



Education & Skills
Funding Agency



June 2018

Infrastructure Technician Apprenticeship Standard Level 3

About NowSkills



There are 2 things that differentiate NowSkills from regular apprenticeship providers: We specialise in IT Apprenticeships and we are only based in the Northwest of England. So if you're looking for a provider who knows their CSS from their CPU and their BYOD from their BSoD and also delivers engaging learning with excellent customer service, then we could be the answer.

As we're only based in the Northwest of England, you'll be working with our "A" team, not a regional office. Our learners apply to us direct because we're known for delivering real IT roles and for working with some of the region's leading employers. We deliver our own style of added-value IT Apprenticeships, in our own city-centre training venues (Liverpool & Manchester) using our own full-time employed teams.

We don't resell anyone else's Apprenticeships

At NowSkills IT Apprenticeships we have developed a bespoke apprenticeship program for the Software Development Technician Standard. Our bespoke program includes classroom training, online learning, 1-2-1 training and mentoring as part of a real paid job with a local employer.

The course will equip apprentices with the knowledge and understanding required for the role of Software Development Technician. It will also facilitate the apprentice in developing and enhancing their existing IT skills, Personal Learning and Thinking Skills (PLTS) and support from your company through its continual development and prosperity.

This is an official Apprenticeship Standard qualification, not an Apprenticeship Framework. When you compare Apprenticeships, ensure you're enrolling onto the latest Apprenticeships Standards. From 2018 all new NowSkills apprenticeship enrolments will be on Standards.

94.6%
of
Apprentices
complete
programme*
Aug 17 - June 18

97%
of
customers
recommend our
service*
Jan - June 18



Levels of Qualifications

Level 1	<ul style="list-style-type: none">First certificateGCSE - grades 3, 2, 1 or grades D, E, F, GLevel 1 awardLevel 1 certificateLevel 1 diploma	<ul style="list-style-type: none">Level 1 ESOLLevel 1 essential skillsLevel 1 functional skillsLevel 1 national vocational qualification (NVQ)music grades 1, 2 and 3
Level 2 (Intermediate Apprenticeships)	<ul style="list-style-type: none">GCSEs grades A*-CBTEC First Diplomas and CertificatesOCR NationalsKey Skills Level 2NVQs at Level 2	
Level 3 (Advanced Apprenticeships)	<ul style="list-style-type: none">A LevelsAdvanced Extension AwardsGCE in applied subjectsInternational BaccalaureateKey Skills Level 3	<ul style="list-style-type: none">NVQs at Level 3BTEC DiplomasBTEC NationalsOCR Nationals
Level 4 (Higher Apprenticeships)	<ul style="list-style-type: none">NVQs at Level 4BTEC Professional Diplomas, Certificates and AwardsFoundation degreesHonours Degrees and more	
Level 5 (Higher Apprenticeships)	<ul style="list-style-type: none">Diploma of higher education (DipHE)Foundation degreeHigher national diploma (HND)Level 5 awardLevel 5 certificateLevel 5 diplomaLevel 5 NVQ	
Level 6 (Higher Apprenticeships)	<ul style="list-style-type: none">Degree apprenticeshipDegree with honours - for example bachelor of the arts (BA) hon, bachelor of science (BSc) honGraduate certificateGraduate diploma	<ul style="list-style-type: none">Level 6 awardLevel 6 certificateLevel 6 diplomaLevel 6 NVQOrdinary degree without honours
Level 7 (Higher Apprenticeships)	<ul style="list-style-type: none">Integrated master's degree, for example Master of engineering (MEng)Level 7 awardLevel 7 certificateLevel 7 diploma	<ul style="list-style-type: none">Level 7 NVQMaster's degreePostgraduate certificatePostgraduate diploma
Level 8 (Higher Apprenticeships)	<ul style="list-style-type: none">Doctorate, for example doctor of philosophy (PhD or DPhil)Level 8 awardLevel 8 certificateLevel 8 diploma	

Job Role: Infrastructure Technician

An Infrastructure Technician provides support to internal and external customers, helping them to be productive when using technology to do their own jobs, by using tools to problem solve and trouble shoot non-routine problems.

The Infrastructure Technician sets people up on systems and provides support when they need it, rectifying issues to maintain the organisation's productivity.

Apprenticeship: Infrastructure Technician Level 3

Duration: 15-18 months

Levy Funding Band: £14,950*

*non-Levy 100% Government Funded, Co-Investment or Levy Funded options available

Updated: June 2018

100%
Funding
Available

If you are unsure about your organisation's funding eligibility please contact us for details or request a copy of our *Apprenticeship Funding, Rules, Prices, Grants and Apprenticeship Levy Information For Employers Guide*



Entry Requirements

Individual employers will set the selection criteria, but this is likely to include 5 GCSEs (especially English, mathematics and a science or technology subject); other relevant qualifications and experience; or an aptitude test with a focus on IT skills.

Who is this Apprenticeship suitable for?

The Infrastructure Technician apprenticeship is suitable for any apprentice leaving secondary or tertiary education who has a keen interest in IT systems and networks.

Infrastructure Technician apprentices will have 20% off the job training that will take place in the form of online learning via a Learning Management System platform, classroom-based learning, webinars and video tutorials.

Other Level 3 Apprenticeship Standards from NowSkills



At the end of this Apprenticeship, Apprentices will be able to...

Each Infrastructure Technician apprentice will not only work towards achieving professional qualifications, they will also learn how to use different software applications relevant to the industry.

- Server installation, roles, maintenance and performance management
- Active directory
- Storage
- Working remotely
- Cloud services and technologies
- Operating Systems
- Strategies for disaster recovery
- Network infrastructures
- Network hardware
- Protocols and services
- Device configurations
- Data Access and Management
- Device security
- Enterprise mobility
- Web and desktop applications
- Project and program management

Technical Knowledge and Understanding of an Infrastructure Technician Apprentice

- Working knowledge of a range of cabling and connectivity, the various types of antennas and wireless systems and IT test equipment
- Understands maintenance processes and applies them in working practices
- Understands and applies the basic elements and architecture of computer systems
- Understands where to apply the relevant numerical skills e.g Binary
- Understands the relevant networking skills necessary to maintain a secure network
- Understands the similarities, differences and benefits of the current Operating Systems available
- Understands how to operate remotely and how to deploy and securely integrate mobile devices
- Understanding and working knowledge of Cloud and Cloud Services
- Understands the importance of disaster recovery and how a disaster recovery plan works and their role within it
- Understands the similarities and differences between a range of coding and logic
- Understands and complies with business processes
- Working knowledge of business IT skills relevant to the organisation



► Technical Competencies of an Infrastructure Technician Apprentice

- **Communication:** works both independently and as part of a team and following the organisations standards; competently demonstrating an ability to communicate both in writing and orally at all levels, using a range of tools and demonstrating strong interpersonal skills and cultural awareness when dealing with colleagues, customers and clients during all tasks.
- **IT Security:** Demonstrates the necessary skills and behaviours to securely operate across all platforms and areas of responsibilities in line with organisational guidance, legislation
- **Remote Infrastructure:** Effectively operates a range of mobile devices and securely add them to a network in accordance with organisations policies and procedures
- **Data:** effectively records, analyses and communicates data at the appropriate level using the organisation's standard tools and processes and to all stakeholders within the responsibility of the position
- **Health and Safety:** Interprets and follows IT legislation to securely and professional work productively in the work environment
- **Problem solving:** applies structured techniques to common and non-routine problems, testing methodologies and troubleshooting and analyses problems by selecting the digital appropriate tools and techniques in line with organisation guidance and to obtain the relevant logistical support as required
- **Workflow management:** works flexibly and demonstrates the ability to work under pressure to progress allocated tasks in accordance with the organisation's reporting and quality systems
- **Can explain the correct processes** associated with WEEE (the Waste Electrical and Electronic Equipment Directive)
- **Performance:** Optimises the performance of hardware, software and Network Systems and services in line with business requirements

Did you know...

*It takes on average 17 days for NowSkills to place an Apprentice and fill an IT vacancy**

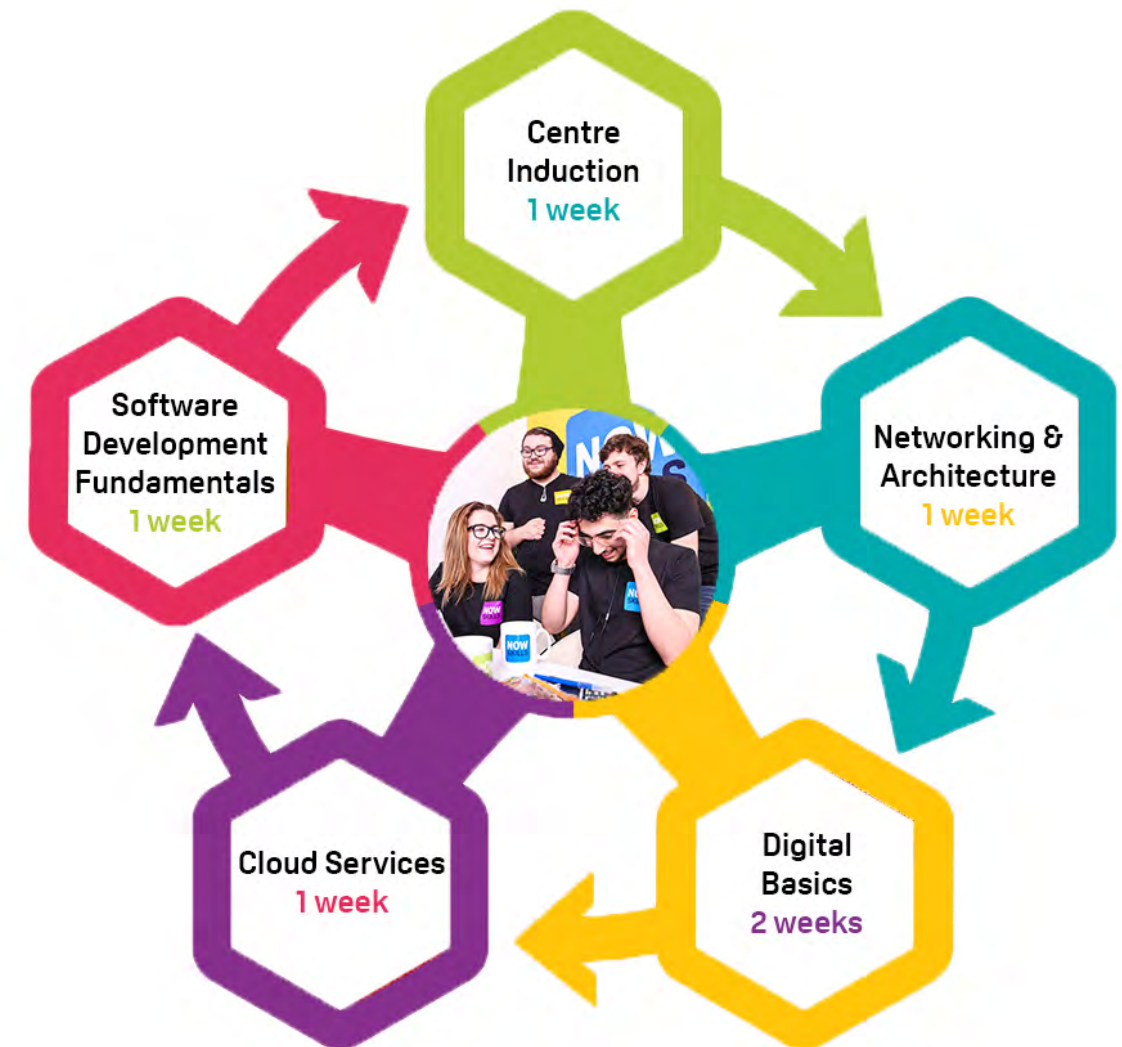
► Underpinning Skills, Attitudes and Behaviours of an Infrastructure Technician Apprentice

- Logical and creative thinking skills
- Problem solving skills
- Ability to work independently and to take responsibility
- Can use own initiative
- A thorough and organised approach
- Ability to work with a range of internal and external people
- Ability to communicate effectively in a variety of situations
- Maintains productive, professional and secure working environment



► Classroom Training Included

NowSkills includes 6 weeks of instructor led classroom training courses as part of the Infrastructure Technician Standard. The courses are designed to meet the technical objectives of the Apprenticeship. NowSkills delivers its own tailored courses in its own classrooms using its own employed trainers.



All of these classroom courses will lead to Apprentices' achieving their vendor qualifications



► Learning Support For Apprentices Included

At the start of an Apprenticeship, Apprentices are assigned a tutor who will be their main NowSkills contact point. The assessor will keep in regular contact with an Apprentice: for example, making workplace visits and acting as an intermediary with the employer. The assessor will also act as the first point of contact for any issues an Apprentice may have.

Online Training Included

Each learner enrolled on NowSkills' Infrastructure Technician Apprenticeship have access to a range of online courses on our elearning platform. Learners are given their own login and workspace and will be assigned a series of elearning courses to supplement their learning. We have over 2,000 different courses to choose from and these can be chosen to match the specific role and learning gaps of the learner.

LinkedIn Training Included

NowSkills offer exclusive access to the LinkedIn Online Learning platform for every Apprentice. There's a variety of courses available and learners can choose what they are interested in learning. Learners can choose different subjects to learn in the following areas; Business, Creative and Technology.

Once a learner completes a course, they will receive a badge of completion on their LinkedIn profile as well as a downloadable certificate.

2017/18 Content Coverage

Business Topics

BUSINESS SOFTWARE AND TOOLS

Accounting Software
Business Intelligence*
Cloud Storage
CRM Software*
Data Analysis*
Desktop Databases
Devices
Diagramming
Document Management
Email
Forms
Messaging
Note Taking
Desktop Operating Systems
PDF Management
Personal Productivity
Presentations
Project Management Software*
Spreadsheets
Web Conferencing
Word Processing

CAREER DEVELOPMENT

Career Management
Job Searching
Personal Branding*

LEADERSHIP AND MANAGEMENT

Business Strategy*
Coaching and Mentoring
Communication*
Decision-Making*
Executive Leadership
Leadership Skills
Management Skills
Meeting Skills*
Nonprofit Management
Organizational Leadership
Talent Management*
Teams and Collaboration*

MARKETING

Advertising and Promotion
B2B Marketing
B2C Marketing
Brand Management
Content Marketing
Digital Marketing
Email Marketing
Enterprise Marketing
Lead Generation
Mobile Marketing
Pay-Per-Click Marketing
Personal Branding*
Public Relations
Search Engine Marketing (SEM)
Search Engine Optimization (SEO)
Small Business Marketing*
Social Media Marketing
Social Selling*
Web Marketing Analytics

PROFESSIONAL DEVELOPMENT

Business Analysis*
Business Law
Business Strategy*
Communication*
Decision-Making*
Event Planning
Meeting Skills*
Operations Management
Personal Effectiveness
Product Management
Public Speaking
Teams and Collaboration*
Time Management
Writing

Creative Topics

3D AND ANIMATION

2D Animation
3D Animation
3D Lighting
3D Materials
3D Modeling*
3D Particles and Dynamics*
3D Printing*
3D Sculpting
3D Textures
Animation*
Character Animation
Concept Art*
Game Art
Game Development*
Previsualization*
Real-Time Rendering*
Rendering
Rigging
Storyboarding*

ART AND ILLUSTRATION

Art Composition
Color*
Comic Books
Concept Art*
Digital Painting
Drawing*
Illustration
Painting
Typography*

VIDEO

Audio for Video
Filmmaking
Keying*
Shooting Video
Sound Design*
Video Color Grading*
Video Editing
Video Gear
Video Lighting
Video Post-Production
Video Pre-Production
Video Production
Video Script Writing

GRAPHIC DESIGN

Brand Design
Color*
Design Business*
Design Thinking*
Digital Publishing
Drawing*
Fashion Design
Infographics
Layout and Composition
Logo Design
Print Production
Typography*

MOTION GRAPHICS AND VFX

2D Tracking
3D Particles and Dynamics*
3D Tracking
Animation*
Compositing
Keying*
Motion Graphics Effects
Motion Typography
Rendering*
Storyboarding*
Video Color Grading*
Visual Effects

WEB DESIGN

Interactive Web Content
Mobile Web Design
Responsive Web Design
Web Design Business*
Web Graphics
Web Standards
Web Typography

PHOTOGRAPHY

Analog Photography
Architectural Photography
Black and White Photography
Color Correction
HDR Photography
Image Editing
Landscape Photography
Macro Photography
Mobile Photography
Night Photography
Photo Business*
Photo Compositing
Photo Management
Photo Restoration
Photo Sharing
Photography Gear
Photography Lighting
Photography Printing
Photojournalism
Portrait Photography
Product Photography
Raw Processing
Retouching
Street Photography
Time-Lapse Photography
Travel Photography
Wedding Photography

USER EXPERIENCE

Accessibility
Content Strategy
Design Thinking*
Information Architecture
Interaction Design
Multidevice Design
Usability
User Research
User Interface Prototyping
UX Design
Wireframing

Technology Topics

CLOUD COMPUTING

Cloud Administration
Cloud Foundations
Cloud Platforms
Cloud Security
Cloud Services
Cloud Storage

DATABASE MANAGEMENT

Data Centers
Data Resource Management
Database Administration
Database Development*

DATA SCIENCE

Artificial Intelligence
Big Data
Business Analytics
Business Intelligence*
Data Analysis*
Data Governance
Data Modeling
Data Privacy
Data Science Careers
Data Visualization
GIS*
IoT Analytics
Machine Learning
Statistics

ENTERPRISE DEVELOPMENT

Cloud Development
CRM and ERP Development
Enterprise Database Development
Microsoft Development
IT Help Desk
Client Operating Systems
Help Desk Skills
Operating System Distribution
Software Support
Upgrade and Maintenance

MOBILE DEVELOPMENT

Android Development
Cross-Platform Development
iOS Development
Mobile Games

NETWORK AND SYSTEM ADMINISTRATION

CRM Administration
Enterprise Content Management
IoT Infrastructure
IT Automation
IT Service Management
Mobile Device Management
Network Administration
Server Operating Systems
Software Administration
Software Deployment
Virtualization

SOFTWARE DEVELOPMENT

APIs
Core Programming Languages
Database Development*
Software Development Tools
Game Development*
IoT Development
Object-Oriented Programming
Programming Foundations

SECURITY

Access Control
Backup and Recovery
Cryptography
Network Security
Software Development Security*
Threats and Vulnerabilities

SOFTWARE METHODOLOGIES

Design Patterns
DevOps
Software Design
Software Development Security*
Software Project Management
Software Quality Assurance
Software Testing
Version Control

WEB DEVELOPMENT

Back-End Web Development
Content Management Systems
E-Commerce Development
Front-End Web Development
Frameworks and Libraries
Web Apps
Web Development Foundations

End Point Assessment and your Apprenticeship Grade Included

Apprenticeship Standards differ from Frameworks in that they include an End Point Assessment. The End Point Assessment takes place toward the end of the apprenticeship, usually in the last 2-3 months. End-point assessments can only take place when any mandated on-programme classroom, online and vendor qualification learning has been passed.

STEP 1 Summative Portfolio

Provides evidence against the totality of the standard, based on the application of knowledge, competence and behaviours to real work projects in the work environment. This is key to ensure the validity of the final assessment decision.

STEP 2 Employer Reference

Provides the employer's perspective on how the apprentice has performed in the workplace and how they have applied their knowledge, competencies and behaviours in work projects.

STEP 3 Synoptic Portfolio

Provides evidence against a selected set of knowledge, competencies and behaviours against a pre-defined project undertaken in a controlled environment. This is key to ensure consistency and comparability, increasing the accuracy of the assessment decision.

STEP 4 Interview

Provides an opportunity for further evidence to be gathered and/or evidence to be explored in more detail against any of the knowledge, competence or behaviours. This also increases accuracy and validity.

Apprenticeship End Point Assessment and grading: who does it?

Any organisation on the ESFA's Register of Apprentice Assessment Organisations (RoAAO) can undertake Apprenticeship EPA against the standard, for which they're registered. Also, these organisations are responsible for delivering Apprenticeship End Point Assessments based on the specifications produced by the employers.

NowSkills would normally arrange a learner's Apprenticeship End Point Assessment. If employers would like to make their own arrangements, please inform us during the first 6 months of the apprenticeship. Additional charges may apply.

What Vendor Qualifications will Apprentices earn on this Apprenticeship?

NowSkills' Infrastructure Technician apprentices, as part of achieving their Apprenticeship, will also work toward achieving the following vendor qualifications. They will also take exams in:

- MTA Networking Fundamentals
- MTA Mobility and Devices Fundamentals
- MTA Software Development Fundamentals
- MTA Cloud Fundamentals* (optional change: MTA Server Administration Fundamentals)
- CIW Internet Business Associate
- Functional Skills English and/or Mathematics (where required)



MTA Networking Fundamentals

Understand Network Infrastructures

- Understand the concepts of Internet, intranet and extranet: Virtual Private Network (VPN), security zones, firewalls
- Understand local area networks (LANs): Perimeter networks; addressing; reserved address ranges for local use (including local loopback IP), VLANs; wired LAN and wireless LAN
- Understand wide area networks (WANs): Leased lines, dial-up, ISDN, VPN, T1, T3, E1, E3, DSL, cable modem, and more, and their characteristics (speed, availability)
- Understand wireless networking: Types of wireless networking standards and their characteristics (802.11a,b,g,n,ac including different GHz ranges), types of network security (WPA, WEP, 802.1X, and others), point-to-point (P2P) wireless, ad hoc networks, wireless bridging
- Understand network topologies and access methods: Star, mesh, ring, bus, logical and physical topologies

Understand Network Hardware

- Understand switches: Transmission speed, number and type of ports, number of uplinks, speed of uplinks, managed or unmanaged switches, VLAN capabilities, Layer 2 and Layer 3 switches and security options, hardware redundancy, support, backplane speed, switching types and MAC table, understand capabilities of hubs versus switches, virtual switches
- Understand routers: Transmission speed considerations, directly connected routes, static routing, dynamic routing (routing protocols), RIP vs. OSPF, default routes; routing table and how it selects best route(s); routing table memory, Network Address Translation (NAT), software routing in Windows Server, installing and configuring routing; Quality of Service (QoS)
- Understand media types: Cable types and their characteristics, including media segment length and speed; fiber optic; twisted pair shielded or unshielded; catxx cabling, wireless; susceptibility to external interference (machinery and power cables); susceptibility to electricity (lightning), susceptibility to interception

Understand Protocols & Services

- Understand the Open Systems Interconnection (OSI) model: OSI model; Transmission Control Protocol (TCP) model; examples of devices, protocols, applications and which OSI/TCP layer they belong to; TCP and User Datagram Protocol (UDP); well-known ports for most used purposes (not necessarily Internet); packets and frames
- Understand IPv4: Subnetting, IPconfig, why use Internet Protocol version 4 (IPv4), addressing, ipv4toipv6 tunnelling protocols to ensure backwards compatibility, dual IP stack, subnetmask, gateway, ports, packets, reserved address ranges for local use (including local loopback IP)
- Understand IPv6: Subnetting, IPconfig, why use IPv6, addressing, ipv4toipv6 tunnelling protocols to ensure backwards compatibility, dual IP stack, subnetmask, gateway, ports, packets, reserved address ranges for local use (including local loopback IP)
- Understand names resolution: DNS, resource records, Windows Internet Name Service (WINS), steps in the name resolution process, HOSTS file, LMHOSTS file
- Understand networking services: Dynamic Host Configuration Protocol (DHCP), Network Address Translation (NAT), firewalls, remote access, VPN
- Understand TCP/IP: Tools (such as ping), tracert, pathping, Telnet, IPconfig, netstat, reserved address ranges for local use (including local loopback IP), protocols

MTA Mobility and Devices Fundamentals

Understand Device Configurations

Configure device options

- Describe Microsoft account, configure Control Panel, configure system options

Configure desktop settings

- Configure the Start menu, profiles, display settings, shortcuts, and group configurations and capabilities

Configure drive encryption

- Configure BitLocker, prepare for file encryption

Configure updates

- Describe Windows Update, describe app updates, describe device system updates



Understand Data Access & Management

Describe cloud storage services

- Describe OneDrive, Microsoft Azure storage, OneNote, Outlook and Office 365

Describe local storage

- Describe storage spaces and storage pools

Describe file systems

- Describe FAT, FAT32, exFAT, NTFS, and Resilient File System Overview (ReFS)

Describe file and print sharing

- Describe NTFS and share permissions, HomeGroup, print drivers and effective permissions; create public, basic and advanced shares; map drives

Describe data encryption

- Describe encrypting file system (EFS); describe how EFS-encrypted folders impact moving and copying files; describe BitLocker To Go, virtual private network (VPN), public key and private key; certificate services; and SSL

Understand Device Security

Describe the differences between the Internet, an intranet and an extranet

- Describe uses of private networks, public networks, host firewalls, network firewalls, and clouds

Describe user authentication

- Describe Multifactor authentication, describe smart cards, describe Windows Rights Management Services, describe biometrics and password procedures

Describe permissions

- Configure file and share permissions; describe the behaviour when moving or copying files from one location to another; describe basic and advanced permissions; describe taking ownership, delegating and resultant permissions

Describe malware

- Describe computer viruses, Trojan horses, spyware and adware; describe antivirus and antimalware strategies

Understand Cloud Services

Describe the types of cloud services

- Describe productivity services, storage services, communications services and search services

Describe Microsoft Intune

- Describe Microsoft Intune capabilities, describe selective wipe, describe location settings

Describe Microsoft Azure

- Describe virtual machines; describe Azure services; storage tiers, describe disaster recovery, high availability, redundancy, and fault tolerance

Understand Enterprise Mobility

Describe identity services

- Describe Windows Server Active Directory and Azure Active Directory, Microsoft Account and federation services

Describe business data access

- Describe Company Portal, describe Work Folders, Offline folders, describe Azure RemoteApp

Describe Bring Your Own Device (BYOD)

- Describe device-centric to people-centric IT, describe desktop virtualisation, describe Dynamic Access Control policies, describe Windows Rights Management



MTA Cloud Fundamentals

Understand The Cloud

Describe cloud principles and delivery mechanisms

- Differentiate between on-premises IT service models; differentiate between subscription or pay-as-you-go versus upfront CapEx/OpEx funding model; use cloud services to expand capacity (elasticity of the cloud), scalability, redundancy and availability; differentiate between cloud services that are configurable versus on-premises services that are customisable

Describe cloud security requirements and policies

- Describe how cloud services manage privacy, how compliance goals are met, how data is secured at rest or on-the-wire, and how data and operations transparency requirements are met

Describe how a cloud service stays up to date and available

- Describe the service/feature improvement process; monitor service health, service maintenance and future roadmap publishing; identify guarantees, service level agreements (SLA) and capping of liability of the cloud service provider

Describe the different types of cloud services

- Differentiate between types of cloud services and their characteristics, including infrastructure as a service (IaaS), platform as a service (PaaS) and software as a service (SaaS); integrate the cloud with on-premises services in hybrid scenarios

Enable Microsoft Cloud Services

Identify the requirements and dependencies for using Office 365 and Microsoft Intune

- Plan networking and domains, firewall rule, client requirements, bandwidth implications and DNS

Select a cloud service plan

- Understand the different options and plans available for Office 365 and Microsoft Intune

Sign up for cloud services

- Name your tenant, set up your first administrator, determine tenant location

Set up the initial configuration of cloud services

- Register domains, verify domains, choose the domain purpose; identify required DNS record types

Included!

Administer Office 365 & Microsoft Intune

Create users and groups, and assign services and licences

- Differentiate between cloud identities (Online identity, Synchronised identities, Federated identities), create and manage users and identities, delete and restore users (soft delete), create and manage groups, assign and revoke licences, determine user locations

Assign permissions in Office 365 and Microsoft Intune

- Assign or revoke administrative roles; manage delegated admins; manage password policies, subscriptions and licences

Monitor service health in Office 365 and Microsoft Intune

- Monitor the Service Health dashboard, subscribe to RSS feeds, monitor the maintenance schedule, monitor the message centre, log service support requests, configure alerts

Use and configure Microsoft Cloud Services

Configure Exchange Online

- Manage recipients (mailboxes, shared mailboxes, resources, contacts, groups), manage anti-spam and antivirus settings

Configure SharePoint Online, including OneDrive

- Create SharePoint team sites, configure external sharing, set up social features using newsfeeds or Yammer, apply themes, set storage and resource limits

Configure Skype for Business Online

- Manage Skype for Business user options, manage external communication settings, configure dial-in settings and meeting invitation options, configure Skype for Business Online DNS

Configure Microsoft Intune

- Install Microsoft Intune client management software, create and deploy policies, automate installations, identify software requirements, set up notifications, identify mobile device management policies

Microsoft Cloud



Support Cloud Users

Resolve sign-in and Office application installation issues

- Troubleshoot sign-in issues, forgotten passwords, connection problems, difficulty activating Office applications and difficulty connecting mobile devices to Office 365 or Microsoft Intune; choose between 32-bit and 64-bit; identify when an Office repair is required; identify operating system requirements for Office 365 ProPlus; browser requirements and specific versions of Internet Explorer

Resolve email and calendar issues

- Troubleshoot issues receiving and sending email, troubleshoot issues accessing a delegated mailbox

Resolve SharePoint and OneDrive issues

- Identify storage limits, troubleshoot "Open with Explorer" not working and OneDrive not syncing, recover deleted files

Resolve Skype for Business issues

- Troubleshoot Skype for Business sign-in issues, troubleshoot connection issues to Skype for Business Online, troubleshoot communicating to Skype consumer users and users in other companies using Skype for Business

MTA Server Administration Fundamentals

Understanding Server Installation

Understand device drivers

- Installation, removal, disabling, update/upgrade, rollback, troubleshooting, Plug & Play, IRQ, interrupts, driver signing, managing through Group Policy

Understand services

- Which statuses a service can be in, startup types, recovery options, delayed startup, Run As settings for a service, stopping or pausing a service, service accounts, dependencies

Understand server installation options

- Choose the correct operating system version options; Server core vs. Desktop Experience, Nano Server installation, interactive installs; automated install using WDS; VHD/VHDX installation source, perform unattended installs; perform upgrades, clean installs, and migrations



Understanding Server Roles

Identify application servers

- Mail servers, database servers, collaboration servers, monitoring servers, threat management

Understand Web services

- IIS, WWW, and FTP, installing from Server Manager, separate worker processes, adding components, sites, ports, SSL, certificates

Understand remote access

- Remote assistance, remote administration tools, Remote Desktop Services, multipoint services, licensing, RD Gateway, VPN, application virtualisation, multiple ports

Understand the file and print services

- Local printers, network printers, printer pools, web printing, web management, driver deployment, file, folder, and share permissions vs. rights, auditing, print job management

Understand server virtualisation

- Virtual memory, virtual networks, snapshots and saved states, physical to virtual conversions, virtual to physical conversions, VHD and VHDX formats, nested virtualisation

Understanding Active Directory

Understand accounts and groups

- Domain accounts, local accounts, user profiles, computer accounts, group types, default groups, group scopes, group nesting, understand AGDLP and AGUDLP processes to help implement nesting

Understand organisational units and containers

- Purpose of OUs, purpose of containers, delegation, default containers, uses for different container objects, default hidden and visible containers

Understand Active Directory infrastructure

- Domain controllers, forests, child domains, operation master roles, domain vs. workgroup, trust relationships, functional levels, deprecated functional levels, namespace, sites, replication, schema, Passport

Understand group policy

- Group policy processing, Group Policy Management Console, computer policies, user policies, local policies

Understanding Storage

Identify storage technologies and their typical usage scenarios

- Advantages and disadvantages of different storage topologies, local storage, network storage, Fibre Channel, iSCSI hardware

Understand RAID redundancy

- RAID 0, RAID 1, RAID 5, RAID 10 and combinations, hardware and software RAID

Understand disk types

- Solid State Drive (SSD) and Hard Disk Drive (HDD) types and comparisons, ATA basic disk, dynamic disk, mount points, file systems, mounting a virtual hard disk, distributed file systems

Understanding Server Performance Management

Identify major server hardware components

- Memory, disk, processor, network, 32-bit and 64-bit architecture, removable drives, graphic cards, cooling, power usage, ports

Understand performance monitoring

- Methodology, procedures, effect of network, CPU, memory and disk, creating a baseline, Performance Monitor, Resource Monitor, Task Manager, performance counters, Data Collector Sets

Understand logs and alerts, Event Viewer

- Purpose of performance logs and alerts



Understanding Server Maintenance

Identify steps in the startup process

- BIOS, UEFI, TPM, bootsector, bootloader, MBR, boot.ini, POST, Safe Mode

Understand business continuity

- Backup and restore, disaster recovery planning, clustering, AD restore, folder redirection, data redundancy, uninterruptible power supply (UPS)

Understand updates

- Software, driver, operating systems, applications, Windows Update, Windows Server Update Service (WSUS)

Understand troubleshooting methodology

- Processes, procedures, best practices; systematic vs. specific approach, Performance Monitor, Event Viewer, Resource Monitor, Information Technology Infrastructure Library, central logging, event filtering, default logs

CIW Internet Business Associate



Topics

Introduction to IT Business and Careers

Information Technology (IT)
IT Job Roles
IT Industry Career Opportunities
Technical Concepts and Training
Technology Adoption Models
Business Modeling
Data Modeling
The Importance of Standards
That's a Hot Site

Internet Communication

Communicating via the Internet
Modern Web Technologies
Social Networking
Messaging
Blogging
Communicating Effectively over the Internet
Convergence and Unified Communications Technologies
Web 2.0 Travel Guide?

Web Browsing

Introduction to Web Browsing
Basic Functions of Web Browsers
Installing a Web Browser
Web Addresses
How Browsers Work
Browser Choices
Browsing Techniques
Browser Elements
Configuring Web Browser Preferences
Proxy Servers
Troubleshooting Internet Client Problems
Working the Help Desk



Introduction to Data Searching Tools

Overview of Databases
Introduction to Web Search Engines
Registering a Web Site with a Search Engine
Types of Web Searches
Basic Web Searching Techniques
Boolean Operators
Advanced Web Searching Techniques
Using Web Searches to Perform Job Tasks
Unexpected Web Search Results
Web Search Strategies
Evaluating Resources
Organizing Internet Research
Citing Copyrighted Online Resources
To Be Valid or Not to Be Valid?

Introduction to Internet

Technology
Internet Technology
Overview of Networks
Overview of the Internet
Connecting to the Internet
Internet Protocols
Domain Name System (DNS)
Cloud Computing
Computing in the Cloud
Receiving and Viewing E Mail Messages
E Mail in the Workplace
E Mail Problems and Solutions
Personal Information Management
Mastering the Art of E-Mail

Business E Mail and Personal

Information Management
Introduction to Business Electronic Mail (E Mail)
How E Mail Works
E Mail Configuration Requirements
E Mail Message Components
Creating and Sending E Mail Messages

Protecting Yourself Online

Introduction to Protecting Yourself Online
The Right to Be Forgotten
Spam
Cookies
Configuring Browser Security
Authentication
Encryption
Malware (Malicious Software)
Virus Detection and Prevention
Spyware and Virus Removal
Updates and Patches
Locking Your Comp

Multimedia on the Web

Introduction to Multimedia on the Web
Objects, Active Content and Languages
Objects and Security Issues
HTML5 vs. Plug-ins
Introduction to Plug-in Technology
Data Compression and Decompression
Plug-in Installation
Types of Plug-ins
Firefox Add-Ons
Types of Viewers
Miscellaneous File Formats
Downloading Files with a Browser
The Right Tools for the Job
Protecting Company Resources
Firewalls
Security-Related Ethical and Legal Issues
Legal Protection

IT Project and Program Management

Overview of IT Project and Program Management
Resources for Technical Data
Project Management Fundamentals
Project Management Skills
Project Management Phases
The Project Triangle
Project Management Software
Creating Project Schedules
Documenting Projects
Planning and Scheduling Meetings
Browsers in the Business World
Reviewing Projects
Quality Assurance
Business Implications of IT Projects
Project Management Institute (PMI)
Program Management Concepts
We Need an Intranet!



Internet Services and Tools for Business

Internet Resource Tools
Mass E-Mail and Texting Services
List Servers
File Transfer Protocol (FTP)
Managing Downloaded Files
Virtual Network Computing (VNC)
Remote Desktop Connection
Peer-to-Peer Networks
Troubleshooting Using TCP/IP
Tools
Open-Source Development
Proprietary Software and EULAs
Software Patents
These Are Sensitive Files

Career Progression

On completion of this Apprenticeship, job roles that are likely to become available to learners may include but are not limited to:

- Help Desk Technician
- First or Second Line Support
- IT Infrastructure Technician
- Network Support

Upon confirming completion of NowSkills' Infrastructure Technician Apprenticeship, learners are eligible to apply for entry onto the Register of IT Technicians.





Next Step

If you would like to register for an Infrastructure Technician Apprenticeship, please visit: <https://nowskills.co.uk/apprentices/getting-started/register/>

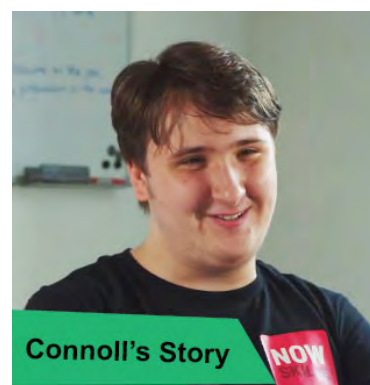
If you are an employer and you are interested in employing an Infrastructure Technician apprentice or you are interested in enrolling your existing employees onto the Apprenticeship please contact visit us <https://nowskills.co.uk/employers/nowskills-you/callback-request/>

Case Studies

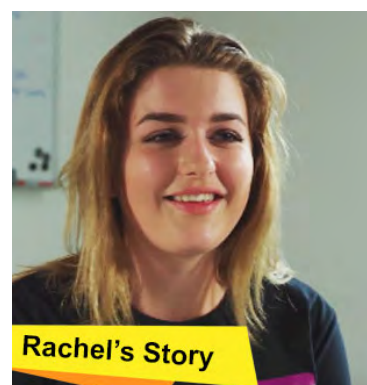
We are proud to share with you our latest successful IT Apprentice Case Studies! Check out our successful IT Apprentices...



[Arsham's Story](#)



[Connoll's Story](#)



[Rachel's Story](#)



[Chris' Story](#)

Feedback

Are you delighted or dissatisfied with NowSkills' performance? Did you know that you can send us an email with your comments directly to our Customer Experience Team?

Email your feedback to: tellus@nowskills.co.uk



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