

SFCC LOG FILES ANALYSIS

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MOTIVATION

- Production defects - hard to reproduce
 - Only Log files
 - Only WARN level & above log records
- Developer Sandboxes - Code bugs
 - How many developers look at logs ?
- Developer IDE integration - not good
- LogCenter
 - Separate application
 - Requires access from Account Manager

AGENDA

- Webdav Logs Folder & Files
 - Log Types & File Naming Convention
 - Log Files Retention & Other Limits
 - Log Record Structure
- Other Log Files
- Root-Cause Analysis: Scenarios
- Demo - Setup, Filter & Merge Script
- Resources & What Next ?

WEBDAV LOGS FOLDER STRUCTURE

```
<sandbox-inst>/on/demandware.servlet/webdav/Sites/  
||  
|-Securitylogs/  
|  
+-Logs/  
|  
|   |-codeprofiler/  
|   |   |  
|   |   +---archive/  
|   |  
|   |-jobs/  
|   |   +---<job-name-1>/  
|   |   |  
|   |   +---<job-name-2>/  
|   |  
|   |-log_archive/  
|   |  
|   |-notification/  
|   |  
|   +-<log-files>.log
```

- Logs/ - both sub-directories & log files
- log_archive/ - older log files in gzip format
- jobs/<specific-job>/ - job specific
- codeprofiler/ - CSV files of the profiler runtime data
- SecurityLogs/ - security specific log files
- notification/ - bucket text files

LOG TYPES & FILE NAMING CONVENTION

- Log File Name: <log-type> - [<categ>] - ecom - <inst-type> - <inst> - app - <blade-id> - appserver - <date>.log[.gz]
- log-type:
 - custom, custom<level>, <level>, security, service
 - api, jobs, migration, quota, sysevent, syslog
- categ: Log category from code or service name

```
customwarn-ecom-sandbox-bcmp-001-app-7c56fb8dd5-rbc8d-0-appserver-20220225.log
custom-OrderHistory-ecom-sandbox-bchc-001-app-79df4fdc5f-5576n-0-appserver-20220222.log
error-ecom-sandbox-bchc-001-app-79df4fdc5f-5576n-0-appserver-20220222.log
security-ecom-sandbox-bclk-033-app-589dcc49dc-lwxqx-0-appserver-20211123.log
service-curlc-ecom-sandbox-bchc-001-app-79df4fdc5f-5576n-0-appserver-20220222.log
jobs-ecom-sandbox-bchc-001-app-79df4fdc5f-5576n-0-appserver-20220222.log
notification/unbucketed-marykayintouch-ph.txt
report-ecom-sandbox-bchc-001-app-79df4fdc5f-zsw5n-0-appserver-20220225-142104.csv
```

LOG FILES RETENTION & OTHER LIMITS

- Top-level Logs folder:
 - Latest log files
 - After *3 days*, the log files are moved into a `log_archive/`
 - `.last_cleanup` file updated with timestamp after a cleanup
- Per folder limit: *100,000 files*
 - Do not have too many levels of log category
- Only *30 days* worth of logs
- Security logs - *90 days* retention

RETENTION: SPECIAL LOG ENTRIES

- Daily log file limit: *100 MB*
 - In PROD - never let this happen even in high load
- Maximum log file size limit has reached
- Repeat log records ignored log entry

```
[2022-02-24 03:43:51.007 GMT] ERROR RepeatedMessageSuppressingFilter-Thread custom.checkout []  
The following message was generated more than 10 times within the last 180 seconds.  
It will be suppressed for 180 seconds: Customer No: 05A67C57-E1C3-4D8F-B1E8-5204F5C02892  
[2022-02-24 08:08:37.389 GMT] INFO ShopAPIServlet|1060473459|/servlet/s/marykayintouch-global1  
/dw/shop/v19_8/baskets/ba531be6c867fbbf68481032f4 custom.checkout []  
[1970-01-01 00:00:00.000 GMT] WARN null null [] ++++++ Maximum log file size per day reached,  
logging suspended until tomorrow. ++++++
```

[custom-checkout-ecom-sandbox-bclk-001-app-6d84c7649b-mpskn-0-appserver-20220224.log](#)

10000.3 kb Thu, 24 Feb 2022 08:09:11 GMT

[custom-checkout-ecom-sandbox-bclk-001-app-6d84c7649b-mpskn-0-appserver-20220225.log](#)

10000.3 kb Fri, 25 Feb 2022 09:44:51 GMT

LOG RECORD STRUCTURE

```
[2022-02-24 03:44:03.859 GMT] INFO PipelineCallServlet|1790199935|Sites-marykayintouch-global1-Site|
  Cart-Show|PipelineCall|GzLA3dK_wu custom.checkout []
  Customer No: 05A67C57-E1C3-4D8F-B1E8-5204F5C02892 Subsidiary Code: DE . Attribute ID: orderCost = 22.3. taxAmt = 0, total =

[2022-02-24 00:23:10.022 GMT] ERROR ShopAPIServlet|1868046048|/servlet/s/marykayintouch-global1/dw/shop/v19_8/baskets
custom.checkout [] Customer No: 99999992 Subsidiary Code: DE . There is no configured TaxCode config for Tax Code: null

[2022-02-25 13:45:43.050 GMT] WARN PipelineCallServlet|1596223442|Sites-marykayintouch-cz-Site|
  CSR-OrderSearchAJAX|OnRequest|TDknpclhOG custom.dw.system.Cache []
  Cache entry for key 'marykayintouch-czPromotionQualifiers' is too large. The object will not be stored in the cache.

[2022-02-24 00:22:14.080 GMT] ERROR SystemJobThread|543399044|sfcc-site-archive-import|ImportSiteArchive
com.demandware.beehive.orm.capi.common.ORMObject Sites-Site JOB b0c81b02e1 b47a8d275e963cc7c889899453
7013248287514587136 - String value truncated for

[2022-02-24 04:00:23.799 GMT] ERROR PipelineCallServlet|1108707729|Sites-marykayintouch-global1-Site|Order-Confirm|PipelineCa
org.apache.jsp.isml2jsp.cartridges.org_005fmarykayintouch.default_.account.order.details.productCard_002d1_002d388a568cf4f995
TgFZZdYCF2KY-DMK-0-00 2395808312415949824 - Error in template script.

[2022-02-24 10:13:08.350 GMT] ERROR PipelineCallServlet|580948734|Sites-marykayintouch-global1-Site|Cart-AddProduct|PipelineCa
system.core Sites-marykayintouch-global1-Site STOREFRONT 1vf70_Nn_r TgE17TJaF2KY-DMK-0-00 7796008893045012480 - Exception occ
request processing: ScriptingException Wrapped com.demandware.beehive.orm.capi.common.ORMDoesntExistException: Custom attrib
written to deleted object [BasketProductLineItemPO, com.demandware.beehive.core.capi.domain.PersistentObjectPOKey
(com.demandware.beehive.bts.internal.orderprocess.basket.BasketProductLineItemPO) [7c48f033f22a233ec177a8493f]]
(org_marykayintouch/cartridge/scripts/cart/cartHelpers.js#438)
```

SECURITY & CODE PROFILER LOG

- Security logs:
 - Business manager ACL actions
 - Business Manager Pipeline
 - Login & Logout actions - [DW-SEC]
 - User role assignments & removals
 - CSRF token related
- Code Profiler Logs:
 - Generated every one-hour
 - Controller run-times:
 - Count, Total Time, OwnTime
 - Total wait-time, Own wait-time
 - Types:
 - ISML, ON_REQUEST, SF_PAGE,
 - PIPELINE_NODE, SCRIPT_CONTROLLER
 - REST_DATA,SCRIPT_HOOK,SCRIPT_A

ROOT-CAUSE ANALYSIS (RCA)

- Needs a "investigative" / "hacker" mindset
- Low Difficulty - single log entry is sufficient
- Medium Difficulty - more contextual info from other files
- High Difficulty - correlate multiple sources
 - Using code profiler logs
 - Site meta-data & data/config files
- No relevant logs or missing logs entries

RCA - CHECKOUT PROBLEM - CUSTOMER ID

- Useful for checkout related issues
 - Assuming we know the customer or order ID
 - Assuming we know approximate time & date
- Get Customer UUID from BM Customer Detail Page
- Customer UUID in platform error-*.log file
- Filter log records with the session ID & merge-sort

```
RequestID: TgEBR-XPfMKY-DMK-0-00  
SessionType: STOREFRONT  
Truncated SessionID: QXhTbkEEc2  
Customer UUID: ab5e1A0up0d805KIHxRZG0TcRf
```

```
[2022-02-24 00:23:08.096 GMT] ERROR PipelineCallServlet|1713105395|Sites-marykayintouch-global1-Site|  
Tester-Run|PipelineCall|yDZhhhKc7d system.core Sites-marykayintouch-global1-Site STOREFRONT
```

DEMO OF THE FILTER & MERGE SCRIPT

- Install rclone binary file
- Setup .config/rclone/rclone.conf for each instance
 - rclone config interactive command
- Use rclone copy to download the log files using webdav
- Run the filter & merge script using the command:
scripts/get_sorted_logs_for_customer_n_date.sh
~/marykay_consult/bcmp-001_logs/ sess:02-WQj5sHZ
20220225

BEST PRACTICES & RESOURCES


1. Proper choice of log levels & category
 - Using DEBUG instead of INFO
 - Use WARN instead of INFO (required for PROD)
 - Do not use root logger
 - Create log category - upto 3 levels
 - Use FATAL log entry when required
2. Use log analysis & notification (PROD logs)
 - ELK stack with custom extensions
3. SFCC Documentation [Log Files](#)
4. rc1one [download link](#)

WHAT NEXT ?

- Enhancements to filter & merge script
 - Using customer uuid as input
 - Enable / Disable job logs
- DevOps & Log Analysis
 - Finding new log entries compared to previous release
- VS-Code / neovim Integration
 - Browse new log entries while testing
 - Try to fill-in missing info from logs

IGNORANCE LEVEL FROM LOG FILES !!

TODO

 Platform log entries