

AWS X-Ray

What is AWS X-Ray?

AWS X-Ray is a distributed tracing service that helps developers analyze and debug applications running on AWS by tracking requests through every component.

What it Does:

- Captures detailed trace data (latency, errors, and performance bottlenecks).
- Visualizes the application's architecture in a service map.
- Tracks end-to-end request flows.

Benefits:

- **Improved Troubleshooting:** Pinpoints where errors and delays occur.
- **Performance Optimization:** Identifies bottlenecks and latency issues.
- **End-to-End Visibility:** Tracks requests across microservices, databases, and external APIs.
- **Integrated Debugging:** Seamlessly integrates with services like EC2, Lambda, ECS, and API Gateway.

How to Use It:

1. **Enable X-Ray** in your AWS service (e.g., Lambda, ECS, EC2).
2. **Instrument Your Code:**
 - Use the X-Ray SDK to add trace annotations and metadata.
3. **View Service Map:**
 - In the X-Ray Console, visualize the service map and trace details.
4. **Analyze Traces:**
 - Filter and analyze traces to find performance issues and errors.

Costs:

- **Trace Storage:** \$5 per million traces recorded.
- **Free Tier:** Includes 100,000 traces per month.

[AWS Documentation](#)