

## ARA - Force and Override Report Configuration

KB-1088-22

Document Summary	
<b>Article Type</b>	Knowledge Base Article
<b>Products Affected</b>	Exaquantum/ARA
<b>Versions Affected</b>	All versions
<b>Function Affected</b>	Force and Override Report
<b>Available Resolution</b>	n/a
<b>Audience</b>	System Integrators and Administrators of ARA
<b>Summary</b>	To use Force and Override reports in Exaquantum/ARA post configuration is required of a view in the QApplication data database.
<b>Review Date</b>	Document to be reviewed before December 2023

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# Chapter 1 Introduction

After an Installation of Exaquantum/ARA configuration is required if there is a requirement to use the Force and Override reports.

The Force and override reports are optional in Exaquantum/ARA and are not configured by default as each site will have different alarms and messages for force and override events

Force & Override Reports are filters on raw data. The filters find Alarms relating to Controller Force and Override events.

## 1.1 Audience

This guide is intended for system integrators and administrators.

## Chapter 2 Pre-Configuration Steps

### 2.1 Stopping and Disabling and Enabling the Exaquantum/ARA update Job

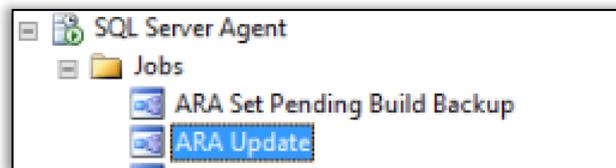
Stopping the ARA update job is required so any changes made will not affect current processing of ARA data and on restart of the update Job and processing of alarms is resumed by Exaquantum/ARA Force and Override reports should start functioning as expected.

Open SQL Management Studio from Server Desktop.

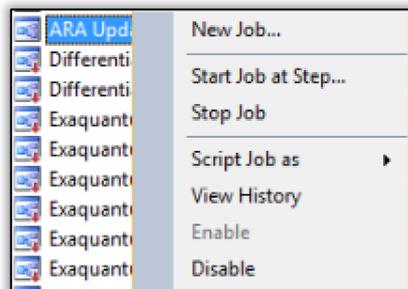
Once open expand SQLTree and locate the SQL server agent.



Once the SQL agent is expanded Locate and right click on the ARA Update job.



Select the ARA Update job then right click to select **Disable**.



Note: To enable the ARA Update job, follow same steps as above but select enable.

## Chapter 3 Plant Hierarchy Update

### 3.1 Exaquantum/ARA Plant Hierarchy Update

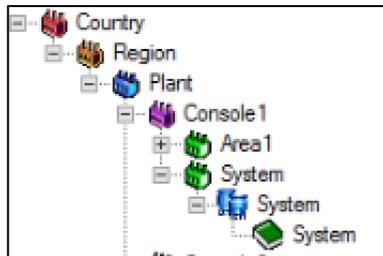
Force and override alarms will appear in System alarms databases in Exaquantum. For System Alarms the TagName is not used so it is required to add configuration to the ARA plant hierarchy for the reports to work.

The first step is to Create the Area, Unit and dummy tag in the ARA configurator called System.

#### 3.1.1 How to create the Area, Unit and dummy tag in ARA

Open the ARA Configurator.

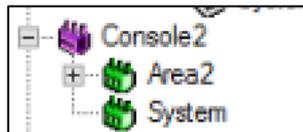
In the first tab called Plant hierarchy expand the structure like image below:



Right click on the console of the plant configured and select Add Area.



Add an Area called System as per below image:



Right Click on the Area called System created in the step above and select Add unit.

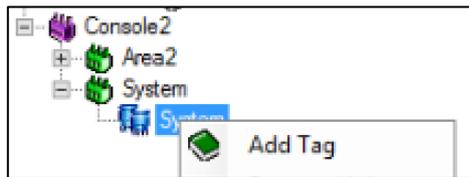
Add a unit called System.



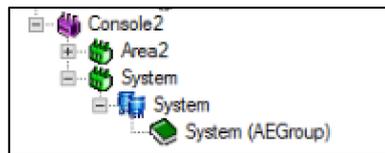
The view in the configurator hierarchy should look like this below with an Area and unit called System.



Right click on the Unit called System created and select Add tag.



Add a tag called System The 'TagKey' field (in example below shows "AEGroup" it is determined using the associated AE server ID.



The AEGroup added in brackets of above image comes from the AE groups that have already configured as part of post Installation configuration of ARA.

Please review Chapter 6 further reading in this document for more information regarding configuration of AE Groups.

### 3.1.2 Perform a Full Refresh of OLAP and RDB data after configuration

To make sure changes that have made in the ARA hierarchy and data is processed into ARA based on the new settings a full refresh is required.

This is started using the ARA configurator tool.



Please review Chapter 6 further reading in this document for more information regarding Refreshing ARA data.

# Chapter 4 Locate Alarms Required for Reports

Before any configuration has taken place on the Force and Override Reports engineers must locate the alarms, they would like to see in the reports in Exaquantum databases. Failure to do so will mean the wrong configuration of the views in SQL studio and no alarms appearing in reports

## 4.1 Location of Force and Override Alarms in Exaquantum

Most Force and Override alarms will appear in system alarms databases in Exaquantum. However, they may be processed to other tables in QHistorian database most commonly the Operational Records. All tables in QHistorianData database will need to be reviewed for the required alarms. Using the query below the process can be speeded up and the correct alarms located.

They will appear like below image.

Note: In the image below, it shows how to add a filter on the query to show Overridden or Force alarms and to order them by time stamp.

```

, [PH3]
, [PH4]
, [PH5]
FROM [QHistorianData].[dbo].[EXAOPCCAMSystemAlarm] WHERE Message LIKE '%Overridden%' order by timestamp desc
    
```

	TimeStamp	TimeStam...	OPCServe...	Source	Sever...	Message	Cookie	CENTUMMagId	StationNa...	StationTimeGMT
1	2021-06-18 06:31:03.000	3210000	2	SCS0131	260	SCS0131 73AB5539MOS Overridden (Instance ...	0	16661	SCS0131	2021-06-18 06:31:03
2	2021-06-18 06:15:49.000	5400000	2	SCS0121	260	SCS0121 79HS5544MOS Overridden (Instance ...	0	16661	SCS0121	2021-06-18 06:15:49
3	2021-06-18 01:41:50.000	5710000	2	SCS0131	260	SCS0131 73AR5515MOS Overridden (Instance ...	0	16661	SCS0131	2021-06-18 01:41:50
4	2021-06-18 01:41:38.000	3210000	2	SCS0131	260	SCS0131 73AR5514MOS Overridden (Instance ...	0	16661	SCS0131	2021-06-18 01:41:38
5	2021-06-18 01:36:19.000	4000000	2	SCS0121	260	SCS0121 79HS5544MOS Overridden (Instance ...	0	16661	SCS0121	2021-06-18 01:36:19
6	2021-06-17 11:22:34.000	4000000	2	SCS0121	260	SCS0121 79HS5544MOS Overridden (Instance ...	0	16661	SCS0121	2021-06-17 11:22:34
7	2021-06-17 11:22:07.000	2800000	2	SCS0121	260	SCS0121 79HS5545MOS Overridden (Instance ...	0	16661	SCS0121	2021-06-17 11:22:07

	Timestamp	TimeStam...	Rep...	TagNa...	Message	StationNa...	TagKey
1	2021-06-08 01:59:36.000	8700000	Force	SYSTEM	SCS0131 Variable Locked Variable=_73AR5516AI...	SCS0131	SYSTEM:0001
2	2021-06-08 01:53:28.000	3700000	Force	SYSTEM	SCS0131 Variable Set to 21 Old = 0 Variable = _73A...	SCS0131	SYSTEM:0001
3	2021-06-08 01:49:54.000	1200000	Force	SYSTEM	SCS0131 73AR5516MOS Overridden (Instance ...	SCS0131	SYSTEM:0001
4	2021-06-08 01:49:28.000	8700000	Force	SYSTEM	SCS0131 Variable Set to 21 Old = 0 Variable = _73A...	SCS0131	SYSTEM:0001
5	2021-06-08 01:49:13.000	8700000	Force	SYSTEM	SCS0131 Variable Set to TRUE Old = FALSE Variabl...	SCS0131	SYSTEM:0001
6	2021-06-08 01:47:46.000	8700000	Force	SYSTEM	SCS0131 Variable Set to FALSE Old = TRUE Variabl...	SCS0131	SYSTEM:0001

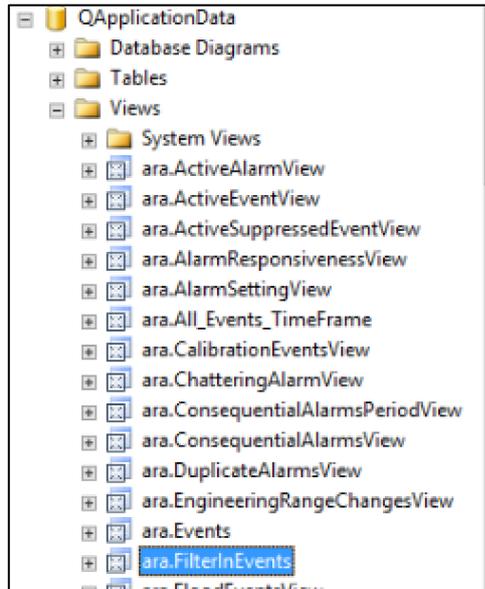
# Chapter 5 Locate View for Editing

Views are used to allow ARA to process the data required for reporting. There are many views in the SQL database so make sure the correct one is selected, and it is recommended that a copy of the view is taken before editing and saved in a separate notepad document.

## 5.1 Locate and expand the QApplicationData Database

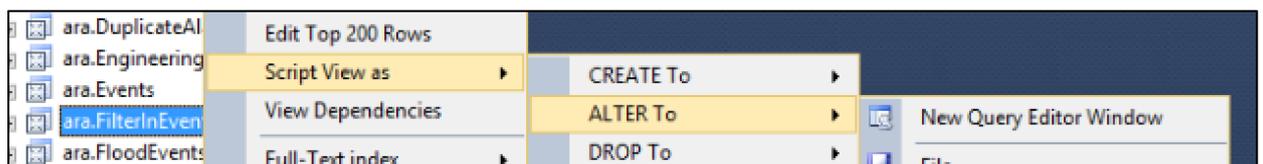
Expand the Views folder.

Locate the **ara.FilterInEvents** view.



Right Click on the view and select the following options from dropdown:

- Script view as
- Alter To
- New Query Editor Window



## 5.2 The FilterInEvents view

```
USE [QApplicationData]
GO

/***** Object: View [ara].[FilterInEvents]    Script Date: 7/13/2021 8:21:48 AM *****/
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO

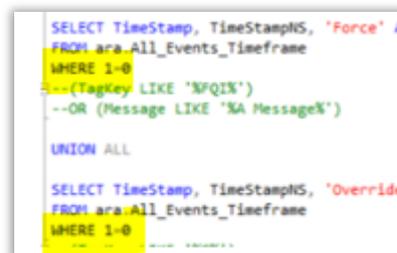
ALTER VIEW [ara].[FilterInEvents]
AS

SELECT TimeStamp, TimeStampNS, 'Force' AS Report, TagKey, TagName, Message, StationName
FROM ara.All_Events_Timeframe
WHERE 1=0
--(TagKey LIKE '%FQIX')
--OR (Message LIKE '%A Message%')

UNION ALL

SELECT TimeStamp, TimeStampNS, 'Override' AS Report, TagKey, TagName, Message, StationName
FROM ara.All_Events_Timeframe
WHERE 1=0
--(TagKey LIKE '%G%')
--OR (Message LIKE '%A Message%')
GO
```

By default, the report does not run due to the “WHERE 1=0” condition, this effectively keeps the filter disabled. As shown in below image:



```
SELECT TimeStamp, TimeStampNS, 'Force' AS Report, TagKey, TagName, Message, StationName
FROM ara.All_Events_Timeframe
WHERE 1=0
--(TagKey LIKE '%FQIX')
--OR (Message LIKE '%A Message%')

UNION ALL

SELECT TimeStamp, TimeStampNS, 'Override' AS Report, TagKey, TagName, Message, StationName
FROM ara.All_Events_Timeframe
WHERE 1=0
--(TagKey LIKE '%G%')
--OR (Message LIKE '%A Message%')
```

The commented-out lines (shown in green above) act as a guide for how the WHERE clause may be filled in.

## 5.3 Editing the View

It is recommended to take each line separately and edit as per below steps.

The first step is to add the **Report** and **Tagkey**, as per below examples in red.

Report is called system::0001 and the tag key is SYSTEM.

```
SELECT TimeStamp, TimeStampNS, 'Force' AS Report, 'SYSTEM::0001' TagKey, 'SYSTEM'TagName, Message, StationName
```

Add the database that the alarms are processed to in Exaquantum.

```
FROM QHistorianData.dbo.vEXAOPCCAMSSystemAlarm as ev
```

Finally, add the message required from the Exaquantum database, this message may differ in each site, check what alarms are being processed for these reports. Chapter 4 of this document refers.

```
Where Message LIKE '%Variable Set%'
```

The full query will look like the following:

```
SELECT TimeStamp, TimeStampNS, 'Force' AS Report, 'SYSTEM::0001' TagKey, 'SYSTEM'TagName, Message, StationName
FROM QHistorianData.dbo.vEXAOPCCAMSSystemAlarm as ev
Where Message LIKE '%Variable Set%'
```

The same steps as above are required for both Force and Override Reports the only difference is the alarm message required as force and overrides have different alarm messages.

```
SELECT TimeStamp, TimeStampNS, 'Force' AS Report, 'SYSTEM::0001' TagKey, 'SYSTEM'TagName, Message, StationName
FROM QHistorianData.dbo.vEXAOPCCAMSSystemAlarm as ev
Where Message LIKE '%Variable Set%'

UNION ALL

SELECT TimeStamp, TimeStampNS, 'Override' AS Report, 'SYSTEM::0001' TagKey, 'SYSTEM'TagName, Message, StationName
FROM QHistorianData.dbo.vEXAOPCCAMSSystemAlarm as ev
Where Message LIKE '%Override%'
GO
```

Once complete select save and close query. In SQL studio:

- Enable the ARA update job as per chapter 2 of this document
- Start ARA update job using the steps in chapter 2 of this document
- Wait for the next forward update job in ARA to complete (this is 10 mins past the hour) this allows ARA to process the alarms required for the force and override reports
- Check the alarms have been processed to Exaquantum for force and overrides
- Review the Force and Override Reports from ARA dashboard

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## Chapter 6 Further Reading

For more information on Force and Override Reporting please review the following documents:

- IM 36J40A25-01EN Exaquantum/ARA Engineering Guide
- IM 36J40A21-01EN Exaquantum/ARA User manual

For further information, please contact Yokogawa Customer Support

[Customer.services@ymx.yokogawa.com](mailto:Customer.services@ymx.yokogawa.com)

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## Highlights

The Highlights section gives details of the changes made since the previous issue of this document.

- **Summary of Changes**

This is Issue 1.0 of the document related to Product Library version 5.0.

- **Detail of Changes**

The changes are as follows:

Chapter/Section/Page	Change