

zEvent Mobile Application

User's Guide

Version 2.0



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1. Introduction

IBM zEvent is a notification and monitoring app for the management of IBM z/OS systems on a mobile device. It helps you react quickly to critical system messages, process failures, or resource shortages.

zEvent receives and displays system events and charts that are sent by means of push services. It provides system administrators with essential information that they can use to assess and respond to situations. For example, based on the information provided by the zEvent app, the administrator can decide whether a system event requires immediate attention.

A notification can be enriched with context information. This information, coupled with zEvent's integrated interfaces to z/OS tools, such as IBM Resource Measurement Facility (RMF) and IBM z/OS Management Facility (z/OSMF), allows users to drill down and pinpoint the system message source. Using these monitoring facilities, the administrator can then decide whether a direct reaction at his workspace is required.

The app is focused on z/OS systems and is tailored to functionality provided by z/OS, which is a prerequisite to exploit the full capabilities of this app.

For more information refer to the zEvent website: http://www.ibm.com/systems/z/os/zos/features/zevent/zevent.html

2. Quick Start

2.1 Prerequisites

- Supported versions:
 - iOS version 7.1 or higher.
 - Android version 4.4 or higher
- Internet connection
- Email set up on the mobile device

2.2 Enable Push Notifications to Receive Events and Charts

To receive events, the app needs to be enabled to receive push notifications. Furthermore, the required information that identifies the mobile device needs to be propagated to the z/OS system that is responsible for sending the notifications. More specifically, these are required:

- The push token of the device ("device token" in iOS terminology, "registration id" in Android terminology), to identify the device when sending a push notification.
- The device owner information is required to configure the appropriate receiver for the events.

To provide the required information, first navigate to Settings \rightarrow Push as shown in Figure 1, and enter the information provided by your administrator. Then, tap Connect and accept any prompts that appear. Once you have tapped Connect, a notification might appear to indicate that the internal settings have not changed since the last connection. Next, an email draft will appear as shown in Figure 2. The email contains the information to set up the delivery of the push messages on the z/OS system. You do not need to modify the email. Send the email to the administrator. <u>Important</u>: Perform this step if it is the first time the app is installed or repeat this step if you have previously uninstalled the app.

<u>Important for iOS only</u>: To process the events if the app is inactive, *do not* terminate the app. This allows the app to collect the incoming events in the background. If the app is terminated, the incoming events, which are displayed in the notification center, need to be *manually transmitted* to the app by tapping on them.

≉ हि.л∥ अ Bettings	:	Settings	* के " "Uo#∎ 1
Categories		Setting	js for Events/Charts
ABs	,	Your name	New User
onnections	>	Project name	zEvent
ecurity	,	Project #	344593236612
ecunty		Encrypt. Key	optional
rush		Admin. email	admin@server.com
bout zEvent	>		Connect
		Q	Scan OR Show

Figure 1: Push Settings



Figure 2: Email of the Push Settings to the Administrator

2.3 Connect to Monitors (RMF and z/OSMF)

To exploit the monitoring facilities, you must specify the required information for a web connection, such as URLs and credentials. Furthermore, the connection should not be blocked by firewalls.

To establish a monitor connection, navigate to Settings \rightarrow Connections as shown in Figure 3. Use an existing connection definition (if possible) or create a new connection definition with the add button (+).

Type a new label and select either *rmf* or *zosmf* from the drop-down box as connection type. Then specify the URL in the input field, as shown in Figure 4. A valid RMF URL requires this format:

```
http://[host]:[port]/gpm/root.xml,
A valid z/OSMF URL requires this format:
```

```
https://[host]:[port]/zosmf Or
https://[host]:[port]/zosmf/izur
```

The former navigates to the starting page of z/OSMF, and the latter displays a list of defined dashboards to display one of them without having to navigate through z/OSMF. Finally, supply the user credentials and save the connection definition. If you don't want to specify a password you can leave this field empty. Then you will be prompted for the password when you start the connection.

<u>Important</u>: The label should be the name of the system as it will appear in the notifications. This allows the association of the corresponding connection definition when connecting and navigating to a specific host from the event's context menu, as shown in Figure 11.

The connection list in Figure 3 shows both connection types, RMF (r) and z/OSMF (z) connections. Tap one of the connections and choose *Connect*. If the connection was successful, the symbol of the connection turns green. Leave the settings and choose the monitor tab for the corresponding connection type to retrieve the provided information. Examples of the RMF and the z/OSMF monitor tabs are shown in Figure 5 and Figure 6.

<u>Important</u>: Connecting to a system may take a moment. An error message appears when a connection could not established within the specified timeout. In this case the symbol of the connection turns red.

< 2	Settings	⊁ क्वि⊿¶ 99%∎ 14:47 ∎
+		Connections
r	CB8D	disconnected
z	CB8D	disconnected
r	IBM	disconnected
r	SYS1	connected
z	SYS1	disconnected
r	SYSF	disconnected
z	SYSF	disconnected

Figure 3: Connection Settings

2 Settin	New Connection	Settings
.abel	(ANY1	Label (ANY1
JRL	http://ip.rmf:8803/gpm/root.x	URL [https://ip.zosmf:443/zosmf/i
Гуре	(rmf	Type zosmf
Timeout	(2000	Timeout (2000
Jser nam	e (userid	User name (userid
Password		Password
	Cancel Save	Cancel Save

Figure 4: Definition of a New Connection

BM zEvent		:		Event		
vents Charts	RMF	z/OSMF	Events	Charts	RMF	z/OSM
-			* 😝 1)	4	• •
lcome, you are con SDPLEX,SYSPLEX F Monitor III Data:	nected to	D:	Time Range: 02 IZUSVR1 [007F RMFGAT [0068 GPM4CIMX [00 MVSNFSCS [00 DFSZFS [001F]	115000 52296 68] 42396 20] 42172	51:00 - 02/04/2	016 14:52:00
Resource N ,SYSDPLEX,SYSPLEX N	WLM [000B] OMVS [0010] GPM4CIMZ [00	33658 28677 7D] 24941	F			
F Postprocessor R	eports:		SMSVSAM [000 FPGHWAM [00	12] 16973		
ports:			RMF [0024] GPM4CIMA [00	15674	_	
CACHE CHAN		Скурто	CFZCIM [0080]		-	
		CRIPIO	GRS [0007]	14069		
CF OSDEVICE	WLMGL		TCPIP [0074]	12562	1000	
ovw			GPMSERVE [00			
ter Options:			 GPM4CIMW [0	07C] 11812		
ter options.			ESCM [0077]	10543		
ate(Start,End)			JES2 [0034]	9018		
are(erendarie)			IXGLOGR [001/	8469		
rsID me of Day			Add to My Vi	ew		

Figure 5: Example RMF View



Figure 6: Example z/OSMF Dashboard View

3. User Interface (UI)

The User Interface (UI) includes these elements, shown in Figure 7:

- Back Button: The back button performs multiple tasks. It is primarily used to go back within the settings menu. If you tap it when another tab is displayed, it navigates to the main tab, *Events*. It also closes certain popup menus, for example, the connection menu. On the *RMF* tab, it can be used like a browser back button to return to the previous view. On the z/OSMF tab, it can navigate back from a z/OSMF dashboard to the dashboard list.
- 2. *Title*: The title indicates the content of the app. It switches to "Settings" when you tap the settings button.
- 3. Settings Button: The settings button displays the settings menu. Use the back button to close the settings menu.
- 4. *Tab Bar*. Use the tap bar to quickly switch views. You can use settings to customize the tab bar to show only the required tabs.
- 5. *Tab Content*. The largest part of the display shows the content of a given tab. The content is resized if you rotate the mobile device.

1 2 * ? If 97% If 3 IBM zEvent 4 If 3 Events Charts RMF z/0SMF 5 Dashboards for SYSF F Common Storage Activity									
Events Charts RMF z/OSMF 5 Dashboards for SYSF Image: Common Storage Activity									
5 Dashboards for SYSF Common Storage Activity									
Common Storage Activity									
Coupling Facility Overview									
Coupling Facility Overview									
Execution Velocity									
General Activity									
Overall Image Activity									
Performance Index									
E Response Time									
Using & Delays									
XCF Activity									
MSU Consumption									
E Storage Soaker									

Figure 7: Elements of the User Interface

4. App Settings

Use the settings button in the upper right corner to customize and to configure the app. The following sections describe the settings pages in more detail.

4.1 TABs

As displayed in Figure 8, the *TABs* settings allow you to check and uncheck the tabs that should be displayed in the app. Previously hidden tabs can also be displayed again. The events tab cannot be hidden, because it is the main tab of the app. Just in case you want to rename individual tabs, you can simply overwrite the default tab names with labels of your choice.

Settings	* 😭	11 97%	14:56
Enable/I	Disable T	ABs	
Charts			
RMF			
Z/OSMF			✓
Workflows			
Jobs			
Ē			

Figure 8: Settings for TABs

4.2 Connections

The connections settings can be used to define the URLs and the credentials of the system monitoring facilities (cf. Section 2.3). After using the add button (+), a new connection definition can be specified, as illustrated in Figure 9. The connection can be labeled with a name, a connection type and a location URL. The supported monitoring facilities are RMF and z/OSMF.

A valid RMF URL requires this format:

http://[host]:[port]/gpm/root.xml,

A valid z/OSMF URL requires this format:

```
https://[host]:[port]/zosmf to connect to the starting page of z/OSMF or https://[host]:[port]/zosmf/izur to retrieve a list of defined dashboards and navigate to them.
```

The credentials are required for authentication. If you don't want to specify a password you can leave this field empty. Then you will be prompted for the password when you start the connection.

<u>Important</u>: The label should be the name of the system as it will appear in the notifications. This makes it possible to associate the corresponding connection definition when connecting and navigating to a specific host from the event's context menu (see Figure 11).

Con	nections		New Connection
CB8D	disconnected		
CB8D	disconnected	Label	(ANY1
IBM	disconnected	URL	http://ip.rmf:8803/gpm/root.
SYS1	disconnected	Type Timeout	[rmf t 2000
SYS1	disconnected		(2000
SYSF	disconnected	User na	me (userid
SYSF	disconnected	Passwo	rd (
			Cancel Save

Figure 9: Settings for Connections

4.3 Push

The push settings are used to connect the app to the push services. When the app is installed for the first time, enter the information provided by your administrator in the fields. Some of the information can also be passed by displaying and scanning QR codes using the appropriate buttons. After the information is entered, tap *Connect* to register to the push services.

After connecting to the push service (accepting all prompts) is complete, a popup is displayed. The popup allows you to send the information to the administrator in an email. This is necessary to set up the sending of push messages from the z/OS system to the device. This step requires that email is set up on the mobile device.

<u>Important</u>: Perform this step if you are installing the app for the first time, or if you have previously uninstalled the app.

4.4 About zEvent

This page opens a selection menu with legal information and version information about the app.

5. Events Tab

The events tab is the main tab of the app. It is illustrated in Figure 10. New events are displayed here with a timestamp, the affected system, a short description, and a severity indicated by the color of the event. To obtain more information, tap the event to expand it.

Certain keys (for example, *rmfdds* in Figure 10), link the event with specific performance metrics or z/OSMF dashboards. You can retrieve this information by tapping the expanded event that triggers a popup menu, as shown in Figure 11. Apart from cleaning up events, this menu allows you to directly connect to a monitor of the affected system – given this label exists in the connections settings – and further investigate the source of the event. The monitors are opened in their respective tabs, as shown in Sections 7 and 8.

Events	Cha	arts	RMF	z/OSMF
			/2016	
10:25:30	Sec. 7. 25. 7	2012/08/08	re CPU Co	and a state of the s
10:25:30				Constraint
Date:	01/30	/2016	; ;	
Time:	10:25	:30		
System:	SYS1			
Message	Too n currer	nuch S ntly in	Storage So the Systen	akers are
rmfdds:	resou xmldo id: 8D	oc: per	YSF,*,STOF form	RAGE
10:25:30	SYSF	Perf	ormance Ir	dex Alert
10:25:30	SYSF	Capp	oing Alert	

Figure 10: Events Tab

			h. ≋ ≉	95% 💈 15:18			
BM zEvent							
Eve		Charts	RMF	z/OSMF			
		01/30)/2016				
		SYS1 Seve					
10:25		SYS1 Seve	4	Constraint			
Date:		01/30/2010	5				
Time		Select	action:	×			
Syste Mes: Open in tab							
rmfd			SMF				
10:25	Dele			ert			
10:25		this	event				
		all e	vents				
		_					

Figure 11: Events Tab – Context Menu

6. Charts Tab

Similar to the events, the host can provide chart-like information about the system to the app. These charts are static, graphical information and are provided with a timestamp, the affected system, and a brief description. Tapping on this element expands the chart and displays its information (see Figure 12). Tapping on the chart displays a context menu, as shown in Figure 13.



Figure 12: Charts Tab





7. RMF Tab

After the connection to an RMF host has been established successfully, the monitor information can be retrieved in the RMF tab, and its content can be browsed interactively, as shown in Figure 14. This view is the embedded web interface of RMF, however, some functionality may be not available (for example, printing the document).

For a comprehensive overview of RMF, refer to

k

htte	<u>.</u> .//	/	ihm	com/s	system	0/7/00	1700	featur	oc/rm	h
ш	וו.ר	VV VV VV	.IDITI	.com/s	system	5/2/05	1205/	realur	es/111	Ш

≉ हि ।। 95% वि 1 ह अफ्रि 2Event	5:22		vent	lı. ₹ ¥	98% 12
Events Charts RMF z/OSM	AF	Events	Charts	RMF	z/OSM
* 🖨		* 😝 🐒			\$
/elcome, you are connected to: SYSDPLEX,SYSPLEX MF Monitor III Data:		SYSF,*,STORAGE Time Range: 02/0 IZUSVR1 [007F] RMFGAT [0068] GPM4CIMX [0066] MVSNFSCS [002I DFSZFS [001F]	4/2016 14:51: 115000 52296 B] 42396		
Resource Metrics Attributes Res-T .SYSDPLEX.SYSPLEX Metrics Show SYSPI MF Postprocessor Reports: Metrics Show SYSPI		WLM [000B] OMVS [0010] GPM4CIMZ [0070 SMSVSAM [0009 FPGHWAM [0012	33658 28677 D] 24941] 24413		
Reports: © CACHE CHAN CPU CRYPTO CF SDEVICE WLMGL O OVW) © C	RMF [0024] GPM4CIMA [0073 CFZCIM [0080] GRS [0007] TCPIP [0074] GPMSERVE [0069	14559 14069 12562		
Filter Options:		GPM4CIMW [007 ESCM [0077] JES2 [0034] IXGLOGR [001A]	10543 9018 8469		
Time of Day		Add to My View	v		

Figure 14: RMF Tab

8. z/OSMF Tab

The z/OSMF tab provides functions that are similar to the RMF tab. It provides monitor information using the z/OSMF web interface. Depending on the configuration, described in Section 4.2, the tab loads the starting page of z/OSMF or displays a list of defined dashboards from which the user can choose. Tap one of the items in the list to load the dashboard information, as shown in Figure 15. Use the back button to close the dashboard and display the list again, where the last accessed dashboard is held in cache.

For a comprehensive overview of z/OSMF, refer to http://www.ibm.com/systems/z/os/zos/features/zosmf



Figure 15: z/OSMF Tab

9. Jobs Tab

When an event containing a job ID is received by the zEvent application, click the body of the event to open the properties of the job. See Figure 16: Events Tab – Job Eventfor an example.

	((∩≂	100% İ 15:30
🛛 IBM ZE	event	:
Events	Workflows	Jobs
	16/02/05	
10:25:30 S	YSF Severe CPU	Constraint
	16/02/06	
10:35:00 S	YS1 Job Abend	
Date:	16/02/06	
Time:	10:35:00	
System:	SYS1	
Message:	A job abend hap	pened
jobs:	id: JOB00062	

Figure 16: Events Tab – Job Event

See Figure 17: Jobs Tab – Job Properties Panel for an example of the job properties panel. The job properties include:

- job ID
- job name
- job class
- job type
- job phase
- job phase name
- job owner
- job subsystem
- job status.

3 IBM ZE	vent	<u>⊿</u> i ∦ 4:
Events	Workflows	Jobs
Job	JOB00062 on S	SYS1
job id	JOB00062	
job name	ZTTABND	
ob class	A	
ob type	JOB	
job phase	20	
job phase name	Job is on the queue	hard copy
job owner	IBMUSER	
job subsystem	JES2	
ob status	OUTPUT	

Figure 17: Jobs Tab – Job Properties Panel

Click the properties to open the spool file list of the job. The spool file list displays the job ID in the title. Click a spool file to expand it and show its properties, as shown in Figure 18. The properties include:

- byte-count
- record-count
- recfm
- stepname

		4:26
BM zEvent		1
Events Work	kflows	Jobs
DD	name	
JESMSGLG		
byte-count	857	
record-count	18	
recfm	UA	
stepname	JES	2
JESJCL		
JESYSMSG		
ZTTOUT		

Figure 18: Jobs Tab – Jobs Spool File List

Click the properties of a spool file in the list to open the content of the spool file. Swipe the screen to see more content. See Figure 19 for an example.

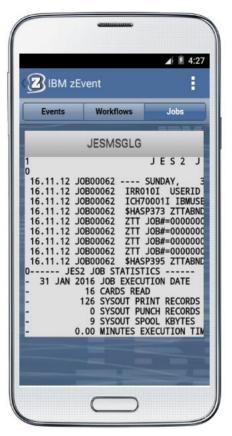


Figure 19: Jobs Tab – Jobs Spool File Content

10. Workflows Tab

The Workflows tab shows all of the workflows on the current z/OSMF system. The workflow instances can be retrieved as a list when opening the Workflows tab in zEvent. The system name is displayed in the title of the Workflows tab and a search box is provided to search the list by workflow name. The workflow name is displayed for each row in the list and when the user clicks on a row in the list the workflow properties panel is opened. See Figure 20.

🕜 IBM ZE	vent	
Events	Workflows	Jobs
Wor	kflow List on S	YS1
Q Search by w	orkflow name	
Customizati	on for DB2	>
Customizati	on for the zOSM	F plug-i >
zOS Migrati	on	>

Figure 20: Workflows Tab – Workflows List



You can pull down the workflow list and then release it to refresh the list, as shown in Figure 21.

Figure 21: Workflows Tab – Workflow List Refresh

You can also filter the workflow list by the workflow name, and display workflow details. The Workflows tab contains a properties panel, which includes properties of the workflow including:

- name
- description
- version
- vendor
- access
- owner
- system
- status
- percent complete

See Figure 22 for an example.

	/ent	1
Events	Workflows	Jobs
Wo	kflow Properti	es
Name:	Customization f plug-ins	or the zOSMF
Description:	Customization f plug-ins	or the zOSMF
Version:	1.0 1.98 (10/28/	15)
Vendor:	IBM	
Access:	Public	
Owner:	zosmfad	
System:	PLEX1.SY1 (SY1)
Status:	in-progress	
PercentComple	te: 0%	

Figure 22: Workflows Tab - Workflow Properties

Click the properties to open the workflow step list. You can then click a step to reveal its properties, such as:

- state
- title
- calledWorkflow
- automated
- owner
- skills
- assignees

See Figure 23 for an example.

BM zEvent Events Workflows Jobs Workflow Steps About the Configuration Workflow Discovery before configuration Discover the general z/OS setup Discover the z/OSMF run-time properties State: Unassigned Title: Discover the z/OSMF run-ti properties	
Workflow Steps About the Configuration Workflow Discovery before configuration Discover the general z/OS setup Discover the z/OSMF run-time properties State: Unassigned Trute: Discover the z/OSMF run-ti	
About the Configuration Workflow Discovery before configuration Discover the general z/OS setup Discover the z/OSMF run-time properties State: Unassigned Title: Discover the z/OSMF run-ti	
Discovery before configuration Discover the general z/OS setup Discover the z/OSMF run-time properties State: Unassigned Tritle: Discover the z/OSMF run-ti	
1 Discover the general z/OS setup 2 Discover the z/OSMF run-time properties State: Unassigned Tritle: Discover the z/OSMF run-ti	
.2 Discover the z/OSMF run-time properties State: Unassigned Title: Discover the z/OSMF run-ti	
State: Unassigned Title: Discover the z/OSMF run-ti	ties
Title: Discover the z/OSMF run-ti	
	n timo
	rume
CalledWorkflow: No	
Automated: Yes	
Owner:	
Skills: System Programmer	
Assignees:	
.3 Review the related z/OS and z/OSMF	
onfiguration settings Choose the optional plug-ins to be added	
Choose the optional plug-ins to be added	od

Figure 23: Workflows Tab – Workflows Step List

11. FAQ and Known Issues

11.1 Events

• iOS only: App does not contain new notifications if it was terminated.

On iOS, the app is not able to detect new notifications if it is terminated. To process the notifications if the app is inactive, *do not* terminate the app. This allows the incoming events to be collected in the background. If the app is terminated, the incoming events, which are displayed in the notification center, need to be *manually transmitted* to the app by tapping on them.

• I received a notification that an event arrived, but the app does not show a new event.

The app filters duplicate events, so, if an event with the same attributes already exists, identical new events are discarded.

• I cannot connect to a host from the context menu of an event even though the system is defined in the connection settings.

Make sure that the connection definition is labeled as the system name. This makes it possible to associate the right connection definition when connecting and navigating to a specific host from the event's context menu.

11.2 z/OSMF Dashboards

• iOS only: When opening z/OSMF using the context menu of an event, the dashboard is not loading or is not shown properly.

Earlier versions of z/OSMF cannot be displayed properly and may appear as unavailable.

11.3 Miscellaneous

• Are there any limits when sending push notifications?

The limits are specific to the device OS. Currently, there is no known limit for Android. For iOS, as described in Apple documentation, there is a 256-byte limit for iOS 7 and a 2-KB limit for iOS 8 and above for the payload of the notification.