# System Monitor View

Using the Monitor Service Options in USxS

Matt Calmes, SSDT Director

Jodi Becher, SSDT Project Manager

Marc Davis, SSDT Project Manager

# SSDT Educational Software Solutions



#### System Monitor View

USxS Applications have built-in monitoring statistics, logging levels and various logs that can be useful when diagnosing potential problems. This information is available via the System menu by selecting the Monitor View

rents	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache
Recen	nt Repository	Events	•							
Timest	tamp		Туре			Useman	ne		Summa	ary
202	3-03-27 09:3	1:20	Repository R	ead Only Ev	ent	admin			Repos	sitoryReadC
202	3-03-27 09:3	1:20	Query Event			admin			Query	Event@202
202	3-03-27 09:3	1:20	Query Event			admin			Query	Event@202

## System Monitor View - Events

- Filtered grid of last 200 Application Events
- Slow Metric Events
  - Event Published for any event over 3 seconds
- Recent Repository Events
  - Create / Read / Update / Delete events
- Slow Queries
  - Queries over 3 seconds; User Configurable
- Lifecycle Events
  - Startup / Shutdown / Importing
- Recent Auditable Events
  - Module Installed, Rules Reloading, Posting Period, Payroll Posting... etc
- Recent Metric Events
  - $\circ$  Report generation



#### System Monitor View - Status

The Status tab displays information about the status of the application, jobs and installed modules.

Each job that runs during the import and post import process, along with the various modules that are installed are listed here along with their status.

Status	org.ssdt_ohio.modules.rules.RulesService.state	RUNNING
Status	org.ssdt_ohio.usas.imports.utils.ImportUtility:import.status	COMPLETED
Status	org.ssdt_ohio.usas.model.generalLedger.ActivityLedgerListener\$ActivityLedgerDisbursementJob:Disb	SUCCESS: 2022-03-18T00:50:20.151Z
Status	org.ssdt_ohio.usas.model.generalLedger.ActivityLedgerListener\$ActivityLedgerGLJob:GL	SUCCESS: 2022-03-18T00:31:32.231Z
Status	org.ssdt_ohio.usas.model.generalLedger.ActivityLedgerListener\$ActivityLedgerInvoiceJob:Inv	SUCCESS: 2022-03-18T00:41:14.661Z
Status	org.ssdt_ohio.usas.model.generalLedger.ActivityLedgerListener\$ActivityLedgerPOJob:PO	SUCCESS: 2022-03-18T00:32:32.046Z
Status	org.ssdt_ohio.usas.model.vendor.VendorLedgerGeneratedJob	SUCCESS: 2022-03-18T00:15:44.640Z
Status	org.ssdt_ohio.usas.module.ImportPostProcessJob	COMPLETED: 2022-03-17T23:23:23.592Z
Status	org.ssdt_ohio.usas.module.encumbrance.EncumbranceLedgerJob	COMPLETED: 2022-03-18T00:14:24.633Z

#### System Monitor View - Metrics

# USxS applications have built-in monitoring statistics. A useful one for performance is Metrics

Events	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache
0	Torce GC									
Metrics										
Туре				Name				Value		
				hea		0				
gauge				heap.comm	itted			222193254	4	
gauge				heap.init				105486745	6	
gauge				heap.max				429496729	6	
gauge				heap.usage	e.			0.18778113	383455 <mark>9</mark> 917	
gauge				heap.used				806513848		



### System Monitor View - Metrics

#### **Using System Monitor**

- Performance Monitoring Metrics
  - Java Heap
    - Memory Committed guaranteed available for JVM, can be less than max
    - Initial heap size (-Xms)
    - Max amount (-Xmx)
    - Percent heap used
    - Memory used
- Troubleshooting Article: <u>Using System Monitor</u>



### System Monitor View - Metrics

#### **Using System Monitor**

- Performance Monitoring Metrics
  - Memory options: set in docker-compose.override.yml
    - <u>JVM Configuration</u> recommend 4G+ depending on district size/chart of accounts
  - $\circ$  Connection Pool
    - Used for logging in, running reports, etc.
    - USxS default connection pool max = 20; recommend 40
    - No connections available in the pool will cause a delay of up to 60 seconds



## System Monitor View - Logging

- Logging Tab allows overrides of logging levels in the app
  - Used by SSDT when debugging
- Toggle SQL button turns on/off logging for all queries
  - Allows each database query to be logged for debugging
- Debug Logs are included in the server logs when send to SSDT





## System Monitor View - App Log

- Server logs can be cleared when an app instance is restarted
- Makes the logs hit or miss if a district's app is restarted to correct a problem
- The App Logs is a solution to this problem
- Logs are stored in a database table
- Used by SSDT to debug issues, but stores Auditable Events and Logging info that can be useful to ITC / Users
- Highlight Viewer can display stack trace and errors



### System Monitor View - App Log

C Auto Refresh			Q Advanced Query
Timestamp	Level	Logger Name	Message
2023-03-27 09:31:17.322	INFO	ssdt.monitor.authenticator	Authentication Event: Authentica
2023-03-27 04:00:58.107	ERROR	org.springframework.integration.ip.tcp.connection.TcpNetConnection	Read exception 192.168.18.68:
2023-03-27 04:00:40.098	ERROR	org.springframework.integration.ip.tcp.connection.TcpNetConnection	Read exception 192.168.18.68.5
2023-03-27 04:00:38.667	ERROR	org.springframework.integration.ip.tcp.connection.TcpNetConnection	Read exception 192.168.18.68:
2023-03-27 04:00:30.48	ERROR	org.springframework.integration.ip.tcp.connection.TcpNetConnection	Read exception 192.168.18.68:
2023-03-27 04:00:30.456	ERROR	org.springframework.integration.ip.tcp.connection.TcpNetConnection	Read exception 192.168.18.68.5
2022 02 27 04-00-21 446	EPPOP	ora enringframework integration in ten connection TenNotConnection	Post exception 102 160 10 60-



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### System Monitor View - Threads

# Information on all current threads in the USxS system. Can be used by SSDT for debugging in a live application.

Events	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache	
2											
Threads											
Name			•	Group	Сри Т	îme (sec)	State		Daem	on	Alive
http-nio-8	3080-Acce	ptor-0		main	11,23	3 <mark>4.82</mark>	RUNN	ABLE	true		true
drools-wo	orker-3			main	0.67		WAITI	NG	true		true
drools-wo	orker-2			main	8.19		WAITI	NG	true		true
drools-wo	orker-1			main	31.81	1	WAITI	NG	true		true
app-threa	ad-pool-3			main	11,07	0.26	TIMED	WAITING	6 false		true
app-threa	ad-pool-2			main	11,46	52.33	TIMED	_ WAITING	6 false		true
app-threa	ad-pool-1			main	11,58	38.22	TIMED	)_WAITING	6 false		true
-	8				0.00						



### System Monitor View - Admin Logs

#### This tab contains the Classic Import Log

Events	Status N	1etrics	Logging	App Log	Threads	Admin Logs	Info	Server Logs	
	Name		Source				Preview		
۲	Classic Impo	rt Log	org.ssdt	_ohio.usps.ir	nports.utils.Ir	mportUtility	<div><p< th=""><th>re≻Current Status: Compl</th><th>eted</th></p<></div> <div><pre>2019-08</pre></div>	re≻Current Status: Compl	eted



#### System Monitor View - Info

# The Info tab displays environment variables defined in the docker files, JVM information and also contains details about configuration files.

Events	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache	
nfo											
Category			N	ame							Value
				JAVA		0					
env			J	AVA_OPTS							-Xmx4g -Dje
env			J	DK_JAVA_O	PTIONS						add-opens
env			J	AVA_DEBIAN	VERSION						8u181-b13-
0.01			1	MA HOME							/dockor jour



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### System Monitor View - Security

The security log grid will display all authentication events being saved to the database when users log in and log out of the application. The grid may be filtered and a report may be generated using the report button.

vents	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache
0	Auto Refre	esh								
Timest	tamp	1	Level		Logger Name		Messa	ge		
2023-	- <mark>03-15 12:11</mark>	:25.123	INFO		ssdt.monito	r.authenticator	Authe	ntication Ev	ent: Authentication	onSuccessDomainEvent@2023-03-15:12:11:25 by Unknown   admin   org.springfra
2023-	-03-15 10:14	27.831	INFO		ssdt.monito	rauthenticator	Authe	ntication Ev	ent: Authenticatio	onSuccessDomainEvent@2023-03-15:10:14:27 by Unknown   admin   org.springfra



### System Monitor View - Server Logs

# The Server Logs tab contains downloadable links to various log files related to the application and the server it's running on.

Events	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache
Server Lo	gs									
Downloa	ad security	-usas.web-o	docker.currer	nt.json.log						
Downloa	ad juli.2023	3-03-15.log	]							
Downloa	ad localhos	st.2023-03-1	5.log							
Downloa	ad localhos	st_access_lo	og.2023-03-1	15.txt						
Downloa	ad <mark>manag</mark> e	r.2023-03-1	5.log							
Downloa	ad catalina	.2023-03-15	5.log							
Downloa	ad app-usa	is.web-dock	er.current.js	on.log						
										L •

### System Monitor View - Cache

# Information on the different caches in USxS. Will not be used without direction from SSDT.

Events	Status	Metrics	Logging	App Log	Threads	Admin Logs	Info	Security	Server Logs	Cache	
0	S Evict	All Cache									
		Cache Na	ame								Cache Entries
۲	0	compen	sationAmou	ntsCache							0
۲	0	reportab	plePropertyC	ache							200
۲	8	reportBu	undleEventC	ache							1
۲	0	queryEr	ntityInfoCach	e							74
۲	8	cfdAppli	iesToCache								5
۲	8	cfdAppli	iesToStateCa	ache							21
۲	8	beanMo	delCache								8
۲	0	beanMo	delV8Cache								3



# USXS-R General Troubleshooting Steps

For troubleshooting issues in USxS it can be difficult to know if the concentration should be on the server, the instance, or a particular report / process. Depending on where the problem originates, different information and troubleshooting techniques are needed.

- Common Areas to Troubleshoot
  - $\circ\quad \text{Entire Server}$

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- One Particular Application Instance
- Specific Report or Task

#### More information can be found on the General Troubleshooting wiki page



#### Auditable Events

Auditable Events in USPS track when certain processes start and complete.

Useful when you need to determine when a process happened, but are not concerned with the transactional history (Audit Report).

There are 40 Auditable Events in USPS including; ACH Generation, Benefit Accrual, Payroll Initialization, Payroll Post, User Password Changes, etc...



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#### Auditable Events - Custom Grid

#### You are able to view the events in a Custom Grid with filtering and sorting options

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Custom Grid Creator - Select Object

AuditEvent

		Q Advanced Query	📥 Report		More D
	Event Name	Event Type	Timestamp	•	Username
		%Benefit%			
۲	Benefit Accrual Event	org.ssdt_ohio.usps.model.events.BenefitAccrualEvent	07/13/2022 07:1	7:36	admin
۲	Benefit Accrual Event	org.ssdt_ohio.usps.model.events.BenefitAccrualEvent	07/13/2022 07:1	5:24	admin
۲	Benefit Accrual Event	org.ssdt ohio.usps.model.events.BenefitAccrualEvent	07/13/2022 07:12	2:50	admin



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#### Auditable Events - Template Report

There is also a PDF report than can be found in the Report Manager, **SSDT Auditable Events.** Parameters default to all events in the current fiscal year. Can be customised for your needs

Impo	ort Rep	ort	Create	e Form						1	I More	<b>D</b> Reset
						Favorite	Created by	Report Name	2	Descript	tion	
								SSDT Auditable Event	0			
±	۲	I	0	ு	- 202	0	SSDT	SSDT Auditable Events		Record	ds any audit	-able even

# Auditable Events - Template Report Example

				* ~	
7/14/2022 10:59	Payroll Post Event	admin	Туре	20 Theorem	Text
			detail	06/18/2022	
			detail	2nd pay in June 2022	
			detail	etail 887b1449-2158-43c9-be05-e10	
			payroll	Payroll: [id:887b1449-21	58-43
			reportBundleEventPa rameters	[:]	
			target		
7/14/2022 10:59	Payroll Post Completed Event	admin	Туре		Text
			detail	06/18/2022	
			detail	2nd pay in June 2022	



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