HPCC Systems ECL Builder

Narasimha Murthy G

HPCC SYSTEMS®

#HPCCSummit

October 12th , 2016

LexisNexis®

Infosys® | Building Tomorrow's Enterprise

ECL BUILDER

HPCC SYSTEMS®

ECL BUILDER - PURPOSE

" As **HPCC Systems continues to evolv**e with significant new features, we simultaneously want to simplify the access to data so that **users can fetch data** as quickly and easily as possible **with a Very Simple and Intuitive User Interface**."

"User needn't be a Developer or a Person with ECL Knowledge, they can be anyone (Business Analyst etc.) who need quick access to the Data"

"Provide flexibility to the User to fetch data from any Client or Touch Device from anywhere without any Limitations or Pre-Requisites"

Agenda

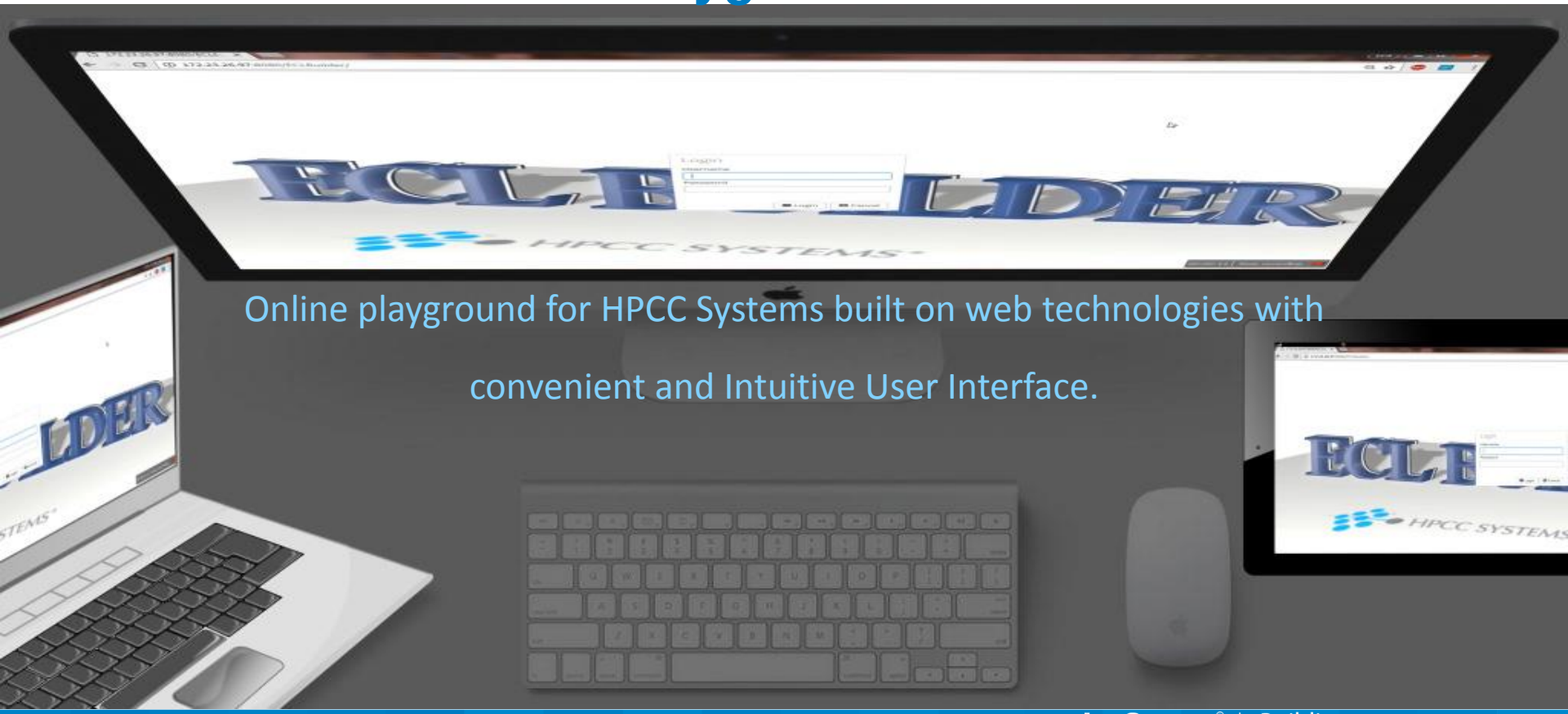
- Purpose
- ECL Builder - Features
- Web Technology used in ECL Builder
- Demo
- Practical use of ECL Builder
- Future enhancements
- Q&A

Current Challenges

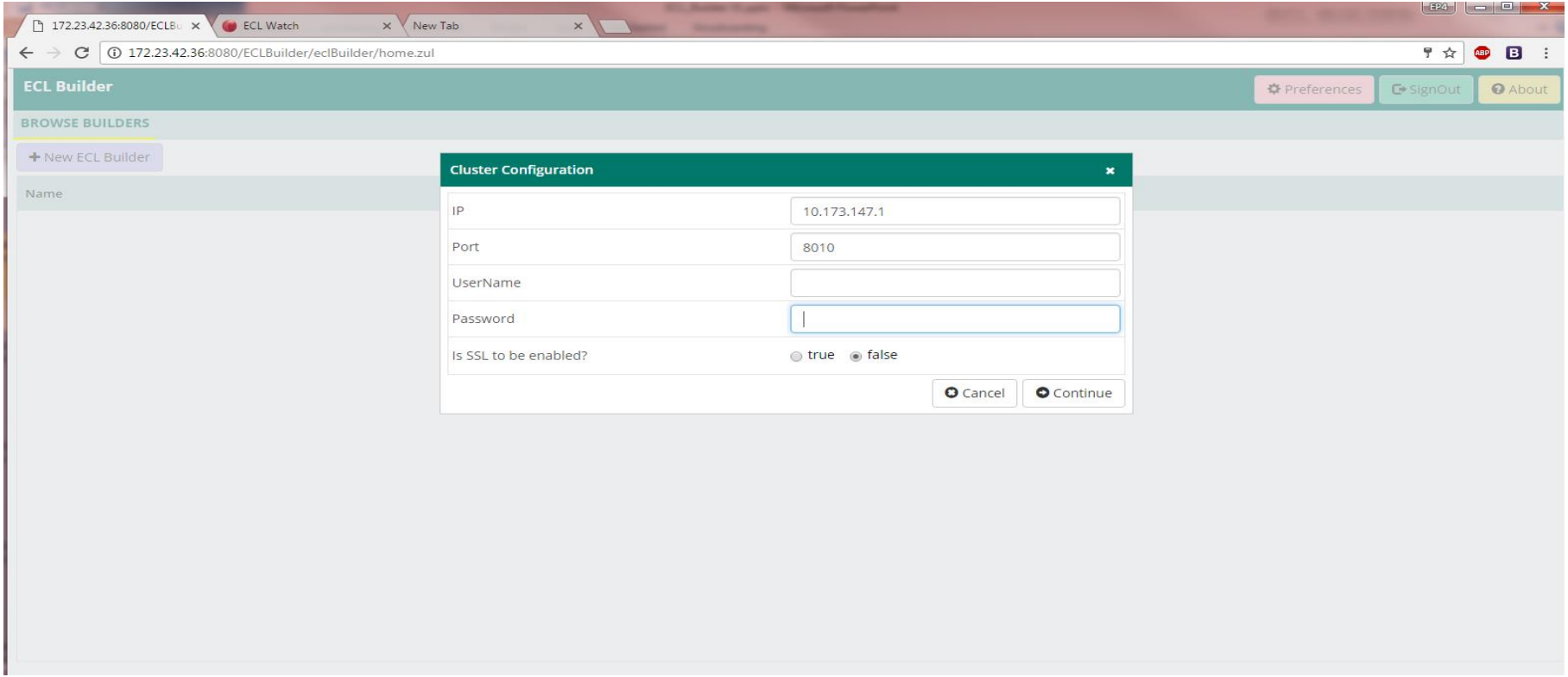
- Users like Business Analysts(human analysts) need ECL knowledge or assistance from developers to query data and generate reports
- Non-availability of GUI based ECL clients which can construct complex/moderately complex queries and retrieve data
- Lack of provisions for ECL developers to quickly generate repetitive boiler plate code

ECL BUILDER - FEATURES

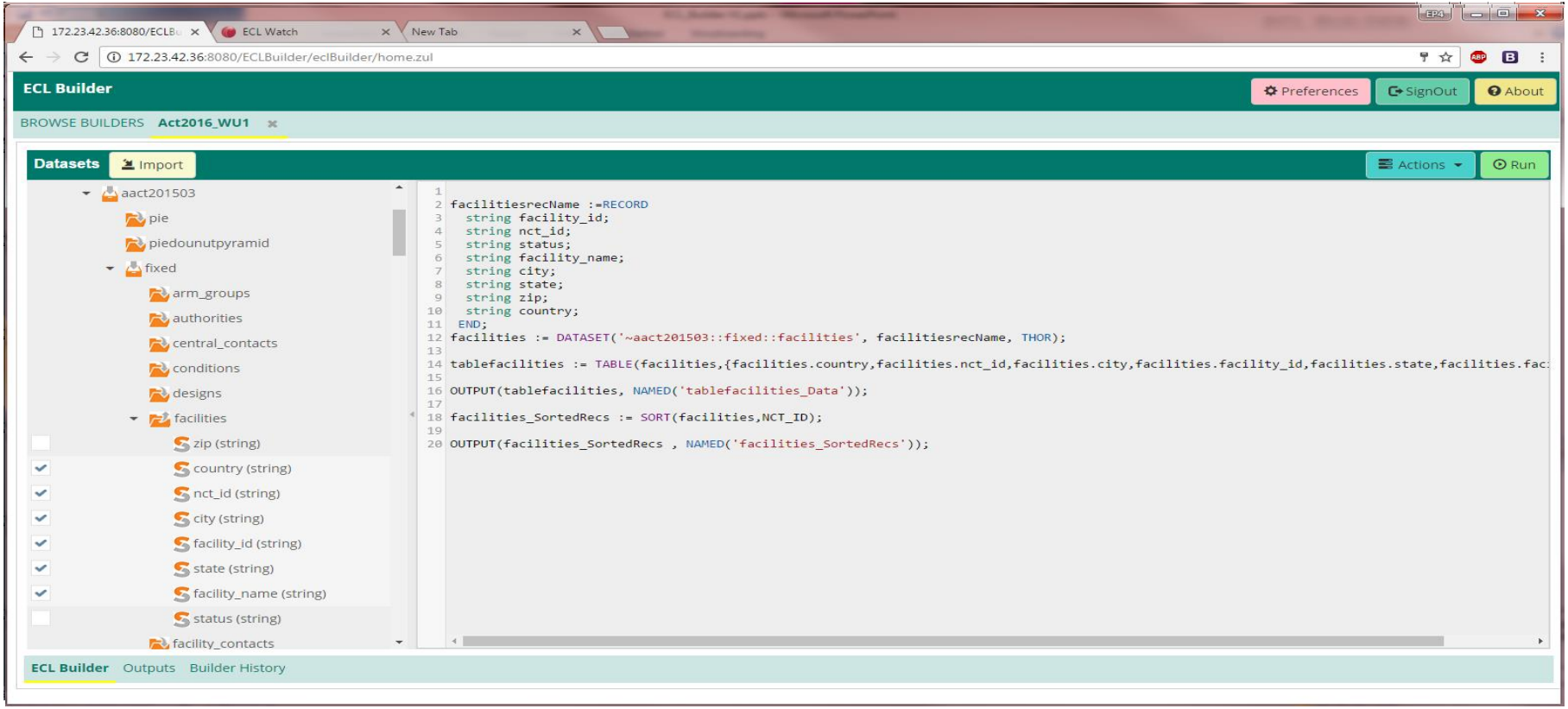
ECL Builder – Online Playground



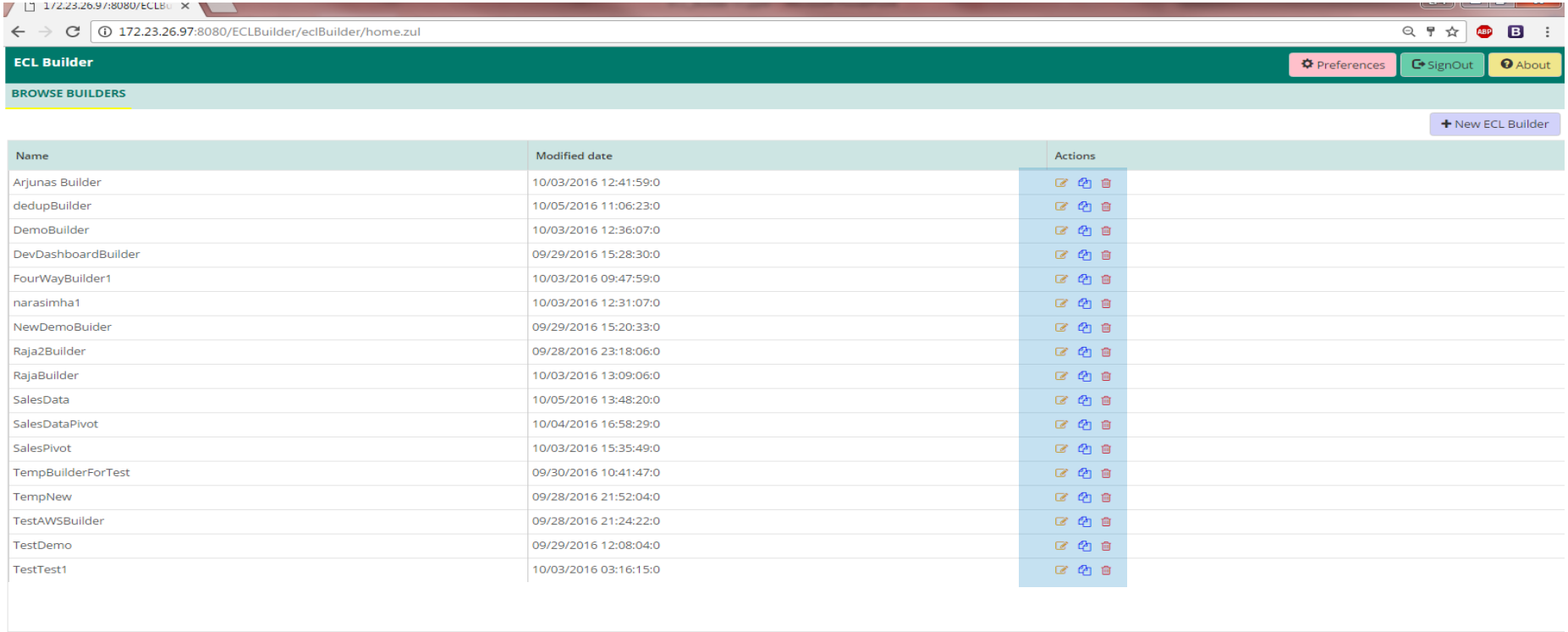
ECL Builder – Connect to different Clusters



ECL Builder – Create New Builder

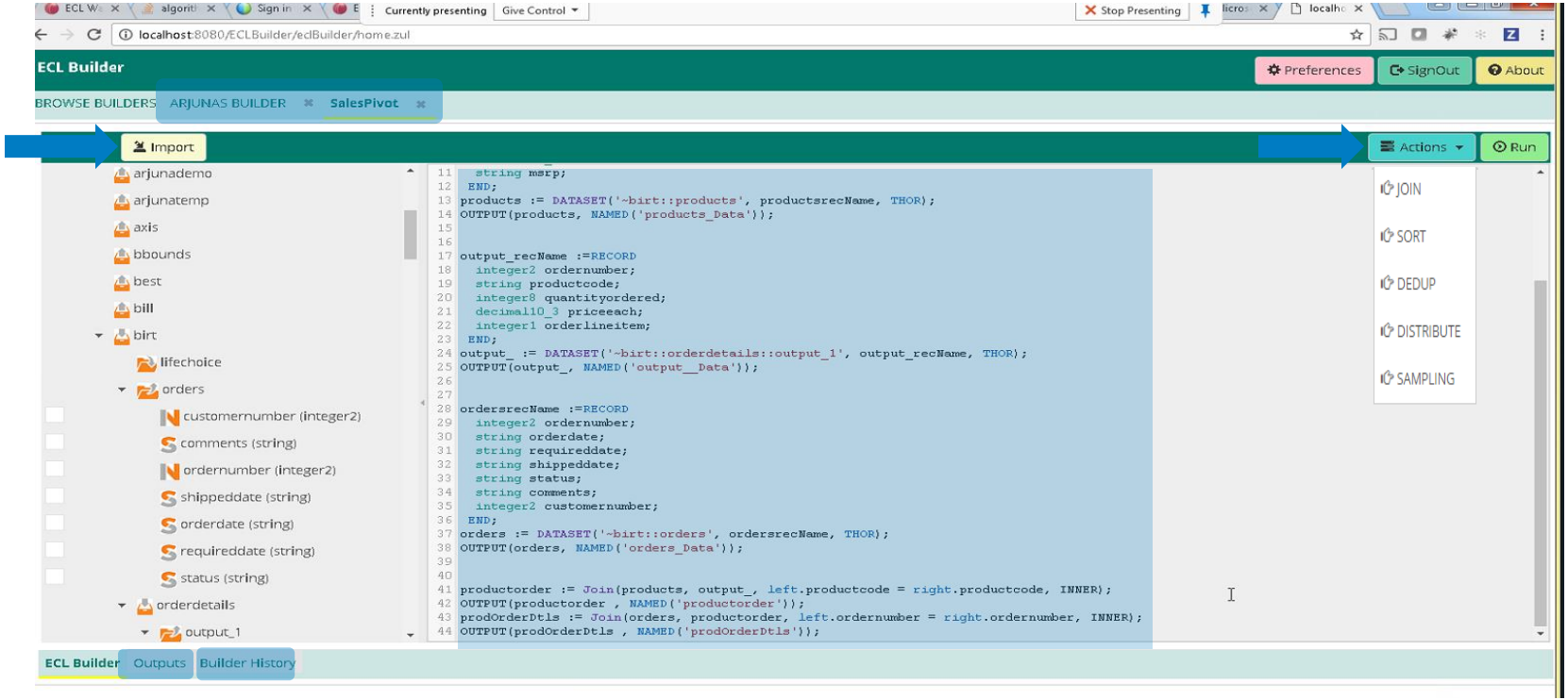


ECL Builder – Persist ECL code as Projects

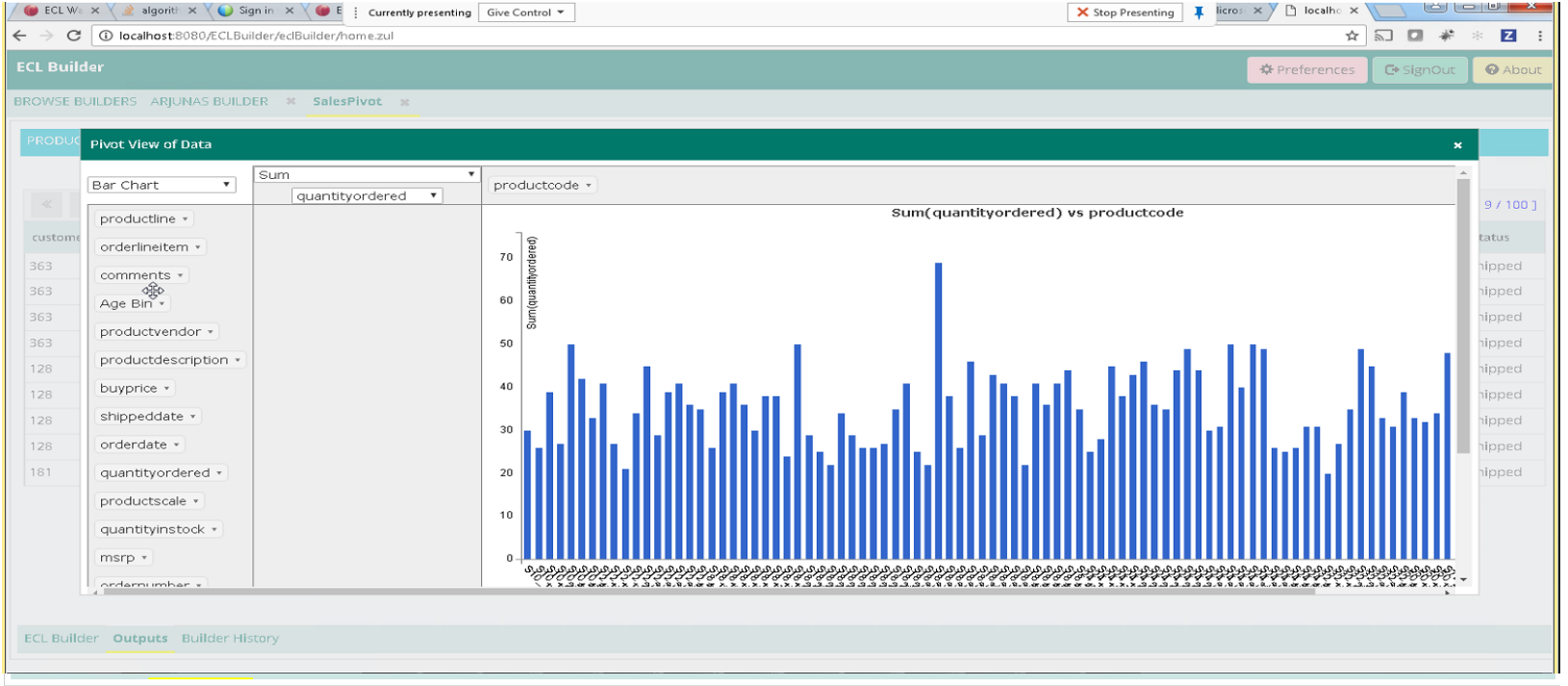


Name	Modified date	Actions
Arjunas Builder	10/03/2016 12:41:59:0	
dedupBuilder	10/05/2016 11:06:23:0	
DemoBuilder	10/03/2016 12:36:07:0	
DevDashboardBuilder	09/29/2016 15:28:30:0	
FourWayBuilder1	10/03/2016 09:47:59:0	
narasimha1	10/03/2016 12:31:07:0	
NewDemoBuider	09/29/2016 15:20:33:0	
Raja2Builder	09/28/2016 23:18:06:0	
RajaBuilder	10/03/2016 13:09:06:0	
SalesData	10/05/2016 13:48:20:0	
SalesDataPivot	10/04/2016 16:58:29:0	
SalesPivot	10/03/2016 15:35:49:0	
TempBuilderForTest	09/30/2016 10:41:47:0	
TempNew	09/28/2016 21:52:04:0	
TestAWSBuilder	09/28/2016 21:24:22:0	
TestDemo	09/29/2016 12:08:04:0	
TestTest1	10/03/2016 03:16:15:0	

ECL Builder – Editor



ECL Builder – Output



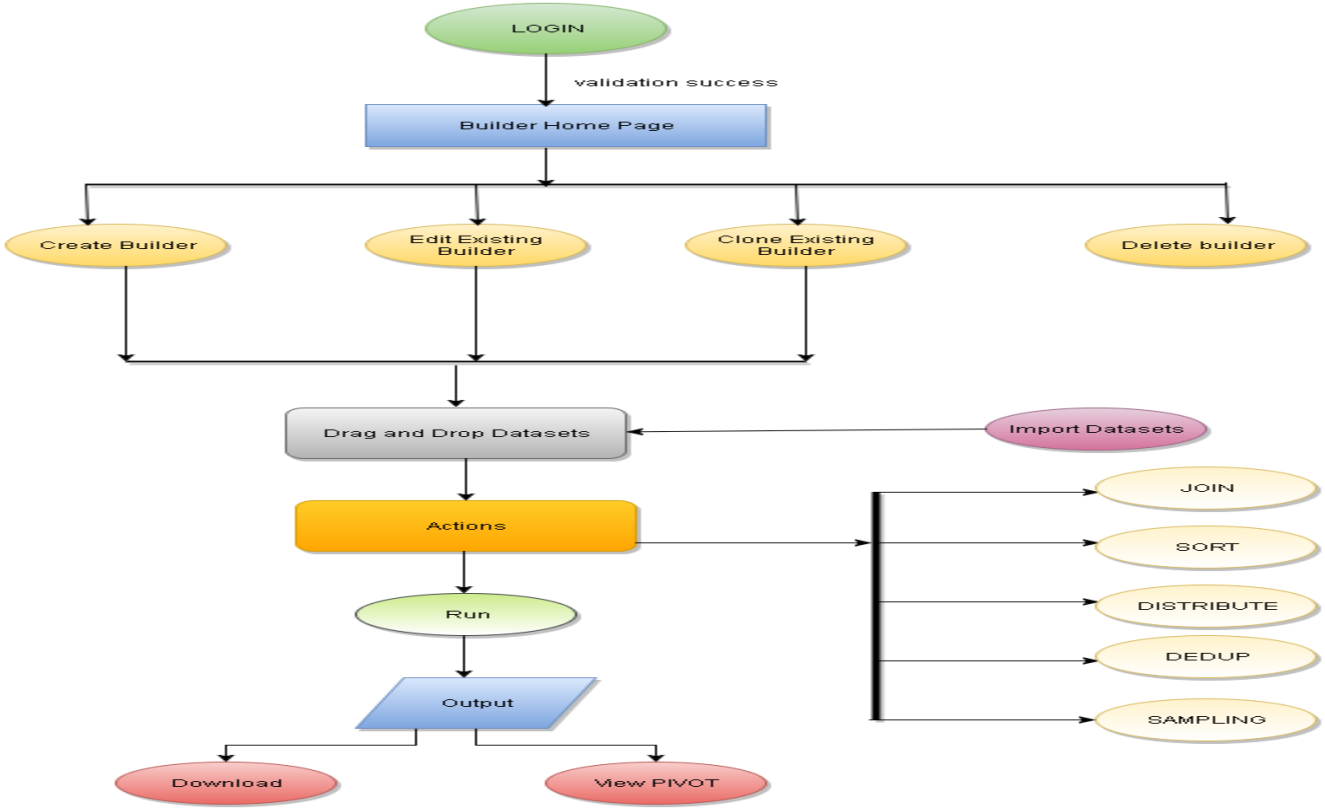
ECL Builder – Features Summary

- Online playground for HPCC Systems built on web technologies
- Provides a convenient and Intuitive Interface
- Preference setting to connect to any cluster
- Upload files into the landing zone and spray them
- Create new Builders/Projects, Clone Existing and Delete
- Provides the ability to segregate and persist ECL code as separate projects
- Easily browse and select logical files
- Clear [iconic] overview of the Names & types of the attributes of the datasets available under the logical Files of the Cluster

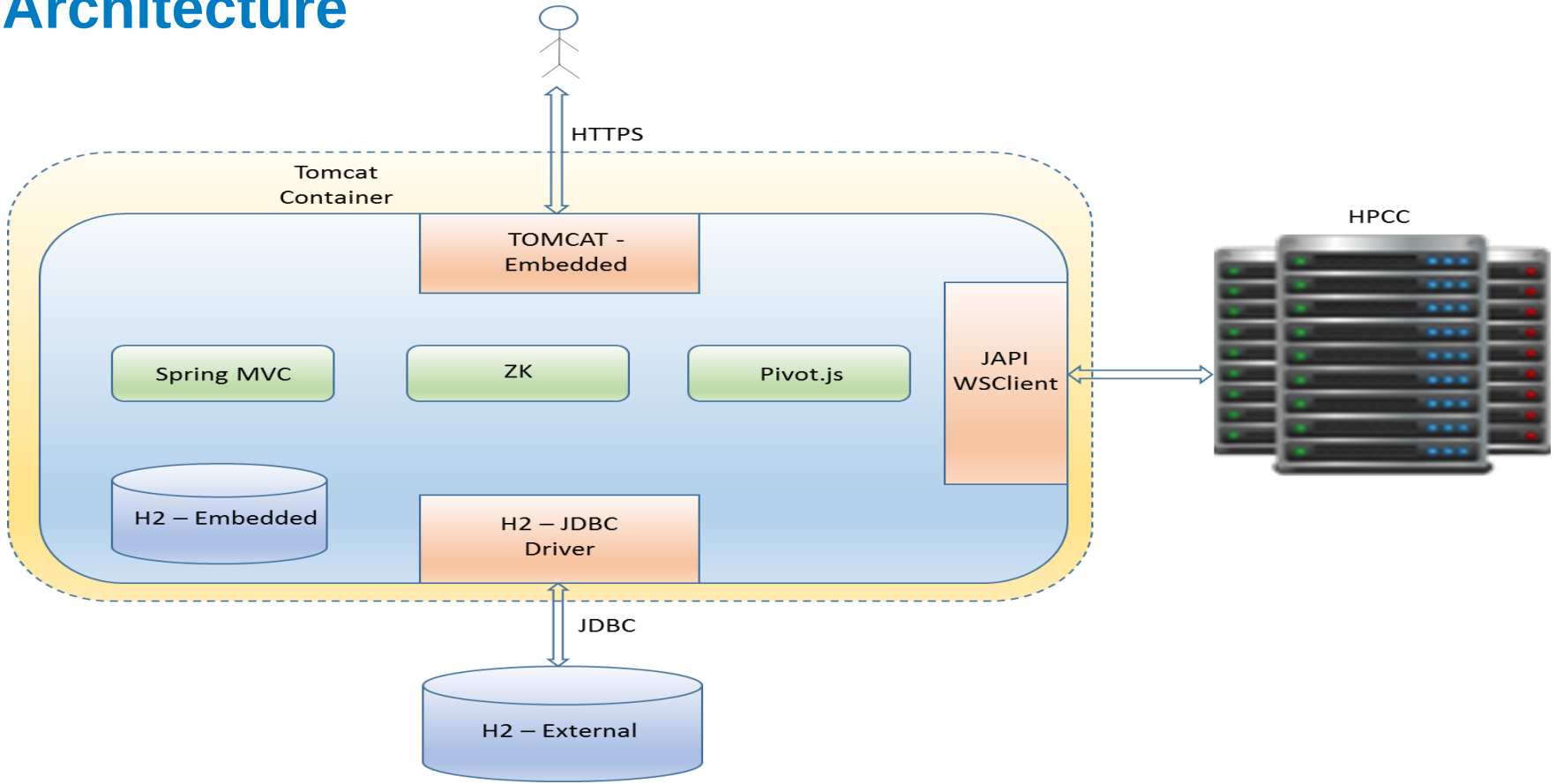
ECL Builder – Features Summary –Cont..

- Vertical Filtering of dataset can be done in easy way (within drag & drop of Logical file to the Editor)
- Drag & Drop logical files to run ECL Actions(reading datasets, performing joins, running cross tab reports, sorts)
- Syntax Highlighting
- Save and view Build History
- Download Output
- Provides enhanced interface to generate output visualization and output post-processing (e.g. generating pivot tables)

Sequence Diagram

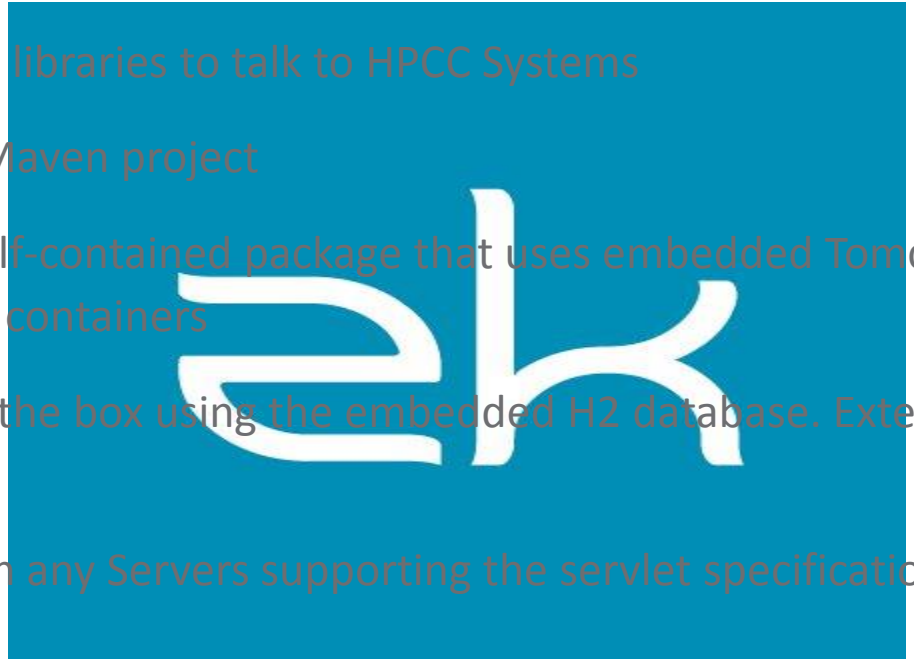


Architecture



Technology

- Built on the ZK framework, an open-source Ajax Web application framework
- Uses the WSClient libraries to talk to HPCC Systems
- Can be built as a Maven project
- Is available as a self-contained package that uses embedded Tomcat Server and does not need any external containers
- Can be run out of the box using the embedded H2 database. External database instance not mandatory.
- Can be installed on any Servers supporting the servlet specifications



DEMO

COLLABORATE

Git: https://github.com/infosys-hpcc/eclbuilder

- The ECLBuilder code base
- A pre-built packaged version of the ECLBuilder that can be run out of the box
- A readme file that provides instructions on
  - Running on building, installing and running both versions of the application i.e. the enterprise deployment as well as the local deployment.
  - Steps to set up the pre-requisites including installation of the database, the servlet containers etc.
- Instructions/guidelines on contributing to the project

ECL BUILDER IN USE

- The ECL Builder is currently being used on the “FDA – Clinical trials Analysis”
- ECL Builder can be used a Teaching Tool
- ECL Builder can be used to generate repetitive boiler plate code

Upcoming Enhancements

- Migrate to a more flexible and interactive front end based on Angular 2.0 and Spring MVC based web services
- Adding support for additional ECL constructs like Normalize, Denormalize, Iterate, generating functions and macros etc.
- Providing support for additional optional parameters for various constructs like JOIN, SORT etc.
- Adding ability to generate and publish Roxie web services
- Adding support for consuming and reusing Roxie queries
- Adding support for leveraging Machine Learning (HPCC-ML) functions
- Making the ECL builder Gradle compatible
- Adding the ability to embed visualizations

Q & A

Point of Contact & Contributors

- Narasimha Gopal (Narasimhamurthy_G@Infosys.com)
- Raja Sundarrajan (Raja_Sundarrajan@infosys.com)
- Ashoka Parameshwara Kadambalithaya (Ashoka_K@infosys.com)
- Bhuvaneswari L
- Senthil Kumar Ramachandiran
- Angurbala Panda
- Saravana Pandian

Thank You

Infosys®