

NAME OF ORGANISATION: IT-IQ BOTSWANA

Title of Award: 10982 Supporting and Troubleshooting Windows 10

Level: Certificate

Duration: 5 days

Notional Learning time (Hours): 50 Hours

Total Credits: 5

Rationale for the Programme/Course

One of the Pillars of Vision 2016 is to have “A Prosperous, Productive and Innovative Nation”; to this end Microsoft designed and developed all of its Learning products to enhance productivity in the workplace. Again, in keeping with Vision 2016 to have “An Educated and Informed Nation, this course is designed to provide students with the knowledge and skills required to support and troubleshoot Windows 10 desktops and devices in a Windows Server domain corporate environment. These skills include understanding of Windows 10 features, how they can be used in an Active Directory environment and how to troubleshoot them. It is a skill-enhancing programme that benefits the individual, the organization and the country as a whole. All the Microsoft courses program credentials further allow employees to improve and verify employee software skills against global industry standards

Target population and entrance requirements

This course is designed to provide students with the knowledge and skills required to support and troubleshoot Windows 10 PCs and devices in a Windows Server domain environment. These skills include understanding of Windows 10 features, how they can be used in an Active Directory environment and how to troubleshoot them.

The primary audience for this course is the Enterprise Desktop Support Technician (EDST), who provides Tier 2 support to users running Windows 10 personal computers (PCs) and devices in medium to large enterprise organizations, within a Windows domain environment. EDSTs focus on a broad range of technical issues for Windows operating systems (OSs), devices, cloud services, applications, networking, and hardware support. In the overarching scenario, if an Enterprise offers the service, the EDST is asked to support it.

The key responsibilities include resolving technical issues pertaining to Windows 10 installation and migration, activation, performance, profiles, settings; and device synchronization. Some other key responsibilities include local and remote network access; access to applications, access to data and printers; authentication, Endpoint security and policy; OS and data recovery.

The secondary audience for this course are IT professionals who administer and support Windows 10 desktops, devices, users, and associated network and security resources. Students who seek certification in the 70-697, Windows 10 Configuring exam will also benefit from this course.

Delivery modes

This is a full time Instructor-led Course. Delivery of the course content is achieved by using student manuals and computer-based labs.

Programme structure: The module and exam below make up the Supporting and Troubleshooting Windows 10 course:

Certification title	Required exam(s)
1. Supporting and troubleshooting Windows 10	10982

Programme/Course Expected Outcomes

After completing this course, students will be able to:

- Describe the processes involved in planning and using a troubleshooting methodology for Windows 10.
- Troubleshoot startup issues and operating system services on a Windows 10 PC.
- Resolve issues related to hardware devices and device drivers.
- Troubleshoot Windows 10 PCs remotely.
- Troubleshoot issues related to network connectivity.
- Troubleshoot client configuration failures and Group Policy Objects application issues.
- Troubleshoot issues related to user settings.
- Troubleshoot remote connectivity issues.
- Resolve issues related to accessing resources from computers that are domain-joined.
- Resolve issues related to accessing resources from computers that are not domain-joined.
- Troubleshoot issues related to application installation and operation.
- Recover a PC running Windows 10

Key Facilitation/Learning Methods

All courses in the Microsoft Office set of products are Instructor Led with computer-based labs. Students will learn the content from the instructor and conduct practice exercises (labs) on the computers provided.

Key Assessment Methods

All courses in the Microsoft Office set of products are Instructor Led with computer-based labs. This enables continuous assessment of learning throughout the course. The instructor, at the end of each module, conducts computer Based In-Class Assessments to assess understanding. The instructor is able to assess by the work practiced, if the student understands concepts or needs more training.

At the end of each course, the candidate can take the relevant Microsoft certification computer-based exam to assess learning (exams are noted above). The computer-based certification exam can be taken at any Pearson Vue accredited test center.

Module Title: Supporting and Troubleshooting Windows 10		Notional Learning Hours: 50	Credit Value: 5
Topic/Content	Learning Objectives (The learner should be able to :)	Appropriate training/Learning Strategies	Appropriate Assessment Strategies
<p>Topic 1: Implementing a Troubleshooting Methodology</p> <p>This topic explains how to describe the processes involved in establishing and using a troubleshooting methodology. This topic also covers various Windows 10 fundamentals, high level</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> Describe Windows 10. Explain the Enterprise Desktop/Device Support Technician (EDST) job role. Identify the key stages in a troubleshooting methodology. List the Windows 10 troubleshooting tools. 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning time: 2 hours</p>	<p>Lab: Using Troubleshooting Tools</p> <ul style="list-style-type: none"> Implementing a Troubleshooting Methodology Using Troubleshooting Tools <p>Lab: Implementing a Troubleshooting Methodology</p> <ul style="list-style-type: none"> Implementing a Troubleshooting Methodology Using Troubleshooting <p>Lab Time: 2 hours</p>

<p>architecture and often used troubleshooting tools.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Overview of Windows 10 • Introduction to the EDST Job Role • Overview of the Troubleshooting Steps • Troubleshooting Tools 			
<p>Topic 2: Troubleshooting Startup Issues</p> <p>This topic describes how to identify and troubleshoot issues that affect the Windows 10 operating system's ability to start, and how to identify problematic services that run on the operating system. It also describes how to use the Windows 10 advanced troubleshooting tools, collectively known as the Windows Recovery Environment (Windows RE).</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Describe the Windows 10 startup architecture. • Optimize and troubleshoot startup settings. • Troubleshoot Windows 10 operating system services. • Recover drives encrypted with Windows BitLocker Drive Encryption 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning time: 2 hours</p>	<p>Lab: Troubleshooting Startup Issues</p> <ul style="list-style-type: none"> • Resolving a Startup Problem (1) • Resolving a Startup Problem (2) • Recovering a BitLocker-Encrypted Drive • Creating a New BitLocker Password <p>Lab: Recovering BitLocker-Encrypted Drives</p> <ul style="list-style-type: none"> • Resolving a Startup Problem (1) • Resolving a Startup Problem (2) • Recovering a BitLocker-Encrypted Drive

<p>Lessons</p> <ul style="list-style-type: none"> • Overview of the Windows 10 Startup Recovery Environment • Troubleshooting Startup Settings • Troubleshooting Operating System Services Issues • Recovering BitLocker-Protected Drives 			<ul style="list-style-type: none"> • Creating a New BitLocker Password <p>Lab Time: 2 hours</p>
<p>Topic 3: Troubleshooting Hardware and Device Drivers</p> <p>This topic explains how to support users that utilize a multitude of devices that run Windows 10. It will also describe how an operating system uses device drivers, and how you can troubleshoot hardware devices and device drivers. The topic also covers how to</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Troubleshoot hardware device drivers. • Describe the process of troubleshooting hardware. • Troubleshoot physical hardware failures. • Monitor the reliability of Windows 10 devices. • Configure the Windows 10 registry. 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting Device Driver Issues</p> <ul style="list-style-type: none"> • Troubleshooting a Missing Device Driver • Resolving Hardware Problems • Resolving Device Driver Problem • Configuring Group Policy Settings to Control Device Installation

<p>monitor the reliability of a Windows 10 device and troubleshoot any issue that might occur.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Troubleshooting Device Driver Failures • Overview of Hardware Troubleshooting • Troubleshooting Physical Failures • Monitoring Reliability • Configuring the Registry 			<ul style="list-style-type: none"> • Diagnosing Memory and Troubleshooting Failed Disk Redundancy • Accessing a Volume from a Failed Computer <p>Lab: Troubleshooting Hardware Issues</p> <ul style="list-style-type: none"> • Troubleshooting a Missing Device Driver • Resolving Hardware Problems • Resolving Device Driver Problem • Configuring Group Policy Settings to Control Device Installation • Diagnosing Memory and Troubleshooting Failed Disk Redundancy • Accessing a Volume from a Failed Computer <p>Lab Time: 2 hours</p>
<p>Topic 4: Troubleshooting Remote Computers</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Use Remote Desktop to manage remote computers. 	<p>Instructor Led training using manuals, presentations,</p>	<p>Lab: Troubleshooting Remote Computer by using Remote Desktop and Remote Assistance</p>

<p>This topic explores three ways in which you can remotely connect to and manage remote computers: Remote Desktop, Windows Remote Assistance, and Windows PowerShell remoting.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Using Remote Desktop • Using Remote Assistance • Remoting with Windows PowerShell 	<ul style="list-style-type: none"> • Use Windows Remote Assistance to manage remote computers. • Use Windows PowerShell remoting to manage remote computers. 	<p>discussions, case studies and practical demonstrations</p> <p>Learning Time: 1 hour</p>	<ul style="list-style-type: none"> • Using Remote Desktop • Using Remote Assistance • Using Windows PowerShell Remoting <p>Lab: Troubleshooting Remote Computer by Using Windows PowerShell</p> <ul style="list-style-type: none"> • Using Remote Desktop • Using Remote Assistance • Using Windows PowerShell Remoting <p>Lab Time: 2 hours</p>
<p>Topic 5: Resolving Network Connectivity Issues</p> <p>This topic explains the tools that you can use to set up and troubleshoot both wired and wireless network connections more efficiently. This module also explains how to support your organization's network infrastructure, and how to use these tools to configure and</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Determine network settings in Windows 10. • Troubleshoot issues with network connectivity. • Troubleshoot issues with name resolution 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 1 hour</p>	<p>Lab: Resolving Network Connectivity Issues</p> <ul style="list-style-type: none"> • Resolving a Network Problem (1) • Resolving a Network Problem (2) • Troubleshooting a Wireless Network <p>Lab Time: 1 hour</p>

<p>troubleshoot network connections.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Determining Network Settings • Troubleshooting Network Connectivity • Troubleshooting Name Resolution 			
<p>Topic 6: Troubleshooting Group Policy</p> <p>This topic provides an overview of the Group Policy application and describes how to resolve issues in client configuration GPO application.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Overview of Group Policy Application • Resolving Client Configuration Failures and GPO Application Issues 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Understand Group Policy application. • Troubleshoot Group Policy application. • Resolve client configuration failures and GPO application. 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting Group Policy Application Issues</p> <ul style="list-style-type: none"> • Resolving Group Policy Application • Resolving Group Policy Application • Resolving Group Policy Application • Resolving Group Policy Application <p>Lab: Resolving Group Policy Issues</p> <ul style="list-style-type: none"> • Resolving Group Policy Application • Resolving Group Policy Application • Resolving Group Policy Application • Resolving Group Policy Application <p>Lab Time: 2 hours</p>

<p>Topic 7: Troubleshooting User Settings</p> <p>In this topic, you will examine issues that can occur when users sign in, and you will also learn about how to troubleshoot the application of user settings.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Troubleshooting Sign In Issues • Troubleshooting the Application of User Settings 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Troubleshoot user sign-in issues. • Troubleshoot the correct application of user settings 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting Sign in Problems</p> <ul style="list-style-type: none"> • Resolving Sign in Problem (1) • Resolving Sign in Problem (2) • Resolving Folder Redirection Issue <p>Lab: Troubleshooting the Application of User Settings</p> <ul style="list-style-type: none"> • Resolving Sign in Problem (1) • Resolving Sign in Problem (2) • Resolving Folder Redirection Issue <p>Lab Time: 2 hours</p>
<p>Topic 8: Troubleshooting Remote Connectivity</p> <p>This topic explains these technologies, describes common problems with their implementation and usage, and provides several possible mitigations for those problems.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Troubleshooting VPN Connectivity Issues • Troubleshooting DirectAccess 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Troubleshoot virtual private network (VPN) connectivity issues. • Configure and troubleshoot DirectAccess 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting VPN Connectivity</p> <ul style="list-style-type: none"> • Troubleshooting VPN Connectivity (1) • Troubleshooting VPN Connectivity (2) • Prepare the DirectAccess Implementation • Configuring and Verifying DirectAccess Client-Side Settings • Troubleshooting DirectAccess <p>Lab: Configuring and Troubleshooting DirectAccess</p>

			<ul style="list-style-type: none"> • Troubleshooting VPN Connectivity (1) • Troubleshooting VPN Connectivity (2) • Prepare the DirectAccess Implementation • Configuring and Verifying DirectAccess Client-Side Settings • Troubleshooting DirectAccess <p>Lab Time: 2 hours</p>
<p>Topic 9: Troubleshooting Resource Access Within a Domain This topic explains how to resolve problems of resource access from computers that are domain members. It explains how to troubleshoot file permission issues, encrypting file system (EFS) and printer access issues.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Troubleshooting File Permissions Issues • Recovering Files Encrypted by EFS 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Troubleshoot issues with file permissions. • Troubleshoot issues with file access. • Recover files encrypted by Encrypting File System (EFS). • Troubleshoot access to encrypted files. • Troubleshoot issues with accessing printers. 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting File Access Issues</p> <ul style="list-style-type: none"> • Resolving a File Access Issue • Resolving a File Access Issue • Resolving a File-Access Issue • Encrypting and Recovering Access to Encrypted Files • Resolving a Printer Access Issue • Resolving a Printer Access Issue <p>Lab: Troubleshooting Printer Issues</p> <ul style="list-style-type: none"> • Resolving a File Access Issue • Resolving a File Access Issue • Resolving a File-Access Issue • Encrypting and Recovering Access to Encrypted Files

<ul style="list-style-type: none"> • Troubleshooting Printer Access Issues 			<ul style="list-style-type: none"> • Resolving a Printer Access Issue • Resolving a Printer Access Issue <p>Lab: Troubleshooting Access to Encrypted Files</p> <ul style="list-style-type: none"> • Resolving a File Access Issue • Resolving a File Access Issue • Resolving a File-Access Issue • Encrypting and Recovering Access to Encrypted Files • Resolving a Printer Access Issue • Resolving a Printer Access Issue <p>Lab Time: 2 hours</p>
<p>Topic 10: Troubleshooting Resource Access for Non Domain Member Clients</p> <p>This topic explains how to enable students to resolve problems of resource access from computers that are not domain-joined.</p> <p>Lessons</p>	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Configure the Device Registration feature. • Configure and troubleshoot the Work Folders feature. • Configure and troubleshoot access to Microsoft OneDrive 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting Resource Access for Clients that are not Domain Members</p> <ul style="list-style-type: none"> • Troubleshooting Device Registration • Troubleshooting Work Folders 1 • Troubleshooting Work Folders 2 • Troubleshooting OneDrive for Business <p>Lab Time: 2 hours</p>

<ul style="list-style-type: none"> • Configuring and Troubleshooting Device Registration • Configuring and Troubleshooting Work Folders • Configuring and Troubleshooting OneDrive Access 			
<p>Topic 11: Troubleshooting Applications</p> <p>This topic examines the issues, including application compatibility issues that affect a user's ability to install and run these two types of applications. This module also covers how users can resolve web browser related issues, specifically issues associated with both Internet Explorer and Microsoft Edge.</p> <p>Lessons</p> <ul style="list-style-type: none"> • Troubleshooting Desktop App Installation Issues • Troubleshooting Desktop Apps 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> • Troubleshoot desktop app installation issues. • Troubleshoot desktop apps. • Manage Universal Windows apps. • Troubleshoot web browsers 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Troubleshooting Access to Company Web Applications</p> <ul style="list-style-type: none"> • Troubleshooting AppLocker Policy Application • Troubleshooting Application Compatibility Issues • Troubleshooting Internet Explorer Issues • Troubleshooting Microsoft Edge Issues <p>Lab: Troubleshooting Desktop Apps</p> <ul style="list-style-type: none"> • Troubleshooting AppLocker Policy Application • Troubleshooting Application Compatibility Issues • Troubleshooting Internet Explorer Issues • Troubleshooting Microsoft Edge Issues <p>Lab Time: 2 hours</p>

<ul style="list-style-type: none"> Managing Windows Store Apps Troubleshooting Access to Company Web Applications 			
<p>Topic 12: Maintaining Windows 10</p> <p>This topic discusses how to provide for the ongoing maintenance of Windows 10 operating systems.</p> <p>Lessons</p> <ul style="list-style-type: none"> Managing and Troubleshooting Windows Activation Monitoring and Troubleshooting Computer Performance Applying Applications and Windows Updates 	<p>After completing this topic, students will be able to:</p> <ul style="list-style-type: none"> Manage and troubleshoot volume activation in Windows operating systems. Monitor and troubleshoot Windows 10 performance. Update applications and Windows 10. 	<p>Instructor Led training using manuals, presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<p>Lab: Monitoring and Troubleshooting Performance</p> <ul style="list-style-type: none"> Resolve a Performance-Related Issue Resolve a CPU-Related Performance Issue Resolve a Disk-Related Performance Issue <p>Lab Time: 2 hours</p>
<p>Topic 13: Recovering Data and Operating System</p>	<p>After completing this topic, students will be able to:</p>	<p>Instructor Led training using manuals,</p>	<p>Lab: Recovering Data</p>

<p>This topic explains how to use file recovery and troubleshoot deleted files. It also covers how to recover a Windows 10 computer.</p> <p>Lessons</p> <ul style="list-style-type: none"> • File Recovery in Windows 10 • Recovering an Operating System 	<ul style="list-style-type: none"> • Recover files in Windows 10 by configuring and using file-recovery features. • Recover a computer that is running Windows 10. 	<p>presentations, discussions, case studies and practical demonstrations</p> <p>Learning Time: 2 hours</p>	<ul style="list-style-type: none"> • Resolving Issues with Previous Versions • Provision Computer to Comply with Company Standards <p>Lab: Provisioning Computer to Comply with Company Standards</p> <ul style="list-style-type: none"> • Resolving Issues with Previous Versions • Provision Computer to Comply with Company Standards <p>Lab Time: 2 hours</p> <p>Additional 2 hours for Lab Practice on any topic</p>
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Information on benchmarking

IT-IQ Botswana is a Microsoft certified learning partner. The course material and content used is authenticated from Microsoft and subscribes to their international partner agreement requirements. Since the course material is proprietary to Microsoft products and developed by Microsoft for their products there is no other material to benchmark against. As a Microsoft Learning Partner it is a requirement to only use Microsoft Course Material.

Assessment

All courses in the Microsoft Office set of products are Instructor Led with computer-based labs. This enables continuous assessment of learning throughout the course. The instructor, at the end of each module, conducts computer Based In-Class Assessments to assess understanding. The instructor is able to assess by the work practiced, if the student understands concepts or needs more training.

At the end of each module, the candidate can take the relevant Microsoft certification computer-based exam to assess learning. The computer-based certification exam can be taken at any Pearson Vue accredited test center. Moderation of these computer based exams takes place according to strict Pearson Vue Testing Guidelines (attached separately). Below is the exam:

Certification Exam Name	Exam Number	Duration
Supporting and Troubleshooting Windows 10	10982	2 hours

Certification and progression pathways

The basic level courses allow the candidate to progress to intermediate and then advanced level courses. Learners are awarded with a Certificate of Attendance at the end of each course. Upon completion of the certification exam, they are awarded a Microsoft Certificate of Competency for that exam. The certification path ends on completion of the expert level courses and exams.

References and Bibliography

<http://www.microsoft.com/learning>

Prescribed Textbooks (for Learners). The following student manuals are provided. They are purchased from an authorized Microsoft reseller for learning material. The books do not have bibliography references; they simply have the title as listed below.

Recommended Reading List

None.