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| RAZDA Co. | | |
| **Filename: [api\_monitor.py]** | | |
| **Summary***:*  This script continuously monitors the status of integrated factory APIs to detect any interruptions or delays. If any issues are identified, it attempts retries through RetryManager, sends alerts via alert\_automation.py, and switches to a fallback API if configured. This approach ensures high reliability and rapid response to API downtime or performance degradation. | | |
| ***Processes*** | | |
| * **Check API Status** | **check\_api\_status retrieves the status of each API by verifying its response time and availability. It categorizes responses as operational, slow, or failed.** | |
| * **Handle API Failure** | **handle\_api\_failure initiates retries via RetryManager. If unsuccessful, it logs the failure and escalates the error by notifying admins and checking for fallback options.** | |
| * **Send Admin Alert** | **alert\_admin dispatches alerts based on the severity of the issue. Alerts are throttled within a set period (ALERT\_THRESHOLD) to prevent duplicate alerts.** | |
| * **Handle Fallback** | **If the primary API is down, handle\_fallback switches to a predefined fallback URL if available, ensuring minimal service disruption.** | |
| * **Monitor APIs Loop** | **monitor\_apis serves as the main loop that checks the status of each API in API\_CONFIG at regular intervals (HEALTH\_CHECK\_INTERVAL), invoking the appropriate handling functions based on status.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **Environment Variables**: Holds URLs for primary and fallback APIs and alert thresholds. | * **Alert System Logs**: Logs API status, retry attempts, and alerts sent to admins to api\_monitor.log. | |
| * **retry\_manager.py**: Handles retry logic for API failures, retry count, and backoff intervals. | * **Alert Modules**: Uses alert\_automation.py, performance\_alerts, and error\_alerts to send critical and performance-related alerts. | |
| * **alert\_automation.py**: Dispatches alerts to the admin dashboard, email, or SMS based on alert severity. | * **Admin Notifications**: Sends notifications to admins when persistent or critical API issues occur. | |
| **Expected input into file:** | | **Expected output from file:** |
| * **API Configuration**: Contains primary and fallback URLs, expected response times, and timeout values. * **Status Updates from APIs**: Real-time responses from factory APIs regarding operational status and response time. * **Retry Settings**: Max retries and backoff for retry attempts. | | * **API Status Logs**: Detailed logs in api\_monitor.log of API status checks, retries, alerts, and fallbacks. * **Admin Alerts**: Sends alerts when API downtime exceeds threshold or when retries and fallback attempts fail. * **Fallback Execution**: Attempts a fallback API call if the primary API fails, ensuring continued functionality. |
| **Things that need to be taking place:** | | |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | |  | | --- | | **- API Status Validation: Each API should be checked for response time, status, and fallback availability at regular intervals.** |  |  | | --- | | **- Error Handling and Logging: Comprehensive error logging for all API failures and retries, providing visibility for debugging.** |  |  | | --- | | **- Retry Logic: API failures should initiate retries with a defined max attempt limit (MAX\_RETRY\_ATTEMPTS), escalating if unsuccessful.** |  |  | | --- | | **- Fallback Usage: When primary APIs fail, the script must attempt calls to a designated fallback URL to maintain functionality.** |  |  | | --- | | **- Admin Alerts: Send immediate alerts for critical or recurring API failures, ensuring admins are informed of disruptions in real time.** | | | | |
| Edit log (update each time you make changes to doc or file). | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |