53 Cloud Computing

WorldSkills Occupational Sta

Section	WSOS Marks
1	Work organization and management
2	Communication and interpersonal skills
3	Problem solving, innovation, and creativity
4	Security
5	Reliability, scalability, and elasticity
6	Performance and optimization
7	Operational considerations

Criteria

ID	Name
A	Cost Optimization

B	Operation Excellence
C	Security
D	Reliability
E	Performance Efficiency
F	Sustainability
G	
H	
I	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
A1	Cost Optimization - Day 1	1			
			M	Ratio of overall load to infrastructure deployment size	
			M	Ratio of overall load to infrastructure deployment size	
			M	Ratio of overall load to infrastructure deployment size	
			M	Use of application caching solution.	
A2	Cost Optimization - Day 2	2			
			M	Ratio of overall load to infrastructure deployment size	
			M	Ratio of overall load to infrastructure deployment size	
			M	Ratio of overall load to infrastructure deployment size	
			M	Use of application caching solution.	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
B1	Operational Excellence - Day 1	1			
			M	Recover more easily from both unintended user actions and appl	
			M	Convenient to troubleshoot network problems	
			M	Effient way to categorize resources in different ways	
			M	Shorten system boot time	
			M	Cloudwatch Alarm to monitor instance status	
B2	Operational Excellence - Day 2	2			
			M	Recover more easily from both unintended user actions and appl	
			M	Convenient to troubleshoot network problems	
			M	Effient way to categorize resources in different ways	
			M	Use network sharing file system	
			M	Sufficient logging for key EKS components	
			M	Cloudwatch Alarm to monitor instance status	
B3	Operational Excellence - Day 3	3			
			M	Challenge1	
			M	Challenge1	
			M	Challenge1	
			M	Challenge1	
			M	Challenge2	
			M	Challenge2	
			M	Challenge2	
			M	Challenge2	
			M	Challenge3	
			M	Challenge3	
			M	Challenge3	
			M	Challenge3	
B4	Operational Excellence - Day 4	4			
			M	Challenge4	
			M	Challenge4	
			M	Challenge4	
			M	Challenge4	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
C1	Security - Day 1	1			
			M	Assign resources least-privilege security policies and permissions	
			M	Assign resources least-privilege security policies and permissions	
			M	Database security	
			M	Better isolation for computing instances	
			M	Data encryption	
			M	Data encryption in flight	
			J	Assign resources least-privilege security policies and permissions	3 2 1 0
C2	Security - Day 2	2			
			M	Assign resources least-privilege security policies and permissions	
			M	Assign resources least-privilege security policies and permissions	
			M	Data encryption	
			M	Limit the impact in the case of a leaked secret	
			M	API server endpoint access	
			M	Data encryption in flight	
			J	ECR security configration	3 2 1 0
C3	Security - Day 3	3			
			M	Challenge5	
			M	Challenge5	
			M	Challenge5	
			M	Challenge5	
			M	Challenge6	
			M	Challenge6	
			M	Challenge6	
			M	Challenge6	
			M	Challenge7	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
C4	Security - Day 4	4	M	Challenge7	
			M	Challenge7	
			M	Challenge7	
			M	Challenge8	
			M	Challenge8	
			M	Challenge8	
			M	Challenge8	
			M	Challenge9	
			M	Challenge9	
			M	Challenge9	
			M	Challenge9	
			M	Challenge10	
			M	Challenge10	
			M	Challenge10	
			M	Challenge10	
D1	Reliability - Day 1	1			
			M	Better isolation and reduce blast radius	
			M	Application able to serve public traffic across multiple local netwo	
			M	Efficiently distributing incoming network traffic	
			M	Transaction timeout response rate per day	
			M	Data Reliability	
			J	Computing instances reliability and scalability	3 2 1 0
D2	Reliability - Day 2	2			
			M	Better isolation and reduce blast radius	
			M	Application able to serve public traffic across multiple local netwo	
			M	Efficiently distributing incoming network traffic	
			M	Transaction timeout response rate per day	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
			M	Data Reliability	
			J	Computing instances reliability and scalability	3 2 1 0
D3	Reliability - Day 3	3			
			M	Challenge11	
			M	Challenge11	
			M	Challenge11	
			M	Challenge11	
D4	Reliability - Day 4	4			
			M	Challenge12	
			M	Challenge12	
			M	Challenge12	
			M	Challenge12	
			M	Challenge13	
			M	Challenge13	
			M	Challenge13	
			M	Challenge13	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
E1	Performancre Efficiency - Day 1	1			
			M	Daily overall response time average	
			M	Percentage of messages accepted for process >=90% (Availabili	
			M	Percentage of messages accepted for process >=80% (Availabili	
			M	Percentage of messages accepted for process >=70% (Availabili	
			M	Percentage of messages accepted for process >=60% (Availabili	
			M	Percentage of messages accepted for process >=30% (Availabili	
			J	Overall performance measured by system score board	3 2 1 0

E2	Performancre Efficiency - Day 2	2			
			M	Daily overall response time average	
			M	Add exception handling to simplify the flow of control	
			M	Percentage of messages accepted for process >=90% (Availabili	
			M	Percentage of messages accepted for process >=80% (Availabili	
			M	Percentage of messages accepted for process >=70% (Availabili	
			M	Percentage of messages accepted for process >=60% (Availabili	
			M	Percentage of messages accepted for process >=30% (Availabili	
			J	Overall performance measured by system score board	3 2 1 0
E3	Performancre Efficiency - Day 3	3			
			M	Challenge14	
			M	Challenge14	
			M	Challenge14	
			M	Challenge14	
			J	Overall performance measured by system score board	3 2 1 0
E4	Performancre Efficiency - Day 4	4			
			M	Challenge15	
			M	Challenge15	
			M	Challenge15	
			M	Challenge15	
			M	Challenge16	
			M	Challenge16	
			M	Challenge16	
			M	Challenge16	
			J	Overall performance measured by system score board	3 2 1 0

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
F4	Sustainability - Day 3	3			
			M	Challenge17	
			M	Challenge17	
			M	Challenge17	
			M	Challenge17	
F5	Sustainability - Day 4	4			
			M	Challenge18	
			M	Challenge18	
			M	Challenge18	
			M	Challenge18	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score

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Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score

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ndards

	WSOS Marks	Aspect Marks	Variation
	10.00	11.00	1.00
	10.00	7.00	3.00
	20.00	18.00	2.00
	20.00	22.00	2.00
	20.00	18.00	2.00
	10.00	13.00	3.00
	10.00	11.00	1.00
Total Variation			14.00

	Mark
	10.00

	20.00
	25.00
	18.00
	22.00
	5.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark
Ratio of recommended deployment size to actual. Full ma		3		0.50
Ratio of recommended deployment size to actual. Full ma		3		1.00
Ratio of recommended deployment size to actual. Full ma		3		1.50
Has CloudFront been configured?		2		2.00
Ratio of recommended deployment size to actual. Full ma		3		0.50
Ratio of recommended deployment size to actual. Full ma		3		1.00
Ratio of recommended deployment size to actual. Full ma		3		1.50
Has CloudFront been configured?		2		2.00

Criterion A Total Mark 10.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark
Is S3 bucket versioning enabled ?	Yes/No	7		0.50
Is VPC flow log enabled ?	Yes/No	7		1.00
Is EC2 instance tagged ?	Yes/No	7		0.50
Is there any self baked AMI ?	Yes/No	7		1.00
Has Cloudwatch alarm defined mean full marks, No Cloud	Yes/No	7		1.00
Is S3 bucket versioning enabled ?	Yes/No	7		0.50
Is VPC flow log enabled ?	Yes/No	7		1.00
Is EC2 instance tagged ?	Yes/No	7		0.50
Is EFS used ?	Yes/No	7		0.50
Is there at least 1 EKS logging type exsiting ?	Yes/No	7		0.50
Has Cloudwatch alarm defined mean full marks, No Cloud		7		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	1		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	1		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	1		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	1		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	2		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	2		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	2		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	2		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	3		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	3		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	3		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	3		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	7		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	7		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	7		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	7		1.00

Criterion B **Total Mark** 20.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark
Is there less than 2 securiy groups having ingress rule whi	Yes/No	4		0.50
Is there securiry group open port 22 to internet ?	Yes/No	4		0.50
Is DynamoDB encryption enabled?	Yes/No	4		0.50
Is EC2 (besides bastion host) in private subnets ?	Yes/No	4		0.50
Is S3 bucket encryption enabled ?	Yes/No	4		0.50
HTTPS URL submitted mean full marks, HTTP URL subm		4		0.50
		4		0.50
All services (S3 and instances) are utilizing defined and re				
Only Instances are utilizing defined security policies				
Only S3 are utilizing defined security policies				
No definied security policies				
Is there less than 2 securiy groups having ingress rule whi	Yes/No	4		0.50
Is there securiry group open port 22 to internet ?	Yes/No	4		0.50
Is S3 bucket encryption enabled ?	Yes/No	4		0.50
Secret rotation enabled for the secrets in secret manager	Yes/No	4		0.50
API server endpoint access (public & private)	Yes/No	4		0.50
HTTPS URL submitted mean full marks, HTTP URL subm		4		0.50
		4		0.50
ECR image tag immutable, Image scanning, Encryption (3				
ECR image tag immutable, Image scanning, Encryption (2				
ECR image tag immutable, Image scanning, Encryption (1				
No definied security policies				
Completed Less than all Clues used mean full marks, All C	Yes/No	3		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	3		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	3		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	3		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	4		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	4		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	4		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	4		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	4		0.50

Criterion C   Total Mark   25.00

Aspect Description	Requirement	WSOS Section	Calculation Row	Max Mark
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	4		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	4		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	4		1.00
Completed Less than all Clues used mean full marks, All (	Yes/No	4		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	4		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	4		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	4		1.00
Completed Less than all Clues used mean full marks, All (	Yes/No	4		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	4		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	4		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	4		1.00
Completed Less than all Clues used mean full marks, All (	Yes/No	4		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	4		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	4		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	4		1.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark			
					Criterion D	Total Mark	18.00
Are multi subnets defined accros Azs ?	Yes/No	5		0.50			
Are there multiple subnets in application deployment?	Yes/No	5		0.50			
Is ALB used ?	Yes/No	5		0.50			
Total network request timeouts< 10% receives full marks;	Check timeout rate	5		1.00			
Is DynamoDB has backup configured	Yes/No	5		1.00			
		5		1.00			
ASG used and has target tracing policy and scale based o							
ASG used and has target tracing policy							
ASG is used							
ASG not used							
Are multi subnets defined accros Azs ?	Yes/No	5		0.50			
Are there multiple subnets in application deployment?	Yes/No	5		0.50			
Is ALB used ?	Yes/No	5		0.50			
Total network request timeouts< 10% receives full marks;	Check timeout rate	5		1.00			

Description	Requirement	WSOS Section	Calculation Row	Max Mark
Has RDS backup been configured?	Yes/No	5		1.00
		5		1.00
ASG used and has target tracing policy and scale based o				
ASG used and has target tracing policy				
ASG is used				
ASG not used				
Completed Less than all Clues used mean full marks, All C	Yes/No	5		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	5		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	5		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	5		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	5		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	5		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	5		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	5		1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	5		0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	5		0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	5		1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	5		1.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark

Criterion E **Total Mark** 22.00

Description	Requirement	WSOS Section	Calculation Row	Max Mark
If less than 4 seconds mean full marks	< 4 seconds	6		0.50
Availability >90%		6		0.50
Availability 80% ~ 90%		6		0.50
Availability 70% ~ 80%		6		0.50
Availability 60% ~ 70%		6		0.50
Availability 30% ~ 60%		6		0.50
		6		1.50
Players 1 to 3 on the score board get 1.5 point				
Players 4 to 6 on the score board get 1 point				
Players 7 and 8 on the score board get 0.5 point				
All other player get 0 point				

If less than 4 seconds full marks	< 4 seconds	6	0.50
If larger than 10 full marks		6	1.00
Availability >90%		6	0.50
Availability 80% ~ 90%		6	0.50
Availability 70% ~ 80%		6	0.50
Availability 60% ~ 70%		6	0.50
Availability 30% ~ 60%		6	0.50
		6	1.50
Players 1 to 3 on the score board get 1.5 point			
Players 4 to 6 on the score board get 1 point			
Players 7 and 8 on the score board get 0.5 point			
All other players get 0 point			
Completed Less than all Clues used mean full marks, All C	Yes/No	1	0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	1	0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	1	1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	1	1.00
		6	1.50
Players 1 to 3 on the score board get 1.5 point			
Players 4 to 6 on the score board get 1 point			
Players 7 and 8 on the score board get 0.5 point			
All other players get 0 point			
Completed Less than all Clues used mean full marks, All C	Yes/No	3	0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	3	0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	3	1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	3	1.00
Completed Less than all Clues used mean full marks, All C	Yes/No	3	0.50
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	3	0.50
Completed <=1 Clues used mean full marks, more than 1	Yes/No	3	1.00
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	3	1.00
		6	1.50
Players 1 to 3 on the score board get 1.5 point			
Players 4 to 6 on the score board get 1 point			
Players 7 and 8 on the score board get 0.5 point			
All other players get 0 point			

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark			
					Criterion F	**Total Mark**	**5.00**
Completed Less than all Clues used mean full marks, All C	Yes/No	1		0.50			
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	1		0.50			
Completed <=1 Clues used mean full marks, more than 1	Yes/No	1		0.50			
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	1		1.00			
Completed Less than all Clues used mean full marks, All C	Yes/No	1		0.50			
Completed <= 2 Clues used mean full marks, more than 2	Yes/No	1		0.50			
Completed <=1 Clues used mean full marks, more than 1	Yes/No	1		0.50			
Completed 0 Clues used mean full marks, more than 0 clu	Yes/No	1		1.00			
Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark	**Criterion G**	**Total Mark**	**0.00**
Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark	**Criterion H**	**Total Mark**	**0.00**
Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSOS Section	Calculation Row (Export only)	Max Mark	**Criterion I**	**Total Mark**	**0.00**

Competition **Total Mark** 100.00