



# SFCC LOG FILES ANALYSIS

Presenter: Appan

Date: 28 Feb, 2022

# 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>, api, jobs, service, analyticsengine
  - security, staging, migration, quota, sysevent, syslog, wwd
- categ: Log category from code or service name

```
customwarn-ecom-sandbox-abcd-123-app-xyzabc123-rbc8d-0-appserver-20220225.log
custom-OrderHistory-ecom-sandbox-abcd-123-app-xyzabc123-5576n-0-appserver-20220222.log
error-ecom-sandbox-abcd-123-app-xyzabc123-5576n-0-appserver-20220222.log
security-ecom-sandbox-abcd-123-app-589dcc49dc-lwxqx-0-appserver-20211123.log
service-curlec-ecom-sandbox-abcd-123-app-xyzabc123-5576n-0-appserver-20220222.log
jobs-ecom-sandbox-abcd-123-app-xyzabc123-5576n-0-appserver-20220222.log
notification/unbucketed-mysite-ph.txt
report-ecom-sandbox-abcd-123-app-xyzabc123-zsw5n-0-appserver-20220225-142104.csv
```

# LOG TYPES FROM FILE PREFIX

- `<level>` -: Platform generated logs - warn or error
- `custom<level>` -: custom code error logs
  - Can also contain platform generated logs
- `api` -: Deprecated API, `quota` -: Platform Quotas, `jobs` -: system/custom job errors
- `service`: Service invocations, `staging`: shutdown, `wwd`: Data Recovery backups
- `syslog`, `sysevent`: system logs - start/shutdown, code activation, metadata ImpEx

```
[2022-02-23 08:41:01.334 GMT] WARN SystemJobThread|176345974|sfcc-index-order-change-log-events|SearchSvcProcessIndexChangeLog
com.demandware.component.search3.index.delta.impl.IndexChangeLogMgrImpl Sites-Site JOB f5caf9db0b 41b3b7031be1b677234ecc2307
4677349997306901504 - Unable to process ORDER index change log as change log is not enabled
[2022-03-01 06:20:14.457 GMT] [ShopAPIServlet|524006389|/servlet/s/mysite-my/dw/shop/v19_10/orders/00005106] Quota
api.session.maxStringLength (enforced, warn 1200, limit 2000): warn threshold exceeded 1 time(s), max actual was 1235,
current location: /.../script org_mysite2/cartridge/models/order/orderType.js:106/script
[2022-02-23 10:48:32.419 GMT] Code version 'version1' activated.
[2022-03-03 07:34:21.438 GMT] User system activates code version 'version1'
[2022-02-23 06:28:13.171 GMT] Starting server version 22.3.0.95
[2022-02-24 05:01:53.182 GMT] INFO main Server is shutting down.
```

# 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
- Repeat log records ignored log entry
- Maximum log file size limit has reached

```
[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/mysite  
  /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: STACK TRACE ID

- Stack trace Id is generated for platform stack trace errors
- Unique id used to identify repeated error with stack trace
- Custom errors (in custom\*.log) files - have no stack trace Id

```
[2022-02-23 10:41:38.112 GMT] ERROR PipelineCallServlet|1128026779|Sites-Site|Default-Start|
OnRequest|WAXf04Uyc7 com.demandware.beehive.core.internal.request.SessionMgrImpl Sites-Site
BUSINESSMGR WAXf04Uyc7 TgE1h2IPFmLFfjMK-0-00 158035983492230144 -
Failed reading secure token for shared session.
Stack trace <12ba3bf9948070d37447536d269c7358>
java.util.concurrent.CancellationException: Cancelled
```

# LOG RECORD STRUCTURE

```
[2022-02-24 03:44:03.859 GMT] INFO PipelineCallServlet|1790199935|Sites-mysite-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 = 22.3

[2022-02-24 00:23:10.022 GMT] ERROR ShopAPIServlet|1868046048|/servlet/s/mysite/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-mysite-cz-Site|
  CSR-OrderSearchAJAX|OnRequest|TDknpclh0G custom.dw.system.Cache []
  Cache entry for key 'mysite-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-mysite-Site|Order-Confirm|PipelineCall|GzLA3dK_wu
  org.apache.jsp.isml2jsp.cartridges.org_005fmysite.default_.account.order.details.productCard_002d1_002d388a568cf4f995cb7aac79503a2f5cbba8860d5a_jsp
  Sites-mysite-Site STOREFRONT GzLA3dK_wu TgFZZdYCF2KY-DMK-0-00 2395808312415949824 - Error in template script.

[2022-02-24 10:13:08.350 GMT] ERROR PipelineCallServlet|580948734|Sites-mysite-Site|Cart-AddProduct|PipelineCall|1vf70_Nn_r
  system.core Sites-mysite-Site STOREFRONT 1vf70_Nn_r TgE17TJaF2KY-DMK-0-00 7796008893045012480 - Exception occurred during
  request processing: ScriptingException Wrapped com.demandware.beehive.orm.capi.common.ORMDoesNotExistException: Custom attribute cannot be
  written to deleted object [BasketProductLineItemPO, com.demandware.beehive.core.capi.domain.PersistentObjectPOKey
  (com.demandware.beehive.bts.internal.orderprocess.basket.BasketProductLineItemPO) [7c48f033f22a233ec177a8493f]]
  (org_mysite/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\_API

# 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
- Search Customer UUID in platform error-\*.log file
- Filter log records with the session ID
- Merge-sort (using timestamp) the separate files into one

```
[2022-02-23 10:56:31.796 GMT] ERROR PipelineCallServlet|16103808|Sites-RefArch-Site|Tester-Start|OnRequest|WAXf04Uyc7
com.demandware.beehive.core.internal.request.OnRequestServlet Sites-RefArch-Site STOREFRONT WAXf04Uyc7
TgEUqN8SFmLFfjMK-0-00 596552963617121280 - Error executing hook 'dw.system.request.onSession'
```

## System Information

```
-----
RequestID: TgEUqN8SFmLFfjMK-0-00
SessionType: STOREFRONT
Truncated SessionID: WAXf04Uyc7
Customer UUID (guest): abC7om8zX4YyoKlTE5xb17qUxP
```

# DEMO OF THE FILTER & MERGE SCRIPT

- Install rclone binary file
- Setup .config/rclone/rclone.conf for each instance
  - rclone config interactive command
- Use to download the log files using webdav from SFCC instance
  - rclone copy <inst-id>:/on/demandware.servlet/webdav/Sites/Logs <log-dir> -P
- Run the filter & merge script using the command:  
scripts/get\_sorted\_logs\_for\_customer\_n\_date.sh  
~/log\_dir/inst-id\_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