A complete secure, enterprise, multi-user, scalable and fault tolerant OHDSI environment deployed automatically on AWS in hours.

BACKGROUND
• Deploying the OHDSI toolset can be time consuming and technically challenging
• The infrastructure required to use the OHDSI tools can be expensive and complicated
• OHDSIonAWS seeks to address both of these challenges by offering full automation to deploy a best-practices OHDSI environment in just a few hours using inexpensive AWS infrastructure (figure 1)

METHODS
The features of using this architecture are as follows:
• It can be deployed with access from the public Internet, or accessible only from within your organization’s private network
• It deploys the OMOP CDM with sample data, Atlas, WebAPI, Achilles, Jupyter Notebooks, and RStudio with PatientLevelPrediction and many other OHDSI libraries
• Provides role-based access control for Atlas and RStudio
• It uses data-at-rest and in-flight encryption to respect the requirements of HIPAA
• It uses managed services from AWS; OS, middleware, and database patching and maintenance is largely automatic
• In a small deployment, it costs less than $450/month including the data warehouse

RESULTS
• IQVIA uses this architecture globally to support their OHDSI and OMOP environments.
• IQVIA cites the ability to turn environments on and off and also to scale environments up and down quickly as advantages of this architecture.
• The automation accepts parameters that allow customization of the scale, included data sources (figure 2), OHDSI project versions (figure 3), and network configuration

<table>
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<tr>
<th>Sample Data Source</th>
<th>Size</th>
<th>Schema Name</th>
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<td>Synthia</td>
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<td>synthia</td>
</tr>
<tr>
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<td>&gt;100,000 persons</td>
<td>synthia20k</td>
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<tr>
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<td>OHSDelaySynthia</td>
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</tr>
</tbody>
</table>

Figure 1

Figure 2

Figure 3

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