

Java EE specification how to develop Javaee web appl – servlet api .. how to create servlet

can create a EAR or war

Webserver tomcat run war not EJB .. doesnot impelment

WAR – web archive → defines how webapp should be constructed .

has all that need to run a webapp.

EAR – can ejb, war multiple wars, ejbs..

ears are deployed in was , app servers

Containers – Server / client side

download java app – run on client side - like applet containers, appli clien container

app srrvers - web containers (servlet) , ejb containers

Jv ee made of both web and ejb JEE 7 containd all 14 JSRs

JSR ... community gets togeher n creates java specific for specifc std

JSR 338 JPA , defines base to store obj and get back from DB– defines java obj connects to DB

JSR 339 = JAXRS >> std for building WS .. Jersey is ref implmn for jaxrs ..

Lot other use Spring MVC == spring based. .. jaxrs = jvee std. .. Spring is always ahead

JSR 340 – jv srvlet specification

JSR341 = XL >> now no more using this with JSPS since rich front end

JSR 343 JMS = msging srvc – allows sync/asyn commun .. put up msg in queuee . N forget or listen to esponse later.

JSR 344 JSF – to build mvc app

XSR 345 EJBs – not as good as they meant to be.. EJBs 2 was hard. Cmplzx .. not unit testable.. EJB 3 came late..

spring is preferred over EJB

346 – Context n dep Inje introudcd to JEE – late to spring. . CDI spring first

349 Bean validation --- usign annota .. Hibernate validator is refe implementtion of this .

352 – batch appli for jee. Based on sprign batch

JPA -

JEE design patterns

rt.jar = runtime jar has all compiled bootstrap classes = all classes form core javaapi (array,string, thread..

All source code for these are in JDK: \$JAVA_HOME/src.zip.

RESTFul over SOAP as it is more Simple

HTTP is on top of TCP/IP the low lelvel protocol

Java mail for sending emails

OS level Virtualization

CNCF – Cloud Native Computing Foundation ::: is an open source software foundation that promotes the adoption of cloud-native cor

DOCKER

Open Containers Initiative Image spec

is a containerized platform used for pckgin an app n its dependencies wthin a docker container

Ensures – irrespective if hcange in env.. efoftless functionig of app.

.net, web, have own config files.. diff in local dev machine n in server .. docker gives tools

docker can have mulitple containers – on OS>

Vmware. Virtual box == machine level Virtualization .. on harware> Virtualization - on OS instal multiple other OS = heavy . so our hw/os should have more RAM.. additional to that req

OS virtualization.. gives virtual space to app – but still uses same resources of underlying OS. App1,ap2,app3 run in a container and Container engine == docker manages all the apps i

docker file > List of commands for docker . Text file. What to do. Human readble

docker images – compiled file . readonly file – docker creates for itslef , then used to run app in container.

docker container – all action .. runign instance of docker image.. real img app runs

VIRTUalization enabled check on task manager in windows.. download docker desktop.. >> windows 10 n above. Supports . Else docker toolbox for low windows.

NODE n Docker.

speeds up deploy process. – if runs locally on docker container.. can run surely on anyother server, machine, docker containers. Any OS.

light foot print, less overhead on app.. simpleifes version control proces, component reuse

npm init , create empty proj .. gets empty package.json file

Npm install express express is popular web FW created on node

nw pck.json should hve express as dependecy

app.js = app.. import express, create object of express to create app obj. add https, listen on prot 3000 ex. Add a route res = hello world

RUN >> node app.js == app listening on 3000 port.

REACT = library , Angular = Framwork

change in state of component. R keeps a virtual dom repre of main ODM.

simple react snippets, prettier = Vscode exptensions.

MongoDB _ opensource, highly scalable, noSQL DB, documentOriented, JSONdatamodel with dynamic schemas

Recent Project Architecture .

[Java Programmer Specialist - Remote](#) PMA Companies Princeton, NJ Remote In this position, the Staff Specialist will participate in the design, programming, testing, and implementation of applications. This requires programming requirements from verbal and written specifications received from other departments, in addition to participating in the support of new functionality subsequent to release. The developer will also take a leadership role to guide projects and mentor other developers.

Essential Functions

Support production environment of applications through proactive troubleshooting of internal systems and timely resolution and documentation of issues and through collaboration with internal help desk.

Interact with business users assist in defining business requirements and translate business requirements into technical specifications.

Perform detailed analysis and design based on business requirements.

Develop or modify existing programs or modules.

Develop and execute test cases for projects assigned.

Build new applications to support internal department business requirements.

Emphasis on driving application architecture and design through best practices.

Stay abreast of new developments in web applications and technologies, and share knowledge with peers who may benefit from those developments.

Demonstrate commitment to Company's Code of Business Conduct and Ethics, and apply knowledge of compliance policies and procedures, standards and laws applicable to job responsibilities in the performance of work.

Requirements

BS in Computer Science or related field preferred.

7-10 years of related experience in applications programming development, with at least 2 years of project or team leadership experience.

Development of multi-threaded, multi-tiered applications.

Ability to code proficiently in JAVA. Familiarity with Gosu, C#, .NET is a plus.

Experience with SOAP web services, IBM AppConnect, ESQL is also a plus.

Experience working with Application servers such as WebSphere, Tomcat, or Weblogic.

Experience working with SSIS, AWS, and Azure.

Practical experience with Software Configuration Management (SCM) tool (e.g. Subversion), and development tools such as ANT, Cruise Control and Eclipse.

Some knowledge of Mainframe COBOL and DB2 will be beneficial.

Strong analytical and problem solving skills are required.

Experience with the Guidewire Insurance Suite, preferably ClaimCenter, is preferred.

Must be able to work well with a team, and possess the ability to work independently, sometimes leading and mentoring others.

Excellent communication skills are needed with demonstrated ability to work with multiple organizational functions and levels.

Strong project management skills and experience in all phases of the applications program development process are needed.

Ability to coordinate the appropriate IT application, staff, and business resources to create the most effective IT solution to a defined business goal.

Ability to identify technical issues that would negatively impact the performance of an IT application and the supported business process; communicate this information to IT management and present recommendation to resolve or mitigate the technical issue.

Must have the ability to participate in 24 hour on call rotation schedule for supporting business applications as needed.

A POC shows whether a product can be built or not, while a prototype physically presents its basic functions and how it will be developed.

AWS lab

Kafka, Elastic Search , Messaging queue , rabbit n -queue , Kibana runs on Esrch

2 MS to communicate - rabbit n queue , Kafka ..

Logs maintains .. **Elastic search** >> svr logs > sennt to centralize systems..

Must n should do on local >> Udemy , Amazon Web service take subscriptions.. Dev Deployment.

tech spec for appl – all servers need to have softwars configured correctly .. so simply AWS – VM give our require .. create one.. put our requirements . ***** S3 *****

dynamic procesin xml/xls files .. intermediate save use S3.

FFANG

Technical knowledge

Critical - abstract problem solving

comm

QQ.. given an Array of integers return indices of two numbers that add upto a given target

Ask questions.. → since integers Are they all +ve intrs , -Ve? Are there duplicates ? Will there always be a solution possible?

What to return in fails? Null .. ?? can there be multiple pairs to add up to target? NO. So array given does not have possibility

Write testcases

Target = 12 , [1,4,3,9,6,2] = [2,3] True

14 = NULL

T=9, arr=[9] == null

[], T=18 == null

[5], T=5 == null

[9,1] T=10 == [0,1]

start with best

Figure solution without even code i.e. GET to a logic. First workign solution code.

```
Numbertofind = target-arr[p2]
```

```
for(p1=0,p1<arr.len,p1++)
```

```
    Tofind = target-arr[p1]
```

```
for(p2=p1+1,p2<arr.len,p2++)
```

```
    if(arr[p2]==tofind) – return [p1,p2]
```

Check for errors .. Write error free by hand. :(:P

test our code with testcases

space and Time complexity , T: $O(N^2)$, S: $O(1)$ = best complexity.. but time compl can be optimised

Provide solution to build single M&E server in the Cloud in one hour.

SoftLayer is preferred Cloud solution.

Solution must be deployed in the Cloud.

Solution must build complete M&E infrastructure (ITM HUB, ITM

TDW, ITM TEPS, ITM RTEMS, Netcool OMNIBus, Reporter DB, Netcool Impact, BlueCARE) in the Cloud within 24 hours.

The purpose is to accelerate the adoption of new technical concepts pushed by GTS (Cloud, AIOPS, NOI,...)
IOT (also known as Geography) IMT (also known as Region)

The hierarchy of the BluePages business location is as follows:

Geo (formerly called IOT) - also known as Geography

Market (formerly called IMT) - also known as Region

Country/Territory

State/Province (not used for all countries; for countries where this is not used, a value of N/A will be shown)

City (for Professionals, this is their BluePages work location city)

Alternate flow

Basic Flow of Events

1. M&E Deployer requests M&E system to be build in the cloud.
2. AutoBuild receives M&E system build request and confirms reception.
3. M&E Deployer provides details about new M&E system to be
6. M&E Deployer validate build details and confirms the build.
7. AutoBuild requests VMs to be build in the Cloud.
8. Cloud Provisioning System provisions VMs.
9. AutoBuild confirms VMs are available.
10. AutoBuild installs and configures operating system on VMs.
11. AutoBuild installs and configures middleware on VMs.
12. AutoBuild installs and configures Tivoli software on VMs.
13. AutoBuild installs and configures GSMA/BC software on VMs.
14. AutoBuild tests basic events flow and validates event can be sent from event sources, received and processed by M&E EMS.
15. AutoBuild sends deployment successful confirmation.
16. M&E Deployer receives M&E deployment confirmation.
17. Use case ends.

3. M&E Deployer selects M&E :
4. AutoBuild respond with the

SORTING

wen inputs Grow ... costly.

Amzn – mil prods. Msoft – sort logs of all datacenter , Netflix – sort movie,tv,....

JS – sort numbers > converts to string . 65.charCodeAtAt() = 54 unicode

Array.prototype.sort()

Sort() > impl depends on browser. Array.sort() = time n space complexity cant be guaranteed. Governing body sugests wat it looks like. .dep on diff engine . Safari, firefox... use diff sort algo underneath..

Also, depending on inputs n sort type the sort mechanisms work.

ELEMNTRY Srts

Bubble: swap two adj until whole seq is sorted

Insertion : wen its alost sorted.. use this .. n for SMALL data sets

Selection : go all the list seqly mark smalest & at end put smales on top.. go on to nxt.

O(n^2) is cool. But wahts cooler – faster

Divide n Conquer .. o(n log n)

Merge Sort O(n log (n))– complex . But efficient than 3 above

Get Len >divide items > again each halves divide further halves until until only 1 item re

N sort looking at every single item to the othr side of it. ... so N log n – N = still looki

So in bubble sort checking every list again n again.

Stable = if

Quick sort

O(n log (n)) usually fastest..

Worst time complxity IF pivot is not properly selected.. lft /rt extreme..

If its smallest/highest.. wont be parting arrayi half.. worst O(n^2) ..

Space = O(log (n)) better than Merge == not as good as elmntry.

So pick pivot intelegintly.. if cant decide on pivot selection..

HeapSort – best case better than oth.. but on avg slower than both

DATASTRUCTURE: A storage format that defines how data is stored, manipulated, ordered/org'd

Array, tree, graphs

Array – item stored of same datatype, easy to sort search

LinkedList- /// array. Linear DS, not necessarily stored in order.. chained list

Stack – linear DS, operations done in LIFO.. top to botom

Queue – in FIFO order .. way of accessign stored, retrieving data.

Bin Trees- extsn of linked list DS. Each node has 2 children

Recursion – cals itself based on a terminating condi.. Uses LIFO I.e stack DS.

OOPS – progrmin sys provides cocepts – obj, classes, inheri, poly, abs, encap ...

BinarySearch tree → Stores data in way retrieves efficiently

Lft subtree :: nodes[keys] <nodes' key val . Rt viceversa

NON COMPARISION SORT

ALGO if someone comes with algo O(n logN).. swayyyyyyy

comes in countingSort, RadixSort . work only with fixed leng number.

//If you know a solution is not far from the root of the tree:

BFS

//If the tree is very deep and solutions are rare,

BFS (DFS will take long time.)

//If the tree is very wide:

DFS (BFS will need too much memory)

//If solutions are frequent but located deep in the tree

DFS

//determining whether a path exists between two nodes

DFS

//Finding the shortest path

BFS

BFS

breadth first search is usually good for shortest path. That is what's the closest to our note.

What are the most related items on Amazon? Who are our closest friends on Facebook or closest connections on LinkedIn versus depth first search, which is really good to see if something exists. With deep research, we're able to go really

what's the closest node to zero ? == BFS

This is used in recommendation engines, peer to peer networks, even Google Maps. Right.

Facebook friend requests and Instagram recommendations, breath for Search or BFS allows us to convert

a graph essentially into a tree because we know who the children of the parent notice and then the grandc hildren and then so on and so forth.

DFS like solving a Maze .. so we use recursion in DFS

Animation of Sortign Algo..

<https://www.toptal.com/developers/sorting-algorithms>

but space is O(n). <https://www.mygreatlearning.com/blog/merge-sort/>

btr than merge. Less spaceCmpl.

but if pivot not picked properly.

```
// 9
// 4 20
//1 6 15 170
// Traversals in DFS
// inorder = [1,4,6,9
// preorer = strts frc
// [9,4,1,,6,20,15,17
// Post Order - al wa
// [1,6,4,15,170,20,9
```

Program Has to allocate

JS engine each browser imp

Chrome has V8 engine.. reat

engine consists of two parts,

Now the memory heap. This

Call stack. This is where yo

Single threaded means that i

And one calls that only you c

Why Single Threaded... Eas

then How Async works.. mor

On top have something calle

har jeev ceates his own srushti. And experiences it .. has freedom n right but.. But shold evrything (abilities, resources ,...)is avail to me everytime.. if you dont drop efforts/ideas

Thamsik if mann is - lazyness filled :(- This is most dangerous affects very badly
SWADHYAYA - elf exploration - Gyaan Marg = remeer 1. Har jeev apni shrushti khud ba

8866203103 - rishikesh yatra Swadhyaya . With Rishi Ji.. Oct 20-26
Wilingness gives a way.. willingness to letgo of Moha will give way to prosperity.. attain
Mann kare tho chuth jayega

7782892314 - Megha Alkaline water.. All disease will be gone
Ghee from Ashram >> oRganic chara .. dint been cross breed for 7 generations. Prabho
1 kg ghee thisone gievs tones of oxygen... diya with this can fill home with pure oxygen

Rohit - > personal Questionaire to Rishiji .. 7795606551

JRE - layer with s/w lib to runa java program for that OS
JDK - for diff OS.. JRE can install speerately but usually together.
JDK has [JRE, windows/linux, rt.jar], comes with Javac, java cmd to run

rt.jar = runtime jar has all compiled bootstrap classes = all classes form core javaapi (ar
is inside JRE/lib.. in macos , until jdk1.7 was in diff loca caled- classes.jar.
mjst include this in calsspath.
Javac - converts class to byte code. Understood by JVM. Launched by Java cmd .. Int
JVM is instance of JRE - repres of JRE
JIT = just in time complier. > part of Jvm interprets code with underlying OS in optimise
if not JIT - jvm executes whole byte code .. .JIT optimizes to perform better.. JAVA - by
-Djava.compiler=NONE makes JIT disabled

Constructor == method, initializex properties of object.. same as Class name... invoked v
Super() to invoke super class const
Abstract - if atleast one abstra method. Integrfaces all are abstract. Class can imple any
Multiple inheritance NOT supported ..

ConcurrentModification Exception -
FAILFAST (arraylist, hashset hashmap) iterators wont allow concurrent modification >>
COPYONWRITEARRAYLIST > or "ARRAYSET provide Failsafe itrtrs // Allows parallel mc

Producer-consumer pattern >> which collection you sugest > **BlockingQueue** .. Produc
java.util.concurrent.ArrayBlockingQueue

Comparator > java.util. .. own compare method for two objects >> compare(o1,o2).
Comparable - java.lang.. provides default/natural ordering objects. . o1.compareTo(o2)

Concurrent collections > **COPYONWRITEARRAYLIST SETMAP** .. implement failsafe itrtr
ConurrentHashMap .. FineGrainedlocking.. instead of entire map.. the Object is divided i

Extends thread / implement **Runnable** so can extend anyother class.
thrd synchronisation >> method Sync' .. lock on thi smethod. Also sync on static / block
ClassLock .. if sync' static method - if thread is in this ..it attains **classlevel** lock.. all oth
Sync blocks .. syn con method .. one thread at a time can enter method.. so sync only th

Threads comm with each other wait, notigy n notifyall.. to use these methods should be

JAVA 8 :: Lambda, Functional Intrfcs, DefaultMethods, Predicates, Func, Stream API
LAMBDA > no datatypes, no access param, no paramtyeps.. 1line syntax for a method
Anonymous func or closure () -> sop("name"); // (inta. Int b) -> sop(a*b);
Adv= less code .. easy impl anonymous innerclasses, can be passed as par to other func

If intrfc has 1 method abs = FUNCTIONAL INTRFC .. ex- runnable, comparator .
Can have any default me'ds but only 1 abs me'd..
Rule for LAMBDA Expression -> it has to be a Funcitonallntrfc .. 1 abs m'd
USE of lambda > runnable > Runnable r = () -> { thread().... t.start();}

PreDICATION :: fi
Ex: Predicate<
Predicate Joining .. > and, or, negate.

FUNCTIONS. jv.util.function.Function.. takes both argumentType, Return Type. M'd app
Function<String, Integer> f = s -> s.length(); f.apply("swar"); f.apply("niko");
DEFAULT methods in intrfcs >> non abstrc in interfcs..
default void m1(){ sopl(); }. ... All th eclasses implement a interface need not provide i
If Same med sign in two intrfcs... one class impl both >?? Compilation med... SO this cla

STREAM FILT
List<Integer>
Stream methods.. filter.count. >> sorted, max, min,

MAP vs FILTER >> in map . Th elogic is performed on the content of maps..

JAVA 9
can hv priv m;ds in intrfcs .. Adv= reuse code across defaultm'ds or static me'ds use priv

Unmodifiable /immutabe collections.. creating them.. classes.. of method =
List.of("a","bb","c"); gives unmodifiable list back.. .Set.of("");

JAVA 10:: Oracle promises .. 6 month release.. var, collectors.
var used for inferred types.. value assigned defines the type of variable. Var x = 10; x=1
easy declare mpas, collec .. var map = new HashMap(String, List<String>>());, see need r
cant use var for lambda expressions .. also not class fields .. can inside lambda expressio

list coming out of streams - how to make unmodifiable..
Collectors.toUnmodifiableList(); ... if try to change - immutable exception.

JAVA 11 >> new meds to String, File, isEmpty, Depracation, removals..
str.isBlank = true.. even if spaces = true..
streaming update str.lines() .. str with new lines gives list... spaces unicode spaces.. trim
FILE API ;; text, strign data to file. Fiels.wrtieString (); readString();
isEmpty on Optional. Can aslo check if Empty I java 11. . Earlier only if Optional.isPreser

JAVA 12
StrlNG API .. indent, ttransform methods.. s.indent(5), s.indent(-5).. s1.transform(Int
CompactNumbers .. 1000 = 1K, styles per locale. 1 million, l thousand
unicode char supports.. chinese also those on chess board. Al those icons can be seen i
Teeing ();; two down streams n merges with a merger provide.

JAVA14
instanceof is simplified, can give StringType n obj also...> if (o1 instanceof String str){ /
helpful Nullpointerexception.. by passsing this jvm argum use ==> -XX:+ShowCodeDe
SWTICHEXpressions yield, can use lambda with case exp.

JAVA 15
Public **sealed** Interface Abc permits X,Z
only X, Z intrfc or clases implmnt or extend this Abc
or **sealed Class A permits.....**
Also, public **record** Doctor (@MyAnnotation String name) implements Empl
custome annota can be used on fields

PERFORMANCE

JMH is a Java harness for building, running, and analysing nano/micro/milli/macro bench
shows that streaming approach is about 10-15% slower than iterative.

collections.sort uses the merge sort algorithm instead of quick sort. But Arrays.sort use

team size == '
array.sort uses
TimeComple
Space COM
*/

DR

A disaster recovery

A disaster recovery

Objectives of DR

- Provide a safe

- Minimizing the

- Guaranteeing

- Provide a safe

- Minimizing the

Pseudocode

represent the

ChatOps framework is developed and maintained by using a partial automated delivery pipeline

Source: Organizational strategy to embrace DevOps

Refernce: IBM Garage Method

Automated sys code testing:- Automate unit, integration and acceptance tests by using testing tools and suites. Also automate code sanity checks by using specialized tooling.
ChatOps framework logging needs to be scalable, distributed, streamed and viewable.. is fully instrumented through a logger and data is sent to an analytics tool such as **ELK or LogDNA**. code behavior is visualized on an analytics tool.

Containerized Env - Framework is designed and developed to be run from inside a container by using standard patterns and build-to-manage practice

Theme Scalability, Contxt: Cloud hosting environment – Ref: IBM Kubernetes Service /Red Hat OpenShift Kubernetes Service

Sys Backup/Recoverability- Periodic (weekly) automated backup mechanism to store and retrieve account specific and non-account specific data, including config settings

ChatOps Knight is architected to be a modular microservices based system

“Tenants” is a term 4 a group of users / software applications sharing access to the hardware through underlying software.
Multiple tenants on a server all share the memory I.e dynamically allocated and cleaned up as needed. also share access to system resources, such as the network controller.
Multi-tenant architecture=== multitenancy, is a software architecture in which multiple single instances of software run on a single physical server. The server then serves multiple tenants. Additionally, this ena
architecture is often used in cloud computing, to offer shared tenancy on public cloud providers like Amazon Web Services, Microsoft Azure and Google Cloud.
ARCHITECTURE:: Framework for CK is architected to be a modular microservices based system..
Mission to provide a platform abstracts usages concepts such as chat platforms, role-based access control, service manageability, etc. from the skill-based services running within the Framework

Chatops IBM services

ChatOps allows to connect our people, processes, and automations . Collab btwn people n machines. Streamline//remove process to make complx process s simple/quicker n relavant.

CK name- is an automation to make the processes n collbor succeed

MicroService Components:
NodeJS, NPM NodeJS library for package build
Loopback framework for authentication/authorization
MongoDB as NoSQL DB for ConfigStore MS
ELK Stack MS - This is for Log consolidation across MS for logs internals to a microservice, persistence, troubleshoot
Redis , Docker, Kubernetes

the node_modules folder like a cache for the external modules that your project depends upon. When you npm install them, they are downloaded from the web and copied into the node_modules folder and n

ELK – acronym for – Elasticsearch, Logstash, and Kibana

Grafana is an open source visualization and analytics software. It allows you to query, visualize, alert on, and explore your metrics no matter where they are stored. In plain English, it provides y
Companies use Grafana to monitor their infrastructure and log analytics, predominantly to improve their operational efficiency. Dashboards make tracking users and events easy because it auto
shows teams and companies what their users really do,These are known as revealed behaviors and they’re highly telling
it makes that data useful by integrating all data sources into one single organized view

LogDNA
LogDNA is a centralized log management solution that helps application owners operate more harmoniously in a DevOps world.

supports a huge list of data sources including (but not limited to) AWS CloudWatch, Microsoft SQL server, Prometheus, MySQL, InfluxDB, and many others

FEATURES: Visualize, Alerts, Unify , Opensource, Explore Logs, Display Dashboard, Create n Share reports
what is the typical behavior now that users take through our network or app:
What opportunities do we have to reduce SLA churn?

IBM® App Connect instantly connects applications and data from existing systems and modern technologies across all environments. App Connect offers enterprise service bus (ESB) and agile integration architecture (AIA) microservices deployment of

CLOUD ComPUTING::
on-demand delivery of IT resources over the Internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining physical data centers and servers, you can access technology services, such as computing power, storage, and databases, on .

Agility: The cloud gives easy access to a broad range of technologies so you can innovate faster and build nearly anything can imagine. Can quickly spin up resources as you need ‘em–from infrastructure services, such as compute, storage, and databa

can deploy technology services in a matter of minutes, and get from idea to implementation several orders of magnitude faster than before.

Elasticity: don’t have to over-provision resources up front to handle peak levels of business activity in future. Instead, you provision the needed amount of resources now. can scale these up or down to instantly grow and shrink capacity as your busine

Cost savings : saves Datacenters, Phy svrs. only pay for IT as you consume it

Deploy globally in minutes :::Ex: AWS has infrastructure all over the world, can deploy apps in multiple phy locations with just a few clicks. Putting applications in closer proximity to end users reduces latency and improves their experience.
3 Types ==

SaaS > refers to end-user apps(ex web-based email). With this, you don’t think about how service is maintained or how underlying infrastructure is managed. You only think about how you’l use that particular software

PaaS > need not manage underlying infrastructure(hardware and OS), and you only focus on the deployment and management of your applications. be >efficient as you don’t need to worry about resource procurement, capacity planning, software ma

IaaS > has basic building blocks for cloud IT. provides access to networking features, computers (virtual or on dedicated hardware), and data storage space

NGINX is a web server that also acts as an email proxy, reverse proxy, and load balancer. The software's structure is asynchronous and event-driven; which enables the processing of many requests at the same time. NGINX is highly scalable as well, me

CHATOPS HOW WHY

2020-2021 >>

CHATops End-End for GTS workspace

ChtoE-E → (ChTeam) BG for acAdmin need to be created → add account to chato AdmPortal →

Concepts __
Setup local K8s Env , Docker Stdts , Wirte Helm, BuildRetention .. , Processes (OSS, Appscan Dynamic.statuc ,) , Intr URLS certificates. , Health Check , Branching, Known probl, raising Issues.requ, FAQ, Security Guidelines. , Https

IBM Cloud Private is an application platform for developing and managing on-premises, containerized applications. It is an integrated environment for developing, testing, and deploying applications.

IBM Cloud Private delivers a customer-managed container solution for enterprises. It is also available in a community edition, IBM® Cloud Private Community Edition.

For the best experience in using IBM Cloud Private, you must understand how Kubernetes, Docker, and Helm work. These open source components are the foundation of IBM Cloud Private.

<https://www.ibm.com/docs/en/cloud-private/3.1.0?topic=overview-cloud-private>

ISPW is an Enterprise Software Change Management product. Combined with ISPW's multi-platform Deployment Tool it becomes one integrated solution for managing the lifecycle of applications.

With it customers can build, test and deploy applications with a fraction of the effort required with older SCM products. ISPW's optional Eclipse IDE provides a rich development environment.

CK employs Helm charts to build the required Kubernetes cluster from scratch which are generic enough to be applied to any cloud platform.

Snowflake , SingleStore or similar platforms

- The following- Basic Knowledge of any BI tools like Tableau, Business Objects, ThoughtSpot etc

<https://www.baeldung.com/dockerizing-spring-boot-application>

<https://www.baeldung.com/spring-boot-docker-images> <https://github.com/eugenp/tutorials/tree/master/docker/docker-spring-boot>

glot.io

<https://github.com/h5bp/Front-end-Developer-Interview-Questions>

<https://github.com/DopplerHQ/awesome-interview-questions#docker>

Replit <https://replit.com/~>

Discord <https://discord.com/channels/423464391791476747/434851345392992277>

SPRING BOOT <https://www.baeldung.com/dockerizing-spring-boot-application>

LinkedList <https://visualgo.net/en/list>

Binary Tree <https://visualgo.net/bn/bst?slide=1>

<https://www.cs.usfca.edu/~galles/visualization/RedBlack.html>

<https://www.cs.usfca.edu/~galles/visualization/AVLtree.html>

Sortign Algo <https://www.toptal.com/developers/sorting-algorithms>

Radix Sort: <https://brilliant.org/wiki/radix-sort/>

Radix Sort Animation: <https://www.cs.usfca.edu/~galles/visualization/RadixSort.html>

Counting Sort: <https://brilliant.org/wiki/counting-sort/>

Counting Sort Animation: <https://www.cs.usfca.edu/~galles/visualization/CountingSort.html>

<https://coggle.it/diagram/W5E5tqYlrXvFJPsq/t/master-the-interview-click-here-for-course-link>

Architectue Collaboration tool

<https://ppylonpdpxy01.sl.bluecloud.ibm.com/cogarch/search>

glassdoor <https://github.ibm.com/glcraig/Cognitive-Architect-Enablement/blob/master/docs/Overview-2.1.md>

jobs.IE

indeed

monster.ie <https://www.geeksforgeeks.org/design-parking-lot-using-object-oriented-principles/>

irishjobs.ie

<https://github.com/aneagoie/robofriends>

<https://github.com/aneagoie/robofriends-redux>

CODING HACKS

<https://www.dailycodingproblem.com/?ref=csdojo>

<https://cloud.ibm.com/docs?tab=tutorials>

IBM Cloud Account:: swarnalatha,nanna@gmail / tr...IBMc5ou1 soos \$

https://cloud.ibm.com/docs/containers?topic=containers-cs_cluster_tutorial

5+ years of full

3+ years of exp

2+ years of RES

2+ years of exp

1+ years of Kaf

1+ years of exp

1+ years of Agi

1+ years of Clo

READ TIS

ExecutorC

with an index

let groups = [...

groups = grou

redis

UCD

Logger

Bull Queue

Kafka

JS

Math.pow(2, 1

Math.pow(2, 1

var fruits = |

fruits.splice(

Fruits.splice

Data consistency , Data

Kubernetes vs Docker ::

Can run indep without e

Containerization is an a

You create an illusion for

Docker enables us to run

IF Docker installed on a

Nodes = Docker hosts, c

DataStreams:: a metho

Ds is genera using thous

Getting data from one p

AWS = kine

idea similar

Spark / Hadoop ::

AWS – EMR

DatWarehousing :: the

Caching – ElasticCache (

SYS DESIGN :: think in E

about finding solutions

repeat stmt.

design Youtube :: lot of t

Understand scale of pro

WORK BACKWORDS >>

start by understanding

what customer experien

Bachelor's degree in a relevant field or equivalent experience

14+ years progressive experience in technology

8+ years of progressive management experience in leading platform and infrastructure engineering and/or operations teams

Demonstrated experience in improving and maintaining the reliability and performance of both internal and cloud-based infrastructure

Consistent track record to build and lead through change with a high degree of passion and a positive attitude

Experience with CI/CD tools, pipeline development, and operations.

Expertise in DevOps and Site Reliability Engineering practices, including service design and operations, incident management, and observability

Extensive knowledge of running and maintaining cloud-based and hybrid services across various service delivery models, as well as compute, storage, and databases

Have a consistent track record for building and developing global engineering and operations teams

Experience with large scale transformation of on-prem datacenter / single cloud to hybrid cloud model (AWS experience is a must, GCP or Azure a plus)

Demonstrated progressive leadership responsibilities in a large-scale 24x7 global operation

A solid grasp of networking, data center, and application fundamentals, preferably including previous hands-on experience

Excellent communication, leadership, presentation, and interpersonal skills are required to be successful in this capacity

Strategic thinker with a high level of situational intelligence to be able to work with a diverse workforce with differing opinions.

Provide leadership and set the mission and vision for the team in alignment with the strategic and operational objectives of broader engineering organizations and business stakeholders alike.

Develop and implement infrastructure strategy that enables innovation and seeks to leverage technology trends that can accelerate business value with agility, reliability, and performance.

Lead end-to-end systems infrastructure design, capacity planning, and system performance management, seeing opportunities for automation and orchestration at scale

Hire, coach, and mentor team members to develop a robust team that has a continuous learning mentality; cultivate a team culture that includes high ownership, a customer-obsessed focus that's collaborative and adaptable to the ever-changing needs of the business. Your success is judged as a reflection of the productivity and passion of your entire team.

Manage the technology direction and tools of the team, ensuring that appropriate standards are set, maintained, and reported on regularly

Actively participate, collaborate, and influence overall architecture and engineering approaches and provide direction on how to build highly scalable cloud-native solutions. Your decisions are often right, and you are persuasive in delivering your suggestions and ideas to your team, partners, and stakeholders.

Effectively collaborate with cross-functional leaders to help build and scale world-class infrastructure and platform service offering.

AMAZON vs IBM -Cloud Serv

ProsAMAZON solution offers a low fo

Amazon is continual innovating, with
I have come up from workign in very
Its utterly important to have focusse

STARR Situation, To

Tell me about a time when you were t

EPCS App >>

When did you take a risk, make a mis
Describe a time you took the lead on
What did you do when you needed to
How have you leveraged data to dev
tim eyou go beyond wat company ex
wen u couldnot meet ur deadline
problem solved innovately
helped someone in work
boring task but completed successfu
failed to meet commitment

Mindfulness is the basic human ability to be
And not overly reactive or overwhelmed by

launched in 1995
 customer-centric company start with the customer and work backwards
 smart, fast decisions, stay nimble, innovate and invent, and focus on delighting customers.

Amazon Devices and Services

first Kindle in 2007 , Amazon Fire TV, Fire TV Stick, and Fire TV Edition ..

Amazon Echo and Alexa, the voice service that powers Echo and other devices so customers can |

Amazon Marketplace

Cust -can buy most anything they need to live their lives

Small businesses rely on Amazon as a trusted partner to enable them to reach millions of custom

AWS

Amazon Web Services (AWS) is a secure cloud services platform, offering compute power, datab

Business Development

Prime Video and Studios, Amazon Music, IMDb, Worldwide Advertising, Amazon Registry Service:

eCommerce

safe, simple and consistent experience for shopping at ama..

eCommerce Foundation (eCF) owns the core systems, services and infrastructure behind Amazon

Kindle, Digital Content and Publishing

Retail

Amazon's Retail organization is at the center of that evolution. We're the people behind the Ama:

Worldwide Operations and Customer Service

Amazonians come from all sorts of backgrounds, experiences, and expertise. We build new systems, challenge t

For

For

Swarna Latha Padma

Overall Process

Overall Process

Submit Resignation: Swarna Latha Padma

Overall Status

Overall Status

Successfully Completed

Details

Process

Notification Date

Notification Date

11/14/2021

Notice Period

Notice Period

90 Day(s)

Proposed Separation Date

Proposed Separation Date

02/11/2022

Primary Reason

Primary Reason

Worker Resignation > Voluntary > Dissatisfied with Pay

Initiated Separation

Initiated Separation

Separate: Swarna Latha Padma

Secondary Reasons

Secondary Reasons

(empty)

Position

Position

Systems Management Specialist - Swarna Latha Padma

Organization

Organization

Kyndryl CC-SSD-DEV (ARABIND MENON)

Manager

Manager

ARABIND MENON

has test, dev, env , penetration test <done by ext team. >

ChatoPs creates incident channels and adds user to it so they can collaborate in sync. wn it is created in TT. Also adds people needed

Index Channels -> GEO focalns will be part of this. Only brief notification of channel created. add acct leaders there - wen a new incident channel gets created these people will get notified. Prerequisite> they should create a channel in their worksprc. Get the channel ID. Add while acct onboarding.

Squad Based Assignment - for AIOPS .. Dow chemicals also need to get onboarded onto AIOPS.

Any new account wanting to use chatops should get onboarded to AIOPS? account Id for AIOPS wen it calls for initiate ticket api- acctfIS for aiops is used.

can any /one assignment can only be added AIOPS > like a data lake. Of all Tts it calls us with the ticket data - telling us to create a incidentchannel via slack. in that channel who needs to be added. Assignemnt Srvc users in this field will be default added to every channel created.

Assignment 1. above 2. get list of people from AIOPS, SNOW, ... from aiops exposed api get owner of ticket and add them to channel Snow> retrieve owner fr snow and add to channel ICD > owner and 6G assignment via Bgs.. with rules.. (sector, ticketpriority , sev,...)

AccntInfo tab >> User authorization TT api URL TT used Auth > Basic/Auth ? Password? is this functional ID? need all this to get owner details,... and more.

enable feed for DowChem. When feed is enabled in AIOPS then only the channels get created. And people get added according to the setti

now direct SNOW integration is there. but ICD - accounts must get enabled in AIOPS.

AIOPS calls chatops using initiateChatopsIncidentProcess

AppConnect.. working on a ticket trying to update SNOW .. IBM EventStream >> Have also integrated with ibm ES .. @chatops_knight..test update.. --sommet -.... Not yet done.. But they would be able to They would be able to listen to this topic . And msg can be interpreted... And if they have won connection to link with snow, slack,.... msteams .. they wont need to come to chatops - called dynamic workflow msg to be posted on slack.. on a topic created , using a cloud servic called App..connect. Kafka - Bashe - messaging Broker. If the accts have dev in their team with a setup called App_connect . They can use this

On Account menu > apikyes , commandRegistrationa-dpe could update this. > New commands can be added to tool via UI Cmd Reg === cmdnd name = icdupdate. . Params == add here slash command or @ bot names. own commands .. if have own app..connect.. eventstream have topic. Which would get created . And params (tktid, comment)would be sent if they have dev in their team they can have it on there own.

imr to know tkt details createChannel

WatsonAssisitant -> @chatops_knight..test what is chatops? READ https://w3.ibm.com/w3publisher/chatops-for-ibm-services chatops supports natural lang processing as well @chatops_knight..test what is weather? Other apis exposed each acct team has to gen own api keys.. a dpe can create a API key with a name - issued to.. email id.. api can use. Slect. And submit. indiv apis exposed to act teams. It gives a sourceID , api key gen.. user can use sourceID n key to post msg to channel SO given a open api specification.. its developer perspective.. Chatops-test-intxtnet.ibm.com/ postmsg, add resources, archive chanel, find resrcs of channel , set helm desc.

InitiateChatOpsIncidentProcess

KRISHNA SNOW direct right integration.. Vishnu/San don .. a script caled business rule. sometimes we i dont chng status from actual tkt.. if it is resolved.. we ignore status update from Critsat. FROM wat all systems update status can come FROM ???? double check on the maes system update on status.. WPP> they hav issues with upto 15 min delay with ticket occurs before this info is put into maze - and it is able to produce the channel for chatops.. Wpp has a special situation... it no std.. may be this shuld be customized to Wpp.. not widely ail direct integra from chatops..snow .. so updates shuld happen to immediately.. Nay delay shuld be from maez.. For Wpp. Their ewas a qu for comments not updating in right section. Or were visble to users which they dont want.. so they showed IBM comments section were this should be updated.

chatops enable feature - is turned off.. wpp want something custom to replace.. so that would be addition or a dynamic wf.. if not accounts need - they can go with UserAccess..

CDI- cognitive data insights - new - AIOPS (mace) system MCAP*** global team as mace.. from AIOPS - we get initiate req for a account.. we create a incident chanel //via postman - /explorer- creates a inciden channel INDEX channel > not were to mtroule shoot for geo leaders .. to see metrics . mace create a initiate req - for create chanel .. wen ticket is getign trouble shoot - in ticketool it may change to discovery. . maze they would also send insights on incident... on hw

tt are integra with mace ... they pul from TT.. they cal lour chatops to create -initiate update api - to create channel.. on muli onboarded .. the delay > mace pulling from TT n creating incident is upto 15 min. incident chanel -> msg goes to here is one per ..

other entry points for system - chatops .. SNOW direct right integration.. Vishnu/San don .. a script caled business rule. instel/ update of a new incident aut appens if onboarded Via Netcrack> robert triggered.. Nck Create_Incident .. it asks you to which acct incident can be needed.. Update..Echostystem API.. flag create..incident.. an incitn chanel would create one view , ISAT, critsat sys - major IM teams.. direct call to apl.. sys configured to call. . Bluelnetg API > BOT is specific to slack workspace - need to instal in a workspace. Onboarding -> with TT option..

ChatOps EU environment is down since 4 hours due to mongodb cloud service connectivity is broken. Issue seems to be ISPW is unable to resolve IBM cloud RCA: SR51115472 - came earlier today - DNS zone appdomain.cloud created manually on ISPW DNS servers and it was blocking other DNS within the same DNS zone appdomain.cloud was deleted on ISPW DNS servers and fqdn created in root instead of it After DNS update connection is restored DNS names are translated via IBM forwarder

Have been seeing couple of thinking sessions, now mainly for opening up Community Development to ChatOps, so basically community builds various assets for test should use a api based on this documentation and raise defects for APIs we release. I think this needs to become a parameter for system testing @naraz

Next when new assets come in from community, we may have additional tasks like vetting asset, scanning, reviewing and possibly testing out asset too

https://w3.ibm.com/tools/ste -SSO provisioner

ISPW CHATOPS ISPW = Hosting env - deploy chatops proj Dev, test, pentest, prod Cant connect directly to ISPW .. access to Jump Server // Intermediate svr which has direct conn to ispw Raise ticket , ask naeven > Approval to mananger -> sent to ISPW env team - grant access to jump svr. -> from here to actual ISPW env

JUMP server 1. for security no direct . Not many ports are exposed.. VPN connectivity from Jump server -> ISPW has priv Connection. jump server - 158.87.48.5 .. connec using your creds Login as usrmn / pswd hostname -A > name of jump server. now connect to actual cloud env > wer Kubernetes clusters are deployed Fire this for connecting.. auth with ibm internet credits >>> kubectl login -a https://158.87.48.120:8443 --skip-ssl-validation -u username@aa.aaa.com asks for env.. 1. dev, 2.dev, 3 test. enter a num.. > Configuring kubect.....> configing helm : homesuser%/helm NAMESPACES.. same product on different x? > helm3 list Name Namespace revision updated status chart app version Chatops-dev ibm-chatops-dev 1 2020-05-06 deployed ibmservices-chatops-helm-20.4 20.4.1.2020...

> kubectl get pods lists all pods running for project :: assignment, itsm, itsm-snow, collabo, coll-slack, dloader, muli, redis...

showing only dev namespace pods if want ot see pods on diffie env . 1. should login again n select that env 2. >>> helm3 list -> displays current env \$ helm3 list -n ibmm-chatops-test Shows # Name Namespace revision updated status chart app version Chatops-test ibm-chatops-test 1 2xx20-05-06 deployed ibmservices-chatops-helm-20.4 20.4.1.2020...

App version shows build numbers which is deployed on the env >\$ helm list n=ibmchatops-test >> shows test .. app version check Ideally dont operate in other env . Or modify from diff env. login to that particular env n do changes

kubectl get pods >> NAME ready status restarts age lists name of all pods.. dont see mongo-db here. Coz here its not local db access. Its Cloud DB Mongo-db is a local container.. if talking to cloud DB.. dont need the pod here. Its in cloud.. During deployment .. there is an option to connect to local DB If mongor /cloud > change is hostname.. >>> With each Microsvrc there isa corresponding servc assigned tht it.. \$ kubectl get svc / get service List all services /// NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE Chatops-assignment ClusterIP 10.10.43.170 <none> 3000/TCP 63m all other microservices In dev nodeport is exposed.. For ispw : in prod we never make services as node port.. always make a ClusterIP .. for ispw - all has to be cluster only. Not node . Am not supposed to say to open a port for me .. asits someone elses host env So how we exposign chatops ... > So two Proxy server running in our integration .. - internal & external >kubectl get ingress ... traffic mangemnt -> it tours traffic.. from outside world trafic comes . to depending on the type of reqes given to respective srvc >kubectl describe ingress Shows paths which host will be routed which servc...>>> coming from a host > routed to backend particular servc.. penned out.. Not patial way. Not in prod.. only one url is given .. separating req on host base coz on Dev env... on dev seperated on host based On production its going to be diff

Ingress routes traffic.. you set rules depending on URI .. which asrvc it routes to should know.. 1. dep on URI / configstore.. /xxx ... 2. Fenout method.. depending on host from which it comes . Routes the request. check kubernetes + ingress >> kind of loadbalancing MS deployed on multiple nodes as pods.. host >> Ingress routes traffic - sets rules based on may be url/ context path.. which srvc it should route to If depending on host - req s routed == called fenout method Check Ingress Kubernetes .. with ingine ex Dev dint have dns for server then so - we added host entries trying to mock as if it came form host diff and tried accommo reques >kubectl get secrets check ispw images doc... same ip adrs but diff hostnames - calling with diff names

kubectl get secrets All passwds/token admin creds, db, encrypt, taas, tokens in encrypted format as a secret .. to kubernetes while deployment. ' pass encrypted to helm for deployment .. if put tokens there may be a security breach.. so Recommend wen put as secret in kubernet and deployment files In LOCAL :: Secret needs to be present since they r used in helm. To connect to test.. cloudctl login again. Authenticate . Sclc namespace - 3 test kubectl get pods >> check you in test . See test srvc if need to see logs > kubectl logs <copy name of srvc = chatops-test-assign-itsm-867xxxx> --tail=5

Updated Deployment sheet with new env variable for TeamIT.

CI/CD build Code base with Github. Devs on commit , build goes - maintained by travis.. manually deployed onto env travis.ibm.com/gts-ehcs/ibm-services-chatops/builds. access is given to Krishna only now. Ut chatops should have access also. If any failure click on the failed log .. shows th elogs.. n errors ensured that a container /pod is executed , deployed n terminated properly.. validation on all containers are up n running.. on return How BUILD?? in our build always put -travis.yml file .. on build executes this file - How proj needs to be build. building code with node.js, running, n a lot more... for ll microservices this is th eonly .. one per project. if new microservice adds > it ocmplies everything under microservices/folder... do som in buildall.sh add new MS entry, setenv.sh. inside gith er eis a provision for building single microser localy, a particular.. For testing MS, > compile , pods are executed properly, testautomation Fw framed every in helm.. .. push everything in artifactory , then build stops. Line 84-85.. helm is packaged.. .. /reconfgchatops.sh , intohelmtemplates. giving a generic helm for this projec.. later on - admin can run the script and cusotimize.. Earlier it used to be done for each build.. lot of hardcoding. Helmtemplates / reconfg.sh ==> ports all ms helms in th echarts folder n creates a parent helm.. Cretes a parent helm.. copies all MS charts into charts fr to cusomize further envs like ispw.. there deployed locally.. so how to hange helm. helm contains > once build is done.. images of those build is passed to artifactory. eu.artifactory.swg-devops.com/artifactory/webapp#/artifacts/browser/tree/General/Jfrogartifactory. take tht build number passed . Go tht link.. > gts-chatops-team-docker-local > under this each Ms has one filder . Within aeach see tht build number relat to this is place wer lages r stored . Dont push secrets here.. only images.. chatopscrets used in our deployment. We Authn by credentials using ..

wen kubernetes need to pull this images from artifactory .. is needs to authenticat - it uses chatopsecret which is API token provided to artifactory to al Indiv images , main part = helm. Chatops-helm.. this is given to deployment team never give images indiv.. that packaged in chatops-helm is given. This helm download option for the particular build. Travis does this n uploads to artifactory. go to downloaded open archive . Untar untarm see tht efolder helm* > inside \$> tree helm .. to see tht etree stru of helm mv helm helm+backup tar xvf=helm-20.20.chatops-250.timestamp.tar.gz helm-templates/manual/ispw/configureHelm.sh >>. ./configureHelm.sh ispw dev 31880 replset conf env params === ispw any , namespace (dev/test/..), db port number (if cloud, clousportnum = 31880) , host = replset, certifacte needs to be added See the param descri in the file. download helm file, untar n run configurehelm.sh with req parameters and helm file is ready for deployment. SO, gener ahelm need to be customized I.e run configureHelm with paraments. . tomorrow if new customers .. so change this configureHelm.sh.. how genera helm, diff consideration while designing. untar downloadedhelm > extract gives helm - from this folder> >> cmd 777 - execute the command,, configureHelm.sh ibm.com' ' ibm-chatops-dev0 This builds helm for ispw version : 20.4..chatops-250.2020..1149.xx building Hel for ispw version : 20.4.... CloudDB. cat values.yaml === see the details.. ./configureHelm.sh xxx , namespace: xxx , Configurehelm wat has done. - dynamialy generates the values .yaml depe on the parameters you provided and required.

untar creates a folder helm.. > go under > exec configureHelm.sh when helm is ready . Go under Under kubernetes n helm instaled env >>> helm install chatops-dev ./helm if you have secrets ready, kuberbets will start spinning images n start them

for local >> ./configureHelm.sh dev dev .. that sall. Since local mongo also local.. so no need to params Initially on ispw cloud mongo DB needs so all passp para are given there. . if want to use cloudDB but run app locally. Then pass para accordingly. UNDERSTAND configureHelm.sh. done manually, downloaded helm, ran configure.H.sh = gene specific helm out of generic -> installed helm in env .. MANUALLY AUTOMATED All this - in UCD - UCD - Urban code deployment.. ucdeploy6.swg-devops.com/ Designed - giving params can do all the above automated. Dashboard, Application > chatops < 3 flows for dev/test/pentest on ispw. > 20.5 release 1148 build copy this line go to ucd test flow > Click on app Req Procs > deploychatops , release tag - build <mode = cloud /local .. test=cloud. Submit. SO> run procs> create process > TR.A..procs-sae, > go to compo proces steps in left > TR.COMPO > Run comf. See logs> Can check runing logs under application n execution flow each expand. go to server - jump svr . login cloudctl login -a https://158.87.48.120:8443 --skip-ssl-validation -u xxx@us.ibm.com select namespace , pentest kubectl get pods ... see the build is coming up. \$helm3 list -> shows the version deployed and namespace.

Deploying on test env. Ucd > apl < chatops > sel need params >> Login to ispw / Download helm / uninstall prev helm / install new Helm . After downloading , ./configureHelm .. cmd has secret put in params.. this is all put dynamically not hadcoded. Secrets are configured in UCD . UninstallHelm == uninstall chatops-dev .. /uninstall chatops-pentest.. all generation of secrets us chatops inside UCD . they come on runtime. From env params set in ucd process /component.

WRAPPERS MONOGO DB:: ... cmmnds Config Store - >each microsvcsConfiguration is stored in here db.ConfigStore.find({"id": "chatops-assignment"}) With MUI and migration data can be loaded now to DB db.MUIAccounts.remove({"_id": "chatops-assignment"}) db.ConfigStore.insert({"_id": "chatops-assignment"})..... All record goes in here db.ConfigStore.find({}) - retrieves all records REDIS == Has Queues and caches data... Async process speeds up. When data loaded to mongo.. flush redis.. so new config /data is read again kubectl get pods >> 5 ubect exec t=chatops-dev-chatops-redis-0 bash ... \$redis-cli 127.0.1:6379: FLUSHALL ... exit initially no ui to load DB/access.. Dblloader - as mongoclient installed in it... chatop-dev-chatops-dblloader... >> wen a build is installed,config or data in mongo needs to be in effect.. so fi Initially JOB== wen a chatops solution is installed, DB is setup already. Dblloader loads data in it. .. Also this is used for other db data accessupdates mongoDB accessing from ISPW or other VM envs:: Need mongo Client : cant install this on post VM.. or jumpserver - other ispw env this is.. So install mongo client in dblloader; using dblloader can access --- driver/connection mechanism. kubectl exec t=chatops-dev-chatops-dblloader=... Bash :\$ invoke mongo like Mongo --username chatops-user-dev --password Xjg..... --authenticationDatabase chatopsstoredev --tls --tlsCAfile d52xxxx-d8bb-11e9-9337-97sssss.pem name is same for all env.. pswd differs.. dev creds can be shared.. pentest, prod > secrets ... Stored under onepassword for confidentiality. name is dev.. but connecting to chatopsstore-pentest.. requires a cert to allow communication to it.. homedblloader/d52xxopmen & cd homedblloader/ssl/production.. SO> TR-COMPO> create process > TR.A..procs-sae, > go to compo proces steps in left > TR.COMPO > Run comf. prod certs are in production folder.. HOW > run tht cmd from within one of the folder accordingly \$\$\$ homedblloader/ssl/development> Mongo --username chatops-user-dev --password Xjg..... --authenticationDatabase chatopsstoredev --tls --tlsCAfile will connect to mongo cloud BD ::: this mongo cloud is a replica set ... It is diff to that in Kubernetes Release Tracker - keep track of builds deployment.. Out of 12 micSrv two main srvc exposed by end user - CK , IncMnger only two srvc exposed so two urls ...> DNS registered n URL opened to srvc from internet . No need to add host.. https://pen-intxtnet.ibm.com >> CK https://chatops-pen-intxtnet.ibm.com >> CK Temp Urls :: Test/Dev env is on similar line - all srvc are exposed to developers .. can see loopbackexplorer All wrok by hostentries.. asked url with diff names Ingress- mapping for same url n server >> traffic mgmnt done with ingress chatops> deployment> values.yaml hrlm-temp> ispw > ispw-ingress.yaml gen dynamically wen helm configured .. :: is some values /rule enabled , if entry coming from this host , then go to ispw .. DNS Urls = Ext urls.. APP Scanning >> we have prod, url . Integration Security - Compliance ?? Static code Analysis ...> check scan code n see if any vulnerabilities. Dynamic Scan>> Wehn produc is live, wat vulnerabilities of ur l.. Done by AppScan Cloud. cloud.appscan.com/AsoCUI/services/ui/home Dyn - scan to check if app has any vulnerable securities issues.. IBM Appscan is a tool. Powerful then Sonar. > configured with githb while delivering code . Scan copies from github n checks == IBM Dynamic code analyt is Jenkins n travis is configured with appscan ?? No looks like.. Manually scan - whiel building apps, there done by sonar queue Creatig scan > static > a config file for branch /repo select repo from github a.. We use pentest env for app scan.. two urls .. DNS.. for ck-internal & ck-external. Check its ecgign with right urls .. pentest - back then. Create scan > Dynamic Scan > Give Url > For MUI > for right url > expose new service a new DNS from releasetracker . Give this to appscan. Static scan is rumign whole repo .. so no need to add if new srvc. . Dynamic Scan > for each exposed url/API to third party FIND releasetracker appscan jenkins github yaml ...

URBAN CODE Deploy / UCD pipeline:: used to automation of deployment of chatops to respective Env.. Automated this in UCD - downloading Helm , running script , installing & deploying on resp env. HOW >> create resources (configuring the agent) someone has to actually execute the command on env i.e AGENT residing on ISPW env. Home / Resources .. UCD > create resources : Name=TR-RESOURCE (training resrc) save. On this resource : Action > Add Agent SAVE> be default we get only one agent . Sel On the agent select action to Add/create Component -> TR-COMPONENT All the pipelines use CHATOPS-ISPW component , list can be seen to have only one component.. Thus created a resources and atached this compo.. What is a PROCESS :: a piece of code which used to create a flow /reusie in mklupltie flow to achieve a business logic. create a process at global level or at each env level.. wat done so far is customized. For all mcoment and proces specific to that component level.. now let create a global process: TR-component > create Process > procetype= deployment - save. Most of wrok is written in shell .. process created - filter for shell > on process one box . Click and add script of that proces want to do . Save. this creates a TR-comp-PROC01.. SO.. create reSource, compon , attached comp to resrcs , and create process for component. Now create a application.. ex chatops. Main app ... create App> TR-App inside this app can have diff envs/>> So create Envs == namespace. Each pipeline is diff (var is diff) .. Select Tr_App > create Env > TR-APP-ENV-1 .. can create at proces level n compo also . We create above one at component level need to have compo first on this env. Like select compo create on this app. TR-COMPO. Wecreated but dint assign to app Select environ > configuration > add Env property. As many needed. Pswd, secrets, Those env var want to pass to the created flow. So we fr chatops> configuration > env prop. Adminpass, buildnamespace, coudasminpass any changes to env setting needs a change here TR-App > added a compo, it has process> to exec appli.. align this processes.. == actual worklow. App> TR-COMPO> processes - create one more pro> TR-COMPPROC2> add shell script > echo TR_COMP_PROC2* To run - TR-applica select > gives env list > on left side run button> select process> submit Make sure TR_APP has resource added .. after run check if both presses show up. TR-resources>

In Chatops - flow > App> chatops> processes> left pane - Compo Proces_steps >>> Ispw Cluster Login, CheckPodsLogs , download helm>install helm

ICD Maximo Access :: to raise srvc / incident request to ispw env with any issues with it. Or to provision . esls5.eu.smi.ibm.com/maximo/webclient/login/login.jsp?appserverauth=true home> left pane > srvcdesk> incident / srvc req .. mostly always up. Ex Incr: ISPW jumperserver (158.87.48.5) to IBM cloud authn failure : Sev always 12 for non-prod env. , Cust = 12P=0= ISPW .. configuration >> network connec .. > group/owner group - 1-12P-WW>> gts-HYB-CHAT_O > THIS any commits in travis auto triggers build. When the build passes a release tag is echoed in build details ... its given to UCD for deployments - give Travis Build passes _ pushed all repo to artifactory travis.yml:: code, build, compile, line 104>..> release number identified .. push to artifactory 109. All the place holders used are in there. travis..tag-given by travis . Some like travis-brnach we give.

travis.ibm.com/gts-ehcs/ibm-services-chatops/builds. CHATOPS BUILD :: CI/CD >> Build pipeline. all dev commit > build triggered by Travis > manually deploy this code to env s. access to travis is only to chosen devrs. If fails .. click on details and see raw logs. Ex: problems :: Insufficient container Validat all container is up and runnign before build ,none are crashed /restarted. Before build is fired .. travis build checks all pods is deployed correctly / HUBO build is run :: in repo code - always put travis.yml fiel.. this file has logic on how needs to build. Building code with nodejs, running scripts, buildign containers , executing, no problem containers. For all mcoment - i.e travis.yml is one for project. If new MS added - no need change here. in .yml But in setenv , buildw .. If build only one MS - then this in local not Complete, all pods are executed properly, then Test Automation framewrok frame everything in Helm.. push everything to artifactory and build stops. before so full helm was given lot of hardcoding... but now a generic helm is given now - which is customized later with user ADM n create nrcpt and cust Helm-temp > reconfgChatops.sh > it stores each MS helms in chart folder n creates parent Helm. It Copies all MS charts to chartfolder , it ports services to chart folder. , any templates, psw, pvn deployment copy them .. to make parent helm.. ispw env.. customize to each namespace there and also to local.. hence made generic.. Helm folder contains :: once build is fired and done; images of that build is passed to the artifactory . Ex: 20.4.1 build pushed with buildno: 1149 Check this in artifactory Under: gts-chatops-team-docker-local > expand see each MS.. within each ms see the builds. Take your buildnow.. and Ex: 20.4.1.20200507-0944.1149 Only images are pushed to artifactory - not in artifactory.. in browser- chatops secret used in deployment.. when through browser - authnit ourselves by providing credentials Wen Kubernetes pollna autenticate it provides API token L.e chatops Secret used stored while kubernetesdeployment. Wen Kubernetes is gonna images from artifactory it needs to authn itself.. that is a secret Api token which it provides to artif to allow the downloading of i We never give helm images individually .. Main Part in arti is HELM. Chatops-helm of that buildno.. . to deploymour solution in env is chatops-hiem.. click the b Untar to see > helm folder with all needed files. By running configureHelm.sh.. with req paramrs This needs to be customized . By running configureHelm.sh.. with req paramrs HEALTH CHECK :: thus done by kubernetes Pod is run - check service ? pod= service started - Continuous Monitoring , if had wat to do.. CK > helm > templates> deployment yaml == code line 32 has LIVENESSPROBE:: checks if pod/container is up if not quickly restarts container up Every 120 sec probe the service // https://localhost:3000/ping ... if not up restart container. Kubernetes.. 3000 is called heartbeaturl this is Kubernetes default provision.. App crushing & env crushing.. - Orchestration know when env but not appli.. so livenessProbe knows if application h Kubernetes > livenessProbe - READ We are using a command / curl based ping for probe liveness. READINESS PROBE : when srvc coming up - if u want have delay to do some operation .. I.e delay before reques are served.. if srvc are up but might OR 2.. some other srvc need ot be up before this srvc is ready with reques.. readinessProbe: in this case:: Command based.. checks if redis and configstore is up.. netcat >> telnet >> chatops>redis 6379 & curl -k -s -f \$config..storemsurl/ping. Netcat == telnet .. if both redis n configstore are pingng well.. no waiting.. else delay Or could have done ... Put redis char in inside CK char. say helm is dependd on redis helm . but other srvc/s are also dependant on this.. this makes dependr see Configstore how > waits for redis & mongodb .up All MS waits for redis n configstore. wen ful prod is coming up - like checkign all srvc are up - N allowing users wen fully ready.. else blocks Readiness ensues - unless all dependencies come up reques is not served.. Checks if system is ready to serve or not in configstore - the mongo check is done based on its in cloud or in local. Check in image in ispw.docx GTS Ticketing Tool:: Ansible - is also a infras automation tool.

Kyndryl does e

Martin Schro

11/12/21

The partnersh
Microsoft and

BlueGroups is
BlueGroups of

IBM Global T
IBM Global Bu
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ExecutorService
Hashtable is synchronized
Test , UNIT , hc
When servlet is
PrintWriter and
GenericServlet
Servlet Collaboration
RequestDispatcher
sendRedirect()
forward() methods
ServletConfig

JS version uses
ES6 or ECMA
Let vs Const v
arrow function
It reduces code
The return statement
Lexically bind
Functional programming
spread operator

IBM Cloud® Kubernetes Service

IKS

Elasticsearch is a distributed search and analytics engine