



OSIsoft Cloud Services

Part 3 of 4

- Building Calculations -

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Extend the Platform and Add New Offerings

More Commercial Offerings

Cloud Connect



Data Sharing



Display Sharing



Partners App.



Cloud Services Platform

Agenda

- What are Calculations in OSIssoft Cloud Services?
- How do we keep them secure?
- How can they be built?
- Building Calculations using the OCS Portal
 - Live Demo
- Future

What are Calculations in OSIssoft Cloud Services?

- Hosted with the Data Store
 - Lower latency access
- Custom JavaScript Logic
- Scheduling Support
- Reusable via Templates
- No Data Access Pattern Assumptions

```
Well_RoP_Script
4   var date = Date.fromTimeExpression("2015-11-17T14:21:14.000Z");
5
6   try
7   {
8       var values = await qi.getWindowValuesAsync(wellStream.Id,
9           new QiCompoundIndex(3136.999, date),
10          new QiCompoundIndex(3140, date), QiBoundaryType.ExactOrCalculated,
11          "CreationDate eq 2015-11-17T14:21:59.000Z");
12
13          console.log(JSON.stringify(values));
14    }
15    catch(error)
16    {
```

Output Audit Trail

```
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2017-03-03 16:44:13 (MST) Script(s) compiled successfully.
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Securing Calculations in OSIssoft Cloud Services

- Process Isolation
- Bare JavaScript Virtual Machine
 - No WebSockets, DOM, XMLHttpRequest, etc.
 - Only Access Data Store via Read / Write Data RPCs
- Automatic Termination if Time Slice is Exceeded

Securing Calculations in OSIssoft Cloud Services

- Capped Memory Consumption
- Defective Calculations Pulled from Scheduling Automatically
- OSIssoft Cannot See Your Intellectual Property

Building Calculations

- OSIssoft Cloud Services Portal
 - Uses REST API
 - Uses No Undocumented APIs
- .NET Client Libraries
- REST API

Fictitious Scenario for OSIsoft Cloud Services (OCS)

The Story of Unified Petroleum's Digital Transformation

Desire to improve safety and reduce cost

- Optimize drilling
- Share across regions
- Discourage isolation
- Smooth interaction w/ latest technologies
- Available everywhere
- Do not want to maintain an IT staff

Fictitious Scenario for OSIsoft Cloud Services (OCS)

- Data source
 - Wellsite Information Transfer Standard Markup Language (WITSML)
 - “*Standard*” for sharing well data in the petroleum industry.
- Unified Petroleum is actively drilling in...
 - Gulf of Mexico
 - North Sea
 - Lookout, Oklahoma



Demo – Building Calculations in the OCS Portal

Unified Petroleum

- Drilling Data Streams Include
 - RoP – Rate of Penetration
 - Depth – Depth of Well
 - RPM – Rotations per Minute
- Calculation Template
 - Use Ratio of RoP and RPM to determine drill bit wear and tear.



Demo

Future

- Additional Languages Support
 - Investigating: C# Script, R, and Python
- Additional Schedule Types
- Security Enhancements (More Sandboxing)
- Community

Future

- Adapters to Provide Secure Access to:
 - Twilio
 - SendGrid
 - Azure: Machine Learning, Functions, Logic Apps, etc.
- You Tell Us
 - User Voice

Next Steps...

UC NA 2017
San Francisco



UC EMEA 2017
London



uservoice

UC NA 2018
San Francisco



uservoice

UC EMEA 2018



uservoice

Open Beta

- Storage
- Ingress
- Calculations
- Visualization

CTP

- Data Sharing
- Display Sharing

Gen. Av.

- Data Sharing
- Display Sharing
- Partners App.

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감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado

Questions

Please wait for the **microphone** before asking your questions



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