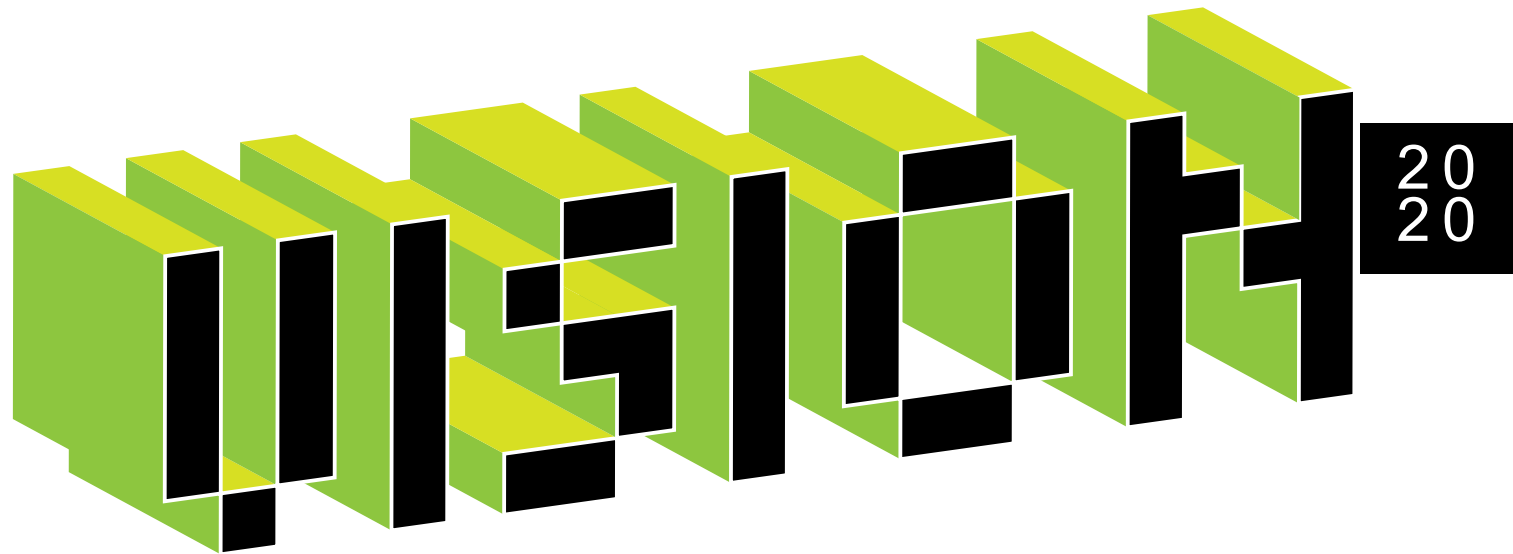


JADE





W E L C O M E

JADE USER GROUP 2020



Virtual JUG: Vision 2020

- **Intro** with John Ascroft
- **Business Update** with Charlotte Walshe
- **2020 Roadmap** with Iryna Melnyk, John Richards, Hugh McColl
- **A Short Break**
- **REST Easy** with Tim Aitchison
- **Future of JADE** with Iryna Melnyk
- **BeeJay's IDE tips & tricks** with BeeJay Johnstone



John Ascroft

Jade Software Corporation



Charlotte Walshe

Jade Software Corporation



Jade Business Update



2019 The Year that Was

- Small Profit, JADE revenues strong, re-focussing Digital
- Doubled Sales team globally – 2 salespeople in UK, 4 in Auck, 1 in Chch, 2 in Aus
- Strong growth in Jade ThirdEye in UK
- Invested in Product Mgmt, new tools for collaboration, and Learning and Development for our people



2020 Full Steam Ahead

- Continued focus on helping our customers grow with the support of a strong Sales team
- Expanding Jade ThirdEye into Australia
- JADE 2020 release
- Covid19 – Jade very fortunate, 2/3rd recurring revenue, very supportive shareholder and Board, great creative people, and customers who want us to keep helping them to grow
- Q&A



Skipton Business Update

2019 Annual
Results Update

26 February 2020



Business and Financial Highlights



1,046,294 members

Society member numbers increased by 35,868 to 1,046,294 (2018: by 91,366)



£1.2bn Savings balances growth

Savings balances grew by £1.2bn to £17.4bn by the end of 2019, an annual growth rate of 7.6% (2018: by £1.1bn, a growth rate of 7.7%)



£4.8bn Gross residential mortgage lending

Gross residential mortgage lending was up 13.1% at £4.9bn (2018: £4.3bn) despite intensive competition in the mortgage market. Group net interest margin was 0.98% (2018: 1.09%)



£1.9bn Mortgage book growth

The mortgage book grew by £1.9bn to £20.0bn, a growth rate of 10.3% (2018: £1.6bn, a growth rate of 10.0%) with Group UK residential mortgage arrears by three months or more representing only 0.25% of mortgage accounts (2018: 0.30%), a 16% year on year reduction



£153.2m Total Group Profit Before Tax (PBT)

Total Group PBT was £153.2m, below the level of 2018 (2018: £188.7m) due to the reduction in underlying profits and also includes fair value losses of £3.4m (2018: gain of £1.0m) relating to the legacy equity release portfolio



£155.2m Underlying Group PBT

Underlying Group PBT was £155.2m, representing 4.1% of Risk Weighted Assets (2018: £186.6m, 4.4% of RWA's)



39.1% Group Common Equity Tier 1 ratio

The Common Equity Tier 1 ratio strengthened significantly to 39.1% (2018: 32.8%) and the Leverage ratio remained strong at 6.0% (2018: 6.1%)



9.9% Increase in Group Total Assets

Group Total Assets increased 9.9% during the year to £25.5bn (2018: 23.2bn)

“Further improvements in asset quality, maintained capital strength & strong profitability”

JADE Stats



240,000 Members registered online

Over 240,000 members using our Customer Portal website.



130,000 Members registered to use our Mobile App

Launched in 2019 we have 130,000 members using our mobile app.



11 Million digital transactions

Our digital channels generated over 11 million JADE transactions in February using our API interface.



96% Completed < 0.5sec

41 million JADE transactions processed in February - 96% < 0.5 second - 99% < 1 second.



850gb Database

In the last 12 months we have seen an increase of 100gb in our JADE database.



27TB for JADE Databases

Over 27TB of disk taken up by 32 replicas for development, testing and resiliency purposes.

“Further improvements in asset quality, maintained capital strength & strong profitability”



Running JADE 2018

All systems were upgraded from Jade 7.1 to J2018 in May 2019.

Favourite features include

- type methods,
- parametrised constructors and
- IDE performance and customisation improvements.



QUESTIONS & ANSWERS

JADE USER GROUP 2020



JADE 2020 Roadmap

Iryna Melnyk, John Richards, Hugh McColl



What we'll talk about

- JADE Release schedule
- 2020 Roadmap
- Additional announcements
- Q&A

Links to the JEDI portal ideas

- You can access ideas on the [JEDI portal](#) via the links throughout the presentation.
- We update the ideas with design and implementation details as we work on the features.
- Join the conversation! Add your questions and comments to the ideas you are interested in.

Developer Productivity

- Generic Interfaces ([Executing](#))
- Array of variable length strings ([Executing](#))

<https://jedi.ideas.jadeworld.com/ideas/JAD-I-429>

Vision



JADE provides the most effective way for our customers to meet their **evolving** development and runtime needs, through a **reliable, high performance, easily managed** platform that integrates with other technologies and platforms.

Vision

How did we plan the 2020 roadmap?



Listen
to our customers



Pay attention
to trends



Invest
and invigorate

JADE Release schedule





Security Hotfix

Our internal security review revealed a couple of areas of improvement.

Hotfix will address two potential security vulnerabilities in the following areas:

- Report Writer scripts
- An unpublished feature to do with Workspaces

When:

- ETA is mid-April

How we'll notify you:

- Newsletter
- Developer Center (Website)

Live roadmap

<https://jedi.ideas.jadeworld.com>

- Ready for Release
- Executing
- Planned



The screenshot shows the JEDI IDE Environment Development Ideas website. The header features the "JEDI" logo and the text "JADE Environment Development Ideas" against a background of a person silhouetted against a starry sky. Below the header, there are navigation tabs for "Recent", "Trending", and "Popular", along with a search bar. The main content area displays three ideas:

- REST api consumer**: 55 votes, "Executing" status. Description: "Original Idea - as requested Jade now has a REST provider and the logical next step is to provide support for a REST consumer. SOAP and REST web service is required from both provider and consumer perspective to be able to play with other vendors ...". Created 10 months ago by Brian Herwood. Interoperability category. 4 comments.
- Source control overhaul**: 44 votes, "Future consideration" status. Description: "For a few years now there have been discussions on how Jade could be improved by including a new and modern take on source control, utilising industry accepted tools or ideas. A vote here is firstly then to confirm you still feel this is important...". Created 10 months ago by John Beaufoy. DevOps category. 7 comments.
- Null conditional operator**: 39 votes, "Future consideration" status. Description: "Null exceptions must be up there with the most common runtime issue. Often these occur when dealing with older persistent data that didn't have the same validation enforced on it, or object references yet to be populated. There are various strateg...". Created 10 months ago by John Beaufoy. Language and Compiler category. 0 comments.

On the left side of the screenshot, there is a sidebar with a table of contents:

| Filter by Status | Count |
|-----------------------------|-------|
| My Ideas | 2 |
| My votes | 3 |
| Needs review | 62 |
| Future consideration | 87 |
| IDE Backlog | 82 |
| Planned | 19 |
| Executing | 16 |
| Ready for Release | 39 |
| Shipped | 64 |
| Closed | 39 |
| Customer Feedback Requested | 9 |

| Filter by Category | Count |
|-----------------------|-------|
| Admin | 0 |
| Admin | 22 |
| DevOps | 55 |
| IDE & debugger | 139 |
| Interoperability | 13 |
| Language and Compiler | 25 |
| Root Schema | 19 |
| Runtime | 14 |

JADE 2020 Roadmap



Openness



User Experience



Developer Experience



DevOps



Performance



Security



Openness



- Add
JadeHttpConnection::sendRequestUtf8
([Ready for Release](#))
- REST API Consumer ([Executing](#))
 - JADE REST client RootSchema classes
 - GET, PUT, POST and DELETE
 - OPTIONS requests



REST api consumer

Original Idea - as requested

Jade now has a REST provider and the logical next step is to provide su
consumer. SOAP and REST web service is required from both provider

Total: 1 executing, 1 ready for release



User Experience



- Skins – Usability improvements:
 - Skin Category Selection in Painter ([Ready for Release](#))
 - JadeTableSkin to allow the definition for the fixed row and column fore color ([Ready for Release](#))
 - Ability to change a table scrollbar skin ([Ready for Release](#))
- Float/Dock for MDI Child forms ([Executing](#))
- Message Boxes with custom button captions ([Ready for Release](#))
- comboBox enhancements for touch screens ([Ready for Release](#))

Total: **1** executing, **5** ready for release



Developer Productivity



- Generic Interfaces (Executing)
- Array of variable length strings (Executing)
- Regular Expression Support (Executing)

Total: **3** executing



Developer Experience

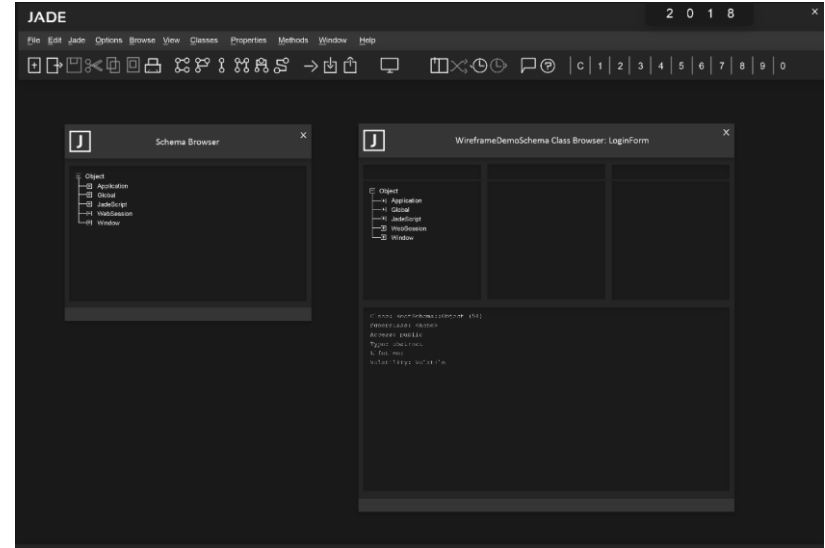
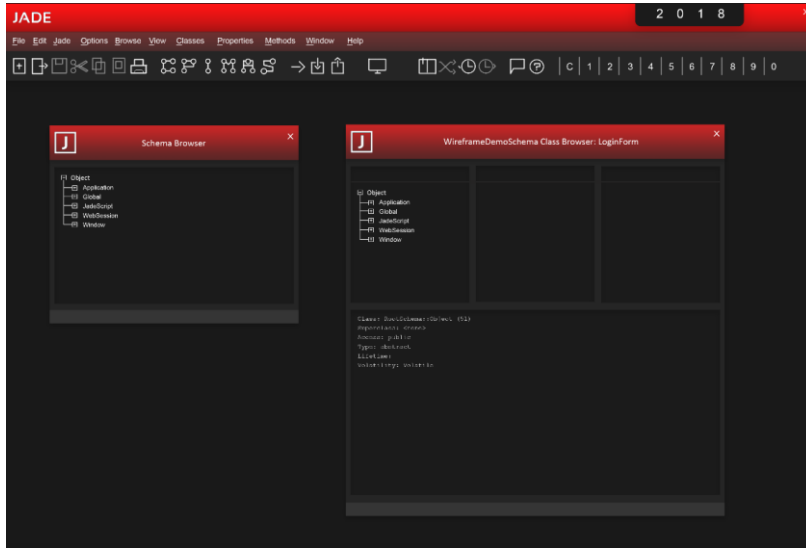


- Built-in Quick Inspect ([Executing](#))
- IDE Themes ([Executing](#))
- [Smaller improvements](#) to the IDE (32 features, including UI, efficiency, layouts etc.)
- More small improvements could be added from [IDE Backlog](#)

Total: **2** planned, **3** executing, **29** ready for release



Dark IDE Themes



17

VOTE

Allow for a dark IDE scheme

I use dark themes and schemes for all software that supports it as I find it easier on my eyes after prolonged use. Much software allows for this these days. It would be helpful if Jade both supported a dark theme and allowed for a dark theme to b...



Created 10 months ago by Allistar Melville
IDE & debugger

Planned

1



Built-in Quick inspect



The screenshot shows the JADE Schema Inspector interface. The title bar reads "JADE [J] Schema Inspector for Client [2106.1]". The main window is divided into three panes:

- Schema Browser (Left):** A tree view showing a hierarchy of schemas. The "Client" schema is selected, and a list of clients is displayed below it, including "Brian Olsen - Client (2106.2)", "Christine Montgomery - Client (2106.3)", "Elaine Lee - Client (2106.4)", "David Russel - Client (2106.5)", "Sarah Bailey - Client (2106.6)", "Howard Ellis - Client (2106.7)", "Sean Hill - Client (2106.8)", "Peggy Simpson - Client (2106.9)", "Roger Boeing - Client (2106.10)", "Philip Jenkins - Client (2106.11)", "Barbara Montenegro - Client (2106.12)", "Christine Ronaldo - Client (2106.13)", "Andrew Fitzpatrick - Client (2106.14)", "Levi Muir - Client (2106.15)", "Peter Morrissey - Client (2106.16)", "Barry Ogen - Client (2106.17)", "Heather Bisset - Client (2106.18)", "Jane Philippe - Client (2106.19)", and "Christopher Burke - Client (2106.20)".
- Inspect Panel (Middle):** A list of attributes for the selected client, including "allRetailSales", "allTenderSales", "myCompany", "***AddressableEntity***", "address1", "address2", "address3", "email", "fax", "name", "phone", "webSite", "***ModelEntity***", "***Object***", "...edition...", "...lastUpdateTranID...", "...creationTime...", and "...volatility...".
- Data View (Right):** A text area displaying the JSON representation of the client data for "Client/2106.1". The data includes fields like "address1", "address2", "address3", "email", "fax", "name", "phone", "webSite", and "myCompany".

At the bottom of the window, there is a status bar that reads "Inspecting multiple objects" and "ErewhonInvestmentsModelSchema Data.loader".



DevOps



- Transparency of RPS activity type and the success or failure and progress of each (Planned)
- Restartable logical certify (Planned)
- Certifier to issue warning or error when an orphan control event method is detected (Planned)
- Automatic checking of checkboxes in RPS wizard (Planned)

Total: 4 planned



DevOps: Source Control



Source Management Phase 2 (Executing)

- Patch versioning improvements – make it more reliable & predictable
 - Allow better sorting, filtering and general organization of Patch History information, especially on the Patch Log form.



DevOps: Containerising JADE Services with Hugh McColl

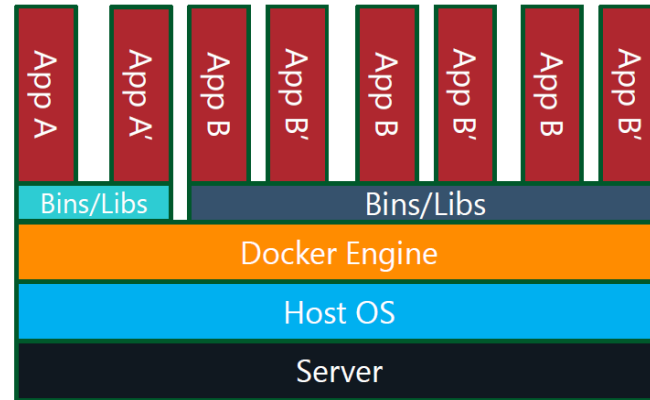
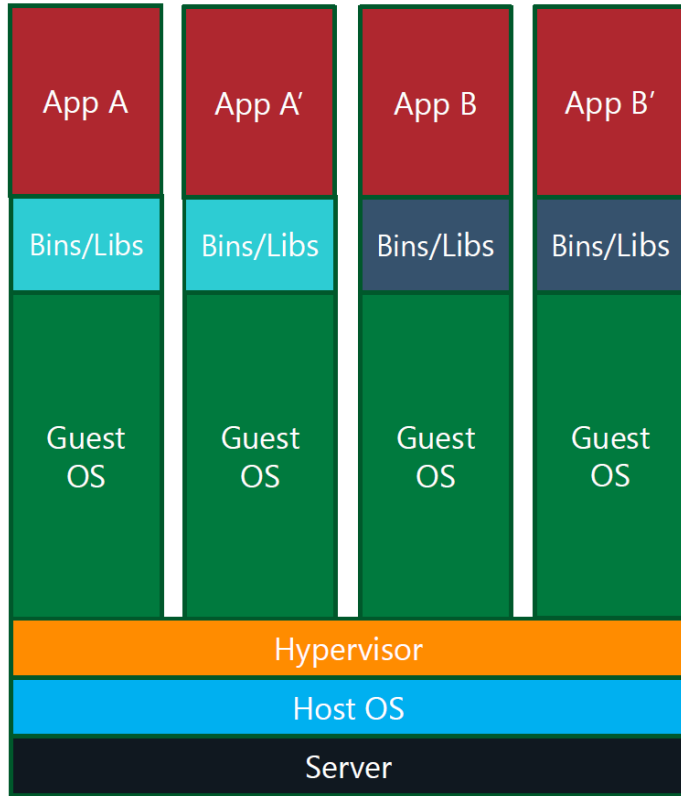


Containerising JADE Services (Executing)

- Containers - what are they?
- Container Benefits
- JADE 2020 deliverables

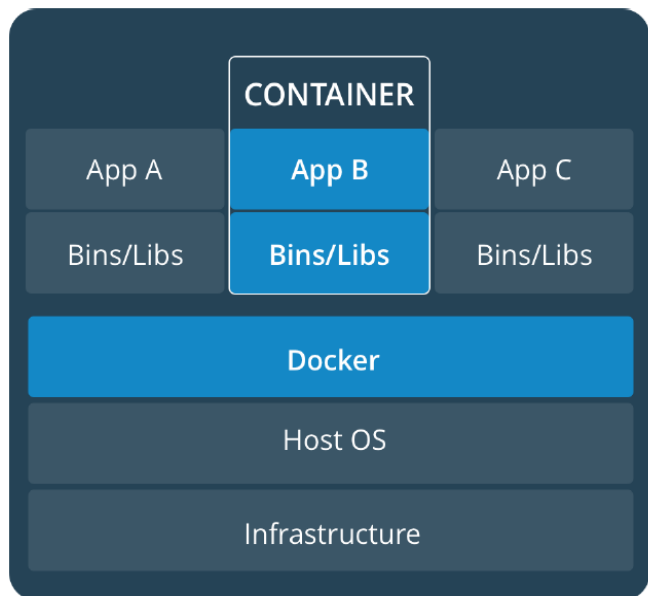
Virtual machine vs container

Better consolidation ratio

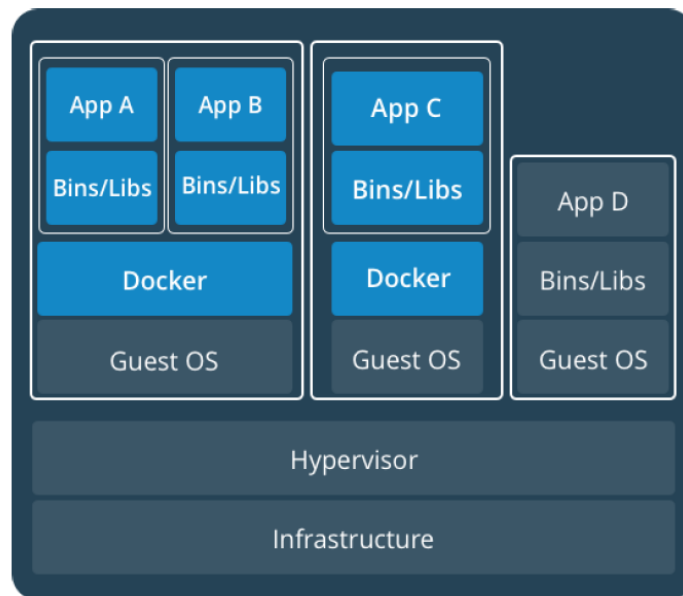


Virtual Machine vs container

Can be run bare metal

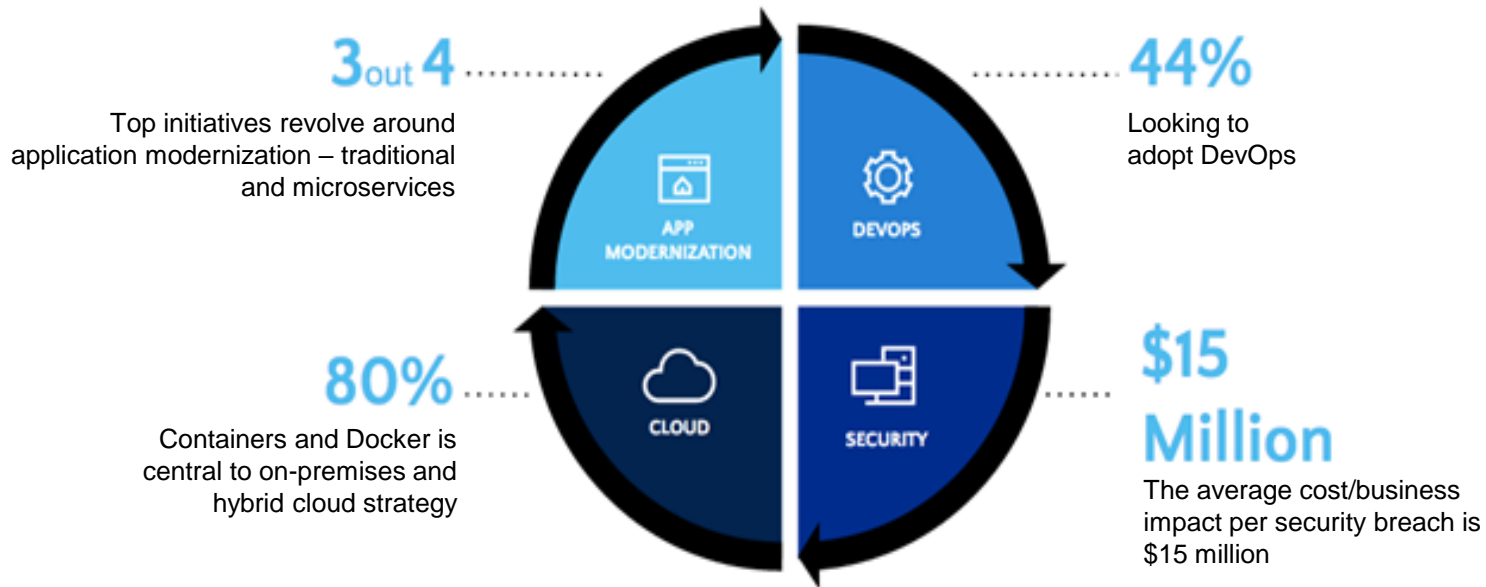


Can be run inside a VM



Business Drivers

Top drivers for customer application modernization



1. State of App Development Survey, Q1 2016. Morgan Stanley, CIO Survey, June 30, 2016.
2. Source: Ponemon Institute, "2015 Cost of Cyber Crime - US"



JADE 2020 Deliverables



- A container Friendly hosting process
- Removal of non-essential GUI dependencies from back-end components
- Sample Dockerfile specifications published on the JADE Github repository

JEDI Idea: [JAD-I-433](#)



Containerising JADE Services

Overview

The purpose of this initiative is to facilitate an approach for packaging and deploying JADE applications using light-weight virtualization technology called Containers. Deployment of JADE services as Containers enables the use of Cloud-Native technology



Performance



Collection Concurrency Enhancements (Executing)

Make it easier for developers to write code that maintains persistent Collections either directly or as a side-effect of inverse maintenance in a manner that minimizes contention and avoids deadlocks.

- New RootSchema Methods
 - tryAddDeferred, tryRemoveDeferred, ...
- Deferred strategy for inverse maintenance
 - Specify deferred execution when defining inverse relationship
 - Enable or disable with Process method

JEDI Idea: [JAD-I-423](#)



Advanced Security



Securing RESTful services (Executing)

- JSON Web Tokens (JWT)

End to End SSL Protection (Executing)

- High priority group
 1. jadehttp.dll <> app server
 2. primary <> secondary (JADE SDS traffic encryption)
- Medium priority group
 1. app server <> rap
 2. jadewebsockets.dll <> app server
- Lower priority group
 1. odbc thin client
 2. JADE to JADE webservice

Total: **3** executing

JADE 2020 Roadmap



Openness



User Experience



Developer Experience



DevOps



Performance



Security

Feature requests



<https://jedi.ideas.jadeworld.com>

- Ready for Release: 41
- Executing: 22
- Planned: 17

The screenshot shows the JEDI IDE Environment Development Ideas website. The header features the JEDI logo and the text 'JADE Environment Development Ideas'. Below the header, there are navigation tabs for 'Recent', 'Trending', and 'Popular', along with a search bar. The main content area displays a list of feature requests, each with a vote count, a title, a description, and a status label.

| Vote Count | Title | Description | Status | Comments |
|------------|---------------------------|--|----------------------|----------|
| 55 | REST api consumer | Original Idea - as requested Jade now has a REST provider and the logical next step is to provide support for a REST consumer. SOAP and REST web service is required from both provider and consumer perspective to be able to play with other vendors ... | Executing | 4 |
| 44 | Source control overhaul | For a few years now there have been discussions on how Jade could be improved by including a new and modern take on source control, utilising industry accepted tools or ideas. A vote here is firstly then to confirm you still feel this is important... | Future consideration | 7 |
| 39 | Null conditional operator | Null exceptions must be up there with the most common runtime issue. Often these occur when dealing with older persistent data that didn't have the same validation enforced on it, or object references yet to be populated. There are various strateg... | Future consideration | 0 |

On the left side of the screenshot, there is a sidebar with a table of feature requests categorized by status and category.

| Category | Count |
|-----------------------|-------|
| My Ideas | 2 |
| My votes | 3 |
| Filter by Status | |
| Needs review | 62 |
| Future consideration | 87 |
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| Admin | 22 |
| DevOps | 55 |
| IDE & debugger | 139 |
| Interoperability | 13 |
| Language and Compiler | 25 |
| Root Schema | 19 |
| Runtime | 14 |

JADE 2020: coming in Q4



<https://www.jadeworld.com/developer-center>

Newsletter

E-mail announcement

Additional announcements



Developer training:

- [Upcoming NZ course](#): format & dates TBC
- Extended topics TBA ([JAD-I-488 for feedback](#))

JADE TOI for JADE 2020 to be announced

Communication:

- Quarterly Newsletter
- JEDI Digest
- Slack community
- Facebook group

Join our community-led groups



Slack:



Facebook: Look up “JADE User Group”





QUESTIONS & ANSWERS

JADE USER GROUP 2020



Timothy Aitchison

Jade Software Corporation

JADE REST Client

RESTful Web Services

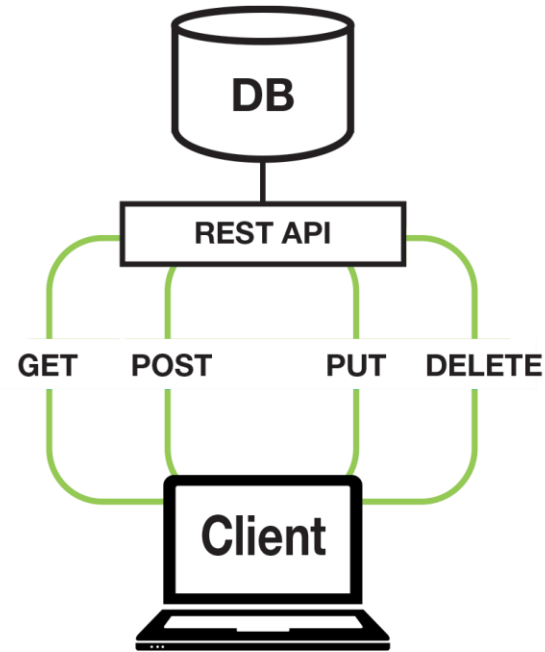


REST Server Side

JADE ✓

REST Client Side

JADE ?



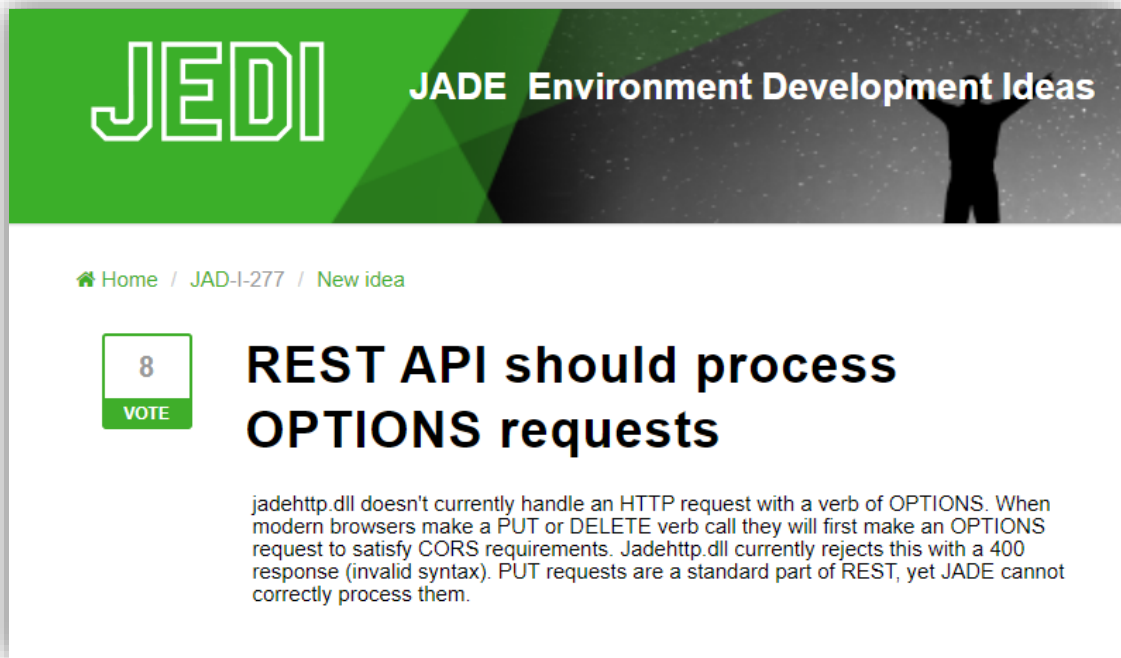


REST Server

- Improvements in JADE 2020

REST Client

- New in JADE 2020

A screenshot of a web page for a JADE idea. The header has a green background with the word "JEDI" in white outline font and "JADE Environment Development Ideas" in white text. Below the header is a navigation breadcrumb: "Home / JAD-I-277 / New idea". The main content area features a green box with the number "8" and the word "VOTE" below it. To the right of this box is the title "REST API should process OPTIONS requests" in bold black text. Below the title is a paragraph of text describing the issue with jadehttp.dll and OPTIONS requests.

JEDI JADE Environment Development Ideas

[Home](#) / [JAD-I-277](#) / [New idea](#)

8
VOTE

REST API should process OPTIONS requests

jadehttp.dll doesn't currently handle an HTTP request with a verb of OPTIONS. When modern browsers make a PUT or DELETE verb call they will first make an OPTIONS request to satisfy CORS requirements. Jadehttp.dll currently rejects this with a 400 response (invalid syntax). PUT requests are a standard part of REST, yet JADE cannot correctly process them.

A banner for the JADE Environment Development Ideas section. It features the word "JEDI" in large, white, outlined letters on a green background. To the right, the text "JADE Environment Development Ideas" is displayed in white against a dark background with a silhouette of a person with arms raised.

[Home](#) / [JAD-I-430](#) / [New idea](#)

1

VOTE

Securing RESTful services

Currently, JADE provides RESTful web services with the `JadeRestService RootSchema` class. However, these APIs are not able to be secured, that is, anyone with the URL may consume it without providing authentication.

JADE 2020

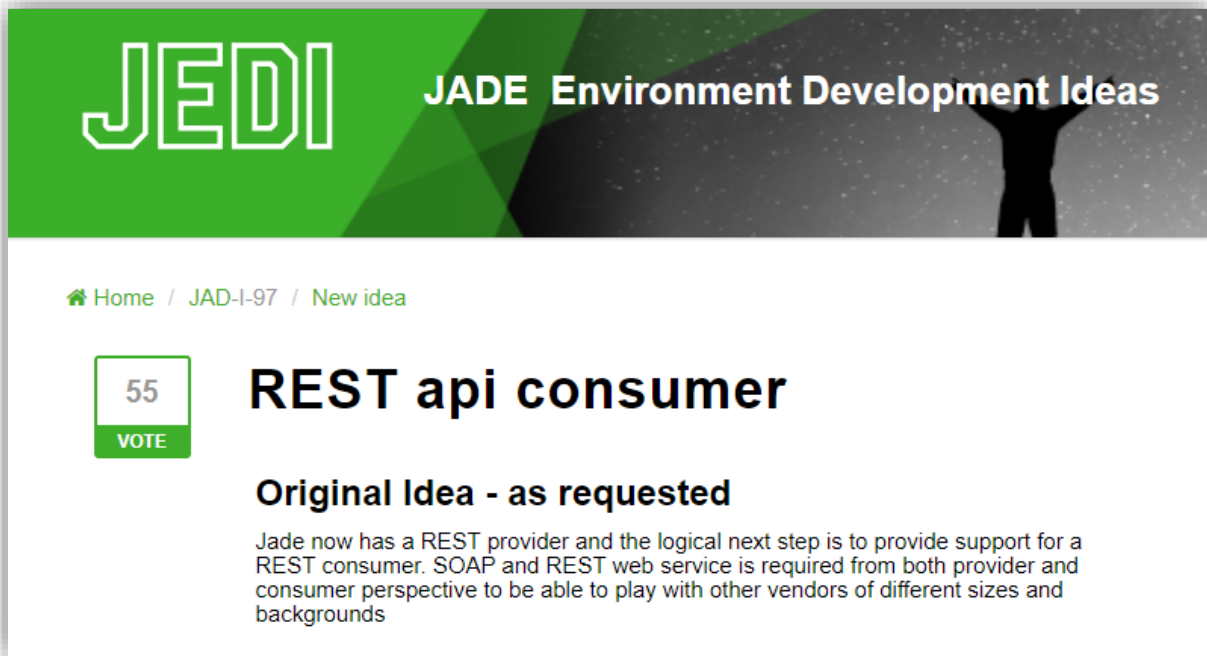


REST Server

- Improvements in JADE 2020
- More HTTP Verbs supported
- Enhanced Security with JWTs

REST Client

New in JADE 2020

A screenshot of a web page for a JEDI (JADE Environment Development Idea) titled "REST api consumer". The page has a green header with the "JEDI" logo and the title "JADE Environment Development Ideas". Below the header is a navigation breadcrumb: "Home / JAD-I-97 / New idea". The main content area features a "55 VOTE" badge, the title "REST api consumer", and the subtitle "Original Idea - as requested". The description text reads: "Jade now has a REST provider and the logical next step is to provide support for a REST consumer. SOAP and REST web service is required from both provider and consumer perspective to be able to play with other vendors of different sizes and backgrounds".

JEDI JADE Environment Development Ideas

[Home](#) / [JAD-I-97](#) / [New idea](#)

55
VOTE

REST api consumer

Original Idea - as requested

Jade now has a REST provider and the logical next step is to provide support for a REST consumer. SOAP and REST web service is required from both provider and consumer perspective to be able to play with other vendors of different sizes and backgrounds

REST Server

- Improvements in JADE 2020
- More HTTP Verbs supported
- Enhanced Security with JWTs

REST Client

- New in JADE 2020
- Makes consuming REST easy
- Integrates with OpenAPI

The 3 classes ...

| JadeRestClient |
|------------------------------|
| endpoint |
| get post delete put |

JadeRestClient
Responsible for sending requests and generating responses.

| JadeRestRequest |
|-----------------------------|
| body header uri |
| addObjectParam addURLSeg |

JadeRestRequest
Responsible for generating the appropriate URI, headers and body.

| JadeRestResponse |
|---|
| data lastErrorCode responseStatus |
| deserialize |

JadeRestResponse
Responsible for holding response information and deserializing response objects.

RESTful Web Services



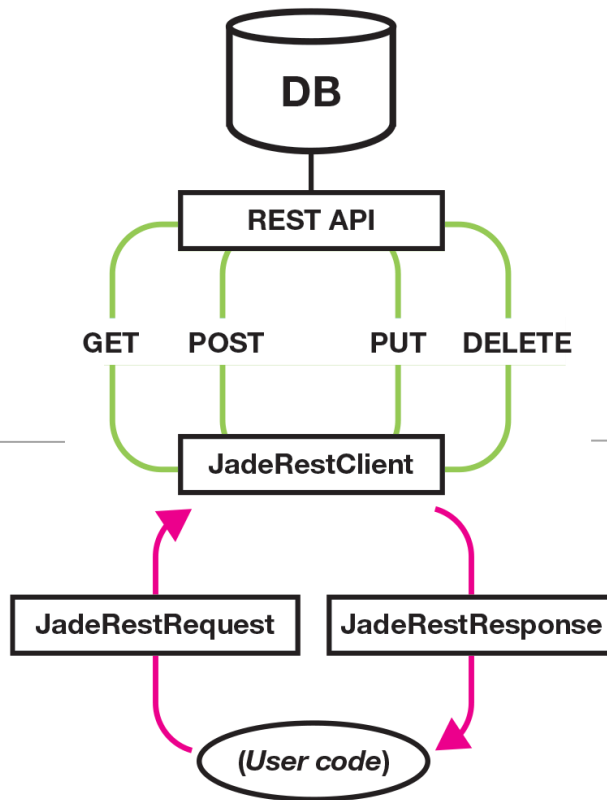
REST Server Side

JADE



REST Client Side

JADE



REST in JADE



*So, let's make **REST** really easy...*

Introducing ...



Open API
Specification



Swagger

} **3.0**

What is the Open API Specification?



A standard for documenting REST APIs



Allows for auto-generation of proxy classes



Human and machine readable



Includes the data model of the API

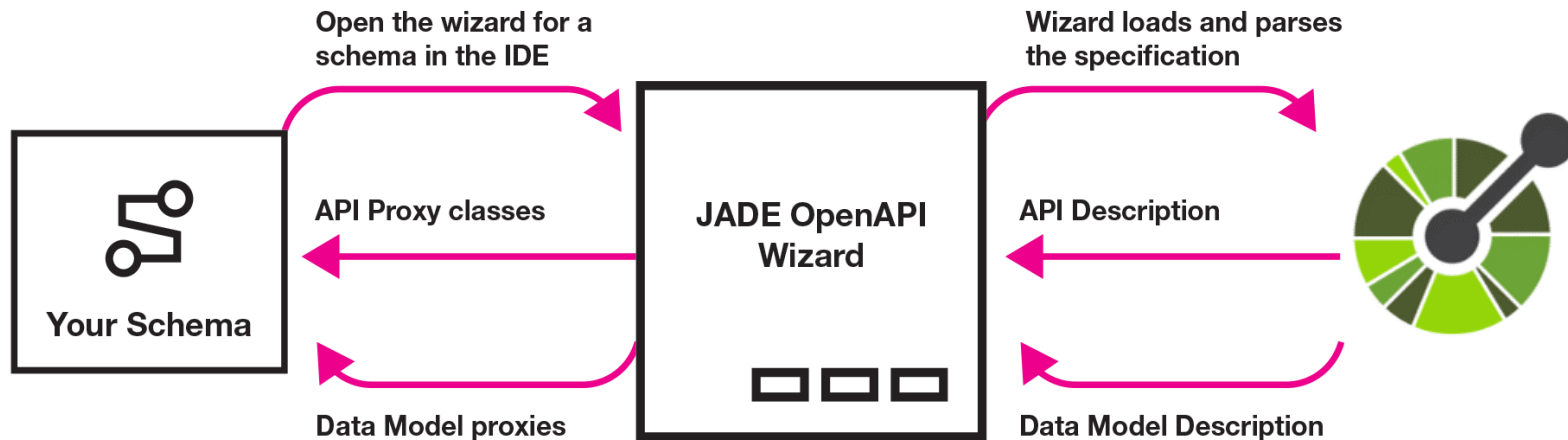


Obtained from server with simple REST request



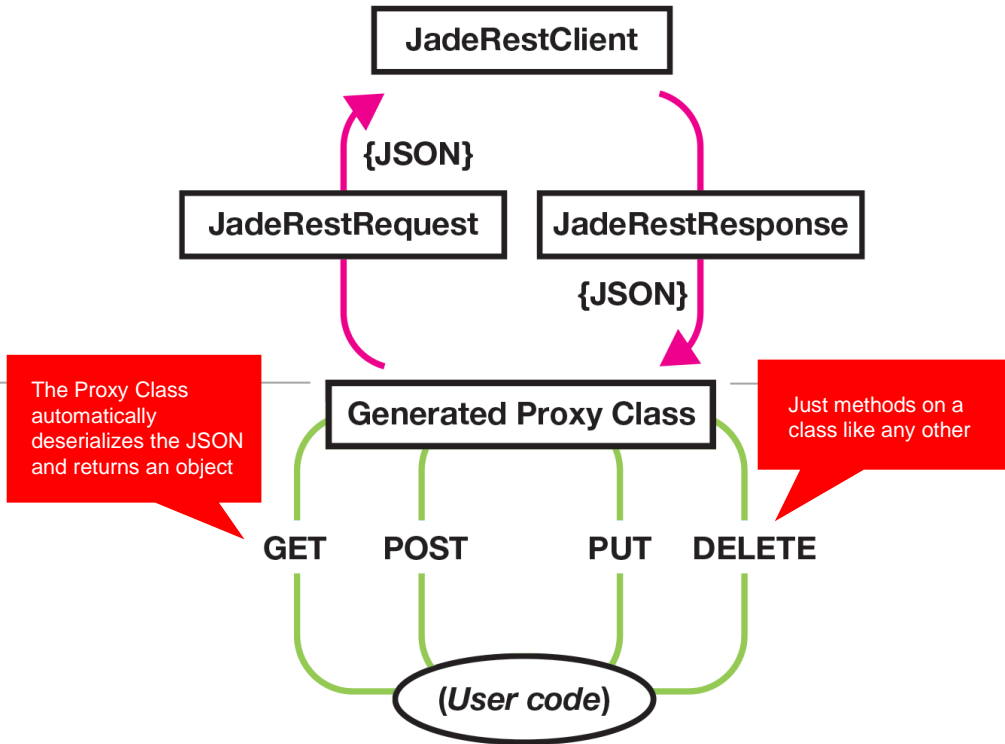
Saves developers time and effort

Using OpenAPI with JADE



Use either layer

JADE REST Client



Proxy Classes

REST in JADE



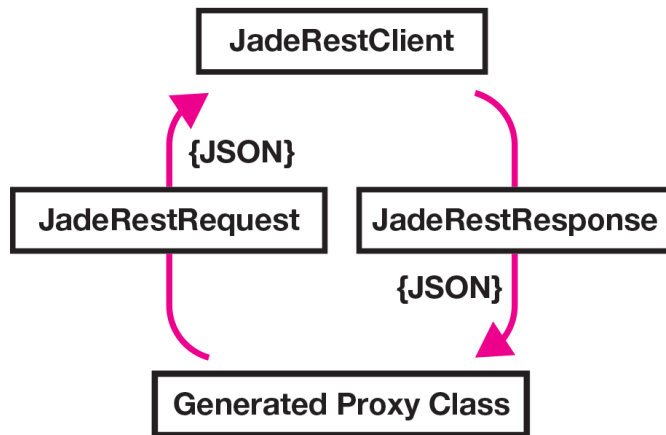
*What if I want to use the proxy classes,
but still have low-level control?*

JADE REST Client Hooks



JADE REST Client Hooks

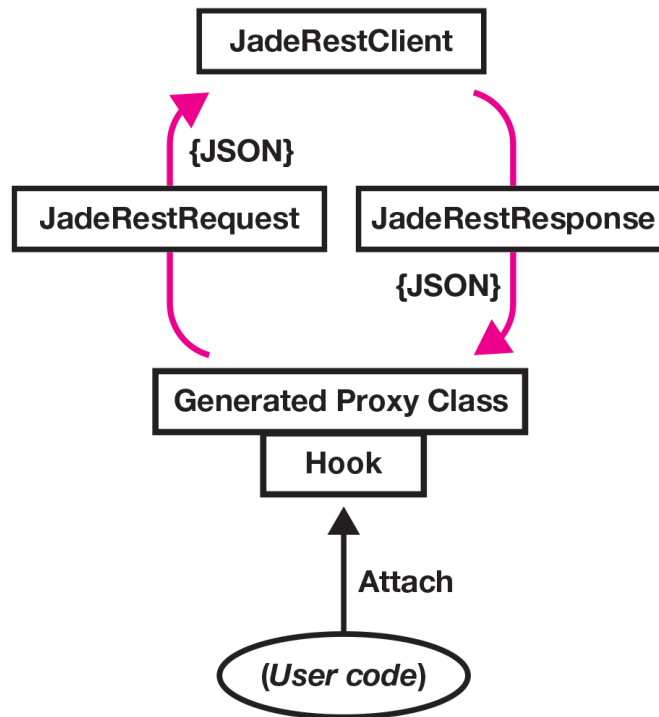
JadeRestProxyHook



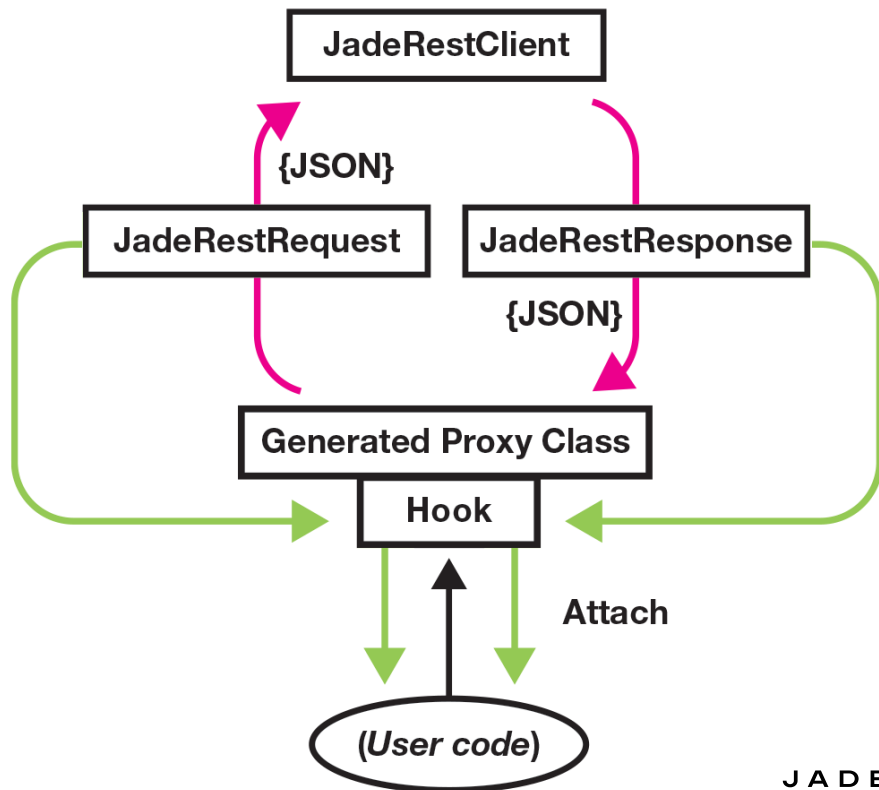
- *preSerializeHook()*
- *preSendHook()*
- *postSendHook()*

(User code)

JADE REST Client Hooks



JADE REST Client Hooks



REST in JADE



*Let's see it in **action** ...*

Demo Time!

Here's what to look out for:



ASP.NET API

Introduction to the demo/testing API (written in ASP.NET)



Loading the spec

Using the JADE OpenAPI Import Wizard.



What we get

Let's see the API Proxy Classes and Data Model



Using the API

Easy to use!

Looking Forwards...



JADE 2020

- REST Server improvements
- REST Client implementation
- Lots of other features
- What next?



QUESTIONS & ANSWERS

JADE USER GROUP 2020

REST = EASY



JADE



Future of JADE

Envision the future beyond 2020



Vote for the future of JADE!

1. Generator style iterator (yield return/break) — simple and elegant means to implement a custom iterator that avoids the need for an explicit iterator class
2. Method Overloading — flexibility for developers
3. Primitive Type SubTyping — richer type system
4. JADE IDE Extensions — Commands, Windows, Context Switching, Source Control, Issue Tracking, Shortcut Manager, Annotations, Documentation, Test Explorer, Scratchpad, etc.
5. Enumerations — improved type safety
6. RPS with Cloud specific SQL DBMS
7. File streams and an I/O Stream abstraction
8. Auto generate Responsive Web/Mobile user interfaces
9. SDS Zero Transaction loss capability (Zero RPO capability)
10. Coroutine Support — performing simultaneous tasks with a single thread



Future of JADE on the JEDI portal

1. Generator style iterator (yield return/break) — [JAD-I-524](#)
2. Method Overloading — [JAD-I-425](#)
3. Primitive Type SubTyping — [JAD-I-290](#)
4. JADE IDE Extensions — [JAD-I-383](#)
5. Enumerations — [JAD-I-81](#), [JAD-I-428](#)
6. RPS with Cloud specific SQL DBMS — [JAD-I-525](#)
7. File streams and an I/O Stream abstraction — [JAD-I-403](#)
8. Auto generate Responsive Web/Mobile user interfaces
9. SDS Zero Transaction loss capability (Zero RPO capability) — [JAD-I-526](#)
10. Coroutine Support — [JAD-I-292](#)

Have you got a feature on top of your list, which isn't on ours?



- Head to the JEDI portal and add your idea!



BeeJay's IDE tips & tricks

BeeJay Johnstone



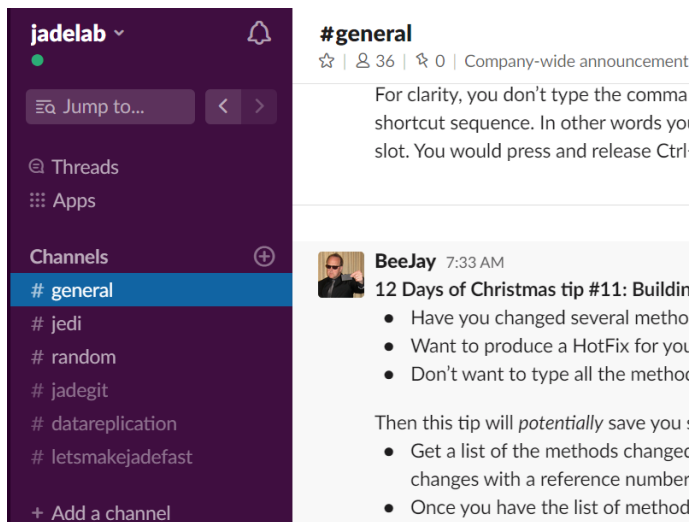
BeeJay's tips & tricks

- Tip #01 - code folding
- Tip #02 - split editor pane
- Tip #03 - scrolling without losing the carat position
- Tip #04 - hiding the additional selections
- Tip #05 - reuse method windows
- Tip #06 - opening class browser for the current method
- Tip #07 - swapping out of the editor with keyboard
- Tip #08 - using ctrl+6 and ctrl+7 shortcuts
- Tip #09 - getting autocomplete back and moving through camel case words
- Tip #10 - subclassing JadeScript class
- Tip #11 - optimising the find class dialog
- Tip #12 - multiple clipboards
- Tip #13 - abusing parent aspect
- Tip #14 - creating unl files the easy way

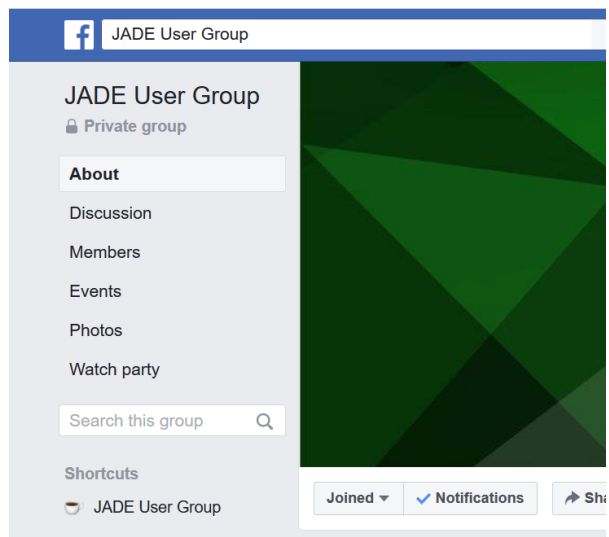
Thank you!



Share your tips and tricks on Slack and Facebook!



A screenshot of a Slack channel named "#general" within a workspace called "jadelab". The channel has 36 members and is marked as a "Company-wide announcement". A message from a user named "BeeJay" at 7:33 AM is displayed. The message title is "12 Days of Christmas tip #11: Buildin" and the content includes a list of bullet points: "Have you changed several metho", "Want to produce a HotFix for you", and "Don't want to type all the metho". Below the message, it says "Then this tip will *potentially* save you :" followed by another list of bullet points: "Get a list of the methods changed changes with a reference number" and "Once you have the list of method". The left sidebar shows a list of channels including #general, #jedi, #random, #jadegit, #datareplication, and #letsmakejadefast.



A screenshot of the Facebook page for the "JADE User Group". The page is for a "Private group" and features a navigation menu on the left with options: "About", "Discussion", "Members", "Events", "Photos", and "Watch party". There is a search bar labeled "Search this group" and a "Shortcuts" section showing the group name "JADE User Group". On the right side, there is a large green abstract image and a row of buttons: "Joined", "Notifications" (with a blue checkmark), and "Share".



That's a wrap!

Thank you!

JADE