Scheduling parallel production in the world of containers

3.3.2017
About

- met.no
- yr.no

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IT Division
Team Modellprod

Norwegian Meteorological Institute
Utskifting av bakgrunnbilde:

- Høyreklikk på lysbildet og velg «Formater bakgrunn»
- Under «Fyll», velg «Bilde eller tekstur» og deretter «Fil…»
- Velg ønsket bakgrunnsbilde og klikk «Åpne»
- Avslutt med å velge «Lukk»
What are containers

Containers are a method of operating system virtualization that allow you to run an application and its dependencies in resource-isolated processes.

https://aws.amazon.com/containers/
Productstatus based architecture

Productstatus

RESTful API

Message queue

kafka

EVA (EVent Adapter)

ECMWF receiver service

Radar

ecFlow

PPI - post-processing infrastructure (cluster)
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MESOS
Productstatus

1 result(s) for query: 90ec8fc2-725c-4673-929a-5580fe6cce11

Product instance: 2017-03-03 07:30:00Z  Version 1  90ec8fc2-725c-4673-929a-5580fe6cce11  Admin

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<tr>
<th>Product</th>
<th>RADAR Nowcast Norway post-processed</th>
<th>e664da42-b56b-45bf-8531-bb2535a07bd2</th>
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<td>Reference time</td>
<td>2017-03-03 07:30:00Z</td>
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</tr>
<tr>
<td>Version</td>
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<td></td>
</tr>
<tr>
<td>Added to database</td>
<td>2017-03-03 07:39:09Z</td>
<td></td>
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<tr>
<td>Last modified</td>
<td>2017-03-03 07:39:22Z</td>
<td></td>
</tr>
<tr>
<td>Number of data entries</td>
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<td></td>
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<tr>
<td>Previous in time and version</td>
<td>2017-03-03 07:22:00Z  Version 1</td>
<td>3f29956c-bb57-49e7-a536-98108004765b</td>
</tr>
<tr>
<td>Next in time and version</td>
<td></td>
<td></td>
</tr>
<tr>
<td>URL</td>
<td>Service backend</td>
<td>File format</td>
</tr>
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<td>-------------------------------------------------------------------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>2017-03-03 07:30:00Z to 2017-03-03 09:22:30Z</td>
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<td>THREDDS</td>
<td>NetCDF</td>
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<td>NetCDF</td>
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<td>LustreA</td>
<td>NetCDF</td>
</tr>
</tbody>
</table>

Productstatus is an internal MET Norway service, brought to you by IT-Modellprod.
Future plans

- Replace Mesos with Kubernetes
- Rewrite / Rethink Productstatus
- Feed latest model data to in-memory structures
- Turn EVent Adapter into a programming language integration
Questions?