



T-LEVELS
THE NEXT LEVEL QUALIFICATION

T Level resource improvement project

**Supporting holistic delivery: developing learning
activities to integrate core and occupational
specialism content**

Association of Colleges is working in partnership with the Education and Training Foundation to deliver this offer. This programme is funded by the Department for Education.

Session 3: Lesson plan

Learning objectives	The types of data access management across platforms and considerations involved in setting up a VPN to enable secure remote access <u>Core knowledge and skills</u> R3.8 Types of data access management across platforms in a digital environment: • user access controls • application programming interface (API). <u>Occupational specialism: Digital infrastructure pathway</u> PO2: Explain, install, configure, test and manage both physical and virtual infrastructure K2.12 The considerations involved in setting up a simple VPN to enable secure remote access <u>Skills development in Occupational specialism: Digital infrastructure pathway</u> S2.1 Explain the fundamentals of network infrastructure See slide deck for lessons relating to the above.			
Timing	Learning activities	Resources/links	Formative assessment	Technical Qualification (TQ) specification coverage
5–10 minutes	Learning objectives Discuss the learning objectives set. Prior learning check Tutor-nominated Q&A session on the questions below.		Assessment of prior knowledge on the concepts involved in data entry and maintenance	

	1. Why should a data type be assigned to an input box? 2. Identify one type of integer. 3. What is the maximum number of decimal digits in the double numeric data type? 4. What is a string? 5. Identify one type of Boolean data.			
25 minutes	Tutor-led Introduction to access controls: tutor-led discussion and presentation on access control. This should include the following: • physical access • remote access • permissions • authentication. Learner activity 1 Design a server room: learners to be given the	Information on PowerPoint Session 3.pptx, slides 4–9 Design a server room activity sheet Computers with internet access for research	Tutor questioning to check for understanding during delivery Self-assessment of responses to questions	<u>Core knowledge and skills</u> R3.8 Types of data access management across platforms in a digital environment: • user access controls. <u>Occupational specialism: Digital infrastructure pathway</u> PO2: Explain, install, configure, test and

	requirements for a server room for an organisation. They must then design the security measures that will be implemented from an access control perspective. This should be designed visually and can be fed back to the class.			manage both physical and virtual infrastructure • K2.12 The considerations involved in setting up a simple VPN to enable secure remote access
25 minutes	Tutor-led Learners to be introduced the concept of APIs and how they allow information access. Learner activity 2 Divide the class into small groups and ask learners to research and produce a PowerPoint presentation. This must be presented to other groups after 20 minutes and include the following information: • what an API is	Information on PowerPoint Session 3.pptx, slides 10–12 Flipcharts and marker pen for group discussion Computers with internet access for research	Tutor questioning to check for understanding during delivery Self-assessment of responses to questions Learners work in groups to share their responses	<u>Core knowledge and skills</u> R3.8 Types of data access management across platforms in a digital environment: • application programming interface (API). <u>Occupational specialism: Digital infrastructure pathway</u> PO2: Explain, install, configure, test and manage both physical and virtual infrastructure

	• why we need APIs • common API examples • types of APIs • API protocols.			• K2.12 The considerations involved in setting up a simple VPN to enable secure remote access
25 minutes	Tutor-led Introduction to servers: tutor to introduce learners to the concepts of virtualisation and secure remote access. Tutor to explore the concept of virtualisation and areas of application: • VPN (virtual private network) • RDP (remote desktop protocol) • LOM (lights-out management) • SSH (secure shell). Learner activity 3 Learners split into four groups and each group to create a presentation for the four different remote access	Information on PowerPoint Session 3.pptx, slides 13–17 Flipcharts and marker pen for group discussion Computers with internet access for research	Tutor questioning to check for understanding during delivery Self-assessment of responses to questions Learners work in groups to share their responses	<u>Core knowledge and skills</u> R3.8 Types of data access management across platforms in a digital environment: • user access controls • application programming interface (API). <u>Occupational specialism: Digital infrastructure pathway</u> PO2: Explain, install, configure, test and manage both physical and virtual infrastructure • K2.12 The considerations involved in setting up a simple VPN to

	methods. This should explore: • advantages • disadvantages • configurations (both server and client, if required) • security. Skills development activity Identify and explain the purpose and application of network infrastructure.			enable secure remote access <u>Skills development in Occupational specialism: Digital infrastructure pathway</u> • S2.1 Explain the fundamentals of network infrastructure
5–10 minutes	Summary and knowledge check.	Application of key knowledge to applied situations	Self- and teacher assessment	

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South Essex College has produced
this resource on behalf of the
Education and Training Foundation

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the Department for Education

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