



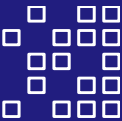

IBM Introduction

Greg Gorman, Director, Worldwide Operations

Internet of Things Developer Advocacy

The right architecture enables cloud and cognitive transformation.

Four dimensions designed as an integrated whole to support innovation today and in the future

	Applications, solutions and services	Deploy new, industry-specific, differentiating capabilities fast
	AI/Cognitive	Allow your accumulated expertise to shine through in everything you do
	Data	The ability to derive insights and knowledge from your data while managing and governing regardless of location, respecting compliance and sovereignty
	Cloud Infrastructure	Integrate mission critical applications alongside new, cognitive and data loads and accelerate AI data ingestion and training

Employ
the right type of
cloud to
accelerate
innovation



PUBLIC

Public and open-by-design



HYBRID

Multi-cloud model options



PRIVATE

Management and
deployment options

Infrastructure on Demand:

Easily configure, deploy and
scale your infrastructure

Leverage community advantages
and high quality releases that
only Open Source can provide

Choice and Control:

Instant scalability of public with
support for critical enterprise
integration

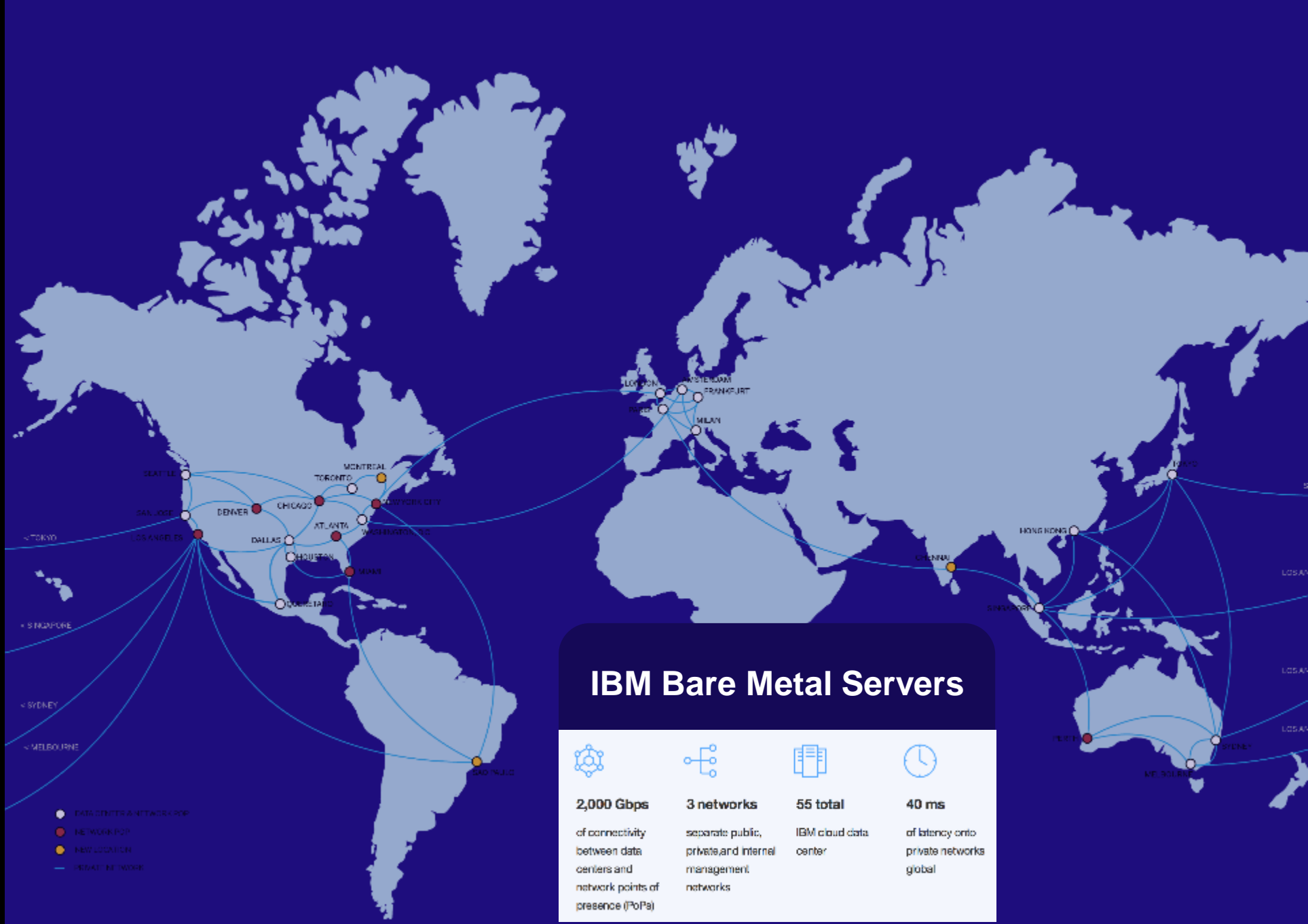
Predictable performance of
dedicated with local control

On Premise and Hosted :

Private: Deploy on premise
securely

Hosted: Spare capital expense
with a hosted private cloud

Scale your innovative applications **on the right type of cloud** with global infrastructure



IBM Bare Metal Servers



2,000 Gbps

of connectivity
between data
centers and
network points of
presence (PoPs)



3 networks

separate public,
private, and internal
management
networks



55 total

IBM cloud data
center



40 ms

of latency onto
private networks
global

Compute options for **any workload**, across global infrastructure

PERFORMANCE &
CONTROL

PORTABILITY

DEVELOPMENT SPEED



Bare Metal

Maximum performance
and control



Virtual Server or VMware

Leverage existing
languages and tools



Containers

Maximum portability



Cloud Foundry

Open PaaS
environment



OpenWhisk

Maximum speed with
serviceless apps

Apply cognitive / AI services to your structured and unstructured data

UNDERSTAND



Cognitive systems understand imagery, language and other unstructured data like humans do.

REASON



They can reason, grasp underlying concepts, form hypotheses, and infer and extract ideas.

LEARN



With each data point, interaction and outcome, they develop and sharpen their expertise, so they never stop learning.

INTERACT



With abilities to see, talk and hear, cognitive systems interact with humans in a natural way.

IBM Cloud Development - Platform as a Service

- ▶ Development Environment
- ▶ “Freemium” model – most services below a clip level are free to use
- ▶ Limits on memory and # of services
- ▶ Can upgrade to a Pay as you Go
- ▶ www.Bluemix.net to sign up

Catalog of Services Speed Results

Docs

266 Trial Days Remaining

Gregory Gorman's Account | US South : greg.gorman@us.ibm.com : dev

IBM Bluemix Catalog

CatalogSupportManage

All Categories >

Infrastructure

Compute

Storage

Network

Security

Containers

VMware

Platform

Boilerplates

APIs

Application Services

Blockchain

Cloud Foundry Apps

Data & Analytics

DevOps

Finance

Functions

Integrate

Internet of Things


Mobile


Network


Platform


Boilerplates


Get started with a new app, now.


**ASP.NET Core Cloudant Starter**
Use the Cloudant NoSQL DB Service in an ASP.NET Core application.
IBM


**Internet of Things Platform Starter**
Get started with IBM Watson IoT platform using the Node-RED Node.js sample application. With the Starter.
Lite IBM


**IoT for Electronics Starter**
IoT for Electronics is a integrated end-to-end solution (made of multiple services and apps) that enables you to build IoT applications.
IBM


**Java Cloudant Web Starter**
Use the Cloudant NoSQL DB service with the 'Liberty for Java™' runtime.
IBM


**Java Workload Scheduler Web Starter**
This application demonstrates how to use the Workload Scheduler service, with the 'Liberty for Java™' runtime.
IBM


**LoopBack Starter**
This is a sample StrongLoop LoopBack Node.js application, powered by the open source LoopBack.
IBM


**MobileFirst Services Starter**
Start building your next mobile app with mobile services on Bluemix.
IBM

**Node.js Cloudant DB Web Starter**
Use the Cloudant NoSQL DB service with the 'SDK for Node.js™' runtime.
Lite IBM

**Personality Insights Java Web Starter**
A simple Java app that uses the Personality Insights service to analyze text to derive personality traits.
IBM

**Personality Insights Node.js Web Starter**
A simple Node.js app that uses Personality Insights to analyze text to derive personality traits.
IBM

**StrongLoop Arc**
This application is the StrongLoop Arc graphical UI, which includes tools for building, profiling and monitoring.
IBM

**Mendix Rapid Apps**
Model driven rapid app platform that allow users to build, integrate and deploy web and mobile applications.
Community

IBM Watson IoT Platform

Make sense of data to optimize operations, manage assets, rethink products and services, and transform customer experience.

Connect

Connect and manage devices, networks and gateways.

Analytics

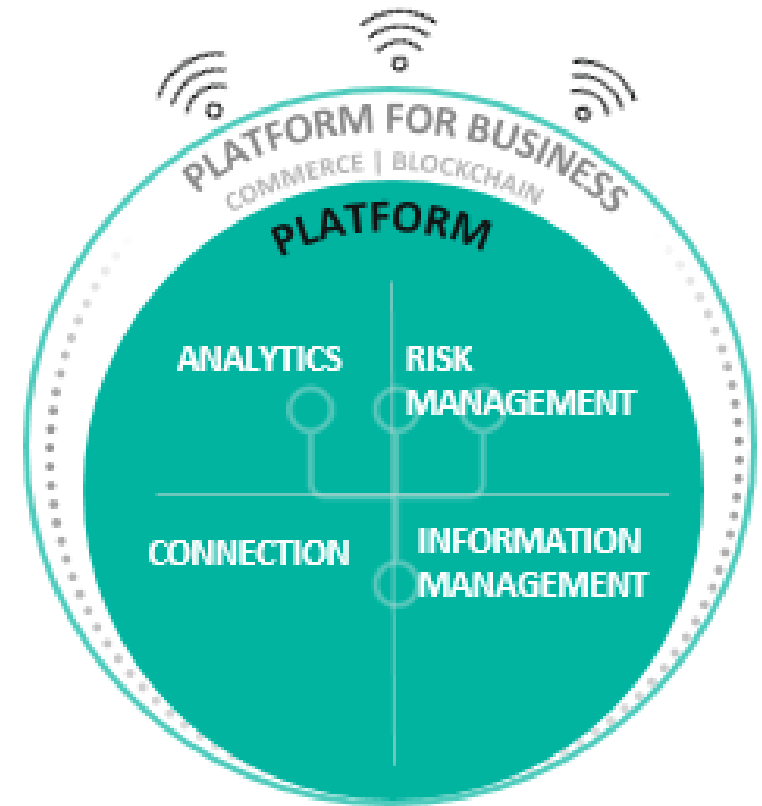
Gain insights from information using real-time streaming as well as machine learning and cognitive analytics in the cloud and at the edge.

Risk Management

Visualize the IoT landscape, manage risk, and build trusted sources of IoT data with innovative technology such as blockchain.

Information Management

Integrate information, structured and unstructured, from devices, people, the weather and the world around us.



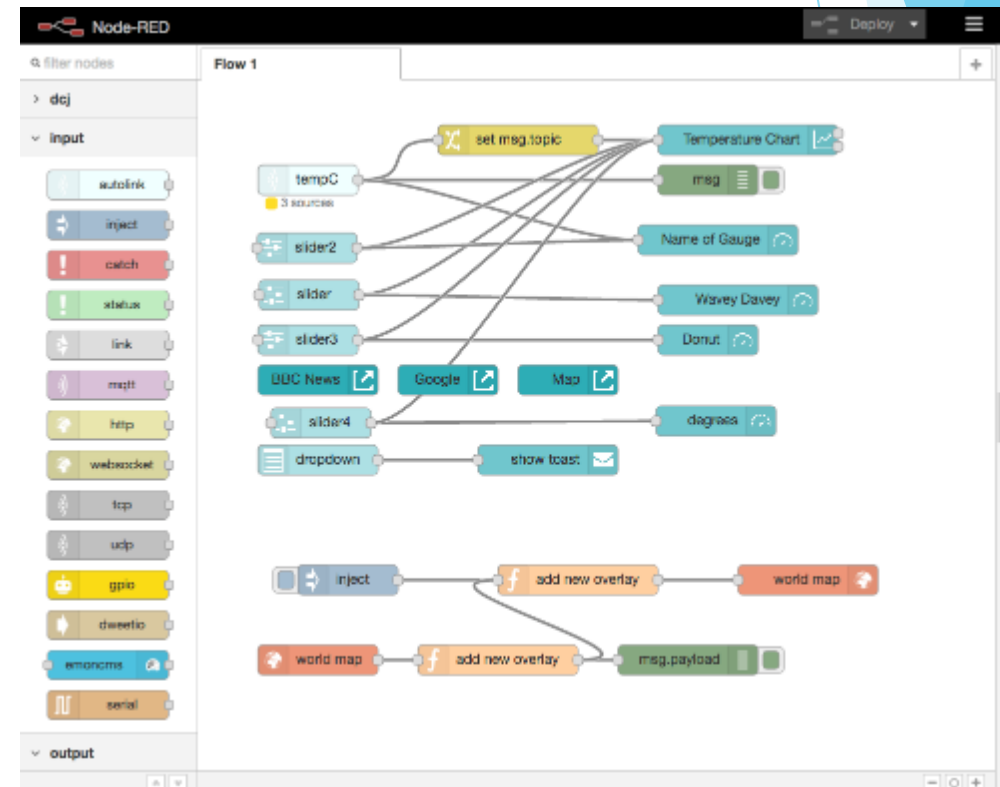
Introducing Node-RED

Node-RED makes it easy to wire together the Internet of Things.

It provides a browser-based drag-drop UI for creating flows of events and deploying them to the runtime.

The light-weight runtime, built in **node.js**, is ideal for edge-of-network environments or running in the cloud.

It can be easily expanded to take add new nodes to the palette – taking full advantage of the node package manager (npm) ecosystem



Popular Watson APIs

Speech to Text

- ▶ Transcribes spoken word into text.
- ▶ Used for:
 - ▶ Understanding voice commands
 - ▶ Capturing speech for analysis
 - ▶ Automatic transcription of speeches
- ▶ Input: Speech - FLAC, MP3, WAV, OGG, and more
 - ▶ Can be streamed in real time or sent as a one-shot delivery
- ▶ Output: JSON Object
 - ▶ Transcript
 - ▶ Keyword search, Speaker tagging, profanity filtering, and additional info.

Conversation

- ▶ Allows you to build the framework of conversation for responding to inquiries or handling voice commands.
- ▶ Uses:
 - ▶ Customer service chat bot
 - ▶ Implementing a voice interface to hardware
 - ▶ Virtual assistant
- ▶ Input: Conversation dialog - String
- ▶ Output: JSON Object
 - ▶ Context object
 - ▶ Conversation context
 - ▶ Context variables
 - ▶ Output

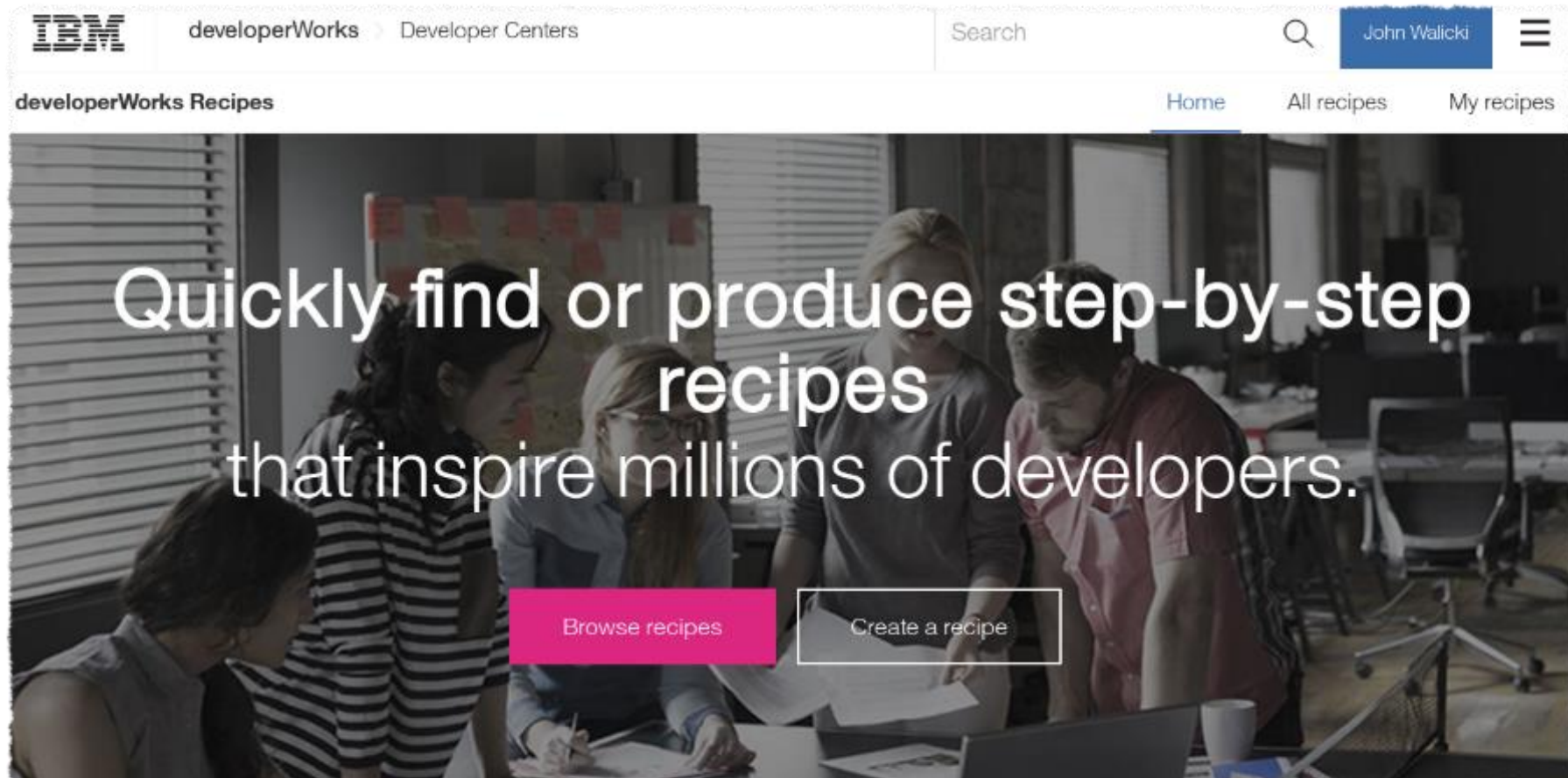
Text to Speech

- ▶ Allows you to turn text into spoken words
- ▶ Customizable voice for synthesis
- ▶ Used for:
 - ▶ Vocalizing responses from chat bots
 - ▶ Reading weather or other announcements aloud
- ▶ Input:
 - ▶ Text to be spoken aloud - String
 - ▶ Voice synthesis options
- ▶ Output:
 - ▶ FLAC, WAV, OGG, WebM

Data Content and Storage Services

- ▶ Weather Company Data
 - ▶ Detailed weather forecasts as well as decades of weather history from The IBM Weather Company
- ▶ Twitter
 - ▶ Bi-directional interfaces to real time streams
- ▶ Databases
 - ▶ Store any information from your application using many different database options including NoSQL and relational.

How to Get Started – Recipes and Journeys!



<https://developer.ibm.com/Code/>

<https://developer.ibm.com/recipes/>

Quick Demo: Node-RED and Watson

Tweet a picture with the hashtag #IBMandIGG

