CAB432 A03: Cloud project (Video)
26/10/2025

Attempt 1 ⌄	◔ In Progress **NEXT UP: Submit assignment**	🗨 Add comment

Unlimited Attempts Allowed

⌄ Details

For details, please see **3. Cloud application** (https://canvas.qut.edu.au/courses/20367/pages/3-cloud-application) and **3.1 Submission specification** (https://canvas.qut.edu.au/courses/20367/pages/3-dot-1-submission-specification)

Please make sure you clicked the Submit button after uploading your video.

⌄ View Rubric

Cloud application assessment - marking criteria

Criteria	Ratings			Points
Project Core - Microservices	**3 pts** **Full marks** Application uses an appropriate microservices architecture with at least two separate services deployed on separate compute.	**1.5 pts** **Half marks** Architecture is not entirely appropriate to the application, services are deployed on the same compute instance, or there are implementation problems.	**0 pts** **No marks** No evidence of competent and appropriate use of microservices architecture or no/insufficient evidence presented.	/ 3 pts
Project Additional - Additional microservices	**2 pts** **Full marks** The application is appropriately and competently implemented as at least 4 microservices.	**1 pts** **Half marks** The application is appropriately and competently implemented as 3 microservices, or there are implementation problems with 4 or more microservices.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of more than 2 microservices or no/insufficient evidence presented.	/ 2 pts
Project Additional - Serverless functions	**2 pts** **Full marks** The application competently and appropriately uses AWS Lambda to deploy at least one microservice. Note that Lambda is not considered to be appropriate for deploying the service implementing the CPU intensive process.	**1 pts** **Half marks** AWS Lambda is used in the application but the choice is not entirely appropriate or there are implementation problems.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of Lambda or no/insufficient evidence presented.	/ 2 pts

Cloud application assessment - marking criteria

Criteria	Ratings			Points
Project Additional - Container orchestration with ECS	**2 pts** **Full marks** The application makes appropriate and competent use of ECS to deploy at least one microservice.	**1 pts** **Half marks** The application uses ECS but its use is not entirely appropriate or there are implementation problems.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of ECS or no/insufficient evidence presented.	/ 2 pts
Project Core - Load distribution	**2 pts** **Full marks** The application makes competent use of an appropriate mechanism to distribute load amongst multiple instances of the service implementing the CPU intensive process.	**1 pts** **Half marks** The application uses load distribution for the CPU intensive process but it the choice of mechanism is not entirely appropriate or there are implementation problems	**0 pts** **No marks** No evidence of competent and appropriate use of load distribution for the CPU intensive process or no/insufficient evidence presented.	/ 2 pts
Project Additional - Communication mechanisms	**2 pts** **Full marks** The application makes competent and appropriate use of a mechanism for communication between microservices (implemented by a cloud service) other than the one used for load distribution. Note that the use of an AWS API Gateway or Application Load Balancer solely for implementing HTTPS does not count as a communication mechanism for the purposes of this criterion.	**1 pts** **Half marks** The application makes use of an additional mechanism for communication but the choice is not entirely appropriate or there are implementation problems.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of an additional communication mechanism or no/insufficient evidence presented.	/ 2 pts
Project Core - Auto scaling	**3 pts** **Full marks** The application automatically horizontally scales the service implementing the CPU intensive process from 1 to 3 instances and back to 1 in response to increase and decrease in load, measured by average CPU utilisation with a target of 70% or an appropriate custom metric (assessed in a later criterion). There are no client-visible interruptions to service during scaling.	**1.5 pts** **Half marks** The application scales horizontally but there are problems with implementation such as not scaling back in or interruptions in the service. Scaling may depend on an artificially low CPU target scaling metric.	**0 pts** **No marks** No evidence of competent and appropriate automatic scaling or no/insufficient evidence presented.	/ 3 pts
Project Additional - Custom scaling metric	**2 pts** **Full marks** The application competently uses an appropriate scaling mechanism other than average CPU utilisation to	**1 pts** **Half marks** A scaling mechanism other than average CPU utilisation is used, but there are implementation problems or the result is not	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate of a scaling mechanism other than average CPU utilisation, or	/ 2 pts

Cloud application assessment - marking criteria

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	improve application characteristics associated with scaling, such as efficient use of cloud resources and application responsiveness, over a wide range of scales, while considering the service being auto-scaled and the load distribution mechanism.	an overall improvement in some cases (such as very large or small scales).	no/insufficient evidence presented.	
Project Core - HTTPS	**2 pts** **Full marks** The application is available via the public internet over HTTPS. Certificates for HTTPS are managed with ACM and an appropriate service is used to implement HTTPS (API Gateway or Application Load Balancer)	**1 pts** **Half marks** There is some attempt to implement HTTPS but it is not complete or not implemented using appropriate services.	**0 pts** **No marks** No evidence of competent and appropriate implementation of HTTPS using AWS cloud services, or no/insufficient evidence presented.	/ 2 pts
Project Additional - Container orchestration features	**2 pts** **Full marks** The application makes appropriate and competent use of at least two additional functions of ECS from: service discovery, rolling updates with failure detection, or tasks launched in response to events or on a schedule.	**1 pts** **Half marks** One additional ECS feature is appropriately and competently used in the application, or two or more additional functions are used but there are problems with implementation or appropriateness.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of additional ECS features, or no/insufficient evidence presented.	/ 2 pts
Project Additional - Infrastructure as Code	**2 pts** **Full marks** All services used by the application from Block 3 are competently and appropriately deployed using an infrastructure-as-code technology. Note that deployment of services from Block 1 and Block 2 is not assessed.	**1 pts** **Half marks** Infrastructure as code is used, but not all Block 3 services used are deployed or there are other issues such as implementation problems or using a non-approved technology.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of Infrastructure as Code for Block 3 services, or no/insufficient evidence presented.	/ 2 pts
Project Additional - Dead letter queue	**2 pts** **Full marks** All SQS queues are configured to have an associated dead letter queue (DLQ), and the messages in the DLQs are handled appropriate for the context of the application.	**1 pts** **Half marks** Some SQS queues are configured to have a DLQ, or the purpose of the DLQs are not entirely appropriate.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of DLQs.	/ 2 pts
Project Additional - Edge Caching	**2 pts** **Full marks** The application makes competent and appropriate use of CloudFront for edge	**1 pts** **Half marks** The application makes use of CloudFront but the choice is not entirely	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate use of	/ 2 pts

Criteria	Ratings			Points
	caching. The data cached is accessed frequently (in an imagined large scale deployment) and changed infrequently (eg. static HTML/CSS/JS/image files)	appropriate or there are implementation problems.	CloudFront or no/insufficient evidence presented.	
Project Additional - Upon request	**2 pts** **Full marks** With prior approval, additional development on the project has achieved a competent standard of execution.	**1 pts** **Half marks** With prior approval, additional development on the project has been done, but there are problems with implementation or appropriateness to the application.	**0 pts** **No marks** Not attempted, unapproved, completely inappropriate, or non-functional additional development, or no/insufficient evidence presented.	/ 2 pts
Video	**0 pts** **Does not meet requirements** The video is very difficult to use because of multiple submission requirements not being met. Up to 5 marks will be deducted from the total.	**0 pts** **Follows submission requirements** The video is clear and visual details (eg. text) are easy to discern. The video time is within the range specified. The audio commentary is easy to understand. The video provides the required details in the requested order.	**0 pts** **Some submission requirements are met** There are some problems with the video and it does not meet several of the submission requirements. Up to 2.5 marks will be deducted from the total.	/ 0 pts
Report - Architecture diagram	**3 pts** **Full marks** The application architecture diagram effectively and accurately illustrates all the components of the cloud architecture.	**1.5 pts** **Half marks** The diagram does not entirely match either the implemented project or the descriptions in the report, or there are presentation problems with the diagram making it difficult to read or understand.	**0 pts** **No marks** The diagram is missing, mostly incomprehensible, or mostly inaccurate.	/ 3 pts
Report - Justification of architecture	**3 pts** **Full marks** Justification appropriately and convincingly motivates the choices for division into microservices, compute, communication mechanisms, and service abstractions. The justification is primarily focused on resource requirements and application functionality, but also makes reference to implementation and scalability concerns where appropriate.	**1.5 pts** **Half marks** The justification of architecture discusses some of the choices, but they are not always well motivated or some important choices are not discussed.	**0 pts** **No marks** Not attempted, no evidence of competent and appropriate justification of the architecture.	/ 3 pts
Report - Cost estimate	**3 pts** **Full marks** The cost estimate includes reasonable estimates for	**1.5 pts** **Half marks** Cost estimation has been done, but the resource	**0 pts** **No marks** Not attempted, no evidence of competent and	/ 3 pts

Cloud application assessment - marking criteria

Criteria	Ratings			Points
	resource usage and all AWS services used. A link is provided to the cost estimate as provided by the AWS Pricing Calculator and a summary of the total cost per service is included in the report.	estimates are not reasonable, some AWS services are not included, or the link or summary is not included.	appropriate cost estimation.	
Report - Further development for scalability	**3 pts** **Full marks** An appropriate plan is presented for scaling up the application to 10000 concurrent users. The plan discusses changes to the current microservices arrangement, compute services, and load distribution mechanisms. Each change is appropriately justified.	**1.5 pts** **Half marks** A plan is presented for scaling up the application but there are problems, such as some aspects not being covered, inappropriate changes in some cases, or missing or inappropriate justification in some cases.	**0 pts** **No marks** Not attempted, or the plan for scaling up is completely inappropriate.	/ 3 pts
Report - Further development for security	**3 pts** **Full marks** The report discusses security controls/measures that have been, or could be implemented in the application and its cloud environment to provide a reasonable level of security. Each security control is discussed in terms of security principles, eg. least privilege.	**1.5 pts** **Half marks** Some security controls are discussed, but some reasonable controls are not discussed, the controls are not all appropriate, or the discussion of security principles is insufficient or inappropriate.	**0 pts** **No marks** Not attempted, or the discussion of security controls is completely unreasonable, inappropriate, or insufficient.	/ 3 pts
Report - Sustainability	**3 pts** **Full marks** The report discusses choices that have been, or could be made to improve the sustainability of the application. The discussion covers software, hardware, data centres, and resources. To facilitate the discussion, the discussion may include hypothetical functionality that could be reasonably added to the application. Choices are well justified.	**1.5 pts** **Half marks** The report discusses some choices around sustainability, but the discussion does not cover all levels, the choices are not always appropriate, or some choices are not well justified.	**0 pts** **No marks** Not attempted, or the choices are entirely inappropriate and unjustified.	/ 3 pts
Report - Quality	**3 pts** **Full marks** The report is well written. Spelling, grammar, and similar problems are rare and do not affect understanding. The writing is appropriate for an audience of CAB432	**1.5 pts** **Half marks** The report has some problems that affect understandability for the target audience. Citations may be missing the citation style inappropriate or inconsistent. The structure	**0 pts** **No marks** There are multiple serious problems with the quality of the report.	/ 3 pts

Cloud application assessment - marking criteria

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	students. The report is well formatted and follows the sections given in the report template. If ideas, data, or other material from sources other than CAB432 content are appropriately cited using a reference style from https://www.citewrite.qut.edu.au/.	may not always follow the report template.		
Source code	**0 pts** **Does not meet requirements** The source code is very difficult to use because of multiple submission requirements not being met. Up to 5 marks will be deducted from the total.	**0 pts** **Follows submission requirements** The source code follows the all requirements	**0 pts** **Some submission requirements are met** There are some problems with the source code submission and it does not meet several of the submission requirements. Up to 2.5 marks will be deducted from the total.	/ 0 pts
			Total points: 0	

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