Ofqual QAN	**610/6138/4**
Quartz ID	**2238**
Qualification	**Level 2 Diploma in Computing**

Unit ID	**2340**
Assessment	**Cloud Computing**
Assessment Type	**Global Assignment**
Assessment Cycle	**Sample Assignment**

Assignment title:
Cloud Transformation Strategy for BrightPath Solutions

Marking Scheme

Markers are advised that, unless a task specifies that an answer be provided in a particular form, then an answer that is correct (factually or in practical terms) **must** be given the available marks. If there is doubt as to the correctness of an answer, the relevant NCC Education materials should be the first authority.

This marking scheme has been prepared as a **guide only** to markers and there will frequently be many alternative responses which will provide a valid answer.

Each candidate's script must be fully annotated with the marker's comments (where applicable) and the marks allocated for each part of the tasks.

Throughout the marking, please credit any valid alternative point.

Where markers award half marks in any part of a task, they should ensure that the total mark recorded for the task is rounded up to a whole mark.

Marker's comments:

Moderator's comments:

Mark:	**Moderated mark:**	**Final mark:**

Penalties applied for academic malpractice:

Introduction

You should read through the information given and each task section of the assignment carefully before you begin.

You must work independently and should not share your work with other learners. All work produced must be your own.

Any sources of information, text, images created by others that you include in your work must be clearly identified and referenced. The use of work of others as your own without permission or without proper acknowledgement is considered plagiarism and may result in disqualification from the assessment.

You may ask your teacher for support if you have questions about the requirements of each task, however, they cannot give guidance with solutions for tasks or provide you with feedback about how to improve your work.

Scenario

BrightPath Solutions, based in Harrogate, North Yorkshire, is a growing software development company that provides digital platforms for schools, local councils, and small healthcare providers. With over 120 employees and clients across the UK, BrightPath has built a reputation for delivering reliable, user-friendly applications tailored to public service needs.

Currently, BrightPath operates using traditional on-premises infrastructure located in its Harrogate headquarters. However, the company is facing several operational challenges:

- Limited scalability during peak usage periods, especially during school term starts.
- High maintenance costs for physical servers and IT support.
- Inadequate remote access for staff working off-site or from home.
- Concerns about data security and compliance, particularly with sensitive educational and healthcare data.
- Pressure to modernise and integrate advanced technologies like analytics and AI.

The leadership team has decided to explore cloud computing as a strategic solution. You have been hired as a Junior Cloud Consultant to develop a comprehensive Cloud Transformation Strategy tailored to BrightPath's needs.

You are to produce a professional consultancy report with **TWO THOUSAND (2000)** words that outlines a cloud strategy tailored to BrightPath's needs. Your report should demonstrate your understanding of cloud computing principles, technologies, and best practices.

Task 1 Analyse BrightPath's Current Challenges and Cloud Opportunities (LO 1) – 15 Marks

- Identify the specific problems BrightPath is facing with its current infrastructure.
- Explain how cloud computing could help resolve these issues and support the company's goals.

Produce a report with **THREE HUNDRED (300)** words.

0 - 3 marks	4 - 5 marks	6 - 9 marks	10 - 11 marks	12-15 marks
Issues unclear or not linked to BrightPath. Limited or generic explanation on how cloud computing addresses these issues.	Mentions challenges vaguely or without context. Gives vague or generalised benefits with little relevance.	Identifies 1 to 2 challenges with basic relevance. Gives basic explanation of cloud benefits with limited connection to the scenario.	Identifies 2 to 3 relevant challenges with some context. Explains most cloud benefits with some link to BrightPath's needs. Some examples or scenario references used.	Clearly identifies 3 to 4 specific challenges with strong relevance to BrightPath's operations. Provides clear, accurate explanations of how cloud features solve each challenge. Uses specific examples (e.g. "staff can access systems remotely via cloud apps") to show understanding.

Task 2: Recommend a Cloud Deployment Model (LO 2) – 15 Marks

- Compare the **FOUR (4)** main cloud deployment models (Public, Private, Hybrid, Community).
- Recommend the most suitable model for BrightPath based on its client base, data sensitivity, and scalability needs. Justify your choice.

Produce a report with **THREE HUNDRED (300)** words.

0 - 3 marks	4 - 5 marks	6 - 9 marks	10 - 11 marks	12 - 15 marks
No comparison or incorrect information. No recommendation or irrelevant choice. No justification or off-topic reasoning.	Mentions 1 cloud deployment model with limited information. Unclear model recommendation. Generic justification without scenario reference.	Mentions 2 cloud deployment models with basic comparison. Basic recommendation of a suitable model with limited reasoning. Basic justification with limited scenario reference using scenario context.	Compares 3 cloud deployment models with some relevance. Recommends a suitable model with some justification. Mostly relevant justification with some scenario link.	Compares 4 models with clear pros/cons relevant to BrightPath. Recommends the most appropriate model with strong justification based on BrightPath's needs. Justifies choice using BrightPath's data sensitivity, client base, and scalability needs.

Task 3: Design a Cloud Architecture for BrightPath (LO 3) – 15 Marks

- Propose a basic cloud architecture that includes front-end, back-end, storage, and networking components.
- Explain how these components will work together to deliver services to BrightPath's users.

Produce a report with **THREE HUNDRED (300)** words.

0 - 3 marks	**4 - 5 marks**	**6 - 9 marks**	**10 - 11 marks**	**12 - 15 marks**
Components missing or incorrect. No explanation or incorrect understanding of how components connect. No examples or irrelevant to scenario.	Components unclear or partially incorrect. Vague explanation of how components connect. Few or unclear examples.	Mentions 1–2 components with basic explanation. Basic explanation of how components connect. Basic or general examples used.	Describes 2 to 3 components with some accuracy. Mostly clear explanation of component interaction. Some examples or visual support used.	Accurately describes 3 to 4 components. Clearly explains how components interact to deliver services. Uses relevant examples (e.g. "staff access BrightPath's portal via front-end connected to cloud storage") or diagrams.

Task 4: Propose a Cloud Storage Solution (LO 4) – 10 Marks

- Recommend a suitable cloud storage approach (object, block, or file storage) for BrightPath's education and healthcare data.
- Discuss the benefits, challenges, and best practices for secure and efficient implementation.

Produce a report with **TWO HUNDRED (200)** words.

0 - 2 marks	**3 marks**	**4 - 5 marks**	**6 marks**	**7 - 10 marks**
No choice of storage type recommended. No explanation or incorrect of benefits or challenges. No practices mentioned.	Unclear choice of storage type recommended. Vague or incomplete explanation of benefits and challenges. No practices mentioned.	Basic choice of storage type with limited explanation. Mentions one benefit or challenge. Mentions a basic practice.	Suitable storage type with some reasoning. Explains at least one benefit and one challenge. Suggests at least one relevant best practice.	Recommends the most appropriate storage type with clear justification. Clearly explains 2 to 3 benefits and challenges. Suggests at least two relevant best practice,

Task 5: Explain the Role of Virtualisation and Data Centres (LO5) – 10 Marks

Describe how virtualisation and cloud data centres will support BrightPath's cloud environment. Include how virtual machines or containers could improve flexibility and resource efficiency.

Produce a report with **TWO HUNDRED (200)** words.

0 - 2 marks	**3 marks**	**4 - 5 marks**	**6 marks**	**7 - 10 marks**
Incorrect or missing explanation on virtualisation. No explanation or incorrect of data centres.	Limited or vague explanation on virtualisation. Vague explanation of data centres.	Basic understanding shown on virtualisation. Basic mention of data centres.	Mostly clear explanation on virtualisation with some relevance. General description on how cloud data centres can support BrightPath.	Clearly explains virtualisation with BrightPath-specific example. Excellence descriptions on how cloud data centres support BrightPath's services.

Task 6: Outline a Cloud Migration and Management Plan (LO 6) – 15 Marks

List the main steps BrightPath should take to move their systems to the cloud. What should they do before, during, and after the move? Mention any tools or features that could help.

Produce a report with **THREE HUNDRED (300)** words.

0 - 3 marks	4 - 5 marks	6 - 9 marks	10 - 11 marks	12 - 15 marks
Migration steps missing or incorrect. No tools or features mentioned. No understanding shown on post-migration management.	Migration steps vague or incomplete. Unclear tools or features mentioned. Limited or unclear post-migration management.	Basic outline of migration steps. Basic mention of one tool or one feature. Basic mention of post-migration management.	Mostly clear steps with some relevance. Mentions some tools or features. Some understanding shown on post-migration management.	Clear, logical steps before, during, and after migration tailored to BrightPath. Includes tools like automated backups, monitoring, or migration services with explanation. Explains post-migration needs.

Task 7: Address Ethical, Legal, and Security Issues (LO 7) – 20 Marks

- Identify key ethical, legal, and security concerns BrightPath must consider when moving to the cloud (e.g., GDPR, data sovereignty).
- Suggest simple and practical steps BrightPath can take to keep its data safe.

Produce a report with **FOUR HUNDRED (400)** words.

0 - 5 marks	6 - 7 marks	8 - 10 marks	11 -13 marks	14 - 20 marks
Attempts to mention a risk, but it is unclear, generic, or not linked to the scenario. Attempts to refer to legal responsibility, but lacks clarity or accuracy. Suggests a vague or unrealistic idea, or makes an unclear attempt. Attempt made to relate to BrightPath, but lacks clarity or is off-topic.	Mentions at least one risk, but explanation is vague or lacks relevance. Mentions GDPR or legal terms with unclear or incorrect explanation. Suggests a basic idea with minimal explanation. Limited or unclear connection to BrightPath.	Identifies 1 to 2 risks with basic explanation. Basic mention of GDPR or legal responsibility. Suggests at least one basic measure with limited detail. Some relevance to BrightPath is shown.	Identifies 2 to 3 relevant risks with some explanation and partial scenario link. Mentions GDPR or similar laws with some explanation of their importance. Suggests 2 reasonable measures some good explanation. Most points are relevant to BrightPath's scenario.	Identifies at least 3 relevant risks (e.g. data breaches, unauthorised access, insider threats) with clear explanation and BrightPath context. Accurately refers to GDPR and explains its importance for BrightPath. Recommends 3 practical, realistic measures with justification. All points are clearly and consistently linked to BrightPath's education/healthcare context.

Learning Outcomes Matrix

Task	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1	LO 1	Yes
2	LO 2	Yes
3	LO 3	Yes
4	LO 4	Yes
5	LO 5	Yes
6	LO 6	Yes
7	LO 7	Yes

Grade Descriptors

Learning Outcome	Fail	Pass	Merit	Distinction
Understand the key characteristics, benefits and evolving developments in cloud computing.	Demonstrates limited or no understanding of cloud computing. Key characteristics are missing or misunderstood. Struggles to identify or explain benefits. Explanations are unclear or incorrect. Does not mention or misunderstands evolving developments of cloud computing.	Demonstrates a basic understanding of cloud computing with some inaccuracies. Only a few characteristics are identified or explained. Identifies a few benefits with limited explanation or examples. Mentions at least one development with basic explanation. Limited awareness of current trends.	Demonstrates a good understanding of cloud computing with minor inaccuracies or omissions. Most key characteristics are explained clearly. Explains several cloud benefits with some supporting examples. May lack depth in explanation. Discusses some recent cloud computing developments with reasonable understanding. May lack depth or currency.	Demonstrates a comprehensive understanding of cloud computing characteristics (e.g., scalability, on-demand self-service, broad network access, resource pooling, rapid elasticity). Clearly explains cloud benefits (e.g., cost-efficiency, flexibility, disaster recovery, collaboration). Provides relevant examples and context. Insightfully discusses recent trends and developments (e.g., edge computing, AI integration, serverless computing, sustainability). Shows

				awareness of current industry direction.
Compare and explain the significance of cloud deployment models and how they impact business solutions.	Demonstrates limited or incorrect understanding of deployment models. Provides little or no comparison of deployment models. May list models without analysis. Fails to explain or incorrectly explains the impact on business.	Demonstrates a basic understanding of some deployment models. May confuse features or omit key models. Provides a basic comparison of deployment models with limited analysis or depth. Mentions some business impacts but lacks clarity or relevance. Few or no examples provided.	Demonstrates a good understanding of most deployment models with minor inaccuracies or omissions. Provides a reasonable comparison of deployment models with some analysis of differences and use cases. Explains the impact on business with some relevant examples. May lack depth or clarity in some areas.	Demonstrates a comprehensive understanding of all major cloud deployment models (Public, Private, Hybrid, Community). Accurately describes their features and purposes. Provides a detailed and insightful comparison of deployment models, clearly highlighting differences, advantages, and limitations. Clearly and effectively explains how each model influences business decisions (e.g., cost, security, scalability, compliance). Uses relevant examples or scenarios.
Recognise the basic components of cloud architecture and describe how they work together to deliver cloud services.	Identifies few or no components of cloud architecture. Understanding is unclear or incorrect. Provides little or no explanation of component functions.	Identifies some components of cloud architecture but may confuse their roles or omit important ones. Provides basic explanations with limited clarity or accuracy. Some	Identifies most key components of cloud architecture with minor omissions or inaccuracies. Explains most component functions with reasonable clarity. May lack depth or	Accurately identifies all key components of cloud architecture (e.g., front-end, back-end, cloud storage, virtualisation, networking, middleware).

	Fails to describe or incorrectly describes how components work together.	terminology may be incorrect. Mentions component interaction but lacks depth or clarity. May show limited understanding of system integration.	precision in some areas. Describes how components interact with some clarity. May miss some connections or oversimplify.	Provides clear and detailed explanations of each component's role in cloud service delivery. Insightfully describes how components work together to deliver cloud services. Demonstrates understanding of system flow and dependencies.
Discuss cloud storage technologies along with their benefits, challenges, and good practices for implementation.	Demonstrates limited or incorrect understanding of cloud storage technologies. Struggles to identify or explain cloud storage benefits. Explanations are unclear or incorrect. Fails to mention or incorrectly explains challenges. Provides little or no understanding of good practices.	Demonstrates a basic understanding of some storage types. May confuse features or omit key types. Identifies a few cloud storage benefits with limited explanation or examples. Mentions at least one challenge with basic explanation. Limited awareness of implications. Mentions a few practices with limited explanation or relevance.	Demonstrates a good understanding of most storage types with minor inaccuracies or omissions. Explains several cloud storage benefits with some supporting examples. May lack depth in explanation. Discusses some challenges with reasonable understanding. May lack depth or clarity in some areas. Outlines some good practices with reasonable clarity. May lack detail or examples.	Demonstrates a thorough understanding of various cloud storage types (e.g., object, block, file storage). Accurately explains how they work and their use cases. Clearly explains multiple clod storage benefits (e.g., scalability, accessibility, cost-efficiency, backup and recovery). Uses relevant examples. Insightfully discusses key challenges (e.g., data security, latency, compliance, vendor lock-in). Clearly outlines good practices (e.g., encryption, access control,

				regular backups, compliance checks).
Understanding how virtualisation and data centres enable cloud computing.	Demonstrates limited or incorrect understanding of virtualisation. Provides little or no understanding of data centres or their role in cloud computing. Fails to connect virtualisation and data centres or explains them incorrectly.	Demonstrates a basic understanding of virtualisation concepts. May confuse terms or provide limited explanation. Provides a basic explanation of data centres. May omit key functions or features. Mentions both virtualisation and data centres concepts but does not clearly explain how they work together.	Demonstrates a good understanding of virtualisation concepts with minor inaccuracies. Explains the role of virtualisation in cloud computing. Explains the role of data centres with some clarity. May lack detail or depth. Describes the connection between virtualisation and data centres with reasonable clarity.	Demonstrates a thorough understanding of virtualisation concepts (e.g., hypervisors, virtual machines, containers). Clearly explains how virtualisation supports cloud computing. Clearly explains the role of data centres in cloud computing, including infrastructure, scalability, and resource management. Effectively describes how virtualisation and data centres work together to deliver cloud services. Shows clear understanding of their interdependence.
Understand the key principles for successful cloud migration, management and automation.	Demonstrates limited or incorrect understanding of cloud migration. Provides little or no understanding of cloud management. Demonstrates limited or incorrect understanding of	Demonstrates a basic understanding of migration. May confuse strategies or omit key steps. Mentions some cloud resource management principles with limited explanation or relevance.	Demonstrates a good understanding of migration strategies with minor gaps in detail or clarity. Explains most cloud resource management principles with reasonable clarity. May lack	Demonstrates a clear and detailed understanding of cloud migration strategies (e.g., rehosting, refactoring, replatforming). Clearly explains principles of cloud resource management (e.g., monitoring,

	automation in cloud environments.	Demonstrates a basic understanding of automation. May lack clarity or confuse concepts.	depth or examples. Demonstrates a good understanding of automation with some relevant examples.	cost optimisation, governance, security). Demonstrates strong understanding of automation tools and practices (e.g., Infrastructure as Code, auto-scaling, CI/CD). Explains how automation improves efficiency and reliability.
Discuss the core ethical, legal and security issues inherent in cloud computing.	Fails to identify or incorrectly explains ethical issues. Demonstrates little or no understanding of legal considerations. Fails to identify or incorrectly explains security issues. Fails to connect the ethical, legal, and security issues concepts or explains them incorrectly.	Mentions some ethical concerns but with limited explanation or relevance. Mentions legal issues but lacks clarity or detail. Identifies basic security concerns with limited explanation. Mentions ethical, legal, and security issues but does not clearly explain how they relate.	Identifies and explains several ethical issues with reasonable clarity. May lack depth or nuance. Explains some legal aspects with minor inaccuracies or omissions. Explains most security issues with some relevant examples. May lack depth in some areas. Makes reasonable connections between ethical, legal, and security issues. May lack depth or clarity in integration.	Insightfully discusses key ethical concerns (e.g., data ownership, surveillance, digital rights). Demonstrates critical thinking and awareness of real-world implications. Thoroughly explains core security concerns (e.g., data breaches, encryption, access control). Effectively connects ethical, legal, and security issues, showing how they influence cloud computing practices.