Step 2: Rendezvous Server Submission

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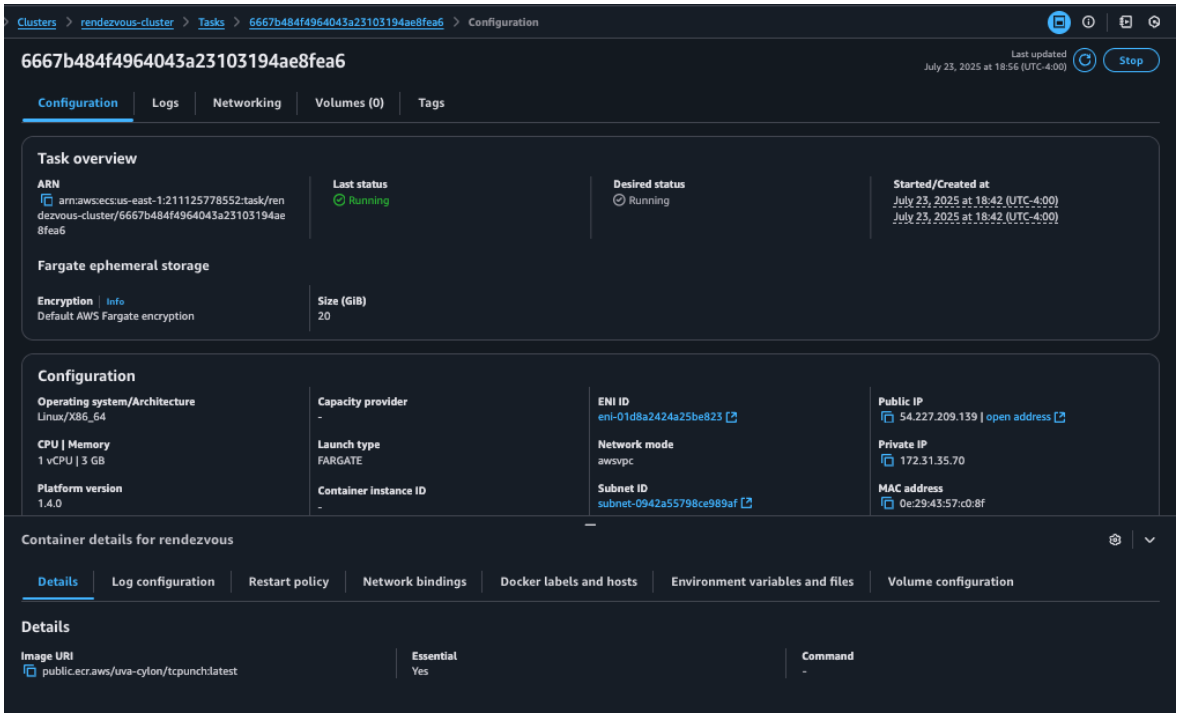
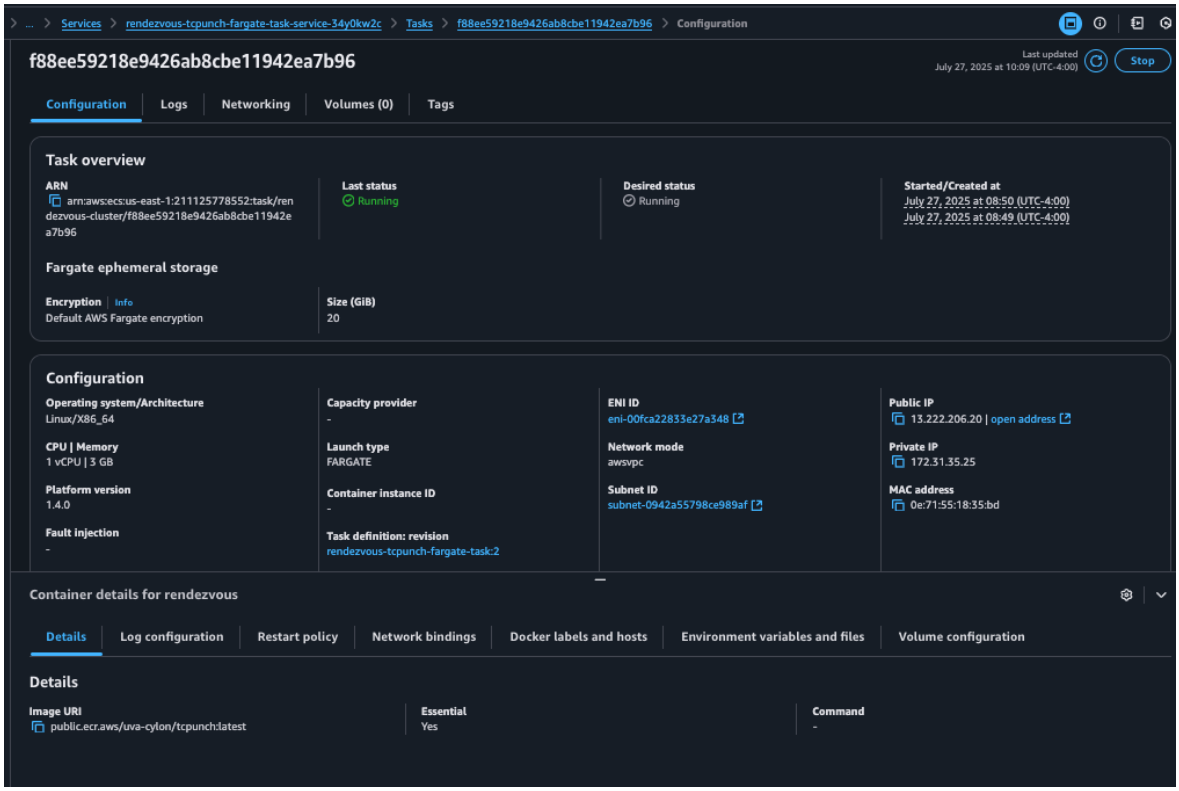
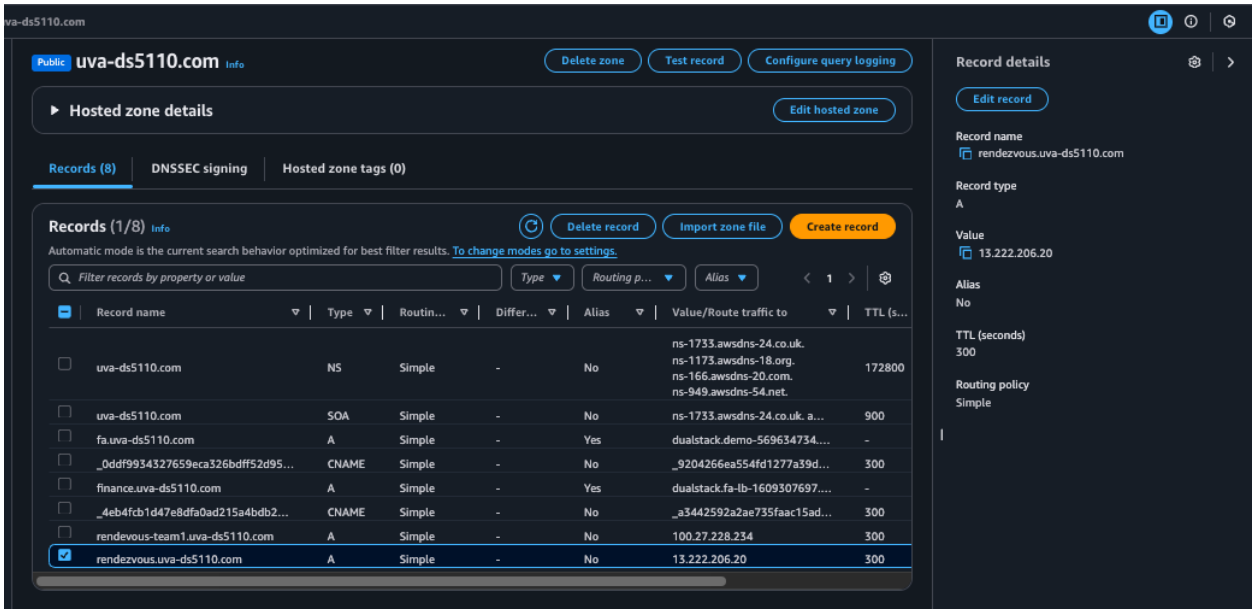
ECS Task Deployment Screenshot



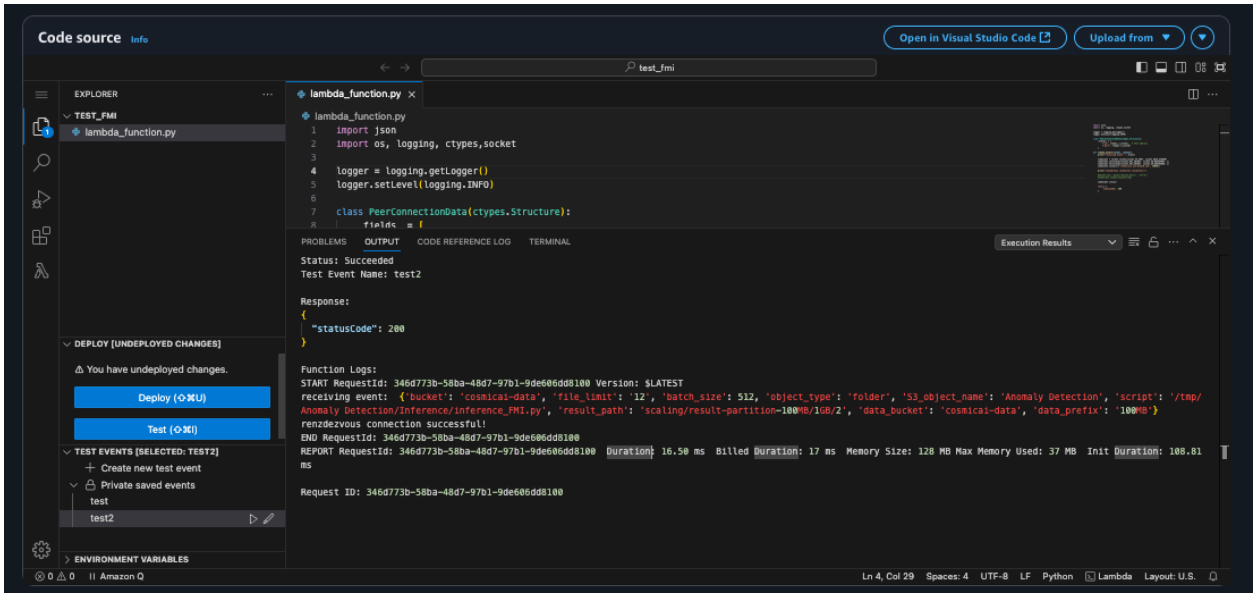
FARGATE Configuration Documentation



Successful DNS Record Update



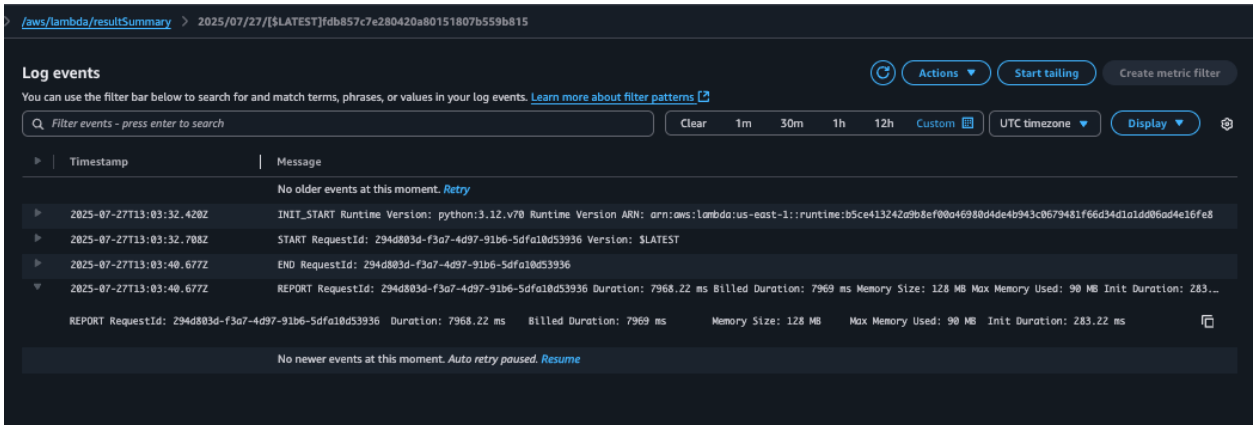
Connection Test Between Lambda Functions

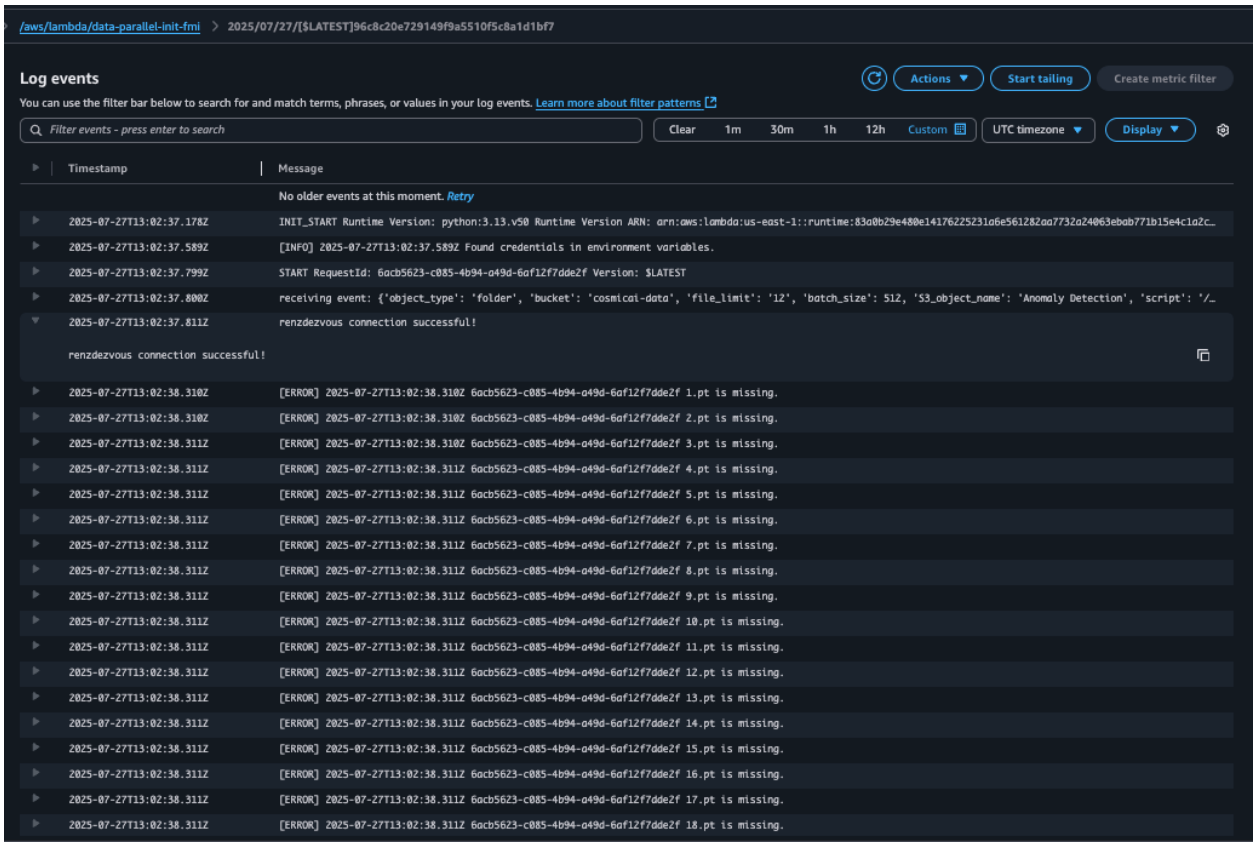


Performance Metrics Table

File Size (MB)	World Size	Requests	Duration (s)	Memory (GB)	Cost (USD)
25	520	520	6.2	2.5	0.15
50	260	260	11.5	3.8	0.19
75	174	174	17.0	5.7	0.29
100	130	130	24.3	7.0	0.36

CloudWatch Logs (Execution Details)





Brief Explanation of Implementation and Challenges

We deployed a Rendezvous server using AWS ECS Fargate and configured it under rendezvous.uva-ds5110.com to enable FMI-based communication between Lambda functions. The existing Step Function was updated with the required payload fields to support distributed execution using FMI.

The main challenges involved ensuring the payloads were correctly structured. Missing or incorrect keys, such as world_size or S3_object_name, frequently caused execution failures. Cold starts and odd world sizes also led to synchronization issues within FMI. These were resolved through careful validation and consistent use of even world sizes.

Performance metrics were consistent with Step 1, as the FMI layer added minimal overhead. The core architecture and resource settings remained the same, resulting in similar execution time, memory use, and cost.