# 📚 Digital Twin SOC Dashboard - Team Documentation

## 🌐 **Dashboard Access**

### **Live Dashboard URL:**

https://ghifiardi.github.io/digital\_twin\_SOC\_sowcase/Digital-Twin-SOC-Showcase.html

### **System Requirements:**

* **Modern Web Browser**: Chrome, Firefox, Safari, Edge
* **Internet Connection**: Required for initial load
* **Device**: Desktop, tablet, or mobile phone
* **No Installation**: Works directly in browser

## 🎯 **What is the Digital Twin SOC Dashboard?**

The Digital Twin AI Driven SOC Dashboard is an interactive cybersecurity simulation that demonstrates:

* **AI-Powered Threat Detection**: How artificial intelligence identifies cyber attacks
* **Automated Response**: How systems automatically contain and remediate threats
* **Network Security**: Real-time visualization of network infrastructure
* **Performance Metrics**: Key security operation center (SOC) statistics

## 🚀 **Quick Start Guide**

### **Step 1: Access the Dashboard**

1. **Open the URL** in your web browser
2. **Wait 10-15 seconds** for full page load
3. **Dashboard will appear** with network topology and AI agents

### **Step 2: Choose Demo Mode**

* **👆 Manual Mode**: Step-by-step control (recommended for presentations)
* **🔄 Auto Mode**: Continuous simulation (good for background display)

### **Step 3: Explore Features**

* **Click network nodes** for detailed information
* **Switch between AI agents** (ADA/TAA/CRA)
* **Follow the demo steps** (1-8)

## 🎪 **Dashboard Features**

### **1. Network Infrastructure**

**Location**: Top-left section

**What You’ll See:** - **6 Network Nodes**: Firewall, Web Server, Database, User PC, Admin PC, API Gateway - **Real IP Addresses**: 10.0.0.1, 10.0.1.10, 10.0.2.10, etc. - **User Personas**: Sarah Chen (Marketing), Mike Rodriguez (IT Admin) - **Status Indicators**: - 🟢 Green = Active/Healthy - 🟡 Yellow = Under Attack - 🔴 Red = Compromised - 🟣 Purple = Isolated

**How to Use:** - **Click any node** to see detailed information - **Hover over nodes** for quick status - **Watch color changes** during attack simulations

### **2. AI Reasoning Engine**

**Location**: Middle-right section

**What You’ll See:** - **Current Agent**: Shows which AI agent is active - **Reasoning Steps**: Real-time AI decision process - **Agent Cards**: Click to switch between ADA/TAA/CRA

**AI Agents:** - **ADA (Adaptive Defense Agent)**: Real-time threat detection - **TAA (Threat Analysis Agent)**: Attack pattern analysis - **CRA (Compliance Agent)**: Regulatory compliance validation

**How to Use:** - **Click agent cards** to see different reasoning - **Read reasoning steps** to understand AI decisions - **Watch real-time updates** during simulations

### **3. Attack Scenarios**

**Location**: Bottom-left section

**What You’ll See:** - **Active Attacks**: Current threat scenarios - **Severity Levels**: HIGH, CRITICAL, MEDIUM - **Target Information**: Which systems are under attack - **MITRE Techniques**: Industry-standard attack methods

**Current Scenario:** - **Phishing Attack**: Targeting Sarah Chen (Marketing) - **Technique**: T1566 - Phishing - **Target**: User PC (10.0.3.100)

### **4. Automated Responses**

**Location**: Bottom-middle section

**What You’ll See:** - **Response Actions**: Automated security measures - **Status Indicators**: IN\_PROGRESS, COMPLETED - **Target Systems**: Which nodes are being protected - **Real-time Updates**: Actions executing in sequence

**Response Actions:** - **🔒 Endpoint Isolation**: Disconnect compromised systems - **🛡️ Firewall Blocking**: Block malicious IP addresses - **🔑 Credential Revocation**: Disable compromised accounts - **📊 Forensic Collection**: Gather evidence for analysis

### **5. Performance Metrics**

**Location**: Top-right section

**What You’ll See:** - **Mean Time to Response**: 8.3 minutes (73% faster than traditional SOC) - **False Positives**: 9.2% (79% reduction from baseline) - **Threats Blocked**: 1,247 today (99.2% success rate) - **Compliance Score**: 95.8%

### **6. Live Activity Log**

**Location**: Bottom-right section

**What You’ll See:** - **Real-time Events**: System activities and responses - **Timestamps**: When events occurred - **Event Types**: THREAT, RESPONSE, SYSTEM - **Detailed Information**: Specific actions and targets

## 🎮 **Demo Modes**

### **Manual Mode (Recommended for Presentations)**

**How to Use:** 1. **Click “👆 Manual”** button 2. **Follow the 8-step demo flow**: - Step 1: Welcome - Step 2: Network Overview - Step 3: AI Agents - Step 4: Threat Detection - Step 5: AI Analysis - Step 6: Automated Response - Step 7: Performance Metrics - Step 8: Demo Complete

**Controls:** - **⏭️ Next Step**: Advance to next demo phase - **⏮️ Previous Step**: Go back to previous phase - **⚡ Trigger Attack**: Simulate cyber attack - **🛡️ Show Response**: Execute automated responses - **🔄 Reset**: Start demo over

### **Auto Mode (Background Display)**

**How to Use:** 1. **Click “🔄 Auto”** button 2. **Dashboard runs continuously** with random events 3. **Perfect for** lobby displays or background demos

## 📱 **Mobile Access**

### **Mobile Features:**

* **Responsive Design**: Adapts to phone/tablet screens
* **Touch Controls**: Tap nodes for information
* **Swipe Navigation**: Easy scrolling through sections
* **Full Functionality**: All features work on mobile

### **Mobile Demo Tips:**

* **Use landscape mode** for better viewing
* **Tap and hold** nodes for detailed information
* **Pinch to zoom** for closer inspection
* **Rotate device** for optimal layout

## 🎯 **Demo Scenarios**

### **Scenario 1: Executive Presentation**

**Duration**: 10-15 minutes **Audience**: C-level executives, board members

**Flow:** 1. **Start with Manual Mode** 2. **Explain Digital Twin concept** (Step 1-2) 3. **Show AI agents** (Step 3) 4. **Trigger attack** (Step 4-5) 5. **Demonstrate response** (Step 6) 6. **Highlight metrics** (Step 7) 7. **Conclude with benefits** (Step 8)

**Key Points:** - **Cost savings** through automation - **Faster response times** (73% improvement) - **Reduced false positives** (79% reduction) - **24/7 protection** with AI

### **Scenario 2: Team Training**

**Duration**: 20-30 minutes **Audience**: Security team, IT staff

**Flow:** 1. **Let team explore** freely for 5 minutes 2. **Guide through Manual Mode** step-by-step 3. **Explain each AI agent** in detail 4. **Show attack simulation** and response 5. **Discuss real-world applications** 6. **Q&A session**

**Key Points:** - **AI reasoning process** - **Network topology understanding** - **Response automation** - **Performance monitoring**

### **Scenario 3: Client Demo**

**Duration**: 15-20 minutes **Audience**: Potential clients, partners

**Flow:** 1. **Start with problem statement** 2. **Show current security challenges** 3. **Demonstrate Digital Twin solution** 4. **Highlight competitive advantages** 5. **Show ROI and benefits** 6. **Next steps discussion**

**Key Points:** - **Technology differentiation** - **Business value proposition** - **Implementation roadmap** - **Success metrics**

## 🔧 **Troubleshooting**

### **Common Issues**

#### **Dashboard Won’t Load**

**Symptoms**: Blank page, loading spinner **Solutions**: 1. **Wait 10-15 seconds** for full load 2. **Refresh the page** (Ctrl+F5 or Cmd+Shift+R) 3. **Clear browser cache** 4. **Try different browser** 5. **Check internet connection**

#### **Features Not Working**

**Symptoms**: Buttons don’t respond, no interactions **Solutions**: 1. **Ensure JavaScript is enabled** 2. **Disable browser extensions** temporarily 3. **Try incognito/private mode** 4. **Update browser** to latest version

#### **Mobile Issues**

**Symptoms**: Layout problems, touch not working **Solutions**: 1. **Use Chrome or Safari** on mobile 2. **Rotate to landscape** mode 3. **Zoom out** for full view 4. **Clear mobile browser cache**

#### **Slow Performance**

**Symptoms**: Laggy animations, delayed responses **Solutions**: 1. **Close other browser tabs** 2. **Restart browser** 3. **Check device memory** 4. **Use wired internet** connection

### **Browser Compatibility**

**Recommended Browsers**: - ✅ **Chrome** (latest version) - ✅ **Firefox** (latest version) - ✅ **Safari** (latest version) - ✅ **Edge** (latest version)

**Not Recommended**: - ❌ Internet Explorer - ❌ Very old browser versions

## 📞 **Support Contacts**

### **Technical Issues**

* **Dashboard Problems**: Check troubleshooting section above
* **Access Issues**: Verify URL and internet connection
* **Feature Questions**: Refer to this documentation

### **Demo Support**

* **Presentation Help**: Use Manual Mode with step-by-step flow
* **Training Materials**: This documentation serves as training guide
* **Custom Scenarios**: Modify demo flow based on audience needs

## 🎉 **Success Tips**

### **For Presenters**

1. **Practice the demo** before presenting
2. **Use Manual Mode** for controlled presentations
3. **Explain each step** clearly
4. **Engage audience** with questions
5. **Have backup plan** if technical issues occur

### **For Trainers**

1. **Let team explore** freely first
2. **Guide through features** systematically
3. **Encourage questions** and discussion
4. **Relate to real-world** scenarios
5. **Follow up** with practical applications

### **For Users**

1. **Start with Manual Mode** to learn features
2. **Click on everything** to explore
3. **Read the reasoning** to understand AI
4. **Watch the metrics** to see performance
5. **Try both modes** to understand differences

**🎯 Your team now has everything they need to successfully use and demonstrate the Digital Twin SOC Dashboard!**

**For additional support or questions, refer to this documentation or contact your technical lead.**