

# IBM Rational Test

ADVANCES IN TEST AUTOMATION AND SERVICE VIRTUALIZATION



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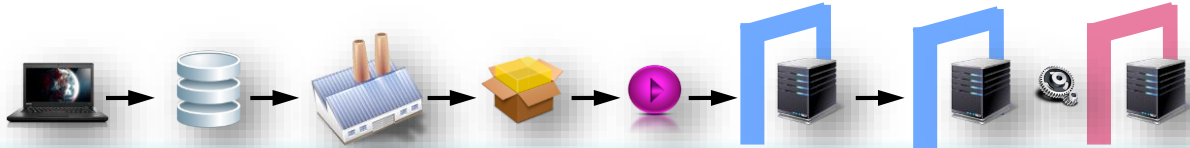
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Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

# Application modernization



Continuous deployment

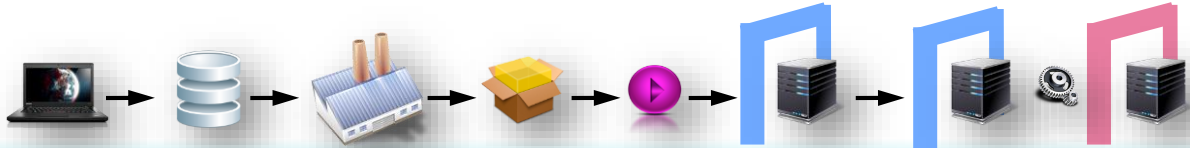
Automated testing

Delivery governance

DevOps culture, and tools are critical, but without strong governance you can't scale

IBM DevOps is the governance platform for DevOps

# IBM DevOps



## Continuous deployment

Projects have a desire to speed up the flow of software deliverables through their delivery pipeline.

**Orchestrate your delivery pipeline with  
IBM UrbanCode Deploy**

## Automated testing

Projects have a need to release quality software and/or the impact of quality assessment activities.

**Automate your testing with  
IBM Rational Test**

## Delivery governance

Projects have a requirement to show governance of the delivery process and/or the need to optimize delivery

**Visualise your delivery process with  
IBM UrbanCode Velocity**

# IBM Rational Test

IBM Rational Test 10.0 introduced a web-based platform built on modern, cloud native technologies.

With 10.0.2 the IBM Rational Test team have expanded the capabilities with a focus on cloud and microservices.

# The foundations



All test resources are versioned using git.  
Testers can natively use all the same processes that developers use, including branching and rolling back.  
Execution takes resources straight from git for ease of deployment.



Our software is now packaged with Docker for easy deployment.  
This includes execution, allowing tests to be scaled quickly as required.



Test data sets can be stored centrally for use by all test types and easily switched between for validation of multiple data driven test scenarios.

# Server Foundations: Secure By Design

- Customers value and demand security and traceability
- Users permissioning allows users to have distinct roles in different projects
- Continue to enable discoverability, sharing and reuse of test assets

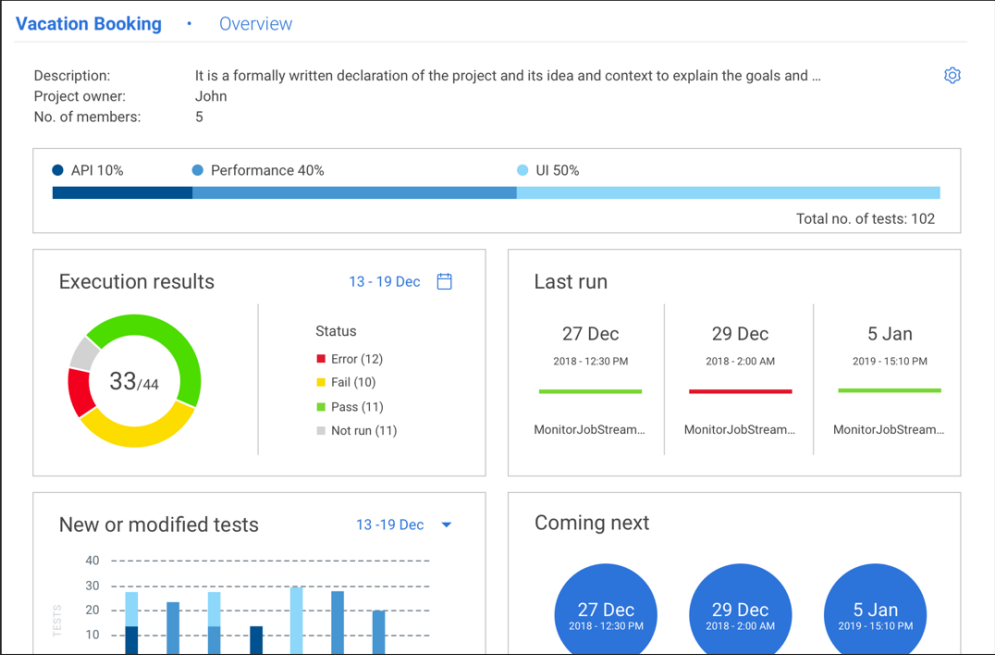
The screenshot displays the IBM Rational Test user interface. At the top, there is a blue header with the IBM logo and navigation icons. Below the header is a search bar and a 'Create project' button. The main content area is titled 'My projects' and features a detailed view of a project. This view includes a 'Project Name' field with a settings icon, a description, the number of tests (56), and the last run time (12/10/2018 10:00 AM). Below this is a summary table for the last 7 days:

Last 7 days		
13/44 In Progress	16/44 Fail	14/44 Success

Below the 'My projects' section is a section for 'Other projects', which contains three project cards. Each card displays the 'Project Name', 'Project description', and 'Owner'.

# Server Foundations: Information at a glance

- Bring together tests from across different groups – UI, API and Performance and understand disposition
- Dashboards that surface data teams need to understand application quality





# Server Foundations:

## Built with Cloud Native technologies

- Quick and simple deployment using Docker enables companies get up and running quickly
- Cloud Native Foundation recommended solutions baked in, e.g. Keycloak security
- Integrations with key test cloud solutions such as Bitbar and Perfecto (more to come)

```
Windows PowerShell
PS C:\Users\c_hag> docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
a2cb33bb1fb6	onetest-node:10.0.2	"npm start server=ot..."	19 hours ago	Up
ce3dc523732d	onetest-data:10.0.2	"/opt/hcl/defaults/c..."	19 hours ago	Up
c387bc29c36a	onetest-nginx:10.0.2	"nginx -g 'daemon of..."	19 hours ago	Up
03c81ac0c3ff	hip-server:10.0.2	"/opt/hcl/defaults/c..."	19 hours ago	Up
3b90cd6076b6	onetest-gateway:10.0.2	"/entrypoint.sh"	19 hours ago	Up
ee3d597a804e	onetest-rm:10.0.2	"/entrypoint.sh"	19 hours ago	Up
2b09456ee2ab	jboss/keycloak:4.5.0.Final	"/opt/jboss/tools/do..."	19 hours ago	Up
a556a5c2c3d7	onetest-results:10.0.2	"/entrypoint.sh"	19 hours ago	Up
c11b3fde9c9b	onetest-testassets:10.0.2	"/entrypoint.sh"	19 hours ago	Up
838c907b602b	hip-rest:10.0.2	"catalina.sh run"	19 hours ago	Up
cd084a6ca258	onetest-execution:10.0.2	"/entrypoint.sh"	19 hours ago	Up
682f2b446fe2	onetest-datasets:10.0.2	"/entrypoint.sh"	19 hours ago	Up
0b7b25058335	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
16063b09e733	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
e5c8e3b0cf81	wurstmeister/zookeeper:3.4.6	"/bin/sh -c '/usr/sb..."	19 hours ago	Up
10472dcc8253	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
3584c7ff5c1a	elasticsearch:5-alpine	"docker-entrypoint..."	19 hours ago	Up
8dd3b856306f	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
620a3ac34ac5	wurstmeister/kafka:1.0.0	"start-kafka.sh"	19 hours ago	Up
8fc56d5681b7	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
c55088839549	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
76613e59a911	redis:5-alpine	"docker-entrypoint.s..."	19 hours ago	Up
38b72c968665	postgres:11-alpine	"docker-entrypoint.s..."	19 hours ago	Up
a03a8cc18835	mongo:4	"docker-entrypoint.s..."	19 hours ago	Up

```
PS C:\Users\c_hag>
```

# IBM Rational Test Server updates for 10.0.2

A focus on Cloud, Microservices and Value Stream Integration



**Remote  
Docker Execution**



**Docker  
Resource Monitoring**



**Kafka  
Transport Testing**



**UrbanCode  
Integration**

# Remote Docker Execution

- Scale test execution beyond the server host
- Leverage cloud compute for test
- As simple as selecting a new execution location

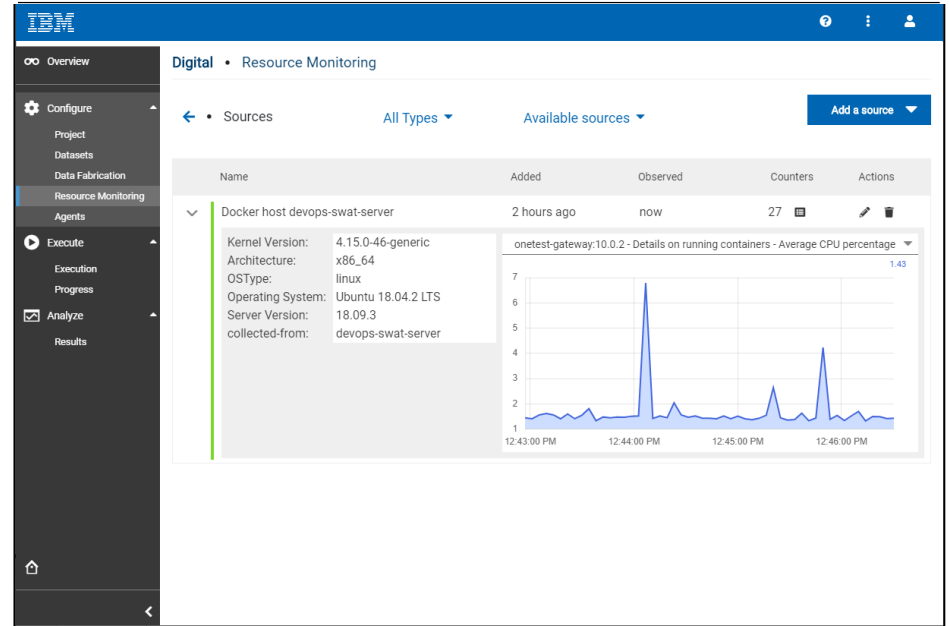
The screenshot displays the IBM Digital Agents interface. The left sidebar contains navigation options: Overview, Configure, Project, Datasets, Data Fabrication, Resource Monitoring, Agents (selected), Execute, Execution, Progress, Analyze, and Results. The main area shows a table of agents with columns for Type, Agents, Status, and Actions. Two agents are listed: one owned by 'stuart' and another 'RemoteDockerHost' owned by 'me'. The 'RemoteDockerHost' agent is selected, and its details are shown in a modal window. The details include: Server: Docker Engine - Community, Secure: No, Version: 18.09.3, Address: 10.134.59.19, Port: 2375, Operating system: linux, Architecture: amd64, Api version: 1.39 (minimum version 1.12), Go version: go1.10.8, Git commit: 774a1f4, Built: Thursday, February 28, 2019 5:59 AM, and Experimental: false.

Below the main interface, a 'New docker host' dialog box is open. It contains the following fields and options:

- Remote hostname: 10.134.59.18
- Secure mode
- CA certificate (link icon)
- Client certificate (link icon)
- Client key (link icon)
- Name: DigitalHub Docker Host
- Buttons: Cancel, Register

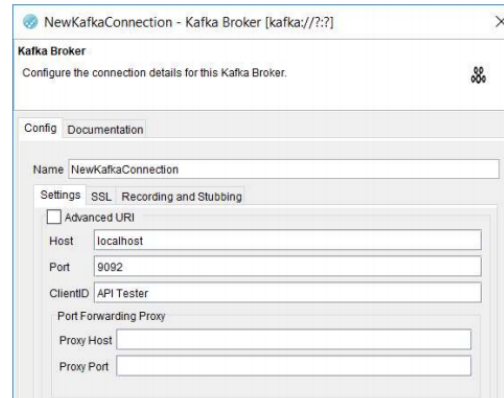
# Docker Resource Monitoring

- Capture performance metrics of applications running in containers
- Combine docker metrics with host data and metrics from all aspects of the system under test



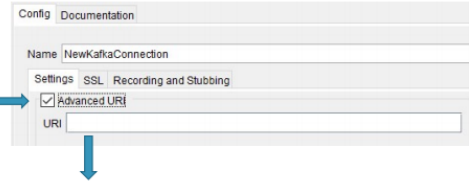
# Kafka Testing

- Test applications driven by Kafka data feeds
- Virtualise dependencies built using Kafka technology



UI for Advanced URI – a helper mechanism for constructing a URI by giving users complete control

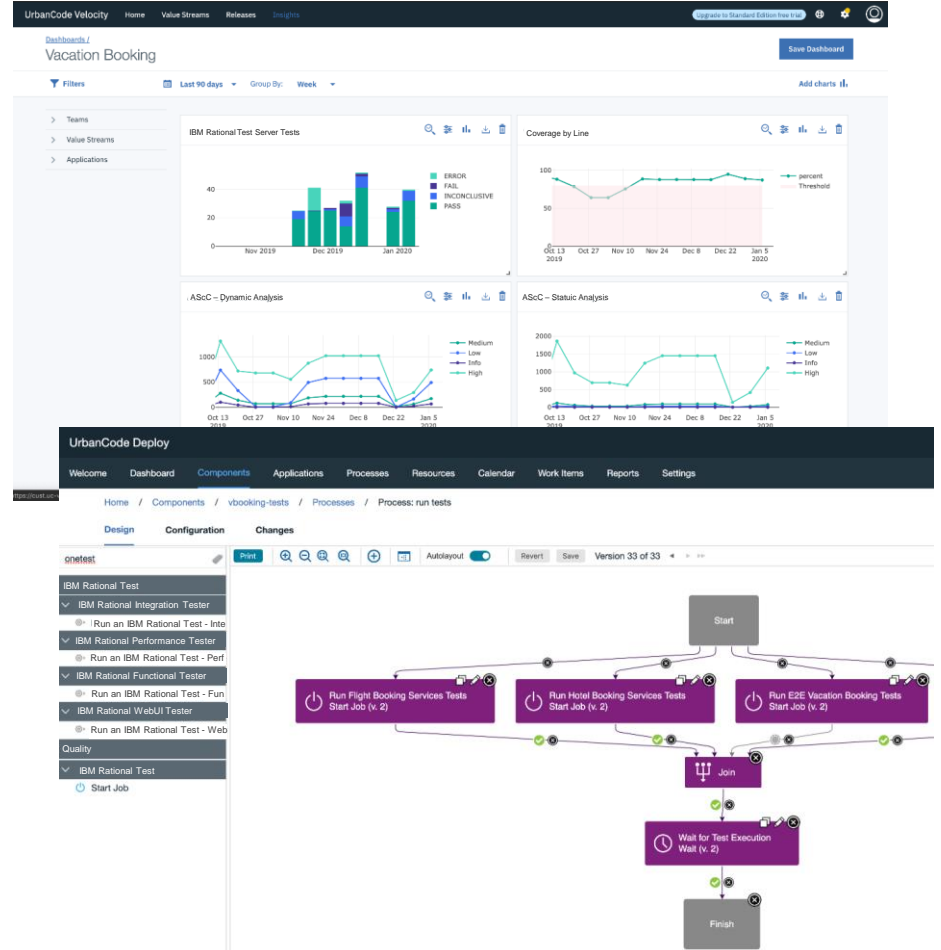
Apache Camel URI



kafka:items-  
topic?brokers=localhost:9092&clientId=<clientId>  
<some other query parameters>

# UrbanCode integration

- Automate execution of tests through IBM Rational Test with a dedicated IBM UrbanCode Deploy plugin (TechPreview)
- Map test progress to your application value streams



# Demonstration

## UI TESTING



Traditional functional tests in IBM Rational Test can now take advantage of new Dataset capabilities offering the increased performance and flexibility that IBM Rational Test users have been enjoying since version 10

## PERFORMANCE TESTING



Execution Agent Override enables users to customize the agents used for a performance test, without having to edit the schedule in the desktop product

## SERVICE VIRTUALIZATION



TechPreview: Virtual Service execution within IBM Rational Test Server – limited to MQ based virtual services and without monitoring and management, this is intended as a view of direction and to spark conversations with our users – let us know what you'd like!



# IBM Rational Test in 2020 — What comes next?

## SERVERLESS TEST EXECUTION



### Cloud, Hybrid and Local test execution at scale

- Run tests using cloud solutions such as AWS
- Run tests using OpenShift/hybrid solutions
- Run tests using local Docker/bare metal capacity

## REPORTING AND ANALYTICS



### Give test professionals deeper insight into project quality

- Refreshed report presentation to highlight key decision criteria clearly
- Take advantage of past execution data to present a detailed trend of quality over time
- Alert users to release issues before they appear in production

## PLUGGABLE TRANSPORTS



### Open API to build customer technology support with:

- Easily expand the platform capabilities to include emerging technologies
- Provide an open marketplace for sharing transport plugins

# VERSION 10.0.2 AVAILABLE NOW

Join the design program and get insight into new functionality, while working with the product team

Email: [suhas.kashyap@ibm.com](mailto:suhas.kashyap@ibm.com)



IBM