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| RAZDA Co. | | |
| **Filename: [data\_logging.py]** | | |
| **Summary***:*  This file manages comprehensive data logging for Razda Market, including logging events, errors, order statuses, API call results, performance metrics, and security events. It is designed to create robust log records for debugging, monitoring, and ensuring the security and reliability of the marketplace. The DataLogger class supports additional functionality, such as periodic log backups. | | |
| ***Processes*** | | |
| * **Event Logging** | **log\_event logs general events with an optional additional\_info parameter for added details. This provides a timestamped record of key application events.** | |
| * **Error Logging** | **log\_error records errors with optional additional context, helping to identify issues during debugging and troubleshooting.** | |
| * **Order Status Logging** | **log\_order\_status logs status updates for orders, including order ID, current status, and optional timestamp.** | |
| * **API Call Logging** | **log\_api\_call tracks API interactions by logging the API name, response status, and optional response time, useful for monitoring API reliability.** | |
| * **Performance Metric Logging** | **log\_performance\_metric records metrics such as response times or system load, with an optional timestamp for performance analysis.** | |
| * **Security Event Logging** | **log\_security\_event tracks security-related incidents with a specified severity level, which is essential for compliance and incident management.** | |
| * **Periodic Backup Setup** | **setup\_periodic\_backup initiates a backup process with a defined interval (default 24 hours) to prevent log data loss.** | |
| * **Backup Logs** | **backup\_logs performs the actual backup by copying log files to a specified backup directory, creating dated backups of logs.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **Environment Variables**: Retrieves LOG\_DIR and LOG\_BACKUP\_DIR to define storage locations for logs and backups. | * **Logs**: Creates log files in LOG\_DIR and stores backups in LOG\_BACKUP\_DIR, maintaining historical log data. | |
| * **Events, Errors, and Status Updates**: Internal data generated by Razda Market modules for recording | * **Admin Notifications**: Sends alerts or information to admins if implemented, especially for critical errors. | |
| **Expected input into file:** | | **Expected output from file:** |
| * **Events, API Calls, Security Alerts**: Details from application modules needing logging for performance, errors, or status changes. * **Order Status Updates**: Details of order statuses to track order progress. * **Security Events**: Descriptions of high-priority security incidents, stored with severity levels. | | * **Application Logs**: Generates comprehensive logs covering various operational aspects in application.log. * **Backup Logs**: Periodically creates backups in LOG\_BACKUP\_DIR to prevent data loss. * **System Output**: Displays confirmation messages for logged events, errors, and completed backups in the terminal. |
| **Things that need to be taking place:** | | |
| |  | | --- | | **- Logging Initialization: Initialize logging with LOG\_DIR, creating an organized and accessible directory for all logs.** |  |  | | --- | | **- Error Handling and Logging: Error messages should include context and additional details, enabling faster resolution.** |  |  | | --- | | **- Security Logging: Capture and log any unusual security-related activities, maintaining a high severity level for critical events.** |  |  | | --- | | **- Order Tracking: Ensure each order's status is updated in logs, improving transparency for debugging order fulfillment issues.** |  |  | | --- | | **- Backup Implementation: Regularly back up log data to LOG\_BACKUP\_DIR, ensuring continuity of records in case of system failure.** |  |  | | --- | | **- Periodic Backup Management: setup\_periodic\_backup should be monitored for effectiveness, with a process to stop or adjust backup frequency as needed.** |  |  | | --- | |  | | | |
| Edit log (update each time you make changes to doc or file). | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |