



IBM TechXchange 2026

Connect. Learn. Build. Innovate.

Atlanta, USA | October 26–29, 2026



QUARKUS

Building Enterprise-Grade Agentic AI Systems with IBM Quarkus and Bob



Secure
by Design



Scalable
by Default

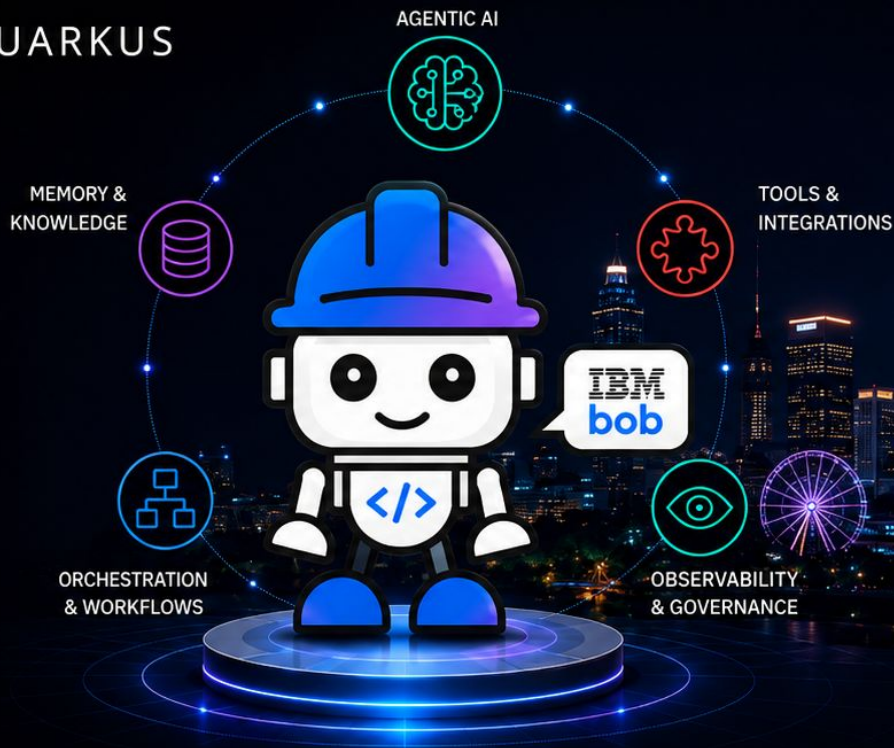


Optimized
for Performance



AI Native.
Business Ready.

DEVELOP • DEPLOY • SCALE • AUTOMATE



Hands-on
Labs



Expert
Sessions



Real-world
Solutions



Community &
Networking



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The problem: Apex Systems NOC

Manual triage is failing



P1 outage misclassified
as P3 → **4+ hours**,
\$150k lost



Payment incident routed
to wrong team →
20 engineer-hours wasted



No audit trail →
compliance gap



Too many tickets. Too little context. Too much at stake.
It's time to move from manual to intelligent.





Why agents, not chatbots

From answering to acting

CHATBOT

Answering questions



What's the status of incident INC-1032?



One LLM call



Stateless



No side effects

VS.

AGENT

Taking action, getting things done



Resolve payment incident for user 5678



Understand



Search



Analyze



Execute



Ticketing System



User DB



Payment Gateway



Notify User



Verify



Report



Multi-step chain with reasoning



Tool calls & integrations



Mutates state & creates side effects



Shares context across the workflow



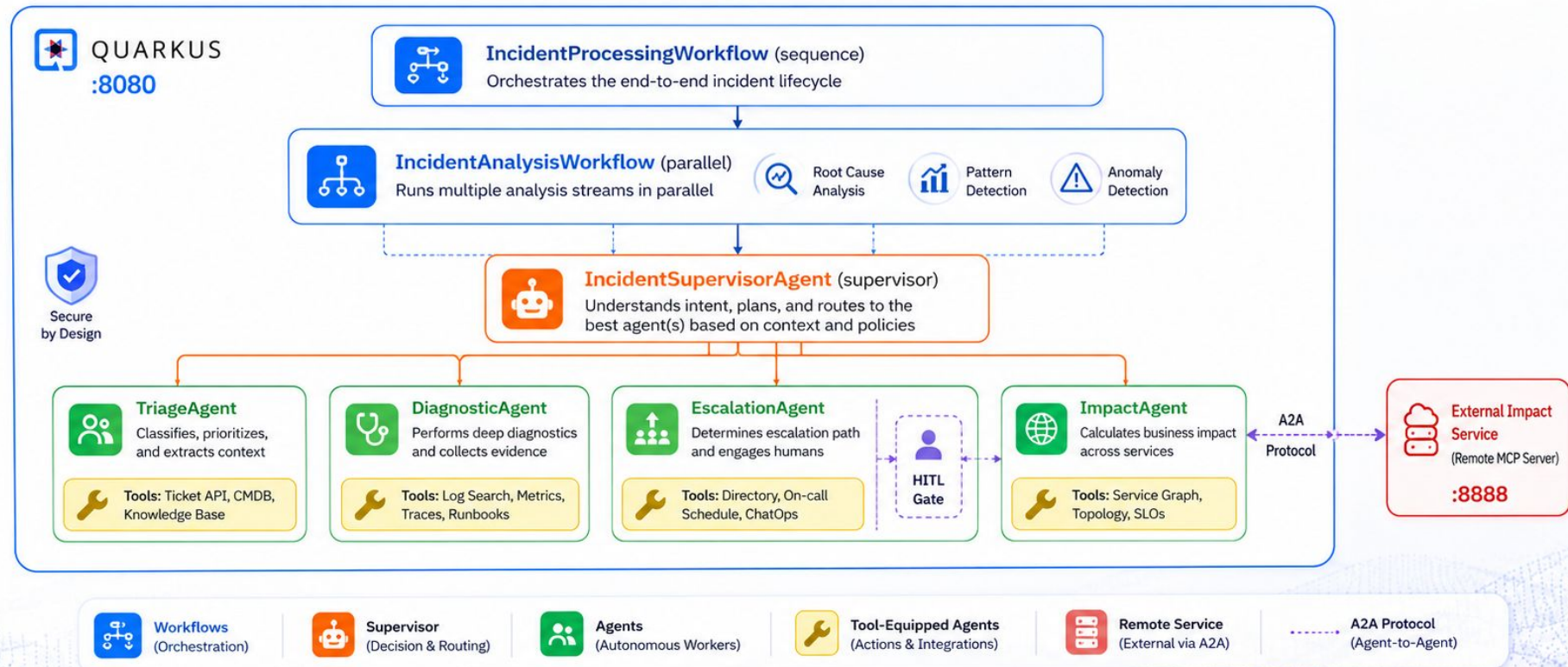
Agents don't just answer.

They understand, decide, and act—across systems.



The architecture you'll build

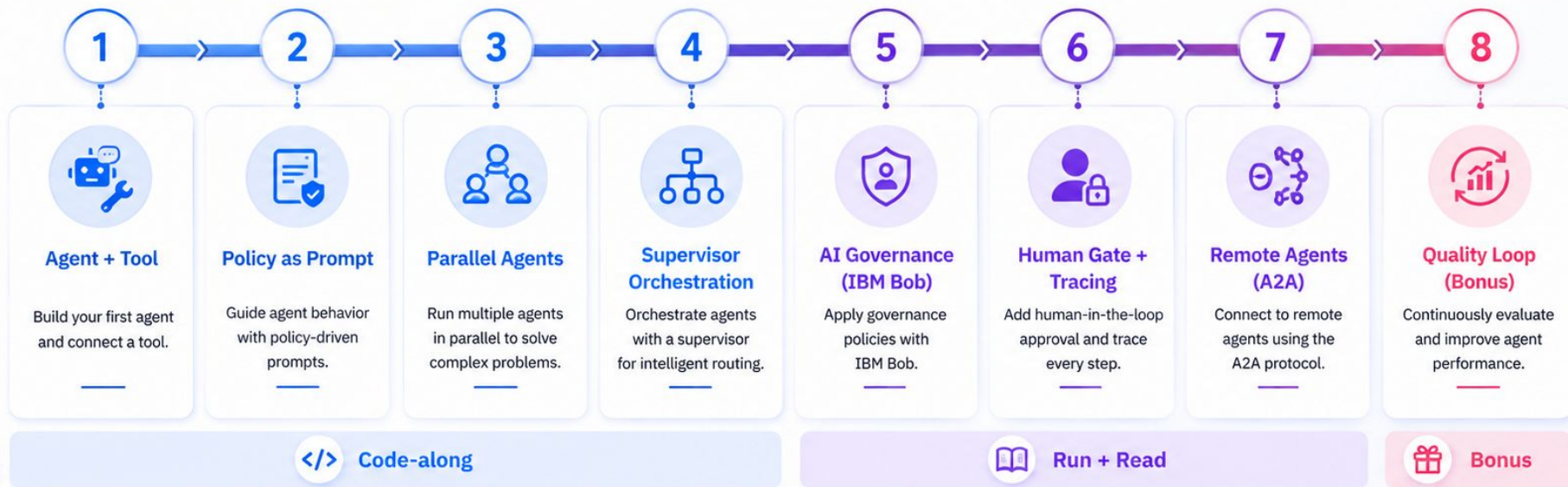
Multi-agent incident management platform





The learning path

8 exercises, 8 capabilities



Build. Run. Understand. Extend.

A progressive journey from building agents to governing and scaling them in the real world.



Outcome:

A production-ready, multi-agent incident management platform.



The IBM stack

Enterprise-grade **from day one**



A cohesive, opinionated stack—built for **real-world enterprise agent systems**.



Patterns cheat sheet

One annotation **per** pattern

1 @Agent + @ToolBox

Single specialist



```
@Agent
@ToolBox( tools = {
    TicketTools.class,
    LookupTools.class
})
class TriageAgent {}
```

2 @SystemMessage

Policy as prompt



```
@SystemMessage(
    ""You are a NOC agent.
    Follow the policy strictly.
    Escalate when unsure.""
)
class PolicyAwareAgent {}
```

3 @SequenceAgent

Step-by-step pipeline



```
@SequenceAgent(
    steps = {
        AnalyzeStep.class,
        DiagnoseStep.class,
        RecommendStep.class,
        ResolveStep.class
    }
)
class IncidentPipeline {}
```

4 @ParallelMapperAgent

Concurrent work



```
@ParallelMapperAgent(
    task = "Analyze incident"
)
class ParallelAnalysisAgent {}
```

5 @SupervisorAgent

Adaptive multi-agent



```
@SupervisorAgent(
    agents = {
        TriageAgent.class,
        DiagnosticAgent.class,
        ImpactAgent.class,
        EscalationAgent.class
    }
)
class IncidentSupervisor {}
```

6 @HumanInTheLoop

Human approval gate



```
@HumanInTheLoop(
    approvalRequired = true,
    timeout = "15m"
)
class EscalationAgent {}
```

7 @A2AClientAgent

Remote agent delegation



```
@A2AClientAgent(
    endpoint = "http://impact-svc:8888",
    protocol = "A2A"
)
class ImpactAgent {}
```

8 AgenticServices.loopBuilder()

Programmatic quality loop



```
AgenticServices.loopBuilder()
    .withEvaluator(qualityEvaluator)
    .withMaxIterations(5)
    .withStopConditions(goalReached)
    .build();
```



Declarative. Composable. Production-ready.

These patterns power the platform you'll build.



What you'll walk away with

After this lab, **you can...**

01



Declare agents
with build-time validation

02



Compose sequence, parallel,
and supervisor workflows

03



Use @SupervisorAgent
for adaptive AI routing

04



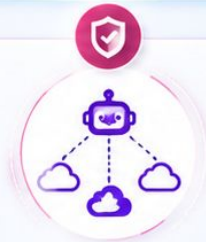
Author AGENTS.md
for IBM Bob governance

05



Add human-in-the-loop gates
with OTEL tracing

06



Distribute agents
across services with A2A



Hands-on. Production-minded. Enterprise-ready.

You'll leave with skills you can use the very next day.

Let's start!

Scan → Clone → Code

1

 Lab Guide 



 <https://ibm.biz/lab-1219>

2

 Clone & Run

```
bash
$ git clone \
  https://github.com/danieloh30/
  techxchange-2026-quarkus-bob-lab.git
$ cd techxchange-2026-quarkus-
  bob-lab/lab
$ ./mvnw quarkus:dev
```

3

 Dashboard Preview

Incident Command Center

8 seeded incidents

ICC				
Overview				
Incidents				
Analytics				
Agents				
Traces				
Settings				
Recent Incidents (8)				
ID	Title	Severity	Status	Created
INC-1001	Payment Gateway Timeout	P1	NEW	10:02 AM
INC-1002	Checkout Failures	P1	ACK	10:07 AM
INC-1003	Auth Service Errors	P2	NEW	10:12 AM
INC-1004	Database High Latency	P2	IN PROGRESS	10:15 AM
INC-1005	Search Service Degradation	P3	NEW	10:18 AM
INC-1006	CPU Usage High (Node-12)	P3	ACK	10:21 AM
INC-1007	Log Ingestion Delay	P2	NEW	10:23 AM
INC-1008	Cache Hit Ratio Low	P3	NEW	10:25 AM



Open **Exercise 1** when you see the dashboard