**Complete implementation guide with production-ready code available**

**6 weeks Implementation time**

**80% Time saved on manual queries**

**24/7 Automated monitoring**

**Implementation Roadmap**

**Phase 1: Setup (Week 1)**

* Create Azure Bot Service resource
* Register bot in Azure AD
* Set up Azure OpenAI service
* Configure Teams app manifest
* Create Azure Function for Oracle connectivity

**Phase 2: Core Development (Week 2-3)**

* Build bot conversation logic
* Implement Azure OpenAI integration
* Create Oracle R12 query functions
* Develop ServiceNow API connector
* Build natural language understanding

**Phase 3: Features (Week 4)**

* Add adaptive cards for rich responses
* Implement workflow action commands
* Create scheduled monitoring alerts
* Build error analysis engine
* Add user authentication

**Phase 4: Testing & Deployment (Week 5-6)**

* Unit and integration testing
* User acceptance testing
* Deploy to Teams
* Train users
* Monitor and optimize

**Prerequisites**

* • Azure subscription with Bot Service and OpenAI enabled
* • Oracle R12 database read access (workflow tables)
* • ServiceNow instance with API credentials
* • Microsoft Teams admin rights for bot deployment
* • Azure AD app registration permissions

**Key Code Components**

**1. Azure Bot Framework (Python)**

Main bot logic with Azure OpenAI integration

from botbuilder.core import ActivityHandler, TurnContext

from openai import AzureOpenAI

import requests

**2. Azure Function (Oracle Connector)**

Queries Oracle R12 workflow tables

import azure.functions as func

import cx\_Oracle

import json

**3. ServiceNow Integration**

Auto-create incidents for workflow errors

def create\_servicenow\_incident(workflow\_data):

# ServiceNow REST API call

# Auto-populate from workflow error details

**4. Key Oracle Queries**

Essential workflow administration queries

-- Failed workflows

SELECT \* FROM wf\_item\_activity\_statuses

WHERE activity\_status = 'ERROR'

AND end\_date > SYSDATE - 1;

**Deliverables**

* ✓ Complete Python bot code with Azure OpenAI
* ✓ Azure Function for Oracle connectivity
* ✓ ServiceNow API integration module
* ✓ Teams app manifest and deployment guide
* ✓ SQL query library for common workflows
* ✓ Adaptive card templates for rich UI
* ✓ Configuration files and documentation

**Chatbot Capabilities**

**Workflow Monitoring**

* *"Show me all failed workflows today"*
* *"What workflows are stuck in approval?"*
* *"List pending notifications for user JSMITH"*
* *"Show workflow errors in last 24 hours"*

**Troubleshooting**

* *"Why is PO #12345 stuck?"*
* *"Analyze error for workflow item 54321"*
* *"What's causing POAPPRV failures?"*
* *"Show me the approval chain for requisition #98765"*

**Actions**

* *"Retry failed workflows for POAPPRV"*
* *"Create ServiceNow ticket for workflow error"*
* *"Restart stuck notification #45678"*
* *"Purge completed workflows older than 90 days"*

**Analytics**

* *"What's the average approval time this week?"*
* *"Show top 5 workflow bottlenecks"*
* *"Generate workflow health report"*
* *"Which approvers have pending items?"*

**AI-Powered Features**

* **•Natural Language Understanding:** Ask questions in plain English
* **•Context Awareness:** Bot remembers conversation history
* **•Intelligent Error Analysis:** AI diagnoses workflow issues
* **•Predictive Alerts:** Proactive notifications for potential failures
* **•Auto-Resolution:** Fixes common issues automatically

**Solution Architecture**

**Microsoft Teams Bot**

User interface for workflow queries

**Azure Bot Service**

Bot framework and orchestration

**Azure OpenAI (GPT-4)**

Natural language understanding & response generation

**Azure Function**

Oracle R12 database connector

**ServiceNow API**

Incident management integration

**Data Flow**

**1.**User sends query in Microsoft Teams

**2.**Azure Bot Service receives message

**3.**Azure OpenAI processes natural language query

**4.**Azure Function queries Oracle R12 database

**5.**Results processed and formatted by AI

**6.**Response sent back to Teams with adaptive cards

**7.**If needed, create ServiceNow incident automatically