

Atlas Project Casebook

Companion evidence and portfolio worksheets for Projects 2-4

PROJECT 2 Data Classification Connect database fields to business context and document handling decisions.	PROJECT 3 Least Privilege Review direct MySQL access, remediate excessive permissions, and validate the boundary.	PROJECT 4 Database Incident Response Preserve evidence, reconstruct suspicious changes, recover known-good data, and report.
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Use with: 4 Database Projects for IT and Cybersecurity Portfolios

Project 1 is taught entirely in the article and does not require Casebook pages.

How to Use This Casebook

The article teaches the concepts and tells you when to use each section. The Casebook supplies business evidence and gives you professional pages to complete as portfolio artifacts. It does not replace the article or reveal the intended answers.

Section	Casebook pages	What it contains	Primary deliverable
Project 2: Data Classification	3-11	Handling standard, customer/project context, three mapped-site exhibits, record context, two-page review worksheet.	Atlas Data Classification Review
Project 3: Least Privilege	12-16	Contractor requirement, approved QA-view scope, access-review matrix, database access change record.	Access Review + Change Record
Project 4: Database Incident Response	17-23	Incident notification, evidence inventory, audit limitations, timeline, recovery worksheet, two-page incident report.	Atlas Database Incident Report

Use the Casebook in this order

Read the article first. It establishes the role, objective, and technical workflow before you open the evidence packet.	Use only the supplied evidence. The fictional cases are closed-world exercises unless the article explicitly tells you otherwise.
Write decisions in the worksheets. The templates are deliberately screenshot-friendly so your finished analysis can become portfolio evidence.	Do not treat color as the answer. Where classification colors appear, the written label and rationale still carry the meaning.

All names, organizations, locations, accounts, credentials, financial records, and incidents are synthetic training data.

ROLE SIMULATION PROJECT

Project 2 Case File - Atlas Data Classification Review

Avenloch Intelligence | IT & Security

Your role You are supporting Avenloch's IT & Security function as it formalizes how information in Atlas Operations should be handled.	Business situation Atlas contains customer, project, location, financial, personnel, and access-control information. Avenloch has adopted a four-level handling standard and needs representative records reviewed.
Your assignment Use the Atlas database and this case file to classify representative information, explain the business reason for each decision, and recommend appropriate handling.	Deliverable Create an Atlas Data Classification Review. For each item, record the data or record, classification, reason, and recommended handling.
Evidence boundary. Treat the Atlas database and this case file as the full evidence set. You do not need outside research. If a fact is necessary to distinguish how an item should be handled, the relevant business fact is stated in the database or in an exhibit.	
What is being assessed. Apply the handling standard to known facts. This is not a mystery exercise: you are not expected to infer hidden customer intentions, discover secret context, or guess whether a location is public.	

PROJECT 2 CASE EVIDENCE

Exhibit 1 - Avenloch Data Handling Standard

Use the classification name as the decision. Color is a secondary visual cue only and is never the sole indicator of a handling level.

PUBLIC Approved for public distribution. Published project summaries, publicly released facility information, approved public deliverables.	INTERNAL Routine nonpublic business information where unauthorized disclosure would have limited impact. Routine schedules, ordinary status information, internal operational notes.
CONFIDENTIAL Information whose unauthorized disclosure could reasonably harm Avenloch or a customer. Nonpublic customer information, commercial terms, unreleased project details, financial records.	RESTRICTED Information requiring tightly limited access because misuse or disclosure could create significant operational, security, or customer impact. Security/access information, credentials, exact nonpublic operating locations, information limited to a small project team.
Decision rule. Classify what the information represents in its business context, not merely the field type. The same kind of field can receive a different classification when the underlying business circumstances change.	
Color use. These colors make the four policy levels easy to recognize. They do not appear on the case evidence as answer hints. A completed learner deliverable may use both the classification name and its color.	

PROJECT 2 CASE EVIDENCE

Exhibit 2 - Customer & Project Roster

This page establishes the owner and purpose of each engagement. It does not classify the data for you.

Customer	Industry	Project ID	Project	Known purpose
HelioSpan Energy	Renewable energy	PRJ-1041	Sable Ridge Solar Baseline	Existing operating-facility baseline.
HelioSpan Energy	Renewable energy	PRJ-1047	Sable Ridge Expansion Feasibility	Future expansion feasibility work.
Forgepoint Materials	Industrial materials	PRJ-1052	Talus Yard Thermal Survey	Thermal survey of a private operating yard.
Verdant Mesa Agriculture	Commercial agriculture	PRJ-1060	Orin Valley Crop Health Monitoring	Seasonal crop-health monitoring.
Rookline Logistics	Logistics / development	PRJ-1064	Bellweather Distribution Site Assessment	Proposed distribution-facility site assessment.
Pelagos Environmental	Environmental consulting	PRJ-1071	Aster Island Coastal Change Survey	Coastal-change monitoring and field operations.

PROJECT 2 CASE EVIDENCE

Exhibit 3 - Arid Highlands

Use the mapped site, business description, and Relevant Atlas data together with the database. No classification is assigned in this exhibit.



SITE-201 | Sable Ridge Solar Field

HelioSpan Energy operates this solar facility. Avenloch is capturing a baseline of current site conditions for future comparison. The facility name and exact facility location represented by the Atlas site coordinates are public; Avenloch's collection schedule and analytical work are not public releases.

Relevant Atlas data

- **Location:** sites.site_name; sites.latitude / sites.longitude
- **Project:** PRJ-1041
- **Work records:** SITE-201 missions; baseline datasets / findings

SITE-202 | Sable Ridge Expansion Parcel

HelioSpan Energy is evaluating this parcel for a future solar expansion. Avenloch is supporting feasibility work with aerial collection and site analysis. The parcel, expansion project, and planned collection activity have not been publicly announced.

Relevant Atlas data

- **Location:** sites.latitude / sites.longitude
- **Project:** PRJ-1047
- **Work records:** SITE-202 missions

SITE-203 | Talus Operations Yard

Forgepoint Materials uses this private yard for equipment staging. Avenloch is conducting a thermal survey around operating equipment. The exact yard location, collection schedule, and survey details are limited to the assigned engagement team.

Relevant Atlas data

- **Location:** sites.latitude / sites.longitude; sites.location_notes
- **Project:** PRJ-1052
- **Work records:** SITE-203 missions; thermal datasets

PROJECT 2 CASE EVIDENCE

Exhibit 4 - Agricultural Valley

Use the mapped site, business description, and Relevant Atlas data together with the database. No classification is assigned in this exhibit.



SITE-204 | Orin Valley North Block

Verdant Mesa Agriculture uses this established growing area for routine production. Avenloch provides recurring crop-health monitoring. The site location is routine nonpublic operating information. Collection schedules and crop-health analysis are internal project work.

Relevant Atlas data

- **Location:** sites.site_name; sites.latitude / sites.longitude
- **Project:** PRJ-1060
- **Work records:** SITE-204 missions; crop datasets / findings

SITE-205 | South Terrace Block

Verdant Mesa Agriculture recently added this block to the same monitoring program. Avenloch is establishing a baseline for future collection cycles. The location is not specially restricted, but mission schedules and analytical results remain internal project records.

Relevant Atlas data

- **Location:** sites.site_name / site_status; sites.latitude / longitude
- **Project:** PRJ-1060
- **Work records:** MIS-310; later SITE-205 missions / findings

SITE-206 | Bellweather Distribution Parcel

Rookline Logistics is evaluating this property for a future distribution facility. Avenloch is supporting site selection with aerial collection and land-use analysis. The parcel and planned Avenloch work have not been publicly announced.

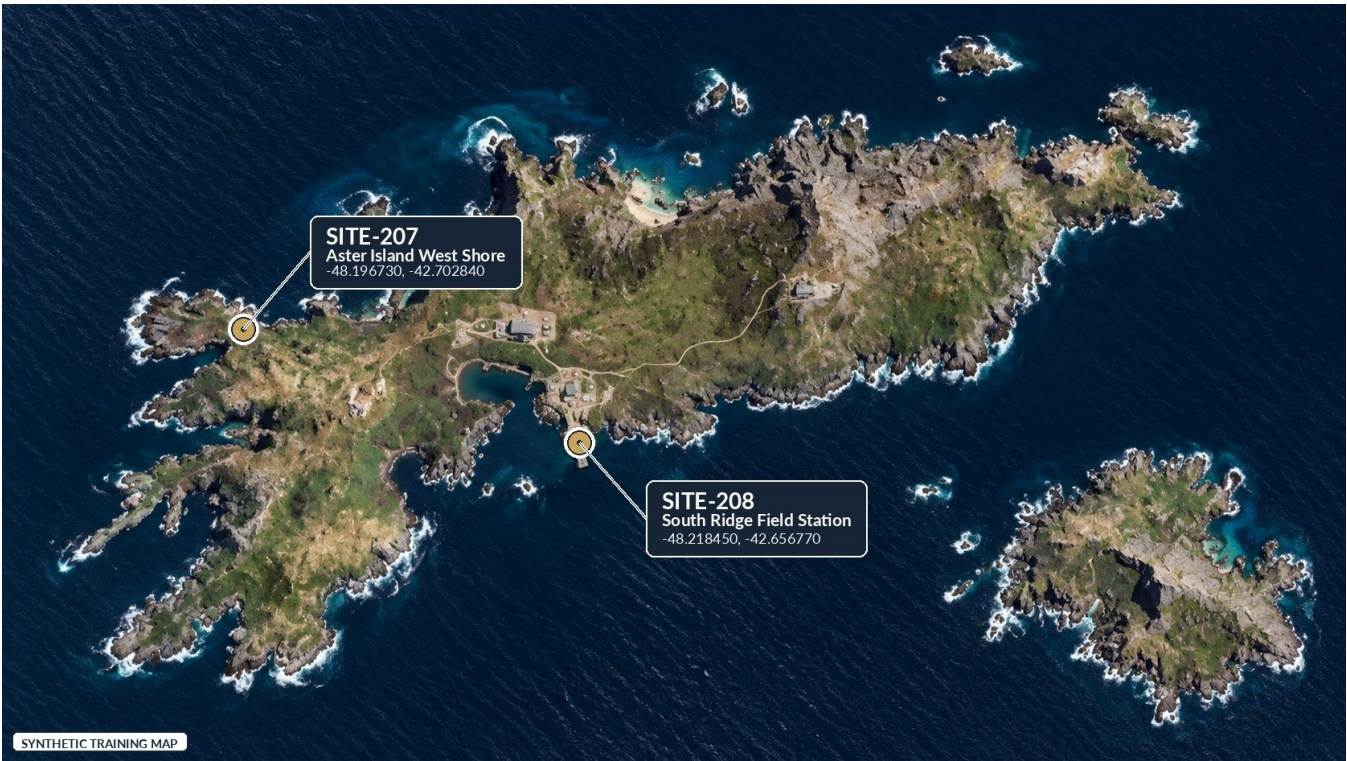
Relevant Atlas data

- **Location:** sites.latitude / sites.longitude
- **Project:** PRJ-1064
- **Work records:** SITE-206 missions

PROJECT 2 CASE EVIDENCE

Exhibit 5 - Aster Island

Use the mapped site, business description, and Relevant Atlas data together with the database. No classification is assigned in this exhibit.



SITE-207 | Aster Island West Shore

Pelagos Environmental uses Avenloch imagery to monitor coastal change along the west shore. Pelagos has publicly acknowledged the project at a high level, but exact operating coordinates, mission schedules, working datasets, and findings are not part of that public description.

Relevant Atlas data

- **Location:** sites.latitude / sites.longitude
- **Project:** PRJ-1071
- **Work records:** SITE-207 missions; coastal datasets / findings

SITE-208 | South Ridge Field Station

Pelagos Environmental uses this temporary station for equipment storage, launches, and team access. Avenloch uses the location to coordinate field collection. The exact access point, field instructions, and launch schedule are limited to the assigned project team.

Relevant Atlas data

- **Location:** sites.latitude / sites.longitude; sites.location_notes
- **Project:** PRJ-1071
- **Work records:** SITE-208 missions

PROJECT 2 CASE EVIDENCE

Exhibit 6 - Other Atlas Record Context

These records are not tied to one mapped site. The field names show exactly where the corresponding information appears in Atlas.

Record type	Relevant Atlas data	Business context
Customer contacts	customer_contacts.first_name / last_name / business_email / business_phone / contact_role	Used for project coordination. Avenloch does not publish its customer contact list.
Project status	projects.project_status / start_date / target_delivery_date	Used to coordinate active work. Active project operations are normally internal.
Findings	findings.finding_summary / priority / review_status	Analyst observations that can influence maintenance, development, or reporting before a deliverable is approved.
Invoices	invoices.invoice_amount / issued_date / due_date / invoice_status	Commercial billing records used by Avenloch Finance and the customer's billing contact.
Payment references	payments.payment_reference / payment_status	Used to reconcile payments. They do not contain card numbers, bank routing numbers, or credentials.
Employee directory	employees.first_name / last_name / department / job_title / employment_status	Operational personnel information used by Atlas workflows, not a public staff directory.
Atlas application accounts	atlas_users.username / account_type / atlas_role / account_status	Used to identify and authorize an Atlas application account. Avenloch treats these identity, role, and status fields as security/access information. Passwords are not stored in the training table.
MySQL grants / access	Direct MySQL privileges; inspect with SHOW GRANTS	Used by IT & Security to control direct database access and permitted actions.

PORTFOLIO WORKSHEET

Project 2 Deliverable - Atlas Data Classification Review

Complete one decision for each assigned record. Classify only the fields named in the worksheet.

Analyst: _____	Review date: _____	Review: 1 of 2
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PUBLIC	INTERNAL	CONFIDENTIAL	RESTRICTED
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Use the written classification name in every row. Color may reinforce the decision, but should not replace the text label.

Record / data	Relevant Atlas fields	Classification	Decision rationale	Recommended handling
1. SITE-201 Site name + coordinates	sites.site_name sites.latitude sites.longitude	Level	Why this level?	How should it be handled?
2. SITE-202 Site name + coordinates	sites.site_name sites.latitude sites.longitude	Level	Why this level?	How should it be handled?
3. SITE-203 Location record	sites.site_name sites.latitude sites.longitude sites.location_notes	Level	Why this level?	How should it be handled?
4. SITE-204 Site name + coordinates	sites.site_name sites.latitude sites.longitude	Level	Why this level?	How should it be handled?
5. CONT-102 Customer contact	customer_contacts.first_name / last_name business_email / business_phone contact_role	Level	Why this level?	How should it be handled?

PORTFOLIO WORKSHEET

Atlas Data Classification Review

Continue the same review. Tie each rationale to the business facts in the case file, not to the field name alone.

Analyst: _____	Review date: _____	Review: 2 of 2
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PUBLIC	INTERNAL	CONFIDENTIAL	RESTRICTED
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Evidence boundary: the Project 2 Atlas database and case file are the complete evidence set. No outside research is required.

Record / data	Relevant Atlas fields	Classification	Decision rationale	Recommended handling
6. PRJ-1060 Status + schedule	projects.project_status projects.start_date projects.target_delivery_date	Level	Why this level?	How should it be handled?
7. FND-504 Finding	findings.finding_summary findings.priority findings.review_status	Level	Why this level?	How should it be handled?
8. INV-603 Invoice	invoices.invoice_amount invoices.invoice_status	Level	Why this level?	How should it be handled?
9. EMP-004 Employee directory	employees.first_name / last_name employees.department employees.job_title employees.employment_status	Level	Why this level?	How should it be handled?
10. AUSR-008 Atlas account	atlas_users.username atlas_users.account_type atlas_users.atlas_role atlas_users.account_status	Level	Why this level?	How should it be handled?

ROLE SIMULATION PROJECT

Project 3 Case File - Contractor Database Access Review

Avenloch Intelligence | IT & Security

Your role You are supporting Avenloch's IT & Security function and have been assigned a review of direct MySQL access used by an external project contractor.	Business situation Tomas Ibarra has a legitimate need for direct, read-only QA access to selected Atlas data for one active project. His MySQL account has been flagged for a privilege review.
Your assignment Establish the approved access requirement, inspect the current grants on the direct MySQL account, remove unnecessary access, preserve the approved QA capability, and validate the result.	Deliverable Complete the Access Review Matrix and Database Access Change Record. Preserve before/after grant evidence and the results of your allowed/denied validation tests.
Evidence boundary. Use the Project 3 Atlas database and this case-file section as the business evidence. The current MySQL grants are evidence you must retrieve from the server; they are intentionally not printed here.	
Success condition. The contractor must retain the approved QA capability. A remediation that simply disables or removes the account does not satisfy the business requirement.	

Case flow: confirm assignment -> inspect current grants -> compare with approved access -> remediate -> prove allowed and denied behavior -> document the change.

PROJECT 3 CASE EVIDENCE

Exhibit 1 - Contractor & Approved Access Requirement

The business requirement is already approved. Your task is to make the MySQL authorization match it.

Contractor record CTR-001 Tomas Ibarra Company: Ibarra Imaging Services Engagement: Aug 25 - Oct 15, 2026 Status: ACTIVE Assigned project: PRJ-1071 Aster Island Coastal Change Survey - Atlas application identity: AUSR-008 / tibarra - Direct MySQL account under review: 'tibarra_ext'@'localhost'	Assigned QA work Tomas is supporting imagery and analysis quality assurance for PRJ-1071. He needs to review collection status, processed dataset status, finding summaries, priority, and review status so he can identify items that require follow-up before delivery. - He does not approve billing or payments. - He does not maintain customer records. - He does not edit Atlas findings or project records.
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Approved direct-database access

REQUIRED	NOT APPROVED
- Read-only access - Object: atlas_ops.vw_aster_project_qa - Purpose: PRJ-1071 QA review - Direct MySQL account may remain active for the engagement	- Direct access to Atlas base tables - INSERT, UPDATE, or DELETE capability - Financial/payment data - Unrelated customer or project data
Important distinction. AUSR-008 / tibarra is the Atlas application identity. 'tibarra_ext'@'localhost' is the separate direct MySQL account being remediated. Changing one does not automatically change the other.	

PROJECT 3 CASE EVIDENCE

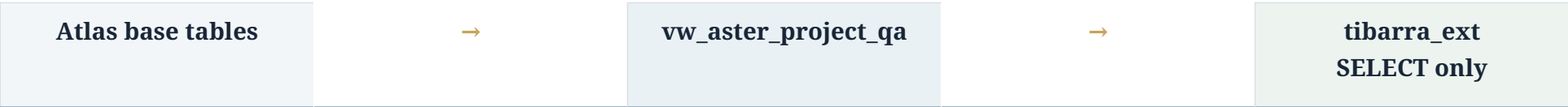
Exhibit 2 - Approved QA View

The view is already built and approved. Do not redesign it; use it as the access boundary.

Approved object. atlas_ops.vw_aster_project_qa is a read-focused view limited to PRJ-1071. It exposes selected QA fields without giving the contractor direct access to the underlying Atlas tables.

Project	Site	Mission	Dataset	Finding
project_id project_name	site_id site_name	mission_id mission_date collection_type mission_status	dataset_id dataset_type processing_status	finding_id finding_type finding_summary priority review_status

Access model



Why a view works here. The contractor's job needs a narrow slice of QA information, not general database access. Granting SELECT on the approved view lets the business preserve that capability while removing direct privileges on unrelated tables and write operations.

Validation examples: the QA view should remain readable; payment data and direct base-table writes are outside the approved scope.

PORTFOLIO WORKSHEET

Project 3 Deliverable - Access Review Matrix

Record the observed before state, the required after state, and the validation evidence for each representative action.

Analyst: _____	Review date: _____	Account: tibarra_ext@localhost
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Use grant output and behavior tests as evidence. Do not infer the before state from the case file; retrieve it from MySQL.

Resource / action	Business requirement	Observed before	Implemented after	Validation evidence
SELECT vw_aster_project_qa	REQUIRED	What did MySQL allow?	What is the final access?	Query / error / grant evidence
SELECT payments	NOT APPROVED	What did MySQL allow?	What is the final access?	Query / error / grant evidence
UPDATE findings	NOT APPROVED	What did MySQL allow?	What is the final access?	Query / error / grant evidence
UPDATE customers	NOT APPROVED	What did MySQL allow?	What is the final access?	Query / error / grant evidence
Database-wide base-table access	NOT APPROVED	What did MySQL allow?	What is the final access?	Query / error / grant evidence

PORTFOLIO WORKSHEET

Project 3 Deliverable - Database Access Change Record

Summarize the access problem, the authorization change, and the evidence that the final state still supports the approved work.

Account reviewed	'tibarra_ext'@'localhost'
Contractor / assignment	CTR-001 Tomas Ibarra PRJ-1071 Aster Island Coastal Change Survey
Reason for review	<i>Document the observed evidence and decision.</i>
Excessive access identified	<i>Document the observed evidence and decision.</i>
Approved access requirement	<i>Document the observed evidence and decision.</i>
Privilege change implemented	<i>Document the observed evidence and decision.</i>
Before-state evidence	<i>Document the observed evidence and decision.</i>
After-state evidence	<i>Document the observed evidence and decision.</i>
Allowed validation result	<i>Document the observed evidence and decision.</i>
Denied validation result(s)	<i>Document the observed evidence and decision.</i>
Reviewer notes / residual risk	<i>Document the observed evidence and decision.</i>

ROLE SIMULATION PROJECT

Project 4 Case File - Atlas Database Integrity Incident

Avenloch Intelligence | IT & Security

Your role You are supporting Avenloch IT & Security during an integrity incident affecting the Atlas Operations database.	Initial report Finance found an invoice marked PAID with no corresponding payment record. Operations separately reported that a field-station location in Atlas no longer matches the approved field record.
Your assignment Preserve the incident state, determine whether the discrepancies are related, identify affected records and account evidence, contain inappropriate access, recover known-good data, validate the result, and report what the evidence supports.	Deliverable Complete the Incident Timeline, Affected Records & Recovery Worksheet, and Atlas Database Incident Report. Preserve supporting SQL output and the hash of your incident-state dump.
Known-good reference. Avenloch's pre-incident logical reference was captured on September 10, 2026 at 18:00 UTC. The supplied atlas_preincident schema represents that known-good state.	
Do not remediate first. Preserve the incident-state database and record its SHA-256 before making corrective changes.	

Case flow: preserve -> scope -> correlate -> assess -> contain -> recover -> validate -> report.

PROJECT 4 CASE EVIDENCE

Exhibit 1 - Evidence Inventory & Business Notes

These sources establish the investigation boundary. The affected-record list is not supplied; you must derive it from the database evidence.

Incident-state schema atlas_ops Current database state received for investigation. Contains the supplied db_change_audit history and active audit triggers. • Preserve before recovery. • Treat values as potentially altered until corroborated.	Known-good reference atlas_preincident Logical reference representing the September 10, 2026 18:00 UTC backup state. • Use for record comparison. • Do not modify the reference during the investigation.
Finance reconciliation note September 11, 2026 08:05 UTC Finance reports that one PRJ-1071 invoice is displayed as PAID in Atlas. Finance has no matching payment record for that invoice and did not authorize a paid-status change.	Operations field note September 11, 2026 08:12 UTC Operations reports that the South Ridge Field Station location in Atlas no longer matches the approved field-dispatch record. No relocation of the field station was approved.
Analysis note. The Aster Island coastal deliverable remains in review. The Senior Geospatial Analyst reports no approved request to alter the substance or review disposition of the project's findings after the known-good reference time.	

PROJECT 4 CASE EVIDENCE

Exhibit 2 - Database Audit Source & Interpretation Limits

Use the audit trail as evidence, but do not claim more than the source can establish.

Supplied audit source. db_change_audit is a training table populated by preconfigured MySQL triggers for selected UPDATE activity. It is not a complete server-wide audit log.		
Audit fields event_timestamp mysql_account action_type object_table record_id event_summary	Monitored changes site coordinates finding summary / priority / review status invoice status	Not established by this source human identity behind the keyboard motive credential theft malware all SQL statements on the server

How to state account attribution

Supported conclusion The authenticated MySQL client account recorded in mysql_account performed the audited database change.	Unsupported conclusion The named person associated with that account personally performed the change, or acted with a particular motive.
Time standard. Treat event timestamps in this case as UTC. Keep the timeline in UTC rather than converting some entries and not others.	

PORTFOLIO WORKSHEET

Project 4 Deliverable - Incident Timeline

Record the events that materially contribute to your incident narrative. Include normal/context events only when they help explain the sequence.

Analyst: _____	Incident date: 2026-09-11	Time standard: UTC
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Use database evidence and case-file notes. Separate what the source says from your interpretation.

UTC time	Source	Account / actor evidence	Event	Why it matters
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence
Record evidence	Record evidence	Record evidence	Record evidence	Record evidence

PORTFOLIO WORKSHEET

Project 4 Deliverable - Affected Records & Recovery

Use the audit to identify records, then compare incident values with the known-good reference before deciding what to restore.

Table	Record ID	Incident value(s)	Known-good value(s)	Impact / significance	Recovery & validation
Document comparison	Document comparison	Document comparison	Document comparison	Document comparison	Document comparison
Document comparison	Document comparison	Document comparison	Document comparison	Document comparison	Document comparison
Document comparison	Document comparison	Document comparison	Document comparison	Document comparison	Document comparison
Document comparison	Document comparison	Document comparison	Document comparison	Document comparison	Document comparison

Recovery rule. Restore only fields/records supported by the evidence. Do not overwrite the entire incident database with the older reference schema.

PORTFOLIO WORKSHEET

Project 4 Deliverable - Atlas Database Incident Report

Part 1 of 2 | State what happened, what was affected, and what the evidence does and does not establish.

Executive summary	Document the evidence and conclusion.
Incident scope	Document the evidence and conclusion.
Key evidence reviewed	Document the evidence and conclusion.
Account evidence	Document the evidence and conclusion.
Attribution limitation	Document the evidence and conclusion.
Operational impact	Document the evidence and conclusion.
Analytical / customer-deliverable impact	Document the evidence and conclusion.
Financial impact	Document the evidence and conclusion.

PORTFOLIO WORKSHEET

Atlas Database Incident Report

Part 2 of 2 | Document containment, recovery, validation, and the actions Avenloch should take next.

Containment action	Document the evidence and conclusion.
Access-control finding	Document the evidence and conclusion.
Recovery performed	Document the evidence and conclusion.
Validation performed	Document the evidence and conclusion.
Preserved evidence / SHA-256	Document the evidence and conclusion.
Residual uncertainty	Document the evidence and conclusion.
Recommended next steps	Document the evidence and conclusion.

Reporting standard. Use precise language. Distinguish observed facts, supported conclusions, and unanswered questions. Do not infer a human actor or motive from a database account alone.