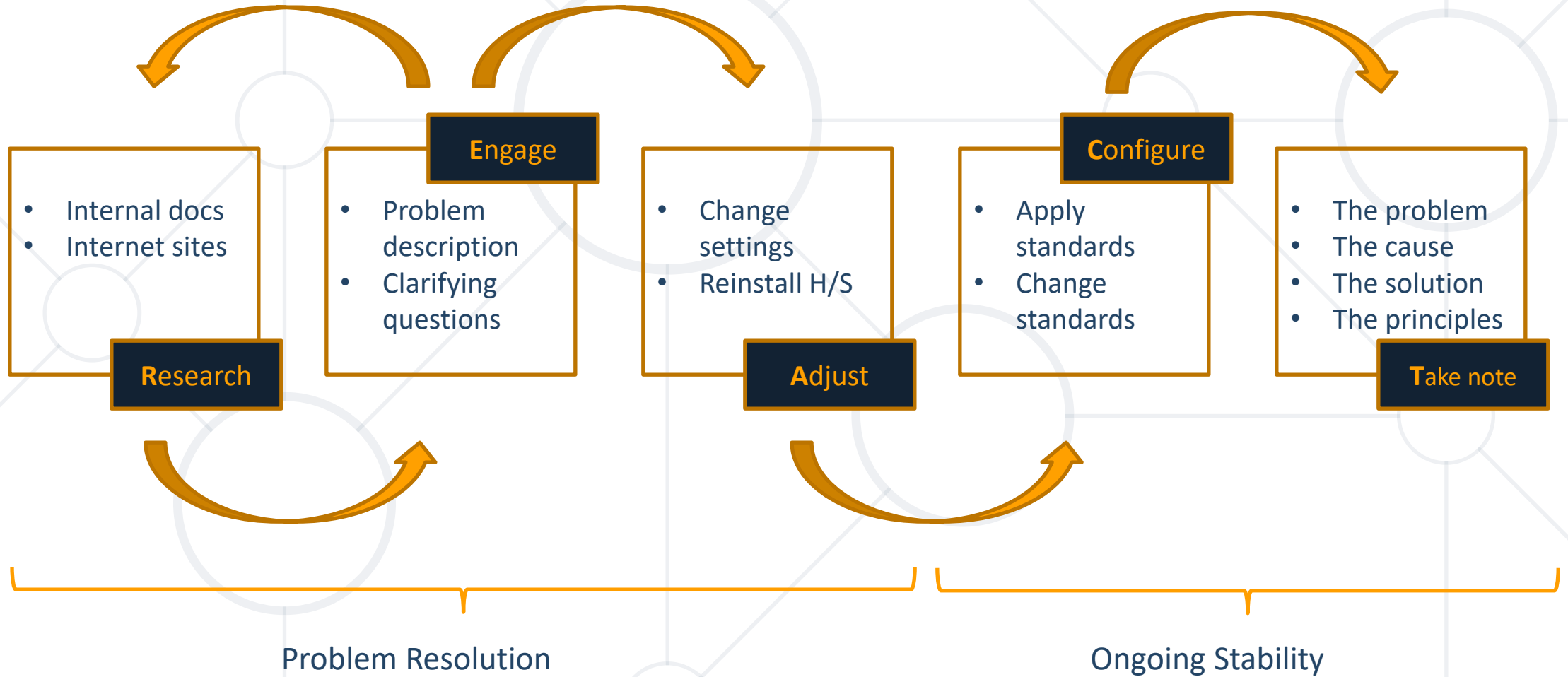


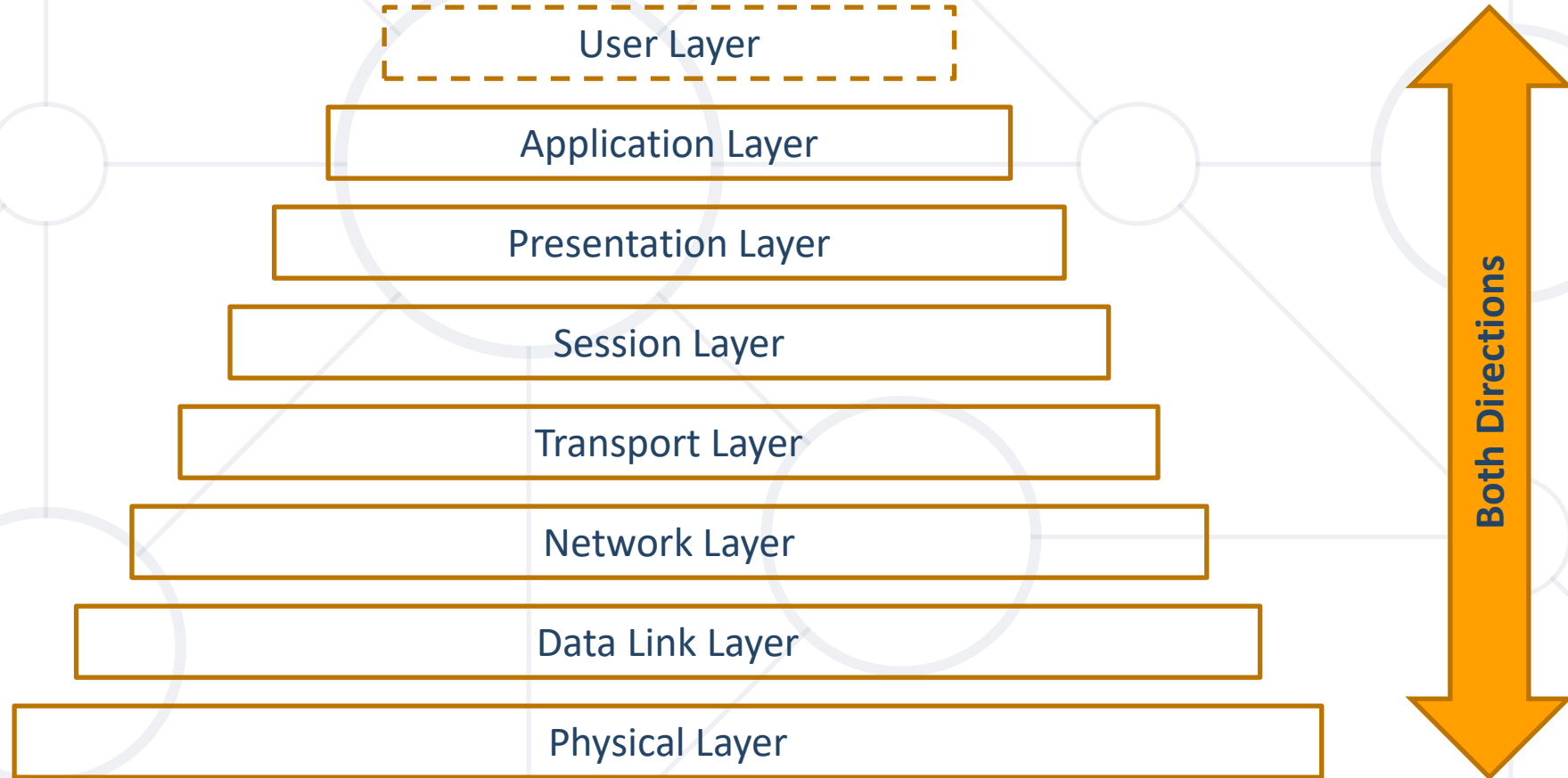




Troubleshooting Methodologies

- The process of discovering the **unknown case** and solution for known problem
- If the solution is known, it is a fix
- Many methodologies
 - REACT
 - OSI model
 - Hardware/software model





- **Hardware Problems**

- Component (memory, disk, network, video, system board) failure
- Insufficient processing capabilities

- **Software Problems**

- Corrupted files
- Poorly written drivers or software
- Improperly configured software



Monitoring

- **Watch Resources**
 - Capacity and Load
 - Availability
- **Track Interactions**
 - Access to resources
 - Notifications (informative, error, warning)



Tools

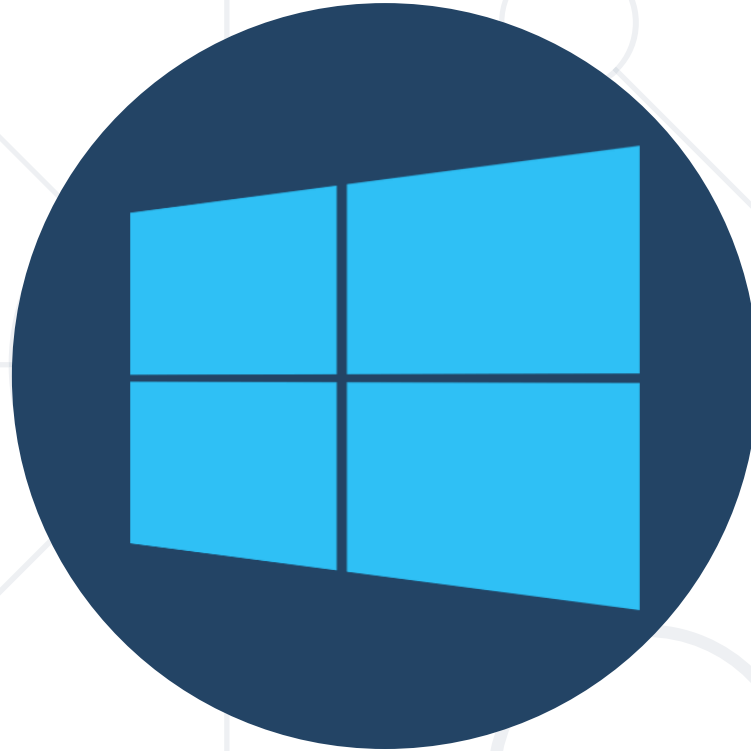
Troubleshooting and Monitoring

- **Integral part of the OS**
 - GUI – **Task Manager, Performance Monitor, Event Viewer**
 - CMD Shell – **tasklist, taskkill, openfiles, systeminfo, typeperf**
 - PowerShell – **Export-Counter, Get-Counter, Import-Counter, ...**
- **3rd party**
 - Sysinternals Suite
 - Many others free and paid



Provided by Microsoft for **free** as a separate **download**
Supports **Client** and **Server** versions, incl. **Nano Server**

- Process Utilities
 - Process Explorer, Process Monitor, etc.
- File and Disk Utilities
 - DiskMon, Disk Usage, NTFSInfo, etc.
- Networking Utilities
 - PsPing, ShareEnum, AD Explorer, etc.
- System Information and Security
 - CoreInfo, CpuStres, LogonSessions, etc.



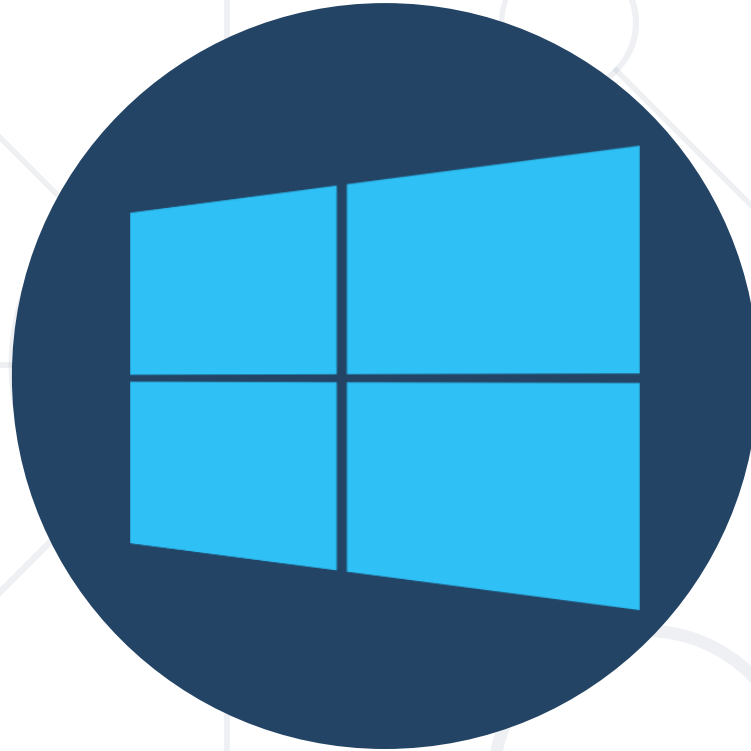
Practice: Examine the Tools

Live Demonstration in Class



Backup and Restore

- **Integrated solution**
 - **Windows Server Backup**
 - Available as installable feature
 - Requires separate storage (**volume, drive, shared folder**)
 - Full backup or custom selection (**allows exclusion**)
 - Scheduled or manual
- **3rd party solutions**



Practice: Backup and Restore

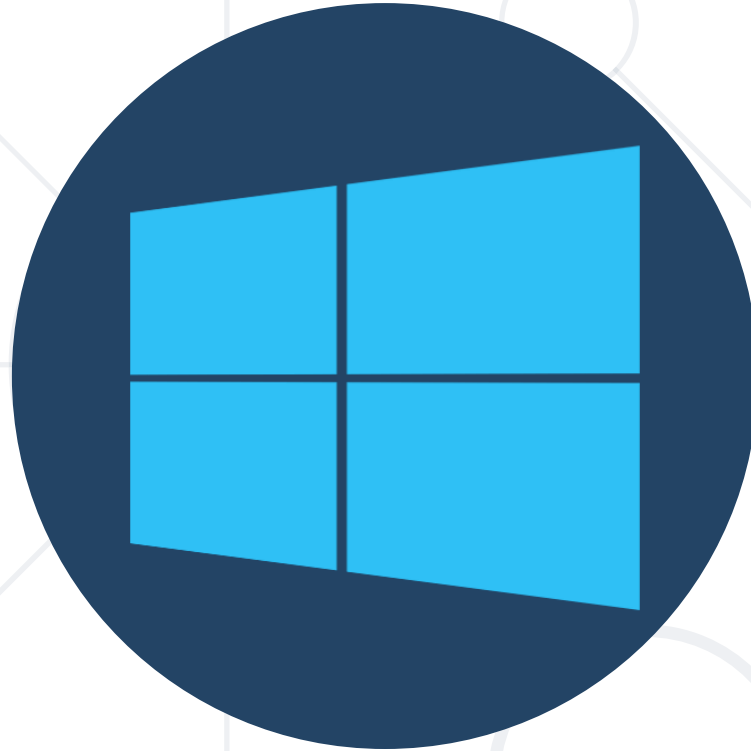
Live Demonstration in Class



Scheduling

- **Task Scheduler** is integrated solution
- Consists of two parts
 - Control tool – GUI (**taskschd.msc**) or CMD (**schtasks.exe**)
 - Windows service (**Schedule / Task Scheduler**)
- **Scheduled** tasks can be manipulated with PowerShell as well, by using the **ScheduledTasks** module
- PowerShell module **PSScheduledJob** can be used to manage **scheduled jobs**

- Every scheduled task/job has four elements:
 - **Action** - program to be run
 - **Trigger** - time or system event that determines when the program is to be run
 - **Principal** - context to use to execute an action
 - **Options** - further configure the task and control how the action is run
- **Scheduled Tasks** are *Windows thing*, while the **Scheduled Jobs** are *PowerShell thing*
- Output of the Scheduled Jobs can be captured



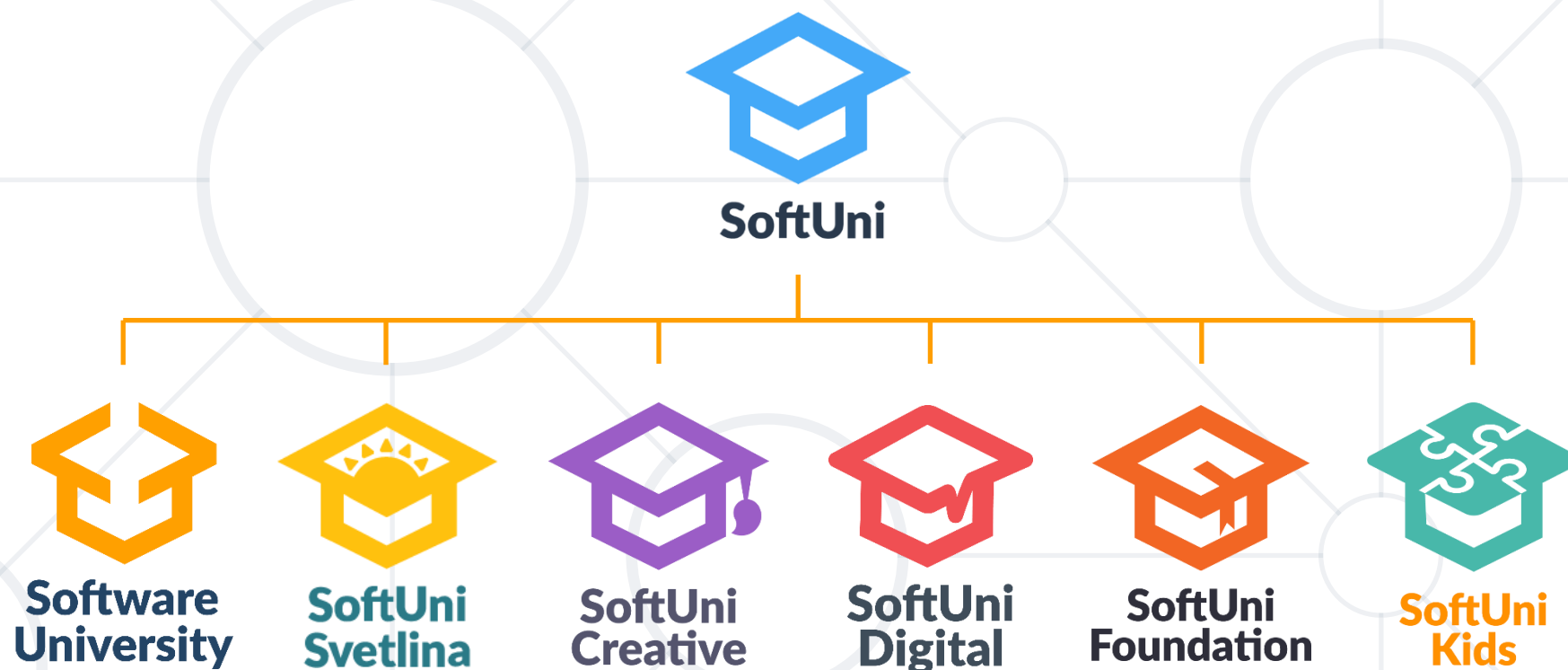
Practice: Scheduling

Live Demonstration in Class

- Command-Line Reference
[https://technet.microsoft.com/en-us/library/cc754340\(v=ws.11\).aspx](https://technet.microsoft.com/en-us/library/cc754340(v=ws.11).aspx)
- Event ID lookup
<http://eventid.net>
- Sysinternals Suite
<https://docs.microsoft.com/en-us/sysinternals/downloads/sysinternals-suite>
- Backup
[https://technet.microsoft.com/en-us/library/cc816584\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc816584(v=ws.10).aspx)
- PowerShell Scheduled Jobs
<https://blogs.technet.microsoft.com/heyscriptingguy/2012/09/18/create-a-powershell-scheduled-job/>
<https://blogs.technet.microsoft.com/heyscriptingguy/2014/05/12/introduction-to-powershell-scheduled-jobs/>
<https://devblogs.microsoft.com/scripting/using-scheduled-tasks-and-scheduled-jobs-in-powershell/>



Questions?



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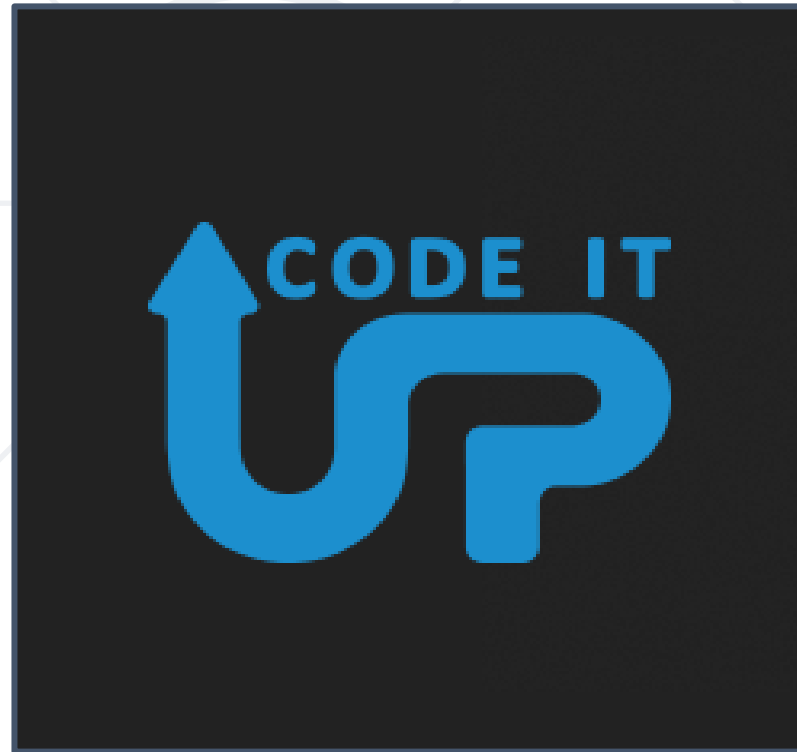
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