# **API Endpoints Documentation**

This document provides detailed information about all available API endpoints for the AI Agent Supervisor Workstation challenge.

## **Base URL**

All endpoints are relative to: http://localhost:8080

## **Authentication**

No authentication is required for this challenge. In a production environment, these endpoints would be secured with appropriate authentication.

## **Conversations**

### **Get All Conversations**

Retrieves a paginated list of conversations with optional filtering.

**Endpoint:** GET /api/conversations

**Query Parameters:**

* page (integer, optional): Page number, defaults to 1
* limit (integer, optional): Number of results per page, defaults to 10
* status (string, optional): Filter by status (active, waiting, resolved, escalated)
* alertLevel (string, optional): Filter by alert level (low, medium, high)
* agentId (string, optional): Filter by agent ID

**Response:**

{

"data": [

{

"id": "conv-2023-10",

"customer": {

"id": "cust-5672",

"name": "Alex Johnson"

},

"agent": {

"id": "agent-cs-1",

"name": "Customer Service Agent"

},

"status": "active",

"alertLevel": "high",

"startTime": "2023-10-10T14:30:00Z",

"metrics": {

"sentiment": 0.2,

"responseTime": 15.3,

"confidenceScore": 0.65

},

"messages": [...],

"tags": ["shipping", "delay", "urgent"]

},

// More conversations...

],

"pagination": {

"total": 45,

"page": 1,

"pages": 5,

"limit": 10

}

}

### **Get Specific Conversation**

Retrieves a single conversation by ID.

**Endpoint:** GET /api/conversations/:id

**Path Parameters:**

* id (string, required): Conversation ID

**Response:**

{

"id": "conv-2023-10",

"customer": {

"id": "cust-5672",

"name": "Alex Johnson"

},

"agent": {

"id": "agent-cs-1",

"name": "Customer Service Agent"

},

"status": "active",

"alertLevel": "high",

"startTime": "2023-10-10T14:30:00Z",

"metrics": {

"sentiment": 0.2,

"responseTime": 15.3,

"confidenceScore": 0.65

},

"messages": [

{

"sender": "customer",

"text": "I ordered a package 5 days ago and it still hasn't arrived.",

"timestamp": "2023-10-10T14:30:00Z"

},

// More messages...

],

"tags": ["shipping", "delay", "urgent"],

"humanIntervention": {

"occurred": false

}

}

### **Add Message to Conversation**

Adds a new message to an existing conversation.

**Endpoint:** POST /api/conversations/:id/messages

**Path Parameters:**

* id (string, required): Conversation ID

**Request Body:**

{

"sender": "supervisor",

"text": "I'll help you resolve this issue with your shipment."

}

**Response:**

{

"sender": "supervisor",

"text": "I'll help you resolve this issue with your shipment.",

"timestamp": "2023-10-10T15:45:32Z"

}

### **Update Conversation Status**

Updates the status of a conversation.

**Endpoint:** PATCH /api/conversations/:id/status

**Path Parameters:**

* id (string, required): Conversation ID

**Request Body:**

{

"status": "resolved"

}

**Response:**

{

"message": "Status updated",

"status": "resolved"

}

### **Add Tags to Conversation**

Adds one or more tags to a conversation.

**Endpoint:** POST /api/conversations/:id/tags

**Path Parameters:**

* id (string, required): Conversation ID

**Request Body:**

{

"tags": ["priority", "refund-requested"]

}

**Response:**

{

"message": "Tags added",

"tags": ["shipping", "delay", "urgent", "priority", "refund-requested"]

}

## **Agents**

### **Get All Agents**

Retrieves all AI agents in the system.

**Endpoint:** GET /api/agents

**Response:**

[

{

"id": "agent-cs-1",

"name": "Customer Service Agent",

"model": "gpt-3.5-turbo",

"description": "General customer service agent for handling inquiries",

"parameters": {

"temperature": 0.7,

"max\_tokens": 150,

"top\_p": 1.0

},

"capabilities": [

{ "id": "order\_lookup", "name": "Order Lookup", "enabled": true },

{ "id": "return\_processing", "name": "Return Processing", "enabled": true }

],

"knowledgeBases": [

{ "id": "kb-cs-general", "name": "Customer Service Guidelines", "enabled": true },

{ "id": "kb-product-catalog", "name": "Product Catalog", "enabled": true }

],

"status": "active",

"metrics": {

"conversations": 2456,

"avgResponseTime": 12.7,

"satisfaction": 0.86,

"escalationRate": 0.16

}

},

// More agents...

]

### **Get Specific Agent**

Retrieves a single agent by ID.

**Endpoint:** GET /api/agents/:id

**Path Parameters:**

* id (string, required): Agent ID

**Response:**

{

"id": "agent-cs-1",

"name": "Customer Service Agent",

"model": "gpt-3.5-turbo",

"description": "General customer service agent for handling inquiries",

"parameters": {

"temperature": 0.7,

"max\_tokens": 150,

"top\_p": 1.0

},

"capabilities": [

{ "id": "order\_lookup", "name": "Order Lookup", "enabled": true },

{ "id": "return\_processing", "name": "Return Processing", "enabled": true }

],

"knowledgeBases": [

{ "id": "kb-cs-general", "name": "Customer Service Guidelines", "enabled": true },

{ "id": "kb-product-catalog", "name": "Product Catalog", "enabled": true }

],

"escalationThresholds": {

"lowConfidence": 0.4,

"negativeSentiment": 0.3,

"responseTime": 20

},

"status": "active",

"metrics": {

"conversations": 2456,

"avgResponseTime": 12.7,

"satisfaction": 0.86,

"escalationRate": 0.16

}

}

### **Update Agent Configuration**

Updates an agent's configuration settings.

**Endpoint:** PATCH /api/agents/:id/config

**Path Parameters:**

* id (string, required): Agent ID

**Request Body:**

{

"parameters": {

"temperature": 0.5,

"max\_tokens": 200

},

"capabilities": [

{ "id": "order\_lookup", "enabled": true },

{ "id": "return\_processing", "enabled": false }

],

"knowledgeBases": [

{ "id": "kb-cs-general", "enabled": true },

{ "id": "kb-product-catalog", "enabled": false }

],

"escalationThresholds": {

"lowConfidence": 0.5,

"negativeSentiment": 0.25

}

}

**Response:**

{

"message": "Agent configuration updated",

"agent": {

"id": "agent-cs-1",

"name": "Customer Service Agent",

"parameters": {

"temperature": 0.5,

"max\_tokens": 200,

"top\_p": 1.0

},

// Other agent properties...

}

}

### **Get Agent Performance Metrics**

Retrieves performance metrics for a specific agent.

**Endpoint:** GET /api/agents/:id/metrics

**Path Parameters:**

* id (string, required): Agent ID

**Response:**

{

"conversations": 2456,

"avgResponseTime": 12.7,

"satisfaction": 0.86,

"escalationRate": 0.16,

"topIssues": [

{ "name": "Shipping Delays", "count": 587 },

{ "name": "Order Status", "count": 423 },

{ "name": "Payment Issues", "count": 312 }

]

}

## **Intervention**

### **Intervene in Conversation**

Records a supervisor taking over a conversation from an AI agent.

**Endpoint:** POST /api/intervene

**Request Body:**

{

"conversationId": "conv-2023-10",

"supervisorId": "supervisor-001",

"notes": "Customer upset about delayed package, needs special handling"

}

**Response:**

{

"message": "Intervention recorded",

"intervention": {

"occurred": true,

"supervisorId": "supervisor-001",

"timestamp": "2023-10-10T15:45:32Z",

"notes": "Customer upset about delayed package, needs special handling"

}

}

### **Release Intervention**

Ends supervisor intervention and returns control to the AI agent.

**Endpoint:** POST /api/intervene/release

**Request Body:**

{

"conversationId": "conv-2023-10",

"supervisorNotes": "Provided customer with expedited shipping option and $10 credit"

}

**Response:**

{

"message": "Intervention released, control returned to agent"

}

## **Knowledge Base**

### **Get All Knowledge Bases**

Retrieves all available knowledge bases.

**Endpoint:** GET /api/knowledge-base

**Response:**

[

{

"id": "kb-cs-general",

"name": "Customer Service Guidelines",

"description": "General customer service policies and procedures",

"documentCount": 45,

"lastUpdated": "2023-09-15T14:30:00Z"

},

{

"id": "kb-product-catalog",

"name": "Product Catalog",

"description": "Complete product listings with details and pricing",

"documentCount": 1243,

"lastUpdated": "2023-10-01T09:15:00Z"

},

// More knowledge bases...

]

## **Response Templates (Twist Requirement)**

### **Get All Templates**

Retrieves all response templates available to the user.

**Endpoint:** GET /api/templates

**Query Parameters:**

* shared (boolean, optional): Filter by shared status

**Response:**

[

{

"id": "template-001",

"name": "Shipping Delay Apology",

"category": "shipping",

"content": "I apologize for the delay with your order #{{order\_number}}. We're experiencing some delays in our shipping department, but your package is expected to arrive by {{expected\_date}}. As a courtesy for the inconvenience, I've added a $10 credit to your account.",

"variables": [

{ "name": "order\_number", "description": "Customer's order number" },

{ "name": "expected\_date", "description": "Expected delivery date" }

],

"createdBy": "supervisor-001",

"isShared": true,

"createdAt": "2023-10-05T14:30:00Z",

"updatedAt": "2023-10-05T14:30:00Z"

},

// More templates...

]

### **Create Template**

Creates a new response template.

**Endpoint:** POST /api/templates

**Request Body:**

{

"name": "Return Process Instructions",

"category": "returns",

"content": "To return your {{product\_name}}, please follow these steps:\n1. Print the return label from your order history\n2. Pack the item in its original packaging if possible\n3. Attach the return label to the outside of the package\n4. Drop off at any {{carrier\_name}} location\n\nYou should receive your refund within {{refund\_days}} business days after we receive the return.",

"variables": [

{ "name": "product\_name", "description": "Name of the product being returned" },

{ "name": "carrier\_name", "description": "Shipping carrier name" },

{ "name": "refund\_days", "description": "Number of days for refund processing" }

],

"isShared": false

}

**Response:**

{

"id": "template-002",

"name": "Return Process Instructions",

"category": "returns",

"content": "To return your {{product\_name}}, please follow these steps:\n1. Print the return label from your order history\n2. Pack the item in its original packaging if possible\n3. Attach the return label to the outside of the package\n4. Drop off at any {{carrier\_name}} location\n\nYou should receive your refund within {{refund\_days}} business days after we receive the return.",

"variables": [

{ "name": "product\_name", "description": "Name of the product being returned" },

{ "name": "carrier\_name", "description": "Shipping carrier name" },

{ "name": "refund\_days", "description": "Number of days for refund processing" }

],

"createdBy": "supervisor-001",

"isShared": false,

"createdAt": "2023-10-10T16:45:00Z",

"updatedAt": "2023-10-10T16:45:00Z"

}

### **Get Template**

Retrieves a single template by ID.

**Endpoint:** GET /api/templates/:id

**Path Parameters:**

* id (string, required): Template ID

**Response:**

{

"id": "template-001",

"name": "Shipping Delay Apology",

"category": "shipping",

"content": "I apologize for the delay with your order #{{order\_number}}. We're experiencing some delays in our shipping department, but your package is expected to arrive by {{expected\_date}}. As a courtesy for the inconvenience, I've added a $10 credit to your account.",

"variables": [

{ "name": "order\_number", "description": "Customer's order number" },

{ "name": "expected\_date", "description": "Expected delivery date" }

],

"createdBy": "supervisor-001",

"isShared": true,

"createdAt": "2023-10-05T14:30:00Z",

"updatedAt": "2023-10-05T14:30:00Z"

}

### **Update Template**

Updates an existing template.

**Endpoint:** PATCH /api/templates/:id

**Path Parameters:**

* id (string, required): Template ID

**Request Body:**

{

"name": "Shipping Delay Apology - Updated",

"content": "I apologize for the delay with your order #{{order\_number}}. We're experiencing some delays in our shipping department, but your package is expected to arrive by {{expected\_date}}. As a courtesy for the inconvenience, I've added a $15 credit to your account.",

"isShared": true

}

**Response:**

{

"id": "template-001",

"name": "Shipping Delay Apology - Updated",

"category": "shipping",

"content": "I apologize for the delay with your order #{{order\_number}}. We're experiencing some delays in our shipping department, but your package is expected to arrive by {{expected\_date}}. As a courtesy for the inconvenience, I've added a $15 credit to your account.",

"variables": [

{ "name": "order\_number", "description": "Customer's order number" },

{ "name": "expected\_date", "description": "Expected delivery date" }

],

"createdBy": "supervisor-001",

"isShared": true,

"updatedAt": "2023-10-10T17:30:00Z"

}

### **Delete Template**

Deletes a template.

**Endpoint:** DELETE /api/templates/:id

**Path Parameters:**

* id (string, required): Template ID

**Response:**

{

"message": "Template deleted successfully"

}

## **WebSocket API**

### **Connection**

**Endpoint:** ws://localhost:8080

### **Message Types**

#### **Client to Server:**

**Subscribe to Updates:**

{

"type": "subscribe",

"channel": "conversations",

"parameters": {

"agentId": "agent-cs-1"

},

"timestamp": "2023-10-10T14:30:00Z"

}

**Send Pong Response:**

{

"type": "pong",

"timestamp": "2023-10-10T14:30:05Z"

}

#### **Server to Client:**

**Initial Connection:**

{

"type": "connection",

"message": "Connected to Agent Supervisor WebSocket server",

"timestamp": "2023-10-10T14:30:00Z"

}

**Ping Message:**

{

"type": "ping",

"timestamp": "2023-10-10T14:30:00Z"

}

**Subscription Confirmation:**

{

"type": "subscription\_confirmation",

"channel": "conversations",

"message": "Subscribed to conversations",

"timestamp": "2023-10-10T14:30:01Z"

}

**Conversations Update:**

{

"type": "conversations\_update",

"data": [

{

"id": "conv-2023-10",

"customer": {

"id": "cust-5672",

"name": "Alex Johnson"

},

"agent": {

"id": "agent-cs-1",

"name": "Customer Service Agent"

},

"status": "active",

"alertLevel": "high",

"startTime": "2023-10-10T14:30:00Z",

"metrics": {

"sentiment": 0.2,

"responseTime": 15.3,

"confidenceScore": 0.65

}

},

// More conversations...

],

"timestamp": "2023-10-10T14:30:02Z"

}

**New Conversation:**

{

"type": "new\_conversation",

"data": {

"id": "conv-2023-15",

"customer": {

"id": "cust-6891",

"name": "Sarah Williams"

},

"agent": {

"id": "agent-cs-2",

"name": "Product Specialist Agent"

},

"status": "active",

"alertLevel": "low",

"startTime": "2023-10-10T14:35:00Z",

"metrics": {

"sentiment": 0.8,

"responseTime": 10.2,

"confidenceScore": 0.92

}

},

"timestamp": "2023-10-10T14:35:00Z"

}

**Message Update:**

{

"type": "message\_update",

"conversationId": "conv-2023-10",

"message": {

"sender": "customer",

"text": "When will my package arrive? It's been 5 days already!",

"timestamp": "2023-10-10T14:36:00Z"

},

"timestamp": "2023-10-10T14:36:00Z"

}

**Metrics Update:**

{

"type": "metrics\_update",

"conversationId": "conv-2023-10",

"metrics": {

"sentiment": 0.15,

"responseTime": 16.1,

"confidenceScore": 0.60

},

"timestamp": "2023-10-10T14:37:00Z"

}

## **Analytics**

### **Get Overview Analytics**

Retrieves overview analytics data for the dashboard.

**Endpoint:** GET /api/analytics/overview

**Query Parameters:**

* timeRange (string, optional): Time range (today, week, month, year)

**Response:**

{

"activeConversations": 42,

"avgResponseTime": 12.7,

"avgSentiment": 0.75,

"escalationRate": 0.15,

"trends": {

"conversations": [

{ "date": "2023-10-01", "count": 1245 },

{ "date": "2023-10-02", "count": 1187 },

{ "date": "2023-10-03", "count": 1302 }

],

"responseTime": [

{ "date": "2023-10-01", "value": 12.3 },

{ "date": "2023-10-02", "value": 11.9 },

{ "date": "2023-10-03", "value": 13.1 }

],

"sentiment": [

{ "date": "2023-10-01", "value": 0.87 },

{ "date": "2023-10-02", "value": 0.89 },

{ "date": "2023-10-03", "value": 0.86 }

],

"escalations": [

{ "date": "2023-10-01", "value": 0.15 },

{ "date": "2023-10-02", "value": 0.12 },

{ "date": "2023-10-03", "value": 0.16 }

]

}

}

### **Get Agent Analytics**

Retrieves analytics data specific to agents.

**Endpoint:** GET /api/analytics/agents

**Query Parameters:**

* timeRange (string, optional): Time range (today, week, month, year)
* agentId (string, optional): Filter by specific agent

**Response:**

{

"agents": [

{

"id": "agent-cs-1",

"name": "Customer Service Agent",

"conversations": 2456,

"avgResponseTime": 12.7,

"satisfaction": 0.86,

"escalationRate": 0.16,

"topIssues": [

{ "name": "Shipping Delays", "count": 587 },

{ "name": "Order Status", "count": 423 },

{ "name": "Payment Issues", "count": 312 }

]

},

// More agents...

],

"trends": {

"conversations": [

{ "date": "2023-10-01", "agent-cs-1": 245, "agent-cs-2": 187, "agent-cs-3": 156 },

{ "date": "2023-10-02", "agent-cs-1": 253, "agent-cs-2": 201, "agent-cs-3": 142 },

{ "date": "2023-10-03", "agent-cs-1": 267, "agent-cs-2": 193, "agent-cs-3": 167 }

],

"responseTime": [

{ "date": "2023-10-01", "agent-cs-1": 12.3, "agent-cs-2": 14.2, "agent-cs-3": 11.5 },

{ "date": "2023-10-02", "agent-cs-1": 11.9, "agent-cs-2": 13.8, "agent-cs-3": 11.2 },

{ "date": "2023-10-03", "agent-cs-1": 13.1, "agent-cs-2": 14.5, "agent-cs-3": 11.8 }

]

}

}

### **Get Issue Analytics**

Retrieves analytics about common issues and categories.

**Endpoint:** GET /api/analytics/issues

**Query Parameters:**

* timeRange (string, optional): Time range (today, week, month, year)

**Response:**

{

"topIssues": [

{ "name": "Shipping Delays", "count": 587, "percentage": 24.5 },

{ "name": "Order Status", "count": 423, "percentage": 17.6 },

{ "name": "Payment Issues", "count": 312, "percentage": 13.0 },

{ "name": "Return Requests", "count": 276, "percentage": 11.5 },

{ "name": "Product Information", "count": 245, "percentage": 10.2 }

],

"categories": {

"shipping": {

"count": 825,

"percentage": 34.4,

"issues": [

{ "name": "Shipping Delays", "count": 587 },

{ "name": "Tracking Problems", "count": 156 },

{ "name": "Carrier Issues", "count": 82 }

]

},

"orders": {

"count": 543,

"percentage": 22.6,

"issues": [

{ "name": "Order Status", "count": 423 },

{ "name": "Order Modification", "count": 120 }

]

},

// More categories...

},

"trends": {

"issues": [

{

"date": "2023-10-01",

"Shipping Delays": 187,

"Order Status": 145,

"Payment Issues": 98

},

{

"date": "2023-10-02",

"Shipping Delays": 192,

"Order Status": 132,

"Payment Issues": 105

},

{

"date": "2023-10-03",

"Shipping Delays": 208,

"Order Status": 146,

"Payment Issues": 109

}

]

}

}

## **Mock LLM API**

A simplified API to simulate LLM responses during the challenge.

### **Generate Response**

Generates an AI response based on conversation context.

**Endpoint:** POST /api/llm/generate

**Request Body:**

{

"conversationId": "conv-2023-10",

"messages": [

{

"role": "customer",

"content": "I ordered a package 5 days ago and it still hasn't arrived."

},

{

"role": "agent",

"content": "I understand your concern about your package. Could you please provide your order number?"

},

{

"role": "customer",

"content": "Order #ORD-29384-KJH. I need this package by tomorrow for my daughter's birthday."

}

],

"parameters": {

"temperature": 0.7,

"max\_tokens": 150

},

"capabilities": ["order\_lookup", "shipping\_calculator"],

"knowledgeBases": ["kb-cs-general", "kb-shipping-policy"]

}

**Response:**

{

"response": "I've looked up your order #ORD-29384-KJH. I can see that your package is currently in transit, but it appears there was a slight delay at our distribution center. According to the shipping estimate, it should be delivered by tomorrow afternoon. I understand this is for your daughter's birthday, so I've flagged this as a priority shipment to ensure it arrives on time. Is there anything else I can help you with regarding this order?",

"metrics": {

"responseTime": 1.2,

"confidenceScore": 0.85,

"sentiment": null

}

}

### **Analyze Sentiment**

Analyzes the sentiment of customer messages.

**Endpoint:** POST /api/llm/sentiment

**Request Body:**

{

"text": "I ordered a package 5 days ago and it still hasn't arrived. This is unacceptable service!"

}

**Response:**

{

"sentiment": 0.2,

"analysis": {

"emotion": "frustrated",

"intensity": "high",

"keywords": ["unacceptable", "5 days"]

}

}

## **Vector Database API**

A simplified API to access the vector database for knowledge retrieval.

### **Search Knowledge**

Searches the knowledge base for relevant information.

**Endpoint:** POST /api/vector/search

**Request Body:**

{

"query": "What is the policy for shipping delays?",

"knowledgeBases": ["kb-shipping-policy", "kb-cs-general"],

"limit": 3

}

**Response:**

{

"results": [

{

"text": "For delays exceeding 3 business days beyond the original estimate: Offer 10% refund on shipping costs and provide expedited shipping on next order.",

"source": "Customer Service Guidelines",

"section": "Issue Handling Protocols > Shipping and Delivery Issues > Delayed Shipments",

"relevance": 0.92

},

{

"text": "Shipping Carrier Status Lookup is integrated with Order Management System to provide real-time tracking information.",

"source": "Customer Service Guidelines",

"section": "Tools and Resources > Reference Materials",

"relevance": 0.78

},

{

"text": "For shipping delays affecting gift deliveries during holiday season (November 15 - January 15), agents are authorized to offer additional compensation flexibility.",

"source": "Customer Service Guidelines",

"section": "Special Circumstances > Seasonal Adjustments",

"relevance": 0.75

}

]

}

### **Get Knowledge Base Content**

Retrieves the full content of a specific knowledge base.

**Endpoint:** GET /api/vector/kb/:id

**Path Parameters:**

* id (string, required): Knowledge base ID

**Response:**

{

"id": "kb-shipping-policy",

"name": "Shipping Policy",

"content": "# Shipping Policy\n\n## Standard Shipping Times\n\n- Domestic (US): 3-5 business days\n- International: 7-14 business days\n\n## Expedited Options\n\n- Two-Day Shipping: Order by 2pm for delivery within 2 business days\n- Next-Day Shipping: Order by 12pm for delivery next business day\n\n## Shipping Delays\n\nIn case of shipping delays, customers will be notified via email. For delays exceeding 3 business days, customers are eligible for a shipping refund.\n\n..."

}