OpsAtlas
OPERATIONAL RUNBOOKS BY SMALLWOOD ENTERPRISES
Reliable cloud operations documentation

Amazon EC2 Instance Unreachable

AWS Troubleshooting Runbook 01

AWS Troubleshooting Runbooks

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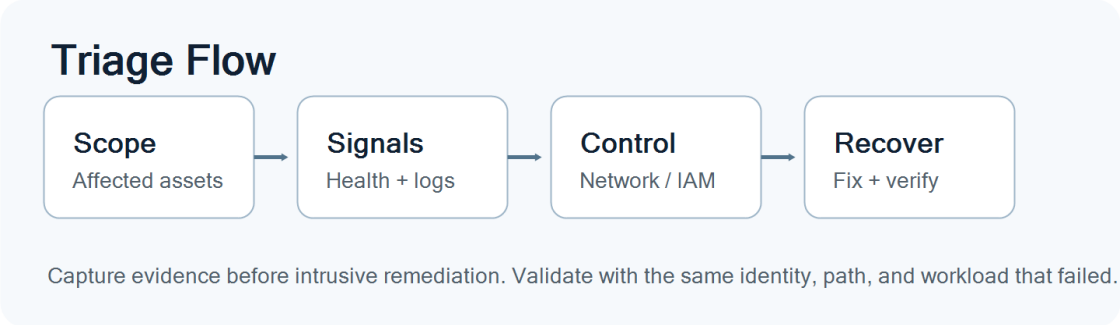
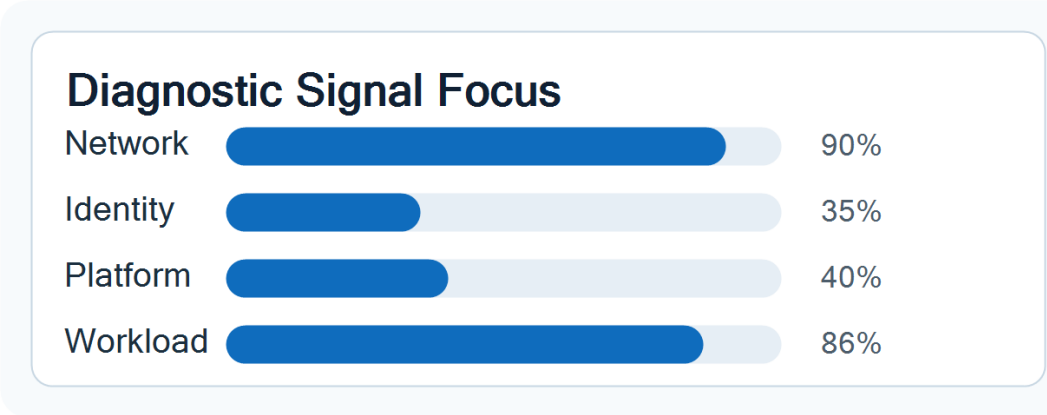
Amazon EC2 Instance Unreachable

AWS Troubleshooting Runbook 01
Audience: Cloud administrators, SREs, support personnel, and MSP escalation teams
Severity guide: Sev 1 when production access, customer traffic, or protected data recovery is blocked; Sev 2 when impact is partial or a workaround exists.
Incident objective: Restore administrative or application access by isolating instance state, status checks, OS boot, security groups, NACLs, routing, public/private addressing, and service listener failures.

> **Operator note:** Capture request IDs, ARNs, regions, timestamps, and before/after configuration evidence. Prefer the smallest reversible change that restores service, then replace emergency access with a durable fix.





Common Symptoms

- SSH, RDP, HTTP, or application access times out.
- EC2 status checks fail or the console screenshot shows boot/login issues.
- Access broke after patching, resizing, security group changes, or route updates.

First 15 Minutes

- Confirm instance state, system status, and instance status checks.
- Review console screenshot, system log, and recent CloudTrail/EC2 events.
- Validate security group inbound/outbound rules, subnet route table, NACLs, and public/private IP expectations.
- Check whether the target service is listening inside the OS and whether host firewall rules allow it.
- Snapshot important EBS volumes before invasive repair.

Command Starters

Replace placeholders before running. Use the correct AWS account, region, profile, and role. Record output in the incident ticket.

```
aws ec2 describe-instance-status --instance-ids <instance-id> --include-all-i
nstances

aws ec2 get-console-output --instance-id <instance-id> --latest
```

```
aws ec2 describe-security-groups --group-ids <sg-id>

aws ec2 describe-route-tables --filters Name=association.subnet-id,Values=<su
bnet-id>

aws ec2 describe-network-acls --filters Name=association.subnet-id,Values=<su
bnet-id>
```

Decision Path

If you find...	Do this next
System status check failed	Treat as AWS infrastructure/host path; stop/start if acceptable or move workload to healthy capacity.
Instance status check failed	Inspect OS boot, disk, networking agent, CPU/memory, or filesystem issues.
Network path blocked	Fix SG, NACL, route, IGW/NAT/TGW, or source/destination check as applicable.
Host reachable but app down	Move to process, listener, dependency, certificate, and local firewall checks.

Remediation Actions

- Use EC2 Instance Connect, Session Manager, or a bastion instead of opening SSH/RDP broadly.
- Stop/start to move hardware only after capturing evidence and considering instance-store data loss.
- Use EC2Rescue or detach/attach EBS root volume for OS-level repair.
- Replace broad emergency SG rules with scoped rules after recovery.

Validation Checklist

- Status checks are 2/2 and application probe succeeds from the expected source.
- Security group/NACL changes match the access standard.
- Monitoring and owner validation confirm workload recovery.

Evidence to Attach

- Account ID, region, affected ARNs, request IDs, and UTC timestamps.
- CloudTrail, CloudWatch, service event, health, or target-status evidence.
- Before/after IAM, network, routing, DNS, health check, or service configuration.
- Approval record for any emergency permission, public exposure, route, restart, failover, replay, or rollback.

Customer-Facing Summary Template

What happened: `<brief customer-safe description>`
Impact: `<users/services/regions affected and time range>`
Root cause: `<confirmed root cause or current leading cause>`
Resolution: `<fix applied and validation completed>`
Prevention: `<monitoring, guardrail, IaC, policy, or architecture follow-up>`

Reference Anchors

- Troubleshoot connecting to your instance
- Troubleshoot EC2 instance status checks
- EC2 serial console