53 Cloud Computing

WorldSkills Standards Speci

Section	WSSS 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	
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	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	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	1			
			M	Primary database deployed and operational	
			M	Secondary database deployed and operational	
			M	Local shared file storage operational	
			M	Automation of exception/refund responses.	
			M	Web apps served by auto-scaling infrastructure	
			J	Limited operational impact to system/network outage.	0 1 2 3
			J	Automation of application deployment process	0 1 2 3
B2	Operational Excellence	2			
			M	Root Application Successes	
			M	Lookup Application Successes	
			M	URL routing configured according to documentation	
			M	Automation of exception/refund responses.	
			M	Web apps served by auto-scaling infrastructure	
			M	Feline Takeover Module Complete	
			J	Limited operational impact to system/network outage.	0 1 2 3
			J	Automation of application deployment process	0 1 2 3
B3	Operational Excellence	3			

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
			M	Automated Incident Response	
			M	Automated Incident Response	
			M	Automated Incident Response	
			M	Automated Incident Response	
B4	Operational Excellence	4			
			M	Identify and Mitigate Configuration Drift	
			M	Identify and Mitigate Configuration Drift	
			M	Identify and Mitigate Configuration Drift	
			M	Identify and Mitigate Configuration Drift	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
C1	Security	1			
			M	Public access to database or database cache?	
			J	Assign resources least-privilege security policies and permissions	3
					2
					1
					0
C2	Security	2			
			M	Does the application block suspected web attacks?	
			M	Reject traffic from known malicious sources	
			M	Reject traffic from known malicious sources	
			M	Reject traffic from known malicious sources	
			M	Completed S3 Access Module	
C3	Security	3			
			M	Perfect World	
			M	Perfect World	
			M	Perfect World	
			M	Perfect World	
			M	Too Many Secrets	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
C4	Security	4	M	Too Many Secrets	
			M	Too Many Secrets	
			M	Too Many Secrets	
			M	Find the Rogue Script	
			M	Find the Rogue Script	
			M	Find the Rogue Script	
			M	Find the Rogue Script	
			M	Strengthen API Defense	
			M	Strengthen API Defense	
			M	Strengthen API Defense	
			M	Strengthen API Defense	
D1	Reliability	1			
			M	Application able to serve public traffic across multiple local netwo	
			M	Application continues to serve requests against high load.	
			M	Application maintains an operational state during local network fa	
			M	Network traffic isolation in place	
			M	Transaction timeout response rate per day	
D2	Reliability	2			
			M	Both applications able to serve public traffic across multiple local	
			M	Application continues to serve requests against high load.	
			M	Application maintains an operational state during local network fa	
			M	Network traffic isolation in place	
			M	Transaction timeout response rate per day	
D3	Reliability	3			
			M	High Availability	
			M	High Availability	
			M	High Availability	
			M	High Availability	

Sub Criterion ID	Sub Criterion Name or Description	Day of Marking	Aspect Type M = Meas J = Judg	Aspect - Description	Judg Score
E1	Performancre Efficiency	1			
			M	Application response time in milliseconds lowest	
			M	Application response time in milliseconds lowest	
			M	Identified infrastructure scales to meet demand.	
			M	Daily overall response time average	
			M	Percentage of messages accepted for process.	
E2	Performancre Efficiency	2			
			M	Application response time in milliseconds lowest	
			M	Application response time in milliseconds lowest	
			M	Identified infrastructure scales to meet demand.	
			M	Daily overall response time average	
			M	Percentage of messages accepted for process.	
			M	Monoliths to Containers Migration complete	
			M	Monoliths to Containers Migration complete	
			M	Monoliths to Containers Migration complete	
			M	Monoliths to Containers Migration complete	
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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fication

	WSSS Marks	Aspect Marks	Variation
	10.00	10.00	0.00
	10.00	10.00	0.00
	20.00	20.00	0.00
	20.00	20.00	0.00
	20.00	20.00	0.00
	10.00	10.00	0.00
	10.00	10.00	0.00
Total Variation			0.00

	Mark
	10.00

		20.00
		25.00
		25.00
		20.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark		
					Criterion A	Total Mark 10.00
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 an application HTTP caching solution been configure	Yes/No	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 an application HTTP caching solution been configure	Yes/No	2		2.00		

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark
Is the primary application serving results?	Yes/No	1		0.50
Is the stub application serving results?	Yes/No	1		0.50
Is there a shared file storage solution in place?	Yes/No	1		0.50
Once students are hands off of their architectures, can a s		1		1.00
Full marks: all web apps successfully routed to endpoints		7		2.00
		1		1.00
Neither all instance scaling or high-level services are deplo				
Either all higher level services or instance scaling is sprea				
Acceptable and meets industry standard - ELB, EC2				
All services span multiple availability zones and subnets, H				
		1		1.00
No automation in place				
There is minimal process automation in place with ASG bu				
Majority of processes are automated, ASG with automated				
Full solutions deployments are automated with memcache				
Is the Root application serving results?	Yes/No	1		0.50
Is the Lookup application serving results?	Yes/No	1		0.50
Web traffic is configured to route traffic from documented	Yes/No	1		1.00
Once students are hands off of their architectures, can a s		1		1.00
Full marks: all web apps successfully routed to endpoints		7		2.00
	Yes/No	1		0.50
		1		1.00
Neither all instance scaling or high-level services are deplo				
Either all higher level services or instance scaling is sprea				
Acceptable and meets industry standard - ELB, EC2				
All services span multiple availability zones and subnets, H				
		1		1.00
No automation in place				
There is minimal process automation in place with ASG bu				
Majority of processes are automated, ASG with automated				
Full solutions deployments are automated with memcache				

Criterion B   **Total Mark**   20.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark			
Automated Incident Response Challenge Completed Less	Yes/No	7		0.50			
Automated Incident Response Challenge Completed <= 2	Yes/No	7		0.50			
Automated Incident Response Challenge Completed <=1	Yes/No	7		1.00			
Automated Incident Response Challenge Completed 0 Clu	Yes/No	7		1.00			
Identify and Mitigte Configuration Drift Challenge Complet	Yes/No	7		0.50			
Identify and Mitigte Configuration Drift Challenge Complet	Yes/No	7		0.50			
Identify and Mitigte Configuration Drift Challenge Complet	Yes/No	7		1.00			
Identify and Mitigte Configuration Drift Challenge Complet	Yes/No	7		1.00			

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark	Criterion C	Total Mark	25.00
Blocks unrestricted network access to cache database or	Yes/No	4		2.00			
		4		2.00			
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							
If greater than 50% of web attacks are blocked?	Yes/No	4		2.00			
% of packets from bad IPs/subnets blocked >10% Full ma	Yes/No	4		1.00			
% of packets from bad IPs/subnets blocked >30% Full ma	Yes/No	4		1.00			
% of packets from bad IPs/subnets blocked >60% Full ma	Yes/No	4		1.00			
S3 Access Module Completed	Yes/No	4		2.00			
No Marks: All clues used							
0,67 Marks: 2 Clues used							
1,33 Marks 1 Clue used							
Full Marks: No Clues							
Perfect World Module Completed Less than all Clues used	Yes/No	4		0.50			
Perfect World Module Completed <= 2 Clues used mean f	Yes/No	4		0.50			
Perfect World Module Completed <=1 Clues used mean fu	Yes/No	4		1.00			
Perfect World Module Completed 0 Clues used mean full	Yes/No	4		1.00			
Too many Secretes Module Completed Less than all Clue	Yes/No	4		0.50			

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark
Too many Secretes Module Completed <= 2 Clues used m	Yes/No	4		0.50
Too many Secretes Module Completed <=1 Clues used m	Yes/No	4		1.00
Too many Secretes Module Completed 0 Clues used mea	Yes/No	4		1.00
Find the Rogue Script Module Completed Less than all Cl	Yes/No	4		0.50
Find the Rogue Script Module Completed <= 2 Clues used	Yes/No	4		0.50
Find the Rogue Script Module Completed <=1 Clues used	Yes/No	4		1.00
Find the Rogue Script Module Completed 0 Clues used m	Yes/No	4		1.00
Strengthen API Defense Module Completed Less than all	Yes/No	3		1.00
Strengthen API Defense Module Completed <= 2 Clues us	Yes/No	3		1.00
Strengthen API Defense Module Completed <=1 Clues us	Yes/No	3		1.00
Strengthen API Defense Module Completed 0 Clues used	Yes/No	3		2.00

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

Criterion D Total Mark 25.00

Is there use of multiple subnets in application deployment	Yes/No	5		2.00
Is the application still servering requests after load has be	Yes/No	5		2.00
In the event of a subnet failure, does the security model al	Yes/No	5		2.00
Are deployed internal-only services not available externally	Yes/No	5		2.00
Total network request timeouts< 10% receives full marks;	<.1	5		2.00
Is there use of multiple subnets in application deployment	Yes/No	5		2.00
Is the application still servering requests after load has be	Yes/No	5		2.00
In the event of a subnet failure, does the security model al	Yes/No	5		2.00
Are deployed internal-only services not available externally	Yes/No	5		2.00
Total network request timeouts< 10% receives full marks;	<.1	5		2.00
High Availability Module Completed Less than all Clues us	Yes/No	6		1.00
High Availability Module Completed <= 2 Clues used mean	Yes/No	6		1.00
High Availability Module Completed <=1 Clues used mean	Yes/No	6		1.00
High Availability Module Completed 0 Clues used mean fu	Yes/No	6		2.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark		
Lowest response rate in milliseconds recorded < 500ms F	< 500ms	6		1.25	Criterion E	Total Mark 20.00
Lowest response rate in milliseconds recorded < 100ms F	< 100ms	6		1.25		
Application scales once competitors are hands off	Yes/No	2		2.00		
If less than 2 seconds full marks		3		2.00		
Total percentage per day of messages accepted for proce	>.8	2		1.00		
Full marks for >80%. 50% marks for >70%. 70% or less =						
Lowest response rate in milliseconds recorded < 500ms F	< 500ms	6		1.25		
Lowest response rate in milliseconds recorded < 100ms F	< 100ms	6		1.25		
Application scales once competitors are hands off	Yes/No	2		2.00		
If less than 2 seconds full marks		3		2.00		
Total percentage per day of messages accepted for proce	>.8	2		1.00		
Full marks for >80%. 50% marks for >70%. 70% or less =						
Monoliths to Containers Migration Module Completed Less	Yes/No	3		1.00		
Monoliths to Containers Migration Module Completed <= 2	Yes/No	3		1.00		
Monoliths to Containers Migration Module Completed <=1	Yes/No	3		1.00		
Monoliths to Containers Migration Module Completed 0 Cl	Yes/No	3		2.00		

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS Section	Calculation Row (Export only)	Max Mark		
					Criterion F	Total Mark 0.00

Extra Aspect Description (Meas or Judg) OR Judgement Score Description (Judg only)	Requirement (Measurement Only)	WSSS 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)	WSSS 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)	WSSS Section	Calculation Row (Export only)	Max Mark			
					Criterion I	Total Mark	0.00

Competition	Total Mark 100.00