Process Mining Training Course: Event Logs, Bottlenecks and Improvement Decisions for Leaders

22 – 26 November 2026
Muscat

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Programme Summary

Process mining is the subject of this one-week training course for operations, excellence and transformation leaders, ending in a process mining use case and value plan for one process. Many organisations improve work from interviews and workshop maps that show how a process should run, not how it does. The programme moves from reading an event log to process discovery, conformance checking and bottleneck analysis, then to choosing use cases and tracking value. Mars Training Centre UK delivers this programme on process mining to mixed-organisation cohorts.

The Business Case

Banks, hospitals, manufacturers and public agencies run processes that cross many teams and systems, so delay and rework are hard to see from any one desk. Event data held in operational systems records what actually happened. Leaders who can judge what this data shows, and what it cannot, direct improvement effort to the steps that matter.

- Cycle Time: Shortens when delays are traced to specific steps and hand-offs.
- Rework Cost: Falls when repeated loops are measured and their causes removed.
- Improvement Credibility: Rises when changes are tracked against the same event data.

Principles and Evidence Base

- IEEE Std 1849 XES: Defines the interchange format for event logs, applied in Sessions 1 and 2 to log structure and data readiness.
- Conformance checking: Compares observed behaviour with a reference model, applied in Session 3 to deviations and rework.
- DMAIC: Structures improvement from definition to control, applied in Sessions 4 and 5 to link findings to action.
- ISO 9001 process approach: Treats work as managed, interrelated processes, applied in Session 4 to ownership of change.

Intended Participants

- Operational excellence leaders who must find where a process loses time and quality.
- Transformation leaders who must choose where to apply process mining first.
- Process owners who must act on findings across several teams.
- Data and systems managers who supply event logs and answer for their quality.

Typical settings include banking, healthcare, manufacturing and public services.

Learning Outcomes

1. Participants will be able to evaluate whether an event log is complete and reliable enough for analysis.
2. Participants will be able to diagnose where a process departs from its intended flow.
3. Participants will be able to prioritise bottlenecks and rework loops by effect on cycle time and cost.
4. Participants will be able to construct a ranked list of process mining use cases.
5. Participants will be able to design safeguards for personal data held in event logs.
6. Participants will be able to justify a process mining use case and value plan to a sponsor.

Programme Structure

Day 1: Process Mining and the Event Log

What does an event log record, and what can process mining show from it?

- Case, Activity and Timestamp Model
- Event Log Anatomy Sheet
- Process Discovery Map
- Variant Frequency Table
- Intended Versus Actual Flow Comparison

Day 2: Data Readiness and Responsible Use

Is the data sound, and may it be used for this purpose?

- Log Extraction Checklist
- Timestamp Quality Test
- IEEE Std 1849 Field Mapping
- Personal Data Minimisation Rules
- Access and Retention Note

Day 3: Finding Deviations, Delays and Rework

Where does work depart from the model, wait or loop back?

- Conformance Checking Report
- Waiting Time Heat Map
- Bottleneck Ranking Sheet
- Rework Loop Counter
- Root Cause Hypothesis Log

Day 4: Choosing Use Cases and Acting on Findings

Which processes justify the effort, and who must change what?

- Use Case Scoring Matrix
- Process Owner Responsibility Map
- DMAIC Improvement Charter
- Value Tracking Scorecard
- Change Risk Register

Day 5: Process Mining Use Case and Value Plan for One Process

Do the earlier tools combine into a plan a sponsor can approve?

- Applying the Session 2 Timestamp Quality Test
- Testing the Session 3 Bottleneck Ranking Sheet
- Checking the Session 4 Use Case Scoring Matrix
- Rehearsing the Sponsor Challenge Session
- Completing the Process Mining Use Case and Value Plan

Methodology

The programme uses a data workshop built on prepared event logs for two processes, one a loan application process in a bank and one a patient referral process in a hospital network. Participants read discovered process maps, challenge each other's readings of the data and defend their ranked use cases before peers acting as a sponsor.

- Suggested activity: Comparing a workshop-drawn map with the discovered map and listing the differences.
- Suggested activity: Ranking three bottlenecks by effect on cycle time and justifying the order.
- Suggested activity: Redacting a log so that analysis remains possible without exposing individuals.

Capstone Output

Each participant completes a process mining use case and value plan for one process. It holds a data readiness note, a conformance and bottleneck summary, a scored use case list, a safeguard sheet for personal data and a value tracking scorecard. At work it is used to brief a sponsor, to agree data access with system owners and to decide which improvement to start first.

Frequently Asked Questions

Is a training course on process mining suitable for leaders who do not analyse data themselves?

Yes. Process mining is taught through prepared logs and templates. The programme assumes responsibility for process performance or improvement, but no programming skills or earlier work with event data.

Which standards and models does process mining rest on?

Process mining rests on IEEE Std 1849 for event log format, conformance checking for comparing behaviour with a model, DMAIC for improvement and the ISO 9001 process approach for ownership.

How is the plan from process mining used at work?

You use the process mining use case and value plan to brief a sponsor, agree data access with system owners, and choose which improvement to start first and how to track it.

How does process mining differ from a programme on process modelling?

Process mining builds process maps from recorded event data and measures delay and deviation, while a modelling programme concentrates on drawing intended processes by agreement among those who run them.