

# WorldSkills Germany Assessment Guide

## *IT Network Systems Administration (39) Module E – Troubleshooting*

Submitted by:

Roman Steinhart, Aternos GmbH

# Introduction to Test Project

## Contents

This assessment guide consists of the following documentations/files:

1. WSG2025\_TP\_39\_Module\_E.docx
2. WSG2025\_AG\_39\_Module\_E.docx

## Introduction

Competitors are given access to a pre-configured infrastructure. Additionally, they receive a small documentation of the network and a topology overview.

Bugs have been built into this infrastructure. The competitors' task is to identify the causes, provide a small description on how to fix it and document their way of troubleshooting.

The test project contains small and simple issue descriptions from 3<sup>rd</sup> party perspective. They are provided "as is" with no more details given to the competitors.

## Instructions to the Jury

Assess the answers from the competitors. The following questions were given:

### **How did you troubleshoot the issue?**

Description of how they tracked down the issue. Used commands / made changes and why.

What did they observe? What was odd?

### **How can the problem be solved?**

Commands to be executed, changes to apply or actions to be carried out to fix the issue. They don't need to provide any reasoning, just the steps to fix the issue.

## Cases

### Case 1

#### Description

Some user reported that his computer `client-remote` doesn't start anymore.

#### Cause

A SystemD unit called `h4ck3d.service` triggers 2 minutes after boot and initiates a reboot.

#### Solution

Remove the SystemD service or the SystemD timer.

#### Additional

- From the journal the competitor may recognize that the reboot is initiated 2 minutes after each boot.
- The SystemD unit logs messages to the journal.
- The bash history of the users ws-admin and root contain commands referencing the unit or its script.

### Case 2

#### Description

The user `Michael Brown` from marketing working on `client-01`, operating the website `http://isp.net` on `srv-isp` reports that the website is offline.

#### Cause

Nginx executable has no execute permissions.

#### Solution

```
chmod +x /usr/sbin/nginx ; systemctl restart nginx
```

#### Additional information

- Opening the website returns connection refused because not port is bound.
- Journal shows explicit error message.

### Case 3

#### Description

The User `Linda Jones`, working on client-01, can't find her recycle bin.

#### Cause

GPO `itnsa.de > HR > Test` has property `User Configuration > Policies > Administrative Templates > Desktop > Remove Recycle Bin icon from desktop` enabled.

#### Solution

- Remove GPO entirely.
- Set GPO property to `Disabled` or `Not configured`.

## Case 4

### Description

The User `William Martin` is unable to log in on `client-1`.

### Cause

`AD User > User Properties > Account > Log On To...` has been set to `client-10` only.

### Solution

- Reset `Log On To...` to `All Computers`
- Add `client-1` to allowed computers.

## Case 5

### Description

Users from Hanover complained that they are unable to resolve `brutal.de` via `1.1.1.1`

### Cause

Network 1.1.1.1 hasn't been advertised to OSPF as static routes are not redistributed.

### Solution

```
rt-isp> enable
rt-isp# configure terminal
rt-isp(config)# router ospf 1
rt-isp(config-router)# redistribute static subnets
```

### Additional information

The fact that DNS is mentioned may mislead people to think it's a DNS issue, but it's a routing issue.

## Case 6

### Description

User `Joseph Martin` is unable to paste files into the `INTRANET` share.

### Cause

`ITNSA\Users` has been set to `Deny` for writing files on to the shared folder.

### Solution

Remove the deny rule from the shares security settings.