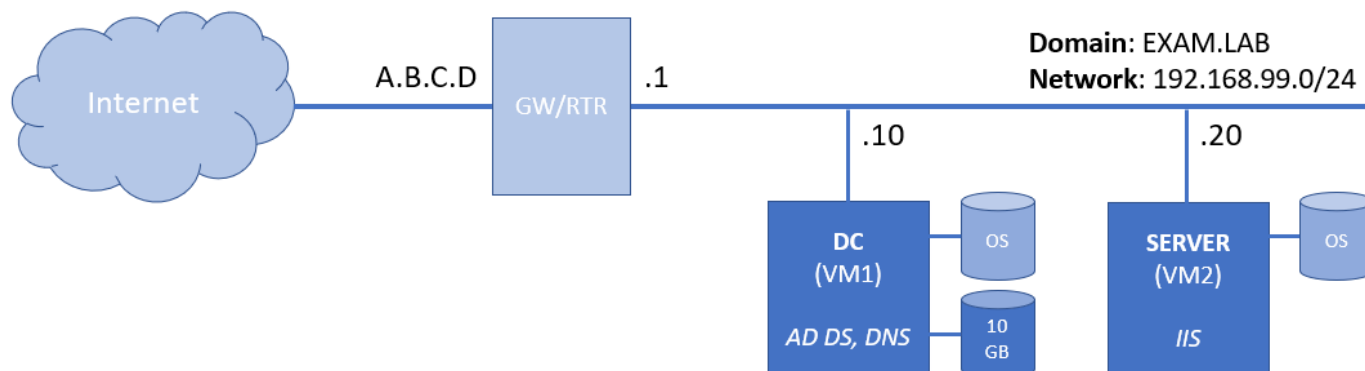


# Exam: WSA 2023.03 (2023.06.03)

## Infrastructure

You will be working in a small network with two VMs each one configured according to the specifications:



All machines are of the same type (in terms of OS edition, OS version and hardware parameters)

Please note that if your IP address is **A.B.C.D** then the following port-forwarding rules are in place:

A.B.C.D:10001 -> 192.168.99.10:3389	A.B.C.D:10002 -> 192.168.99.20:3389	A.B.C.D:10003 -> 192.168.99.20:80
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Be sure to **follow strictly** the **naming conventions** (users, groups, folders, files, etc.) specified in the checklist

Tasks execution order should not be derived from the order in which they are listed below. Please note that there are tasks that depend on the successful completion of one or more other tasks

Usually, all steps could be achieved by following different paths and using different tools. In the end, not the means, but the **results are being measured, except stated otherwise**

**IMPORTANT: Use the provided password (Parolka-2023) for all passwords (AD, new users, etc.) during the exam**

## Tasks checklist

### Infrastructure [7 tasks, 14 pts]

- (T101 / 2 pts) **VM1**: Install **Active Directory Domain Services** and **DNS Server** roles
- (T102 / 2 pts) **VM1**: Promote it as a domain controller for the **EXAM.LAB** domain
- (T103 / 3 pts) **VM2**: **Join** the second virtual machine to the **domain**
- (T104 / 1 pts) **VM1**: Create a **CNAME** DNS record named **WEBSRV** for the **second** machine
- (T105 / 2 pts) **VM1**: Initialize the **spare (second)** hard disk and set the partitioning table to be **MBR**
- (T106 / 2 pts) **VM1**: On the second hard disk, create a partition that is **5120 MB**, format it with **NTFS**, set the label to **DATANTFS**, and assign drive letter **S** to it
- (T107 / 2 pts) **VM1**: On the second hard disk, create a partition that is **4096 MB**, format it with **FAT32**, set the label to **DATAFAT32**, and assign drive letter **T** to it

### Users and Groups [10 tasks, 15 pts]

- (T201 / 2 pts) **VM1**: Create organizational unit **Exam Users** and then create two nested (child) organizational units - **IT** and **Marketing**
- (T202 / 1 pts) **VM1**: Change the **default container** for **new users** to **Exam Users**. All users created during the exam, **should be under this organizational unit**

- (T203 / 2 pts) **VM1**: Create organizational unit **Exam Computers** and then create two nested (child) organizational units - **IT** and **Marketing**
- (T204 / 1 pts) **VM1**: Change the **default container** for *new computers* to **Exam Computers**. All computers created or joined during the exam *should be children of this organizational unit*
- (T205 / 1 pts) **VM1**: Create new user **Ivan Petkov** in **IT** organizational unit with account name **ivan.petkov**
- (T206 / 1 pts) **VM1**: Create new user **Mariana Parusheva** in **Marketing** organizational unit with account name **mariana.parusheva**
- (T207 / 1 pts) **VM1**: Create new organizational unit **Exam Groups** which **should** contain **all security groups created during the exam**
- (T208 / 2 pts) **VM1**: Create new global security group **GS IT** and add the user **Ivan** as a member
- (T209 / 2 pts) **VM1**: Create new global security group **GS Marketing** and add the user **Mariana** as a member
- (T210 / 2 pts) **VM1**: Create new global security group **GS Servers** and add the **second computer** as a member

### Additional Services [6 tasks, 13 pts]

- (T301 / 3 pts) **VM1**: Install the **File Server** role if needed, so you can create and manage file shares. Then create a folder **S:\Shared** and share it as **Exam** with both **Share** and **NTFS** permissions set to **Full** for **Everyone**
- (T302 / 2 pts) **VM1**: Create a folder **S:\Shared\IT** and set **NTFS** permissions to **allow full** access for **GS IT** and **deny full** access for **GS Marketing**
- (T303 / 2 pts) **VM1**: Create a folder **S:\Shared\Marketing** and set **NTFS** permissions to **allow full** access for **GS Marketing** and **deny full** access for **GS IT**
- (T304 / 2 pts) **VM2**: Download the service archive from <https://zahariev.pro/files/wsa-service.zip> , install it and **start** it (*make sure it is running – a C:\WSA.log file must appear*)
- (T305 / 2 pts) **VM2**: Install the **IIS** role
- (T306 / 2 pts) **VM2**: Create an **index.html** file for the **Default Web Site** that contains the text **WSA Exam**

### GPO and Security [5 tasks, 10 pts]

- (T401 / 2 pts) **VM1**: Create a group policy named **GPO-Remote** that enables the following rules - **Windows Remote Management** and **Windows Management Instrumentation**
- (T402 / 2 pts) **VM1**: Create a group policy named **GPO-WEB** that enables port **80/tcp** and make it applicable **only** to the **SERVER (VM2)** machine by using **security filtering**
- (T403 / 2 pts) **VM1**: Create a group policy named **GPO-Wallpaper** that changes the wallpaper with the one from here <https://zahariev.pro/files/wsa-wallpaper.jpg> (*it must be downloaded and stored on a shared resource first*)
- (T404 / 2 pts) **VM1**: Create a group policy named **GPO-Drive** that maps **\\DC\Exam** as a local drive **X**:
- (T405 / 2 pts) **VM1**: Create a group policy named **GPO-Shortcut** that creates a **shortcut** named **SoftUni** on the **desktop of all users** that points to **https://softuni.bg**

\* Link all GPOs on Domain level

### Scripting and Schedules [3 tasks, 8 pts]

- (T501 / 3 pts) **VM1**: Create a **PowerShell** script named **C:\Scripts\Info.ps1** that when executed asks the user for his/her name and age. Then **stores (appends)** them in a file **C:\Temp\InfoData.log**. Data should be formatted like **USER, AGE** where **USER** and **AGE** are the ones entered by the user. The resulting file should contain as many rows as many times the script was executed  
*For example, when executed it should ask:*  
*What is your name? Student*

What is your age? 18

And then, in the file should appear a new row with the following content (both values on the same row):

**Student, 18**

- (T502 / 3 pts) **VM1**: Create a **PowerShell** script named **C:\Scripts\Track.ps1** that extracts **total % processor time** counter and **stores (appends)** the result to the **C:\Temp\TrackData.log** file. Data should be formatted like **TIMESTAMP => VALUE %** where **TIMESTAMP** and **VALUE** are the ones coming from the counter. The resulting file should contain as many rows as many times the script was executed

For example, let's assume that the script is executed on **2023.06.03 10:55:05** and the processor load at the time is **3.54**

Then, in the file should appear a new row with the following content:

**2023.06.03 10:55:05 => 3.54 %**

Please note, that the sample shows not the formatting of the time and value but how they should be arranged (date time => value %)

- (T503 / 2 pts) **VM1**: Create a new **schedule** named **Track** for the script from **T502** and set it to execute **every 2 minutes**

\* Folders do not exist, you must create them first, and then the files