

```

if not exists (select 1 from assessmentconfig where [Name]='ENABLE_BYPASS_EXP_COOLINGPERIOD' )
BEGIN
    insert into assessmentconfig values ('ENABLE_BYPASS_EXP_COOLINGPERIOD','CE,SA',
    'This key tells as to which kind of certifications should the cooling period be bypassed for expert assessment',
    'Y',1,getutcdate(),1,getutcdate())
    Print 'row added to assessmentconfig table'
END
else
BEGIN
Print 'Row already exists'
END

```

Results of Messages						
ID	Name	Value	Description	Editable	CreateBy	CreatedOn
119	ENABLE_BYPASS_EXP_COOLINGPERIOD	CE,SA	This key tells as to which kind of certificatio...	Y	1	2021-05-21 05:13:16.730

```

if not exists (select 1 from CMM_CONFIG_TABLE where [CCT_KEY]='AlertMessageBeforeInitiatingCertificationRetake' )
BEGIN
    insert into CMM_CONFIG_TABLE values ('AlertMessageBeforeInitiatingCertificationRetake',
    '<div>Please note that once your retake gets complete, your newly computed proficiency (which could be lower/equal/higher than current) will be updated. Your proficiency will be updated to reflect the new value. This key is to generate a popup message before initiating a certification retake.',1,1)
    Print 'row added to assessmentconfig table'
END
else
BEGIN
Print 'Row already exists'
END

```

Results of Messages					
CCT_ID	CCT_KEY	CCT_VALUE	CCT_DESCRIPTION	CCT_CREATED_BY	CCT_CREATED_ON
463	AlertMessageBeforeInitiatingCertificationRetake	<div>Please note that once your retake gets comp...	This key is to generate a popup message before r...	1	2021-05-21

```

[sql] 2113-[accenture.com (7b)]  * X  [cloud_elevate_and...accenture.com (116)]  -vsDTE.sql - 2113-[accenture.com (113)]  Post_SelfService.ID...accenture.com (9b)
7 select * from dynamicassessmentstatusresult where [group] ='CEAdvanced_AessmentStatusAction'
8 --update dynamicassessmentstatusresult set [Order]=7 where expression='TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true
9 select * from dynamicassessmentstatusresult where expression like '%(TalentAdvanceProficiency.Deadline>DateTime.Now & TalentAdvanceProficiency.AllowAdvanceRetake ==true
10 select * from cmm_config_table
11
12 select * from advanceassessmentregister where PeopleKey=2145563 and skillid=1460
13
14 select * from assessmentstatusresult where contextname='ExpertCloudElevateCertificationContext' and resultname='AssessmentStatusAction' and dynamicgroup is not null
15 select * from dynamicassessmentstatusresult where [group] in ('CEAdvancedNotExpertAllowed_AssessmentStatusAction', 'CEAdvanced_AessmentStatusAction')
16 update dynamicassessmentstatusresult set expression='TalentAdvanceProficiency.HasValue==true &
17 TalentAdvanceProficiency.IsEnabled==true & TalentAdvanceProficiency.ProficiencyId==4
18 && TalentAdvanceProficiency.Deadline>DateTime.Now & TalentAdvanceProficiency.AllowAdvanceRetake ==true
19 && (TalentAdvanceProficiency.CurrentAssessmentComponent.Contains("Handson") ||
20 TalentAdvanceProficiency.CurrentAssessmentComponent.Contains("CaseStudy"))'

```

Results of Messages						
ContextName	FlagValue	ResultName	Value	ValueType	DynamicGroup	Number
ExpertCloudElevateCertificationContext	1XXXXX10	AssessmentStatusAction	1 MASTER ASSESSMENT NOT AVAILABLE YET 2 Blank	NULL	CEAdvancedNotExpertAllowed_AssessmentStatusAction	NULL
ExpertCloudElevateCertificationContext	1XXXXX11	AssessmentStatusAction	1 EVALUATE MASTER READINESS 2 NA	NULL	CEAdvanced_AessmentStatusAction	NULL
Group	Order	Name	Expression	ValueType	ResultValue	
CEAdvanced_AessmentStatusAction	0	ShowProficiencyForExpertPending	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	EVALUATE MASTER READINESS	
CEAdvanced_AessmentStatusAction	7	ShowProficiencyForAdvance	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	NA	
CEAdvanced_AessmentStatusAction	1	CERetake_masterEnabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	GET ASSESSED - EXPERT	
CEAdvanced_AessmentStatusAction	2	CERetake_masterEnabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	SCHEDULE ASSESSMENT	
CEAdvanced_AessmentStatusAction	3	CERetake_masterEnabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	FILL ENDORSED NOMINATION FORM	
CEAdvanced_AessmentStatusAction	4	CERetake_masterEnabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	NA	
CEAdvancedNotExpertAllowed_Asses...	1	CERetake_masterDisabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	GET ASSESSED - EXPERT	
CEAdvancedNotExpertAllowed_Asses...	2	CERetake_masterDisabled	TalentAdvanceProficiency.HasValue==true & TalentAdvanceProficiency.IsEnabled==true	NULL	SCHEDULE ASSESSMENT	

Query executed successfully.

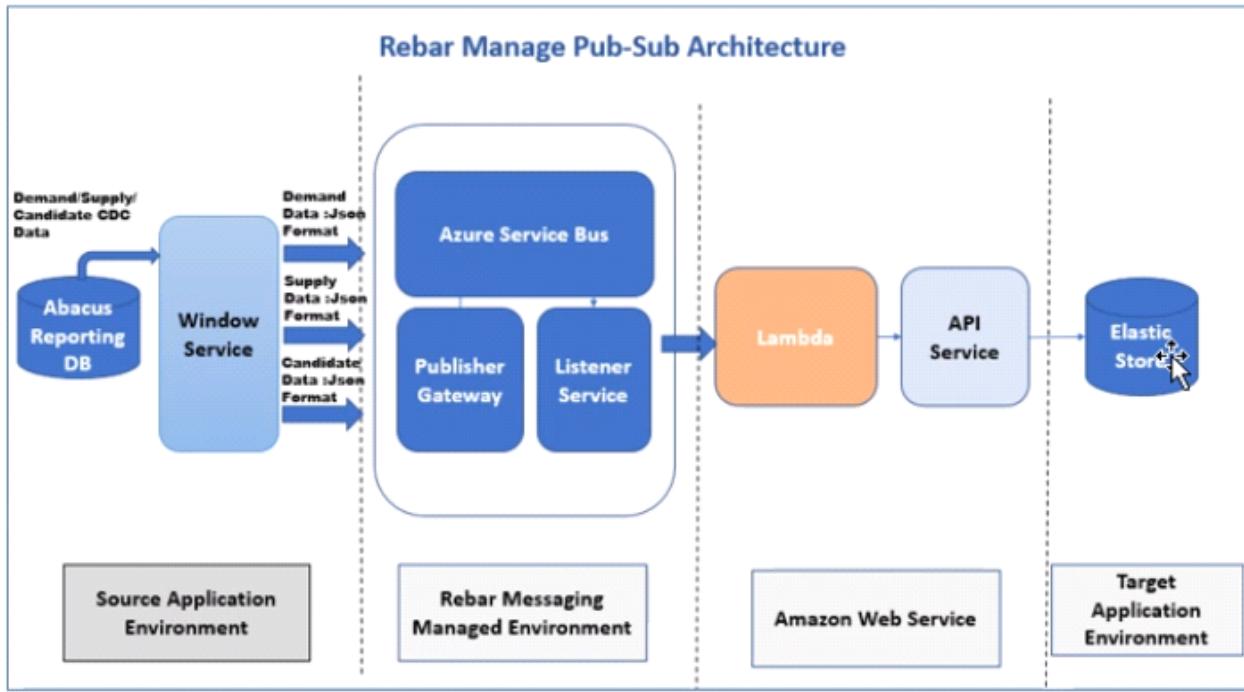
To understand skill assessment module

```
1 <div class="action-item" *ngIf="!primarySkillDetails.SkillChanging & primarySkillDetails.AssessmentStatusAction != undefined && primarySkillDetails.AssessmentStatusAction.IsButton" 2   <div *ngIf="primarySkillDetails.AssessmentStatusAction.IsButton" 3     <!--Exec ASSESSMENT--> 4     <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'GET ASSESSED' && (primarySkillDetails.IsExecAssessment || primarySkillDetails.IsExpertExecAssessment)" 5       <div *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'GET ASSESSED' && (primarySkillDetails.IsExecAssessment || primarySkillDetails.IsExpertExecAssessment)" 6         <!--CE & SA CertificationRetake--> 7         <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'GET ASSESSED - EXPERT' && primarySkillDetails.IsExpertExecAssessment & primarySkillDetails.loadingFlagProficiency" 8           <div *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'GET ASSESSED - EXPERT' && primarySkillDetails.IsExpertExecAssessment & primarySkillDetails.loadingFlagProficiency" 9             <!--STA Certificates--> 10            <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 11              <div *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 12                <!--CE & SA retake--> 13                <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 14                  <!--MASTER CERTIFICATION ARCHIVAL ECF Form--> 15                  <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsMasterCertificationArchived" 16                    <!--CE & SA retake--> 17                    <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 18                      <!--CE & SA retake--> 19                      <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 20                        <!--CE & SA retake--> 21                        <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 22                          <!--CE & SA retake--> 23                          <a *ngIf="primarySkillDetails.AssessmentStatusAction.ActionText == 'DECLARE CONTRIBUTIONS' && primarySkillDetails.IsCertificateECFEnabled & primarySkillDetails.IsMasterCertificationArchived" 24                            <!--CE & SA retake-->
```

# Pub Sub Architecture

Tuesday, May 14, 2019 2:38 PM

## Flow Diagram Of Rebar Messaging Queue Implementation



# Git Repo vs Working Dir

Monday, April 25, 2022 7:20 PM

The **repository** is essentially the .git hidden folder inside the working directory (workspace).

The **working directory** (workspace) is essentially your project folder.

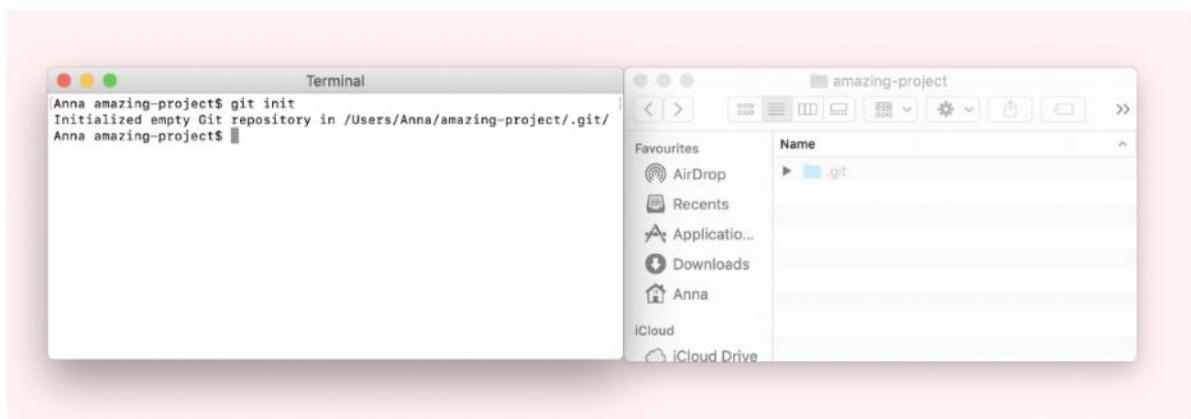
Also note the term **directory** is basically synonymous to the term **folder**.

(Basically) synonyms

**Working directory = Workspace = Project folder**

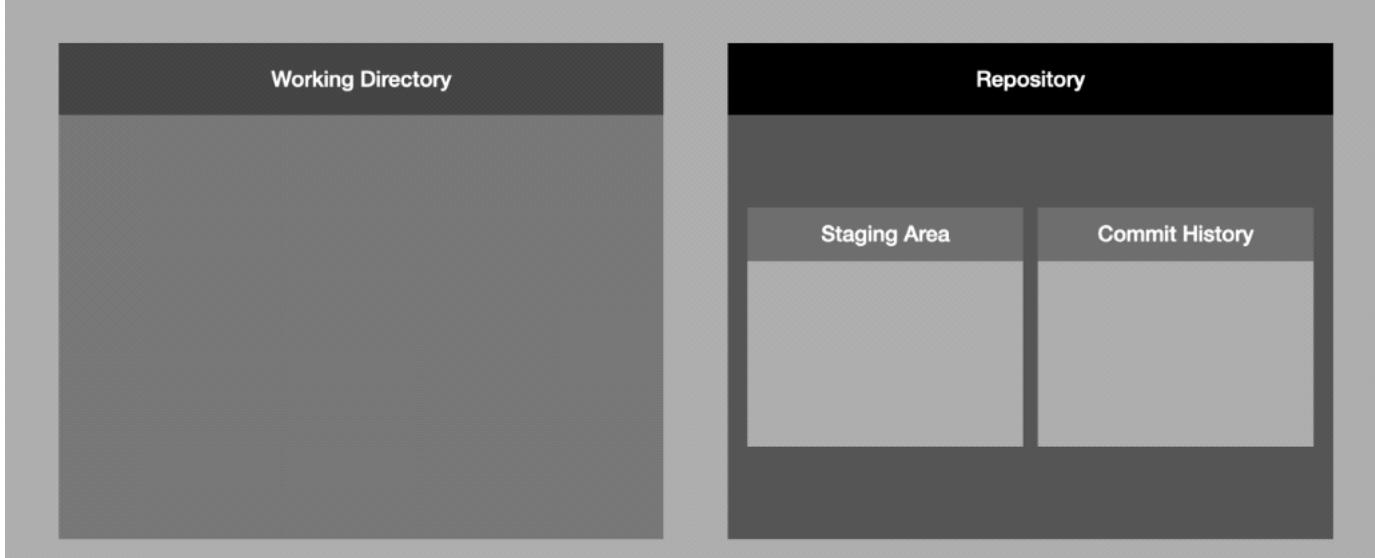
## GIT INIT

This command will create a hidden folder inside your amazing-project folder called ‘.git’. This is essentially your repository.



The .git folder represents our repository.

Local workspace vs Local Repository



**Git add** - copies file to staging area

**Git commit** - commits file to commit history

**Git push** - adds/pushes the file to remote repository in the github server

Version control starts from when the file is copied to the staging area

# Git handy commands

Monday, May 31, 2021 5:00 PM

To get latest code from the remote branch

- Git pull origin <branch-name>

To create a new branch from the locally checkout branch (master or any remote branch)

1. Stash the locally made changes from the checked out branch  
`>git stash`
2. Create a new local branch  
`>git checkout -b <branch-name>`
3. Pop the stashed changes onto the new local branch  
`>git stash pop`
4. Now check for the changes in the new local branch and commit & push to repo  
`>git stage`  
`>git add .`  
`>git commit -m "message"`  
`>git push --set-upstream origin <branch-name>`

Upstream is a remote tracking branch for a locally created branch

# GIT - Object Model

Thursday, November 19, 2020 12:58 PM

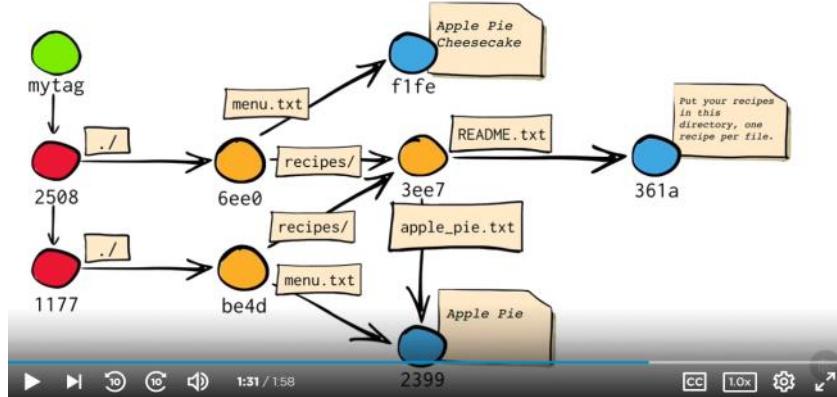
## Git is

1. **persistent map** - that maps hash value to object
2. **Content tracker** - Keeps track of every commit and has pointer to tree objects (folders) and blobs (files)
3. **Version control system** - allows branching, merging, rebasing and tagging
4. **Distributed system** - developers can work distributed by cloning locally and sync to the reference repo (origin/master) on github

## Git Objects

- Blobs
- Trees
- Commits
- Annotated Tags

## The Git Object Model



## "Porcelain" Commands

- git add
- git commit
- git push
- git pull
- git branch
- git checkout
- git merge
- git rebase

\$ git init - creates a new git repository local for git to store contents  
\$ open .git - Opens the local git folder

```
gitdemo> echo "Apple Pie" | git hash-object --stdin -w
fatal: Not a git repository (or any of the parent directories): .git
gitdemo> git init
Initialized empty Git repository in /Users/nusco/tmp/gitdemo/.git/
gitdemo> ls
gitdemo> ls -a
.
..
.git
gitdemo> echo "Apple Pie" | git hash-object --stdin -w
23991897e13e47ed0adb91a0082c31c82fe0cbef5
gitdemo> open .git
gitdemo> git cat-file 23991897e13e47ed0adb91a0082c31c82fe0cbef5 -t
blob
gitdemo> git cat-file 23991897e13e47ed0adb91a0082c31c82fe0cbef5 -p
```

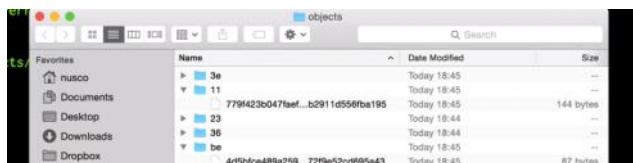
## "Plumbing" Commands

- git cat-file
- git hash-object
- git count-objects
- ...

SHA1s are unique in the universe.

Git computes SHA1 for every object - commits, files, directories

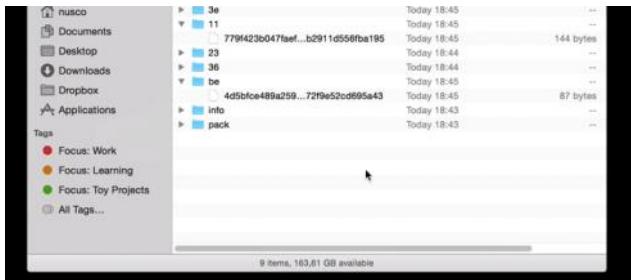
Git stores contents as blob & root and subdirectories as tree object



\$ git status - displays all files and folders in root directory and untracked files  
\$ git add - publishes files to the staging area. (use git add . if add all files)  
What is staging area - it is a launchpad where git puts all the untracked changes so that it will be committed to git in the next \$ git commit -m "first commit"

\$ git tag -a tagname -m "end of sprint1" - creates an annotated tag pointing to the last commit in the working directory

```
cookbook> git tag -a mytag -m "I love cheesecake"
mytag
cookbook> git tag
mytag
object 23991897e13e47ed0adb91a0082c31c82fe0cbef5
type commit
tag mytag
tagger Paolo "Nusco" Perrotta <paoletto.nusco@gmail.com> 1431601375 +0200
```



```
cookbook> git cat-file -p mvtag
object 25080f99c0965f07f9c9a5369d34fe6673eb91
type commit
tag mytag
tagger Paolo "Nusco" Perrotta <paolo.nusco.perrotta@gmail.com> 1431601375 +0200
I love cheesecake
cookbook>
```

\$ git push - pushed the code to the current pointed repository

```
cookbook> open .git/objects/
cookbook> git cat-file -p be4d5bfce489a2591e7fed5c672f9e52cd695a43
100644 blob 23991897e13e47ed0adb91a0082c31c82fe0cbe5    menu.txt
040000 tree 3ee76fde69b730530f1682f1f51789e89cf30500    recipes
cookbook> git cat-file -p 23991897e13e47ed0adb91a0082c31c82fe0cbe5
Apple Pie
cookbook>
```

# GIT - Branches

Thursday, November 19, 2020 1:57 PM

A branch is just a reference to a commit.

Branch details are stored under refs folder.

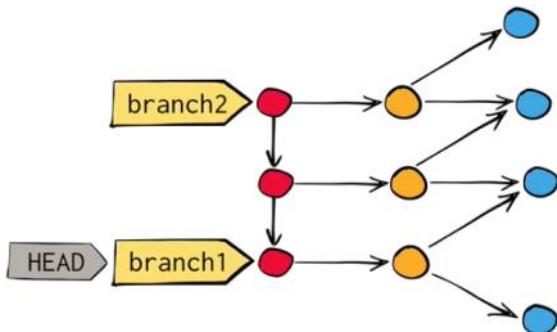
Name	Date Modified	Size	Kind
COMMIT_EDITMSG	26 Sep 2015 15:58	9 bytes	TextEdit
config	Today 18:01	137 bytes	TextEdit
description	13 May 2015 18:43	73 bytes	TextEdit
HEAD	13 May 2015 18:43	23 bytes	TextEdit
hooks	13 May 2015 18:43	--	Folder
index	26 Sep 2015 15:58	345 bytes	TextEdit
info	13 May 2015 18:43	--	Folder
logs	13 May 2015 18:45	--	Folder
objects	26 Sep 2015 15:58	--	Folder
refs	Today 17:47	--	Folder
heads	Today 18:01	--	Folder
master	26 Sep 2015 15:58	41 bytes	TextEdit
tags	26 Sep 2015 16:01	--	Folder

HEAD is just a reference to a branch.

There is only one head and thus one current working directory

Git garbage-collects unreachable objects.

Any commit that doesn't have branch, HEAD or tag pointing to it is unreachable and deleted by Git garbage collector

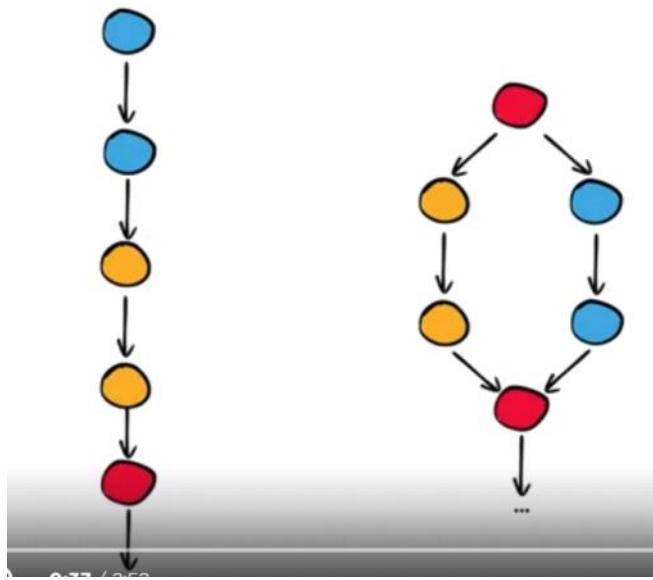


## Three Rules

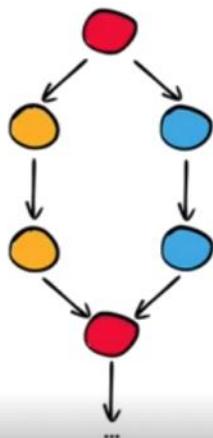
1. The current branch tracks new commits
2. When you move to another commit, Git updates your working directory
3. Unreachable objects are garbage collected

Rebase VS Merge

## Rebase



## Merge



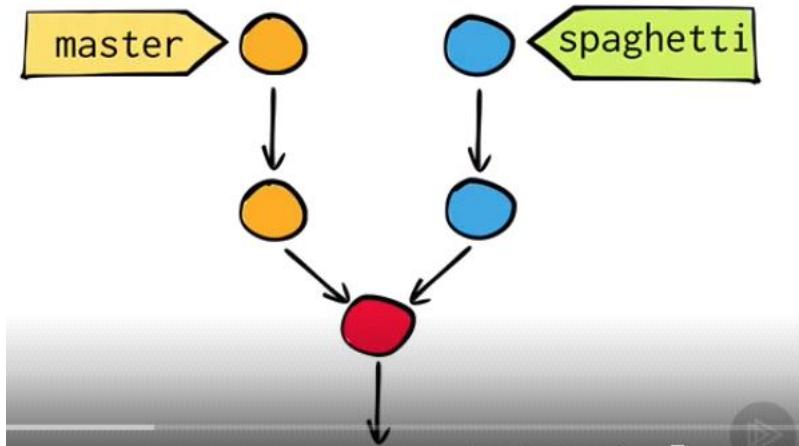
Merge - preserves the history

Rebase - clears the history, pretends to give a linear and streamlines commit history

Use Merge when in doubts, Use Rebase when you understand the consequences

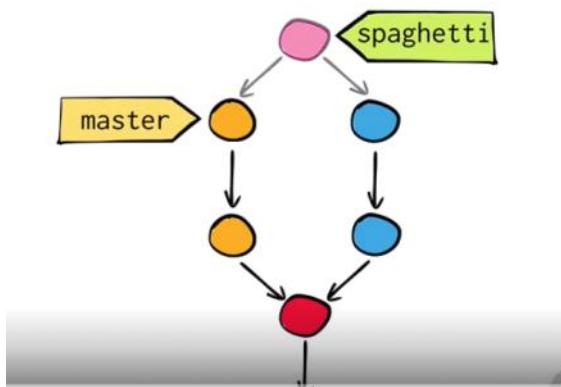
# GIT - Understanding Merge Vs Rebase

Thursday, November 19, 2020 4:33 PM



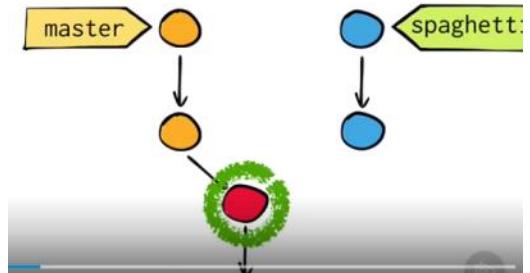
Spaghetti > \$ git merge master

Merge

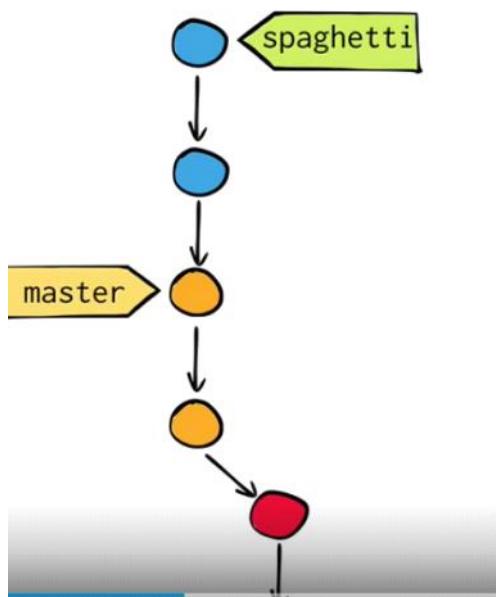


Spaghetti > \$ git rebase master - Changes the base i.e., the parent hence rebase

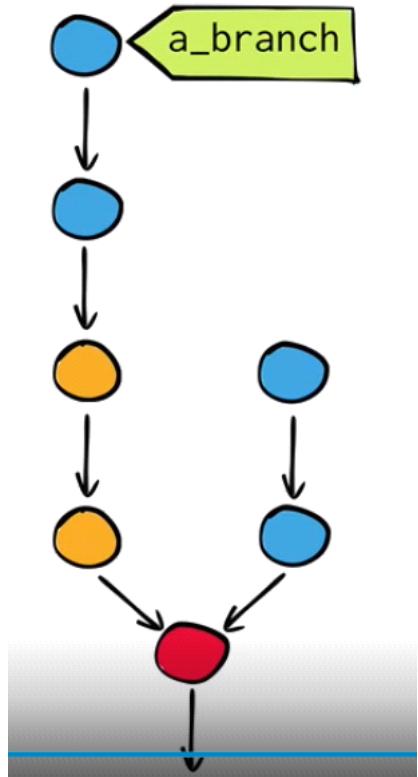
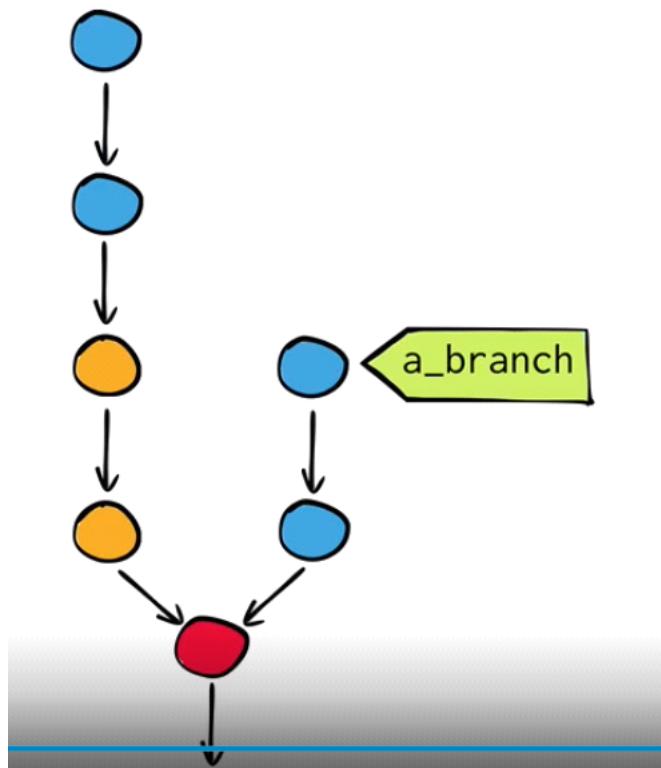
## Rebase



## Rebase



Behind the scene with rebase



Old commits which are unreachable now will be deleted by garbage collectors

But if we want to retain the old commit we can checkout on the commit and create a new branch as shown below

`$ git checkout SHA1valuefortheCommit`

Eg - `$ git checkout 007fe34776`

`$ git branch 'nogood'`



# GIT - Local and remote branches

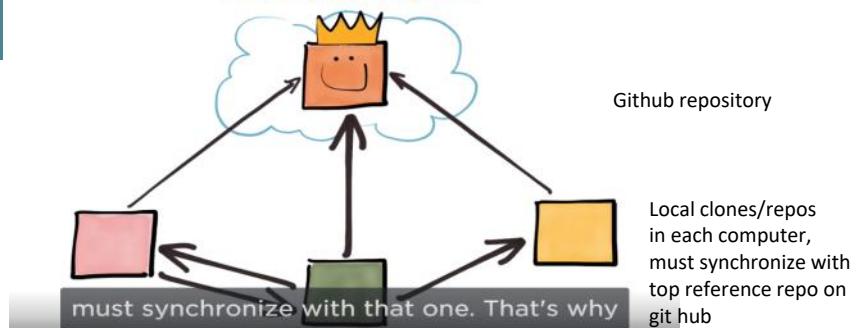
Thursday, November 19, 2020 6:35 PM

Like a local branch, a remote branch is just a reference to a commit.

Snapshot of config file

```
[core]
> repositoryformatversion = 0
> filemode = true
> bare = false
> logallrefupdates = true
> ignorecase = true
> precomposeunicode = true
[remote "origin"]
> url = https://github.com/nusco/cookbook.git
> fetch = +refs/heads/*:refs/remotes/origin/*
[branch "master"]
> remote = origin
> merge = refs/heads/master
> rebase = true
~
```

## Multiple Repos



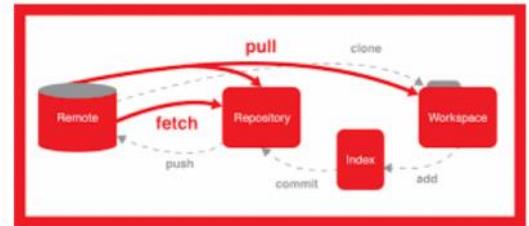
Command to check other remote branches on github

```
$ git branch --all
```

```
cookbook> vim .git/config
cookbook> git branch
* master
cookbook> git branch --all
* master
remotes/origin/HEAD -> origin/master
remotes/origin/lisa
remotes/origin/master
remotes/origin/nogood
remotes/origin/spaghetti
cookbook>
```

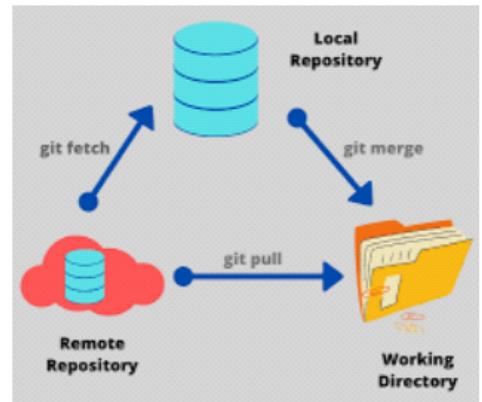
\$ git push - pushes the commits in local repo to the origin

\$ git pull => git fetch + git merge - git push



\$ git show-ref 'branchname' - shows which commit the branch is pointing to

```
cookbook> vim .git/config
cookbook> git branch
* master
cookbook> git branch --all
* master
remotes/origin/HEAD -> origin/master
remotes/origin/lisa
remotes/origin/master
remotes/origin/nogood
remotes/origin/spaghetti
cookbook> git show-ref master
5d4a817c9294fb6507e047e3f02dd5e841cb9d2e refs/heads/master
5d4a817c9294fb6507e047e3f02dd5e841cb9d2e refs/remotes/origin/master
cookbook> git show-ref lisa
ecbebe6601f5730ed6157f95175204cdf4d0542a refs/remotes/origin/lisa
cookbook>
```

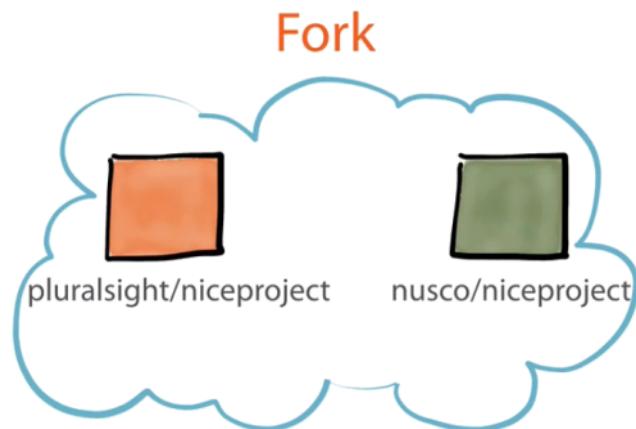


# GITHub Features - Fork and Pull

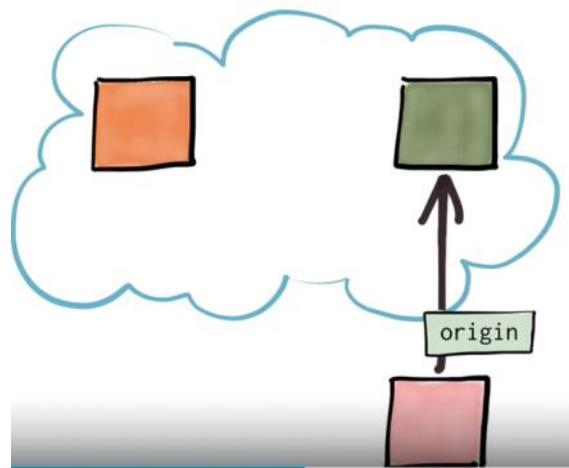
Thursday, November 19, 2020 7:22 PM

**Very important for open source development**

**Fork** => Remote cloning a project from someone else's account to our own account

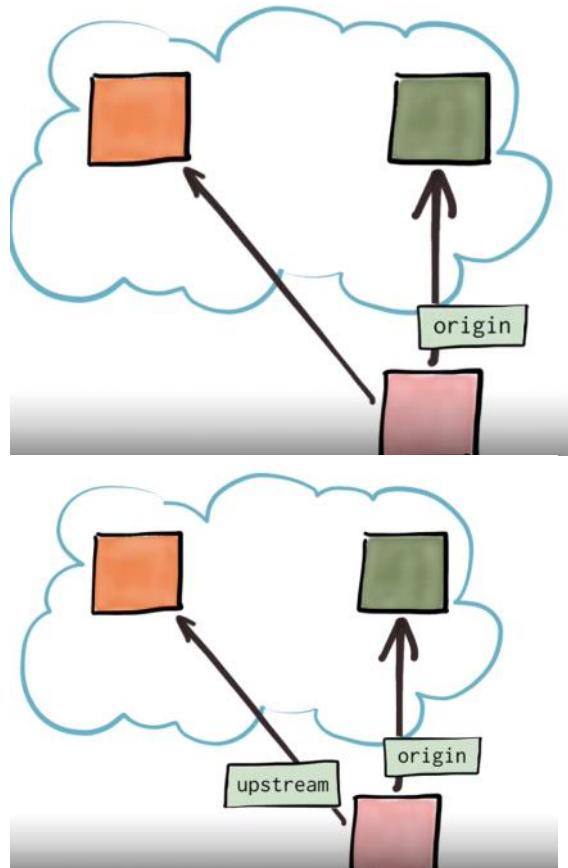


Create a local clone to contribute

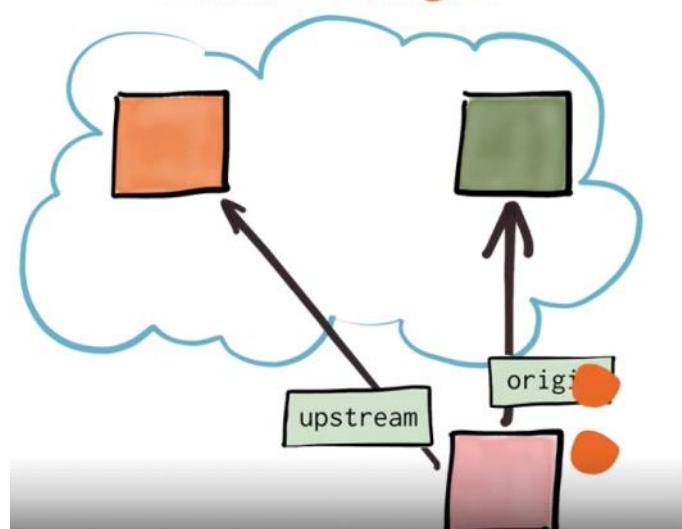


Git doesn't know the two projects are connected hence need to manually create a pointer to the upstream (owner) project

### Two Remotes



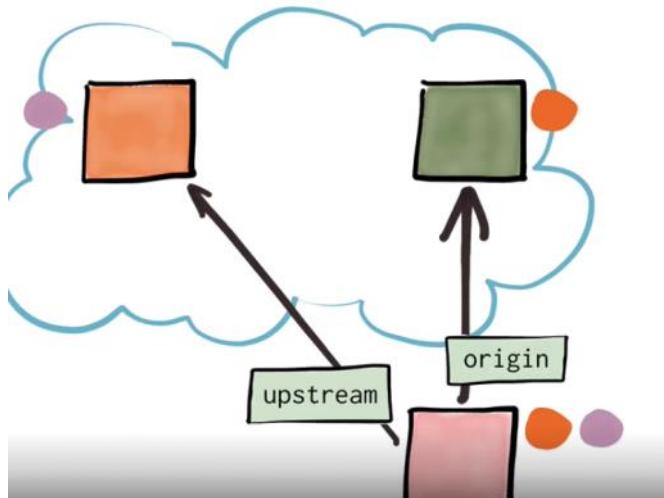
### Push to Origin



### Pull from Upstream

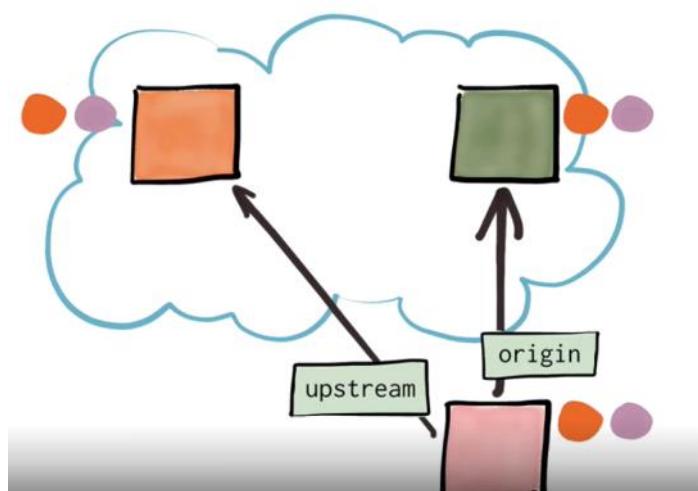
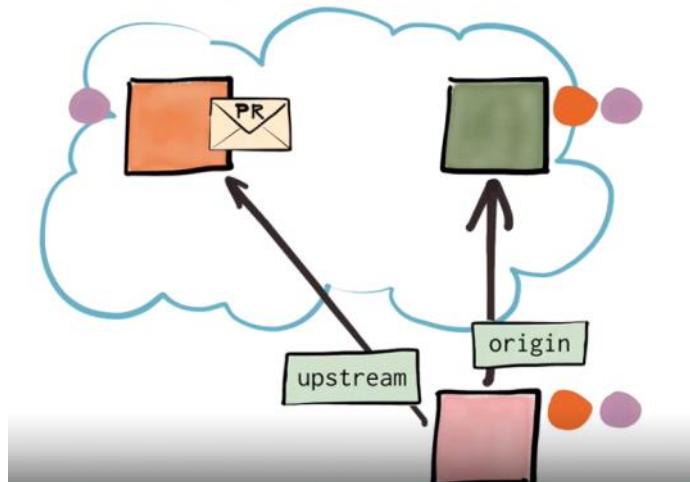


## Pull from Upstream



To sync our changes to upstream project, Github allows us to send a message to upstream owner to pull our request from remote clone

## Pull Requests



# Microservices Frameworks in market

Sunday, December 27, 2020 11:26 AM

Different frameworks available for microservices development.

## Some Microservice Frameworks



# Banking chatbot

Thursday, May 2, 2019 3:27 PM

**Team**, as discussed yesterday, please prioritize on the following activities. I would appreciate if you all can spend sometime over this weekend. I will share the customer story & demo flow by EOD today. Thanks.

**1. Sarina** – Setup the middleware code and bring up the bot service

- Configure the welcome message - Use dummy text
- Show the default topics (as clickable buttons) to initiate the conversation
- Setup the sample code for a quick guided conversation
- Setup the sample code for showing adaptive cards
- Setup the sample code for showing feedback

**1. Varsha** – Setup the frontend code and bring up the chatbot client

- Create a static dummy page for a banking site
- Create a login page with some hardcoded user credentials
- Configure the FAQs listed below within the chatbot client
- Create an adaptive card to show a credit card offer – user dummy text
- Setup the code the sample code for adaption dashboard

**1. Wincy** – Setup the backend code and bring up the integration service

- Create sample excel files (one for each) - bank statements, credit card statements, service tickets, call logs, offers etc.
- Setup the integration services to access the bank statements, credit card statements, service tickets, call logs, offers, etc.
- Setup a data factory to consolidate the multiple customer records from bank statements, credit card statements, service tickets & call logs
- Setup a data bricks to enable machine learning to analysis the customer records, find spending patterns and according propose personalized offers, promotions, etc.

**1. Thilaga** – Setup the conversation database and bring up the service to consume the logs

- Setup the database to enable conversation logging
- Create service to insert & fetch the conversation logs
- Support Wincy to setup the data factory & data bricks
- Support Sarina & Varsha wherever required

Here is the list of FAQs that we can to add to the QnA Maker. @Yadav, Varsha D., please show these questions within “What to Ask” section on the UI.

**1. Bank Account**

- How do I open a new saving account?
- How to update mobile number for my bank saving account?
- How do update the new address in my bank saving account?
- How do I view my bank statement?
- How to download my bank statement?

**1. Fund Transfer**

- Is there any per day limit to transfer funds?

- How can I transfer fund abroad?
- Are there any charges for fund transfer?
- What are the charges for NEFT transactions?
- When will the NEFT transaction be completed for other bank payee?
- Can I transfer money abroad using IMPS?

#### **1. Credit Cards**

- How do I apply for a credit card?
- What are the offers for applying for a credit card?
- I have applied for a credit card when will I get it?
- How many add-on credit cards can I apply for?
- How to view my credit card statement online?
- How can I convert outstanding credit card amount into EMI?
- How do I pay my credit card bill?

#### **1. Personal Loan**

- How do I apply for a personal loan?
- What documents are required to apply for a personal loan?
- How do I foreclose my personal loan?
- What are the interest rates for personal loan?
- How will my loan eligibility be assessed?
- Do I have to pay any additional charges for personal loan?

#### **1. Mutual Fund Investment**

- What is SIP i.e. systematic investment plan?
- What is the minimum and maximum limit for SIP investment?
- Do I need a demat account for investing in mutual funds?
- How do I link my mutual fund systematic investment plan sip to the bank account?
- How do I stop a systematic investment plan sip that is going from my account?

#### **1. Life Insurance**

- What is the period of life insurance policies?
- How can I pay my life insurance premium?
- Who is an appointee in life insurance?
- How much time does it take to settle a life insurance claim?

#### **1. Bill Pay**

- How can I pay my Utility bills?
- Can I pay bills through Phone Banking?
- Which bills can I pay in BillPay?
- I have paid my bill using BillPay. When will my biller receive the payment?
- I have made the bill payment to the biller but the amount has not been credited to beneficiary

#### **Basic use cases :**

- 1) Can I have a copy of my statement?
- 2) I want to open a new account
- 3) What is my credit card limit?
- 4) I want to activate my new car loan

5) I'd like to pay my bill

#### **Advanced use cases**

We can showcase on how to leverage innovative technologies so that the solution stands out.

Below are few pointers from PwC specific to banking domain. Need to check on tech feasibility , all the below would reduce time taken for a banking customer

- 1) **Facial recognition** to enable zero-click transactions using chatbots
- 2) Using chatbots and **virtual reality** to visually illustrate the impact of long-term savings
- 3) Using chatbots to provide a real-time status update on a cross-border **blockchain** transaction
- 4) Using **IoT** devices integrated with chatbot technology to converse with customers through voice

## Learn More About OAuth 2.0 and OpenID Connect



Getting Started with OAuth 2.0 ([Scott Brady](#))

<https://www.pluralsight.com/courses/oauth-2-getting-started>



ASP.NET Authentication: The Big Picture ([Scott Brady](#))

<https://www.pluralsight.com/courses/aspdotnet-authentication-big-picture>



Securing ASP.NET Core 2 with OAuth2 and OpenID Connect ([Kevin Dockx](#))

<https://www.pluralsight.com/courses/securing-aspdotnet-core2-oauth2-openid-connect>

Kubernetes for developers - Dan Wahlin

## ID Tokens vs Access Tokens

What's the difference between an ID Token and an Access Token? Access tokens are defined in OAuth, ID tokens are defined in OpenID Connect.

[Access tokens](#) are what the OAuth client uses to make requests to an API. The access token is meant to be read and validated by the API. An ID token contains information about what happened when a user authenticated, and is intended to be read by the OAuth client. The ID token may also contain information about the user such as their name or email address, although that is not a requirement of an ID token.

Here are some further differences between ID tokens and access tokens:

- ID tokens are meant to be read by the OAuth client. Access tokens are meant to be read by the resource server.
- ID tokens are [JWTs](#). Access tokens [can be JWTs](#) but may also be a random string.
- ID tokens should *never* be sent to an API. Access tokens should *never* be read by the client.

# Microservice best practices

Thursday, September 2, 2021 12:59 PM

## Which Solution to Choose

The solution depends on the use case and consistency requirements.

In general, the following design considerations should be taken into account.

1. Avoid using **distributed transactions** across microservices if possible.  
Working with distributed transactions brings more complex problems.
2. Design your system that doesn't require distributed consistency as much as possible. To achieve this, identify **transaction boundaries** as following;
  - Identify the operations that have to work in same unit of work. Use strong consistency for this type of operations
  - Identify the operations that can tolerate possible latencies in terms of consistency. Use eventual consistency for this type of operations
3. Consider using **event-driven architecture** for asynchronous non-blocking service calls
4. Design **fault-tolerant systems** by compensations and reconciliation processes to keep the system consistent
5. Eventual consistent patterns require a **change in mindset** for design and development

# Features of API Gateway

- Routing
- Request Aggregation
- Authentication
- Authorization
- Rate Limiting
- Caching
- Load Balancing

The following characters are not allowed in PartitionKey and RowKey fields:

- The forward slash (/) character
- The backslash (\) character
- The number sign (#) character
- The question mark (?) character

Monday, September 27, 2021 11:39 AM

[https://teams.microsoft.com/l/meetup-join/19%3ameeting\\_OTE4MDIwZmUtNDVkNy00YjFjLTliYjYtZDM1NjliMzEzMmFh%40thread.v2/0?context=%7b%22Tid%22%3a%220507b933-42d2-4a30-beb8-1fe660822810%22%2c%22Oid%22%3a%2272d90107-06bf-4fc9-b81c-f90c0e6972d9%22%2c%22IsBroadcastMeeting%22%3atrue%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_OTE4MDIwZmUtNDVkNy00YjFjLTliYjYtZDM1NjliMzEzMmFh%40thread.v2/0?context=%7b%22Tid%22%3a%220507b933-42d2-4a30-beb8-1fe660822810%22%2c%22Oid%22%3a%2272d90107-06bf-4fc9-b81c-f90c0e6972d9%22%2c%22IsBroadcastMeeting%22%3atrue%7d)

### Recordings for sessions - 1, 2 and 3

<https://ts.accenture.com/sites/MicrosoftAzureSecurityOnlineLearningSeries/Shared%20Documents/Forms/AllItems.aspx?csf=1&web=1&e=9HTYWu=&cid=81c37d95%2Dc11f%2D4a0c%2D8e8e%2D902f1f4038ad&RootFolder=%2Fsites%2FMicrosoftAzureSecurityOnlineLearningSeries%2FShared%20Documents%2FGeneral%2FRecordings%2FAzure%20Security&FolderCTID=0x012000492CE08BB910C14982466AAA2D701804>

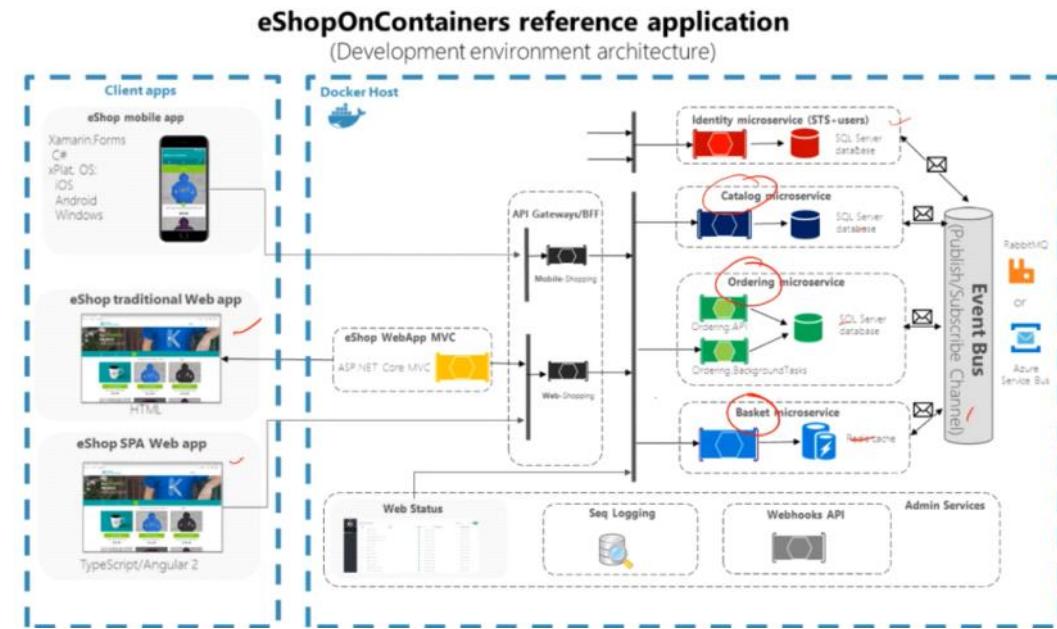
# AWS AI/ML

Tuesday, September 28, 2021 11:06 AM



# Microservices Architecture - CIO bootcamp

Tuesday, February 8, 2022 3:56 PM



## Monoliths

- Start-up
- Customer Managed
- Uniform Scaling
- Functionally Stable
- Tech Tier Teams

## Microservices

### Scale-up

### Self Managed

### Non-uniform scaling

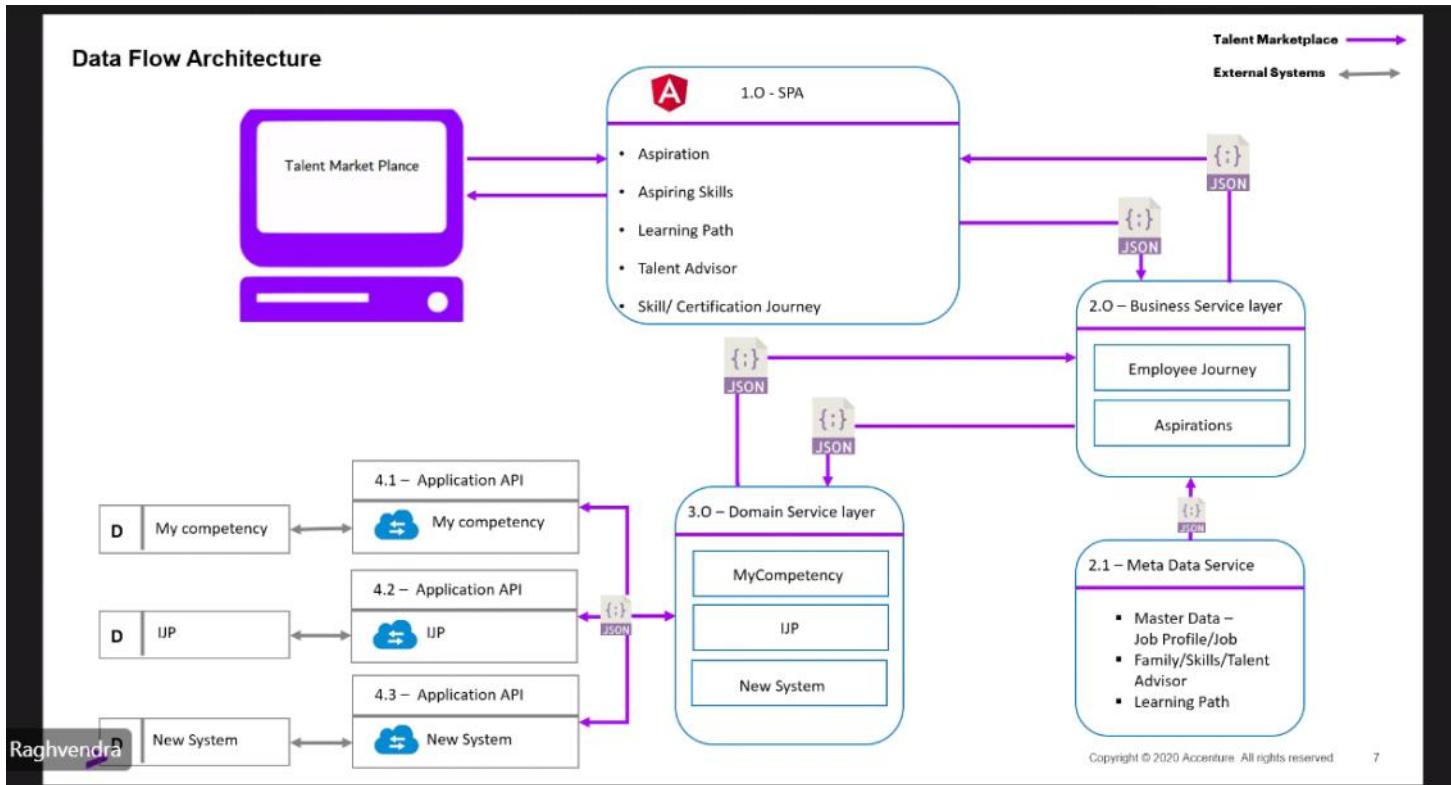
### Functionally Changing

### Full Stack Teams

Tech tier teams → separate team for web development, separate team for backend logic and DBA teams

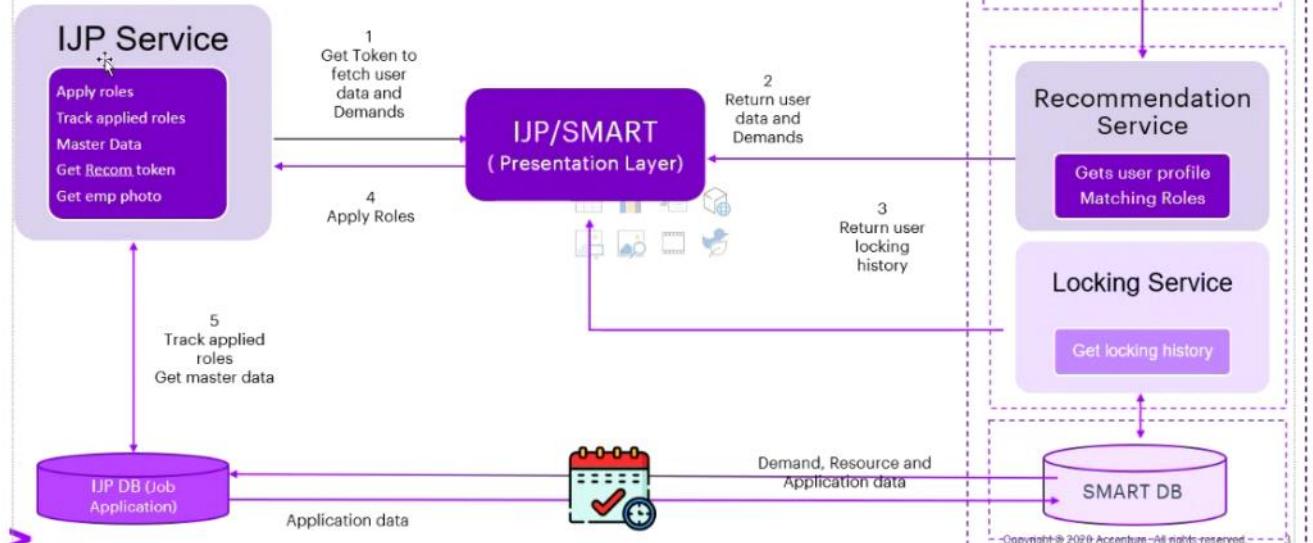
# Data Flow Architecture - TMP

Tuesday, February 22, 2022 12:11 PM



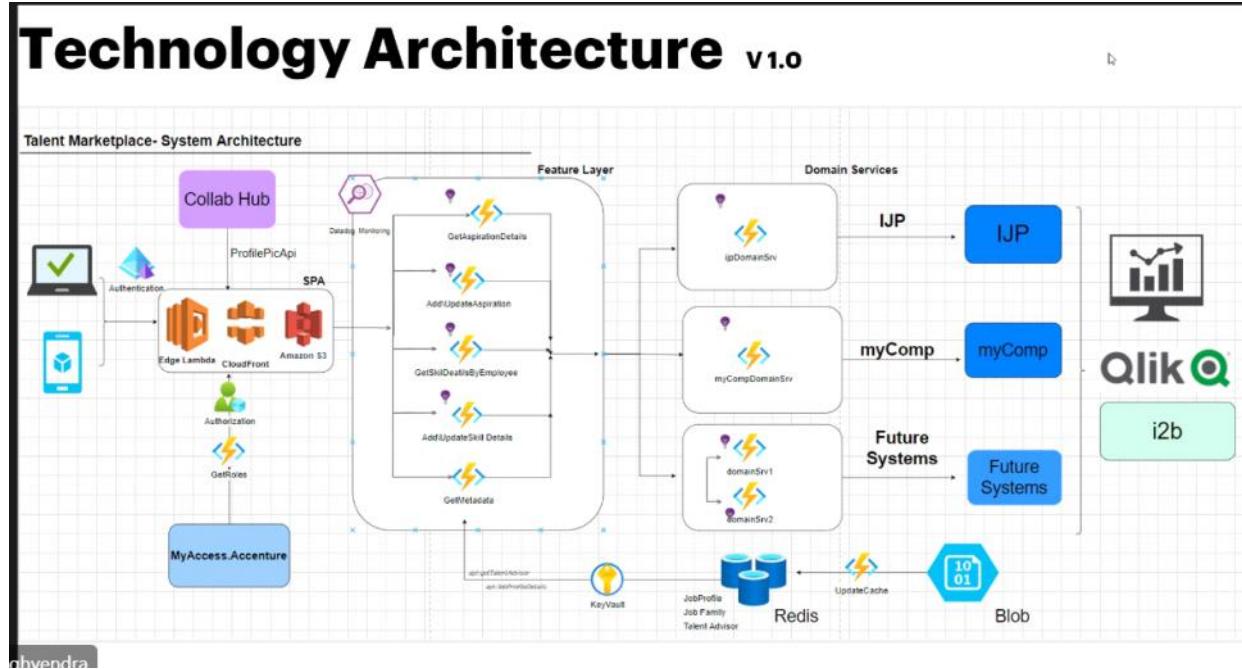
## IJP, SPA - Data Flow Architecture

Place text here



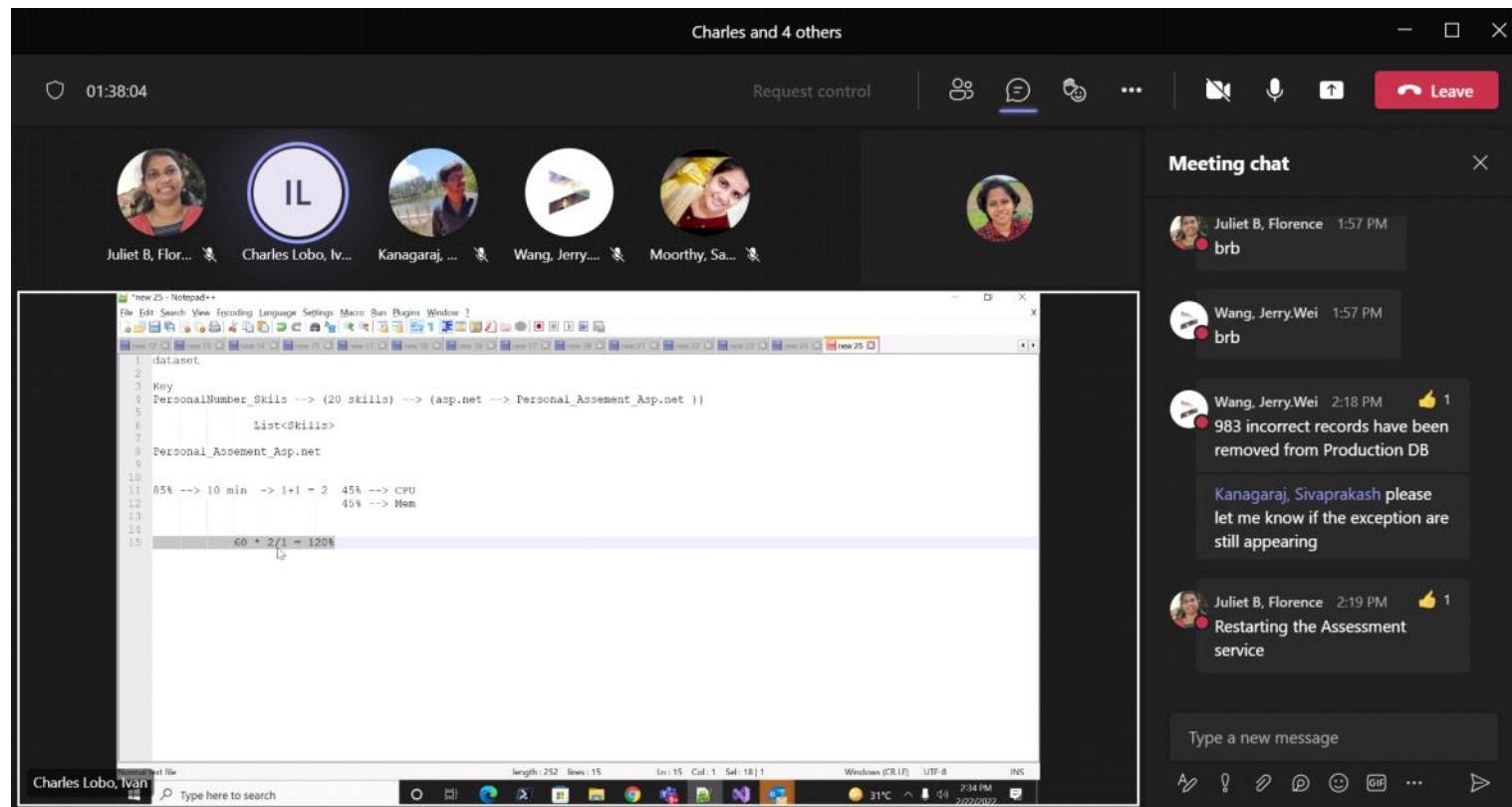
# Technology Architecture - TMP

Tuesday, February 22, 2022 12:13 PM



# Azure App Service Scaling and Monitoring

Tuesday, February 22, 2022 2:34 PM



Understand autoscale - <https://docs.microsoft.com/en-us/azure/azure-monitor/autoscale/autoscale-understanding-settings?toc=%2Fazure%2Fazure-monitor%2Ftoc.json>

Monitoring multiple azure web apps - <https://docs.microsoft.com/en-us/archive/blogs/waws/monitoring-your-multiple-azure-web-app-instances>

Charles and 5 others

42:38 Request control ... Leave

Charles Lobo, Ivan

05:17 Request control ... Leave

Fixed to do -

**Response exception** - Mettl test completed should be shown on front-end...not logged in AI

47:53 Request control ... Leave

**Charles Lobo, Ivan**

**Meeting chat**

Today 9:59 AM Meeting started

Ramalingam, Priyanka 10:18 AM [https://dev.azure.com/accentureci008/myCompetencyDC\\_213/\\_build/results?buildId=1553604&view=logs&j=275f1d19-1bd8-5591-b06b-07d489ea915a&t=05c862a-9c6b-5cff-55d5-c95a782bfe69&l=282](https://dev.azure.com/accentureci008/myCompetencyDC_213/_build/results?buildId=1553604&view=logs&j=275f1d19-1bd8-5591-b06b-07d489ea915a&t=05c862a-9c6b-5cff-55d5-c95a782bfe69&l=282)

Charles Lobo, Ivan 10:22 AM **59eb8e9a81cb3d49a9fe7c6c668 edc67**

Type a new message

The screenshot shows a Microsoft Teams meeting interface. In the center, a Microsoft Edge browser window is open to the Application Insights Profiler. The browser title bar reads "2022-03-04T02:48:15.1189000Z". The page displays a list of slowest wall clock times and a detailed call tree of application logs. On the right, a "Meeting chat" sidebar shows a message from "Ramalingam, Priyanka" with a link to a build results page. Below it, a message from "Charles Lobo, Ivan" includes a timestamp and a long alphanumeric string. At the bottom, there's a "Type a new message" input field and various emoji icons.

# Microservices Bootcamp

Tuesday, February 22, 2022 6:16 PM

Here are the links for bootcamp sessions. Session 1

Link : [https://mediaexchange.accenture.com/media/t/1\\_rx2py9wg](https://mediaexchange.accenture.com/media/t/1_rx2py9wg) Session 2

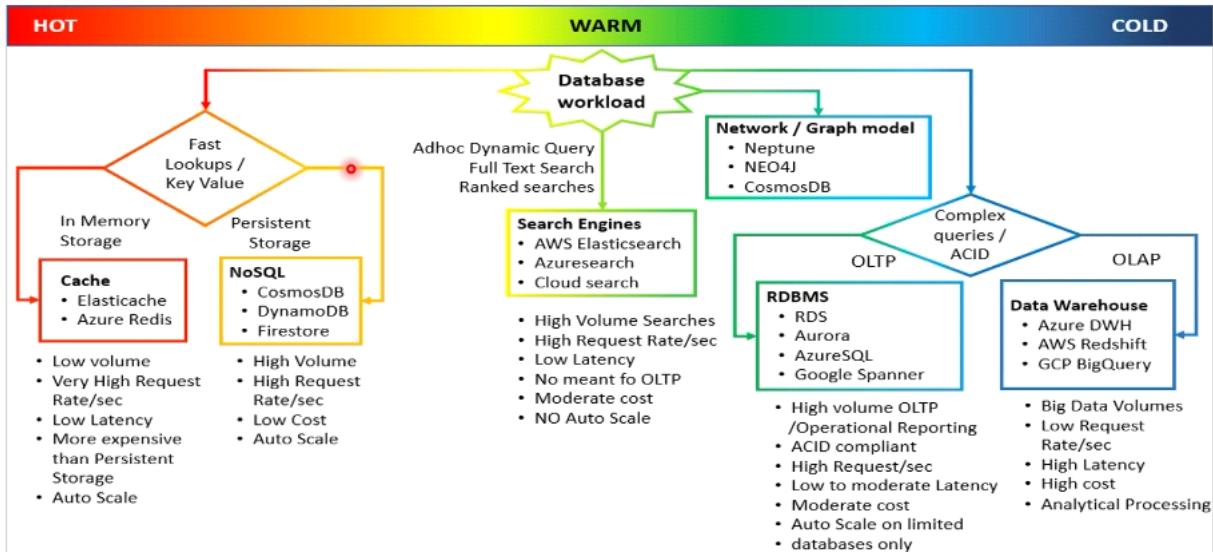
Link : [https://mediaexchange.accenture.com/media/t/1\\_jqk56yv7](https://mediaexchange.accenture.com/media/t/1_jqk56yv7)

Please find the blog links for last two sessions conducted by Vikas (AWS) CIO ITAG Bootcamp 2022 :-  
Monoliths & Microservices Overview – Session 1 – CIO ATCI Code BootCamp ([accenture.com](https://accenture.com)) CIO  
ITAG Bootcamp 2022 :- Patterns for migrating monoliths to microservices – Session 2 – CIO ATCI  
Code BootCamp ([accenture.com](https://accenture.com))

# App Insights Profiling & Tracing

Sunday, March 6, 2022 5:53 PM

<https://www.c-sharpcorner.com/article/profile-monitor-web-apps-with-azure-application-insights/>



# Data Architecture

Friday, March 11, 2022 12:27 PM

Data Architecture - Data Modelling Session (Relation and Non-Relational)

Recording has started. This meeting is being recorded. By joining, you are giving consent for this meeting to be recorded. [Pri...](#) Dismiss

Participants

Invite someone or dial a number

Share invite

Bhardwaj, Neeraj

Ejaz, Sumaiya

Entea, Ivy

Kumar Upadhyay, Anand

Kumar, Lalit D.

Kushwaha, Apurwa

Murugappan, Chellappan

Shivram Ga...

+23

MM, Mutyla, Mrunalini

Nath Kandula, Kedar

On hold

Figure 2 - Cosmos DB Structure

As you can see in the figure above, the top-level item is the Database Account. Within a Database Account:

- Containers
- Databases
- Container(s)

This hierarchy ends with Items. By continuing to use this site without clicking the "Accept" button you are providing consent.

Quest Software and its allies do NOT sell the personal data you provide to us either when you register on our websites or when you do business with us. For more information about our privacy policy and our data protection efforts, please visit [GDPR](#).

Solutions

- How to determine free space and file size for SQL Server databases
- Using PowerShell to split a very large array
- KILL SPID command in SQL Server
- How to install SQL Server Express edition
- SQL Server innobase, InnoDB and memory

Learn How.

# Reading list

Monday, March 14, 2022 1:08 PM

<https://www.scottbrady91.com/openid-connect/silent-refresh-refreshing-access-tokens-when-using-the-implicit-flow>

<https://medium.com/@josip.paladin/entity-framework-performance-tips-tricks-d951d8c73cb0>

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/tutorial-performance>

# Autoscale Explained

Monday, March 14, 2022 5:18 PM

<https://docs.microsoft.com/en-us/azure/azure-monitor/autoscale/autoscale-understanding-settings#autoscale-profiles>

Types -

1. Fixed date Profile (fixed start date & end date)
2. Regular profile (based on metrics)
3. Recurrence Profile (enforces start date, runs until next recurrence profile/fixed date profile)

e.g. - Recurrence Profile -

```
"profiles": [  
  {  
    "name": "weekdayProfile",  
    "capacity": {  
      ...  
    },  
    "rules": [{  
      ...  
    }],  
    "recurrence": {  
      "frequency": "Week",  
      "schedule": {  
        "timeZone": "Pacific Standard Time",  
        "days": [  
          "Monday"  
        ],  
        "hours": [  
          0  
        ],  
        "minutes": [  
          0  
        ]  
      }  
    },  
    {  
      "name": "weekendProfile",  
      "capacity": {  
        ...  
      },  
      "rules": [{  
        ...  
      }]  
    },  
    "recurrence": {  
      "frequency": "Week",  
      "schedule": {  
        "timeZone": "Pacific Standard Time",  
        "days": [  
          "Saturday"  
        ],  
        "hours": [  
          0  
        ],  
        "minutes": [  
          0  
        ]  
      }  
    }  
  }]
```

Settings -> multiple profiles -> multiple metric rules

Autoscale -> chooses the profile to execute -> evaluates max and min values -> then evaluates the metric rules

## Template

```
{  
  "id":  
  "/subscriptions/s1/resourceGroups/rg1/providers/microsoft.insights/autoscaleSettings/setting1",  
  "name": "setting1",  
  "type": "Microsoft.Insights/autoscaleSettings",  
  "location": "East US",  
  "properties": {  
    "enabled": true,  
    "targetResourceUri":  
    "/subscriptions/s1/resourceGroups/rg1/providers/Microsoft.Compute/virtualMachineScaleSets/vmss1",  
    "profiles": [  
      {  
        "name": "mainProfile",  
        "capacity": {  
          "minimum": "1",  
          "maximum": "4",  
          "default": "1"  
        },  
        "rules": [  
          {  
            "metricTrigger": {  
              "metricName": "Percentage CPU",  
              "metricResourceUri":  
              "/subscriptions/s1/resourceGroups/rg1/providers/Microsoft.Compute/virtualMachineScaleSets/vmss1",  
              "timeGrain": "PT1M",  
              "statistic": "Average",  
              "timeWindow": "PT10M",  
              "timeAggregation": "Average",  
              "operator": "GreaterThan",  
              "threshold": 85  
            },  
            "scaleAction": {  
              "direction": "Increase",  
              "type": "ChangeCount",  
              "value": "1",  
              "cooldown": "PT5M"  
            }  
          },  
          {  
            "metricTrigger": {  
              "metricName": "Percentage CPU",  
              "metricResourceUri":  
              "/subscriptions/s1/resourceGroups/rg1/providers/Microsoft.Compute/virtualMachineScaleSets/vmss1",  
              "timeGrain": "PT1M",  
              "statistic": "Average",  
              "timeWindow": "PT10M",  
              "timeAggregation": "Average",  
              "operator": "LessThan",  
              "threshold": 60  
            },  
            "scaleAction": {  
              "direction": "Decrease",  
              "type": "ChangeCount",  
              "value": "1",  
              "cooldown": "PT5M"  
            }  
          }  
        ]  
      }  
    ]  
  }  
}
```

**Which Profile it picks first -**

Fixed date. If there are multiple fixed dates, then picks first.

|  
V

If no fixed date profiles, looks for recurrence profiles

|  
V

If no fixed date or recurrence profiles, run the regular profile

**P.S.**

**If one or more scale-out rules are triggered, Autoscale calculates the new capacity determined by the **scaleAction** of each of those rules. Then it scales out to the maximum of those capacities, to ensure service availability.**

## Some Recommended Books on DDD

	<b>Domain-Driven Design, Tackling Complexity in the Heart of Software</b> Eric Evans		<b>Professional Domain-Driven Design Patterns</b> , Scott Millett, Nick Tune
	<b>Applying Domain-Driven Design and Patterns</b> , Jimmy Nilsson (2006)		<b>Domain-Driven Design Distilled</b> , Vaughn Vernon
	<b>Implementing Domain-Driven Design</b> , Vaughn Vernon		<b>Domain Modeling Made Functional</b> , Scott Wlaschin
			<b>Hands-on Domain-Driven Design with .NET Core</b> , Alexey Zimarev

## Resources Referenced in this Module

	<b>Domain-Driven Design</b> , Eric Evans, 2003, Addison-Wesley Professional <a href="https://amzn.to/3k7g948">amzn.to/3k7g948</a>
	<b>Patterns, Principles, and Practices of Domain-Driven Design</b> Scott Millett, Nick Tune, 2015, Wrox <a href="https://amzn.to/2ZyaNH8">amzn.to/2ZyaNH8</a>
	<b>Domain-Driven Design, The First 15 Years, Essays from the community</b> <a href="https://leanpub.com/ddd_first_15_years">leanpub.com/ddd_first_15_years</a>
	<b>VirtualDDD Meetup with recorded sessions:</b> <a href="https://virtualddd.com">virtualddd.com</a>

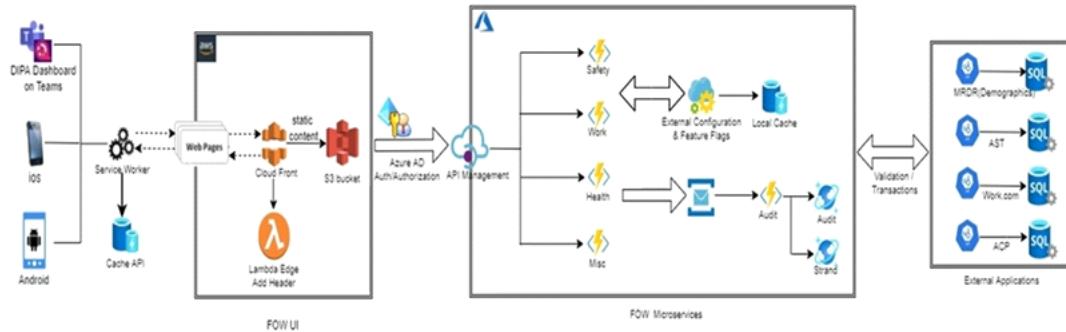
## Resources Referenced in this Module

	<b>Getting to DDD: Pragmatic or Principled</b> Julie Lerman, KanDDDinsky 2018 <a href="https://youtu.be/CPd2BVR3hEM">youtu.be/CPd2BVR3hEM</a>
	<b>Pluralsight DDD Fundamentals Sample for this course</b> <a href="https://github.com/ardalis/pluralsight-ddd-fundamentals">github.com/ardalis/pluralsight-ddd-fundamentals</a>

# FOW architecture

Tuesday, March 29, 2022 12:20 PM

## FOW Architecture Solution - 2



# Coding Checklist

Tuesday, March 29, 2022 3:08 PM

1. Code coverage should be minimum level accepted by team (Check line coverage and block coverage).
2. Sonarlint warnings accepted by team should be fixed and not suppressed.
3. API documentation via Swagger
4. All public interfaces should have well written comments
5. Check on the number of lines code. Minimum 50 lines.
6. No zombie codes/commented out codes. If needed in future add proper comments or could be restored from version management.
7. Follow DRY!(Don't Repeat Yourself) - instead of copy pasting the same code (just variable / some value changes) create a common function.
8. Check for any deadlocks/race conditions that might cause issue.  
e.g., blocking async calls
9. Static and hardcoded values should be used only when they are really necessary.

## Third-Party data privacy check

Thursday, June 2, 2022 8:05 PM

# How to apply Privacy by Design when working with a third-party service provider

While analyzing data, Kwan realizes there's a way to automate the team's processes. He remembers a third-party service provider that has the capabilities to assist with this. Kwan wants to propose working with this provider. **What should he consider?**



Third-party providers **must always be assessed** from a data privacy perspective because Accenture needs to ensure the highest standards of a third party processing personal data.

When using a third-party service provider, data privacy **laws require that we ensure it is a trusted third party**. Specifically, suppliers who process personal data must be reviewed to ensure they comply with data privacy laws and don't misuse data for their own purpose.

Privacy **laws typically require a written agreement** to be in place with third-party providers to set out the data privacy rules for the processing of personal data.

Before third-party suppliers can handle Accenture or client personal data, take these steps:

**01**

**Contracts** with data privacy terms must be in place with third parties before they work with Accenture's or a client's personal data.

**02**

A Data Privacy and InfoSec Risk Profiling Evaluation must also be completed in the [Supplier Tool](#). (Access may be limited by role and level.)

**03**

Global due diligence protocols are required when contracting with suppliers and subcontractors. Check out the [Data Privacy Review for Supplier/Subcontractors](#) and [Protecting Accenture: Supplier Security](#) links.

# Jmeter FAQ

Friday, June 3, 2022 11:50 AM

Threads and Samples are totally different.

- **Threads represent the number of virtual users.**
- **Samples represent the number of total requests made by users.**

So suppose if you have a test plan with 5 requests.

If you run it with 1 user : you will have 1 thread and 5 samples. If you run it with 10 users : you will have 10 threads and 50 samples.

Note, that number of threads or samples could vary because of machine/network/server limitations etc.

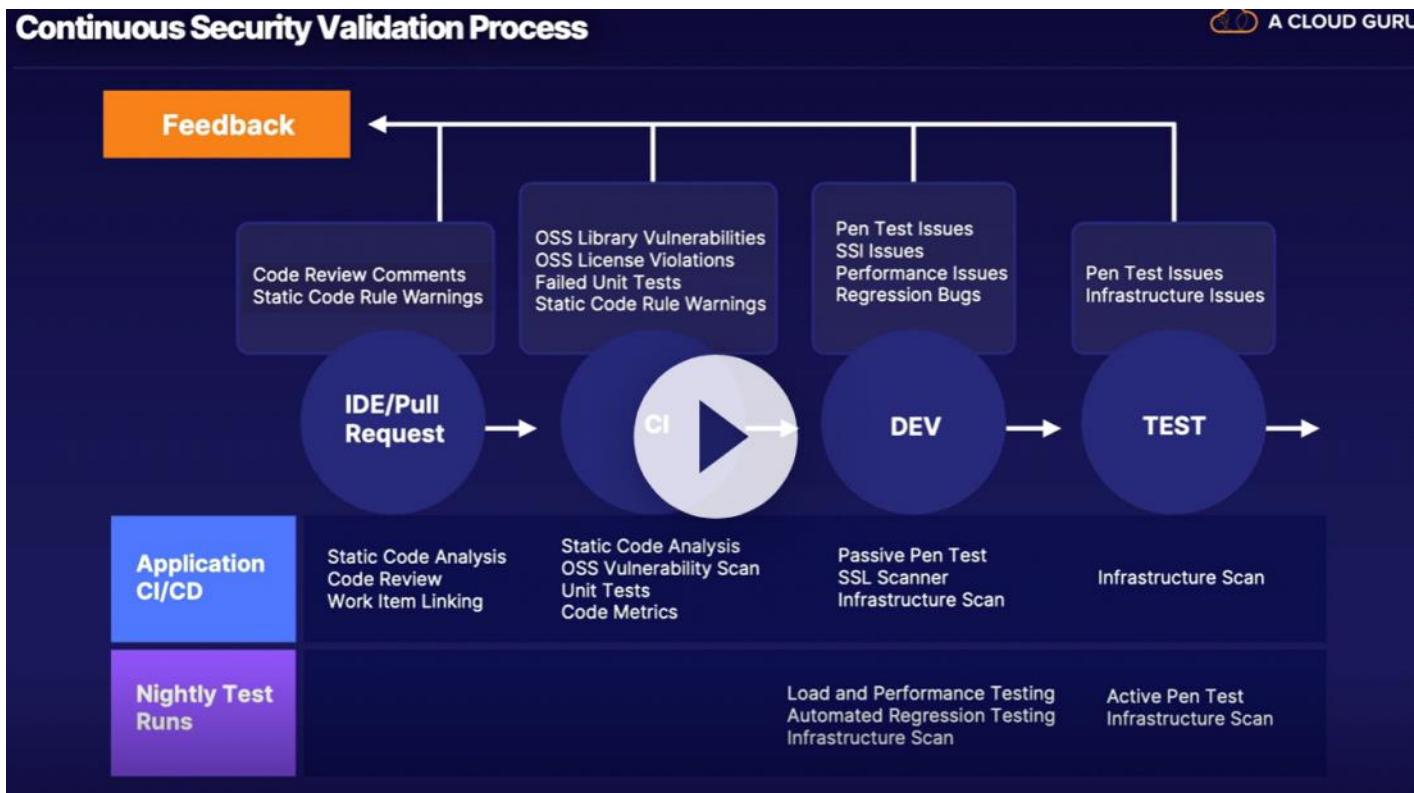
For example we ask JMeter to create 1000 threads but our machine is able to create only 100 threads at maximum (because of low CPU/ram)

Similarly, number of samples could be less/more because of network failure, test scenario etc.

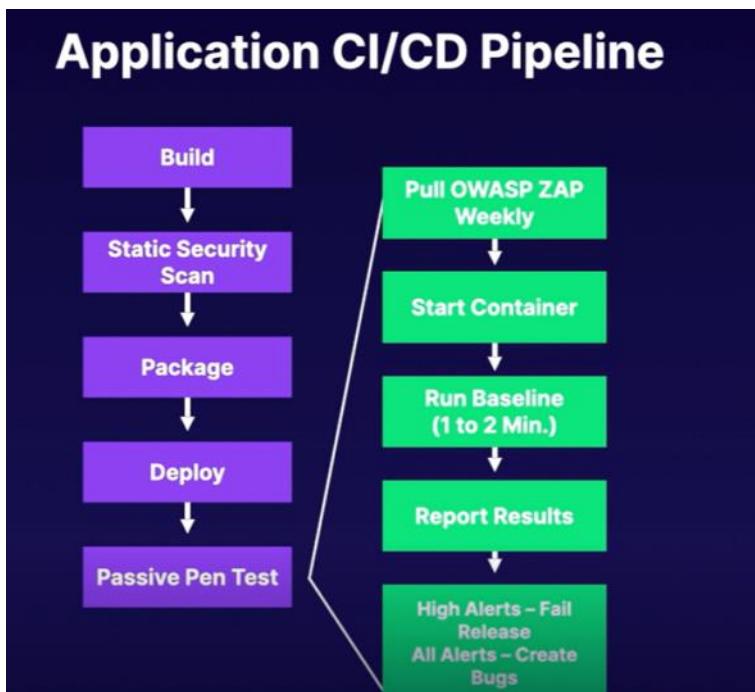
From <<https://stackoverflow.com/questions/34408928/what-is-the-difference-between-threads-and-samples-in-jmeter>>

# Continuous security validation in CI/CD

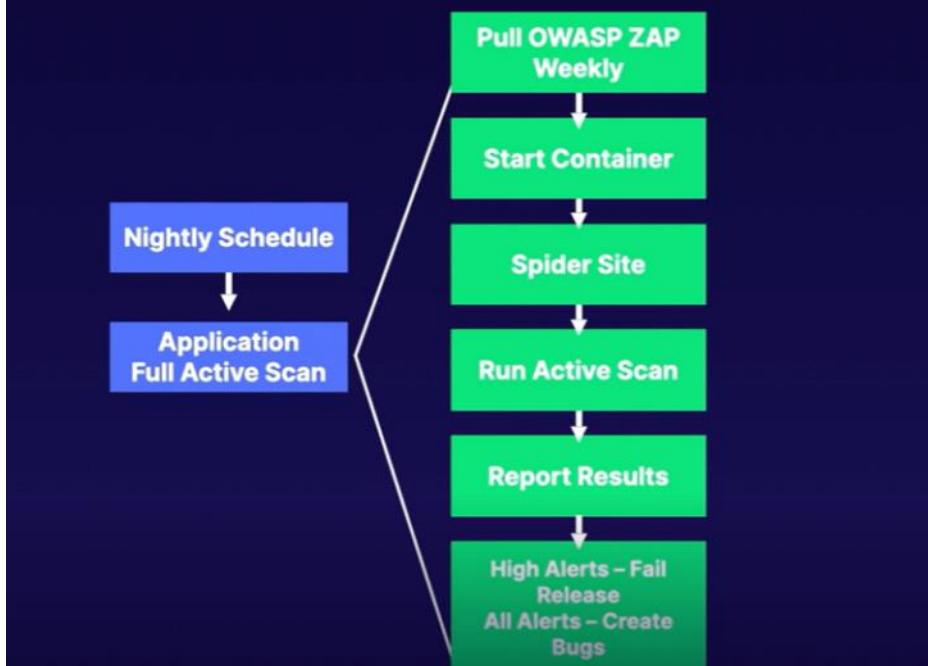
Sunday, June 12, 2022 8:20 PM



## Securing Application Pipelines



# Nightly OWASP ZAP Pipeline



Passive pen test runs fast in CI/CD pipeline

Active scans run long time hence nightly

# OLE Automation/ SQL CLR

Tuesday, June 14, 2022 6:17 PM

**The Ole Automation Procedures** option controls whether OLE Automation objects can be instantiated within Transact-SQL batches. These are **extended stored procedures that allow SQL Server users to execute functions external to SQL Server in the security context of SQL Server**.

From <[https://www.google.com/search?q=what+is+ole+automation+in+sql+server&rlz=1C1GCEB\\_enIN997IN997&ei=yIKoYr2LDZ-u4-EPkvOA0AI&oq=what+is+ole+automation+in+sql+&gs\\_lcp=Cgdnd3Mtd2l6EALEYADIFCAAQgAQ6BwgAEEcQsAM6BggAEB4QFkoECEYAEoECEYYAFCABFjAD2DaGGgBcAF4AIAbAGIAcklgEDMC44mAEAoAEBByAEIwAEB&sclient=gws-wiz](https://www.google.com/search?q=what+is+ole+automation+in+sql+server&rlz=1C1GCEB_enIN997IN997&ei=yIKoYr2LDZ-u4-EPkvOA0AI&oq=what+is+ole+automation+in+sql+&gs_lcp=Cgdnd3Mtd2l6EALEYADIFCAAQgAQ6BwgAEEcQsAM6BggAEB4QFkoECEYAEoECEYYAFCABFjAD2DaGGgBcAF4AIAbAGIAcklgEDMC44mAEAoAEBByAEIwAEB&sclient=gws-wiz)>

```
sp_configure 'show advanced options', 1;
go
RECONFIGURE;
GO
sp_configure 'Ole Automation Procedures', 1;
GO
RECONFIGURE;
GO
```

## SQL CLR

With the Common Language Runtime (CLR) hosted in Microsoft SQL Server (called [CLR integration](#)), you can author stored procedures, triggers, user-defined functions, user-defined types, and user-defined aggregates in managed code. CLR is also available in Azure SQL Database Managed Instance.

<https://docs.microsoft.com/en-us/shows/data-exposed/its-just-sql-clr-in-azure-sql-database-managed-instance>

```
sp_configure 'show advanced options', 1;
go
RECONFIGURE;
GO
sp_configure 'clr enabled', 1;
GO
RECONFIGURE;
GO

alter database [csharpDatabase] set trustworthy on;
```

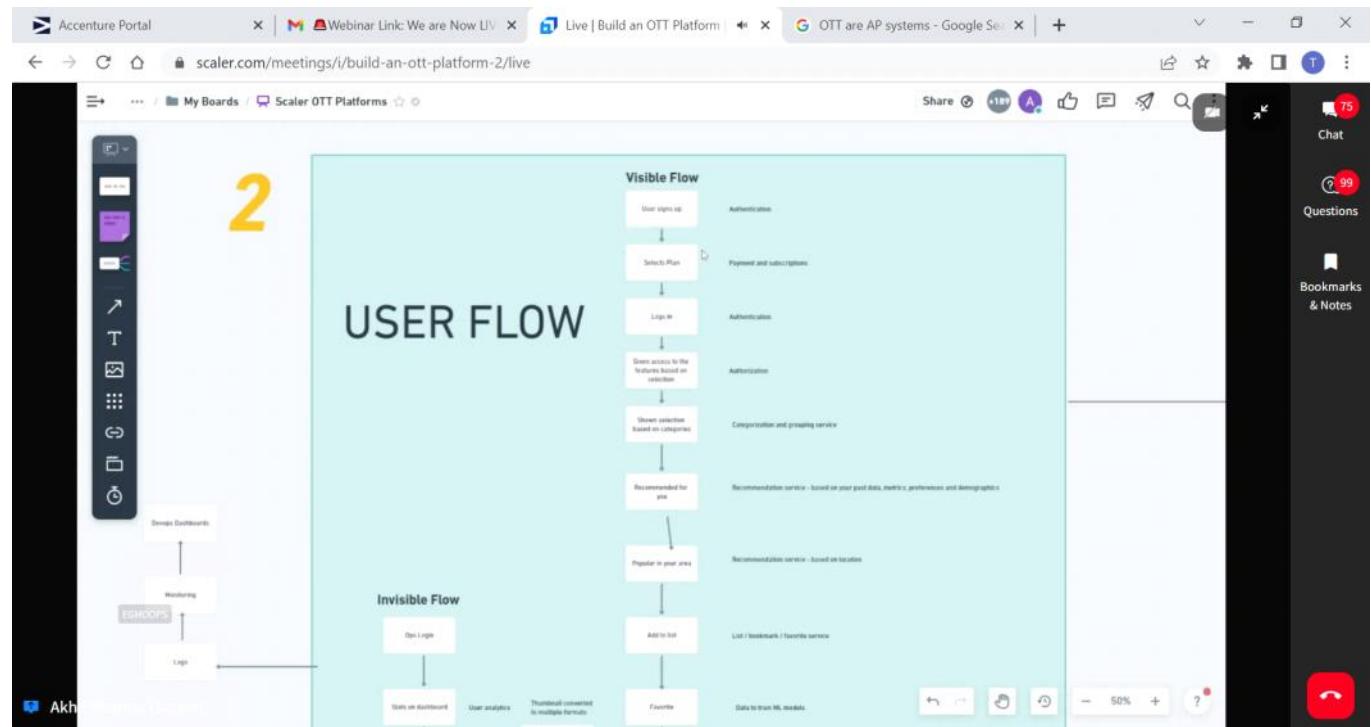
From <<https://www.c-sharpcorner.com/article/calling-rest-api-service-from-sql-server-using-c-sharp-sql-clr/>>

**With both of above options we can execute functions or code that is external to SQL Server but in the security context of SQL Server.**

**We have to add the compiled .net code into a dll and add it to the Database > Programmability > Assemblies**

# OTT bootcamp

Thursday, June 16, 2022 8:56 PM



1. RTMP started in the days of Adobe Flash Player.
2. There was RTMPS with an added layer of security, RTMPE with encryption and RTMPT for firewalls.
3. Now not much used in streaming but rather video ingestion only because it has low latency support for wide variety of technologies.
4. Used with HLS for streaming.

Live | Build an OTT Platform | ← × +

scaler.com/meetings/i/build-an-ott-platform-2/live

## Build an OTT Platform | Masterclass

1726 people joined

106 Chat

182 Questions

Bookmarks & Notes

Akhil Sharma (Screen)

01:56:29

Raise Hand

EGHOOPS

Api gateway > service registry > API compose

API Composers join the information or perform joins to get the information and store it in in-memory locations so that joins don't end up taking too much time.

Micro front-end similar concept to microservices

<https://www.youtube.com/c/AkhilSharmaTech>

<https://medium.com/@nishantparmar/distributed-system-design-patterns-2d20908fecfc>

<https://whimsical.com/scaler-ott-platforms-EAke9WeMVrDQZgG3EN71Lf>

Event streaming vs messaging queues?

# MS Unit Test Framework

Wednesday, July 13, 2022 11:23 AM

Auto Test Session Wednesday - 'Dotnet Unit Testing Basics & Best Practices' on 13th Jul'22

Request control | People Chat Reactions Apps More | Camera Mic Share Leave

## MSTest unit testing framework

ASSERT & EXCEPTIONS	ASSERT EXAMPLES
<ul style="list-style-type: none"><li>• Assert</li><li>• Assert.ThrowsException</li><li>• CollectionAssert</li><li>• StringAssert</li> <li>• AssertFailedException</li><li>• [ExpectedException]</li></ul>	<ul style="list-style-type: none"><li>• Assert.AreEqual()</li><li>• Assert.AreNotEqual()</li><li>• Assert.IsTrue()</li><li>• Assert.IsFalse()</li><li>• Assert.Fail()</li><li>• StringAssert.Contains()</li></ul>

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Ravishankar... Garg, Isha  
Kumar, Jitendra Das, Sulagna...  
Thomas Ch... +87

# Azure Functions

Thursday, August 11, 2022 6:39 PM

## Timer Trigger - Scheduling

For each of your TimerTrigger functions, an in process timer is created based on the schedule you specified. The timer begins immediately on startup, with the interval until the next execution set based on when your function was last executed. When the interval expires, your function is invoked. By default TimerTrigger keeps track of executions by keeping track of execution history in storage, ensuring that schedules can be maintained in the face of process crashes or node restarts. It uses this history to "catch up" on missed schedule executions, if for some reason an occurrence was missed. You can disable that behavior if you wish by setting UseMonitor = false on your TimerTrigger attribute.

If your function execution takes longer than the timer interval, another execution won't be triggered until after the current invocation completes. The next execution is scheduled after the current execution completes.

From <<https://github.com/Azure/azure-webjobs-sdk-extensions/wiki/TimerTrigger#troubleshooting>>

### Plan Type

1. Consumption - Have cold start since instance is only allocated based on execution.
2. App Service Plan - **Dedicated Plan**
3. **Elastic Premium** - ASP + Consumption - **Shared Plan**
  - Keep in mind that all function apps in a Premium plan **share allocated instances**. - unlike ASP
  - **Every premium plan has at least one active (billed) instance at all times.**

### Advantages

- Avoid cold starts with warm instances.
- Virtual network connectivity.
- Unlimited execution duration, with 60 minutes guaranteed.
- [Choice of Premium instance sizes](#).
- More predictable pricing, compared with the Consumption plan.
- High-density app allocation for plans with multiple function apps.

From <<https://docs.microsoft.com/en-us/azure/azure-functions/functions-premium-plan?tabs=portal>>

### What is cold start?

- When events or executions don't occur in the Consumption plan, your app may scale to zero instances. When new events come in, a new instance with your app running on it must be specialized. Specializing new instances may take some time depending on the app. This extra latency on the first call is often called app cold start.
- Premium plan provides two features that work together to effectively eliminate cold starts in your functions: always ready instances and pre-warmed instances. Always ready instances are a number of pre-allocated instances unaffected by scaling, and the pre-warmed ones are a buffer as you scale due to HTTP events.

- When events begin to trigger the app, they're first routed to the always ready instances. As the function becomes active due to HTTP events, additional instances will be warmed as a buffer. These buffered instances are called pre-warmed instances. This buffer reduces cold start for new instances required during scale.

### Always Ready Instances

In the Premium plan, you can have your app always ready on a specified number of instances. Your app runs continuously on those instances, regardless of load.

Example -

When two of your apps have always ready set to one and the third has it set to five, the minimum for your whole plan is five.

The maximum number of always ready instances we support per app is 20.

# CODE MAGAZINE Details

Wednesday, September 14, 2022 1:49 PM

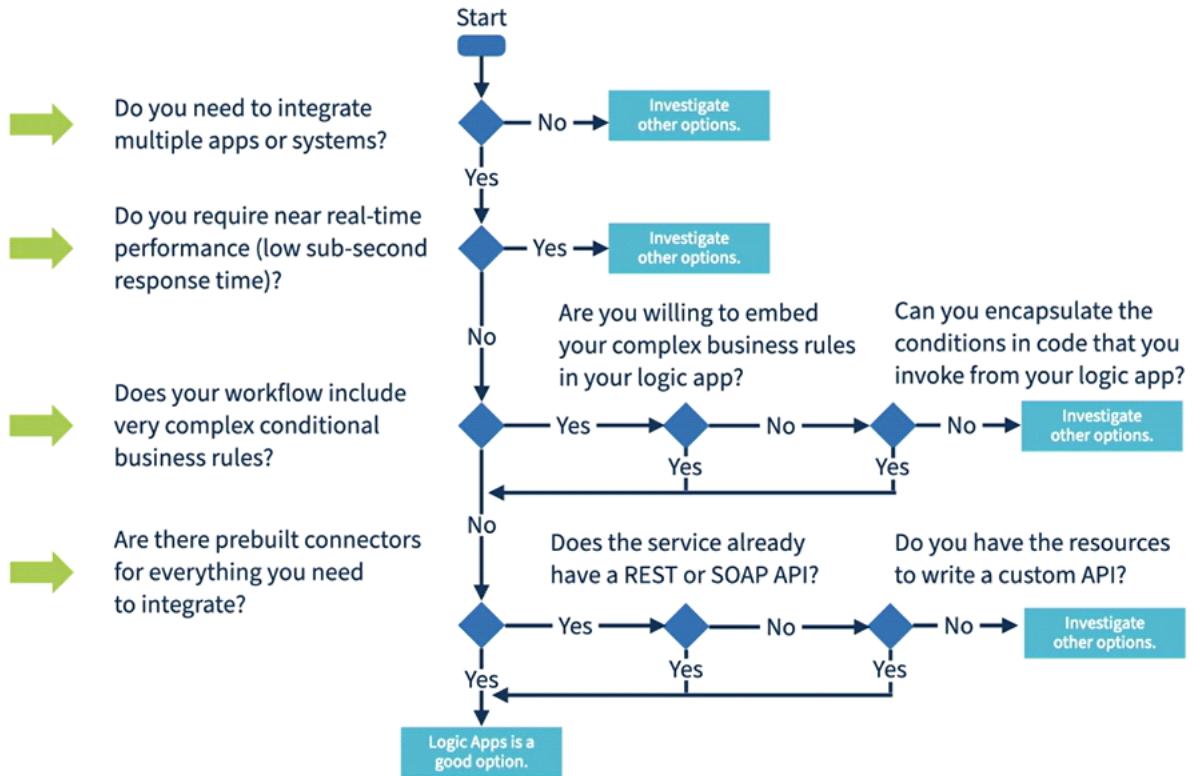
thilaga.yuva@gmail.com  
learningisfun3\$

The screenshot shows a Microsoft Edge browser window with the following details:

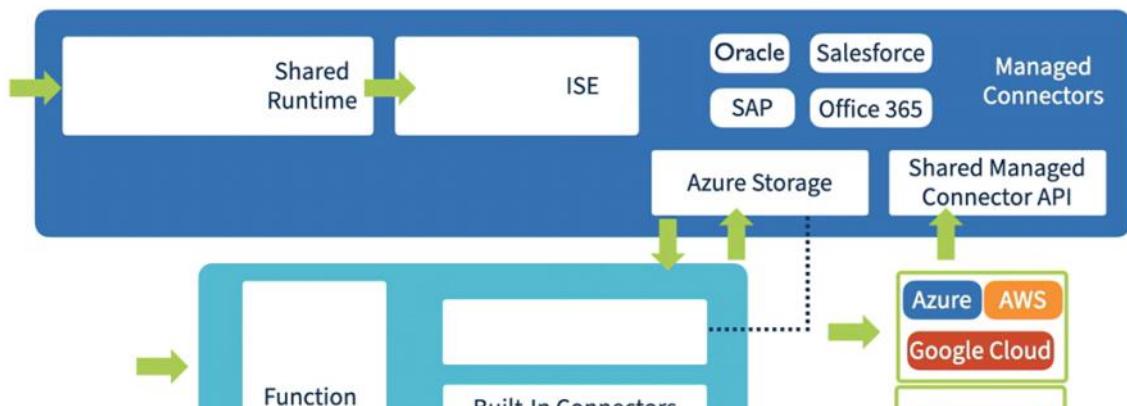
- Address Bar:** codemag.com/subscribe/vss?token=VSSBAJBAHACJJAEIHD
- Toolbar:** Includes back, forward, search, and other standard browser controls.
- Bookmark Bar:** Shows several bookmarks including "Understanding aut...", "Working...", "Imported", "Imported (1)", "ServiceNow", "Authentication and...", "Pricing Calculator |...", "StackBlitz | Instant...", and "Other bookmarks".
- Page Content:**
  - Header:** CODE MAGAZINE
  - Navigation:** Home, Consulting, Magazine, Framework, Training, Staffing, VFP Conversion, Thilagavathy
  - Image:** A thumbnail of the 'EVENT SOURCING' magazine cover, which features a dark background with white abstract shapes resembling code or data structures. Text on the cover includes 'EVENT SOURCING', 'Benchmarking .NET Applications', 'Exploring Data Science and Power BI', and 'The World According to YARF'.
  - Text:** 'You now have a new CODE Magazine subscription!'
  - Note:** 'Note: You can always take a look at which magazines have been sent to you at [codemag.com/my/fulfillment](https://codemag.com/my/fulfillment). If you don't have an online account, you can simply create one by using the same email address you just used for your subscription.'
  - Note:** 'If you need to see or print an invoice, you can do so at [codemag.com/my/invoices](https://codemag.com/my/invoices).
  - Note:** 'Note: If you have chosen a print subscription, please allow several weeks for the delivery of the first issue.'

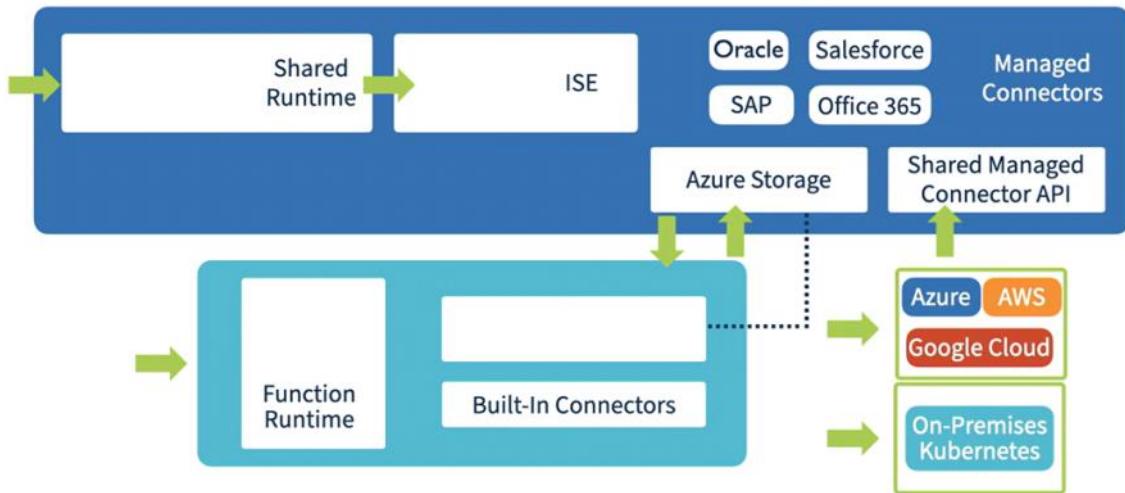
# Azure Logic Apps

Tuesday, October 18, 2022 4:50 PM



## Logic Apps Deployment Choices





## Know Rate and Connection Limits

### Logic Apps limits

- <https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-limits-and-config>

### Connector limits

- <https://docs.microsoft.com/en-us/azure/connectors/connectors-create-api-azureblobstorage>

## Plan for Throughput

- Use high-throughput mode
- Nest Logic Apps in parallel branches
- Scale connections by creating multiple triggers
- Adjust retry policy

## Large Message Handling

# Large Message Handling

- If possible, work with message references
- Chunk large messages

# Plan for Security

- Encrypt data at rest
- Access to logic app operations
- Access to run history data
- Authenticate access to Azure resources
- Block connections created by connectors in Azure Logic Apps

# Plan for High Availability

- Use automation to deploy to a different location
- Load balance across primary and secondary locations
- Logic app state and history
- Trigger-type guidance
- Assess primary instance health

# Conclusion

- Schedule, automate, and orchestrate tasks, business processes, and workflows
- Integrate apps, data, systems, and services across enterprises or organizations
- Choose from a gallery with hundreds of connectors
- Low-code or No-code approach with serverless option

# Multithreading/Concurrency

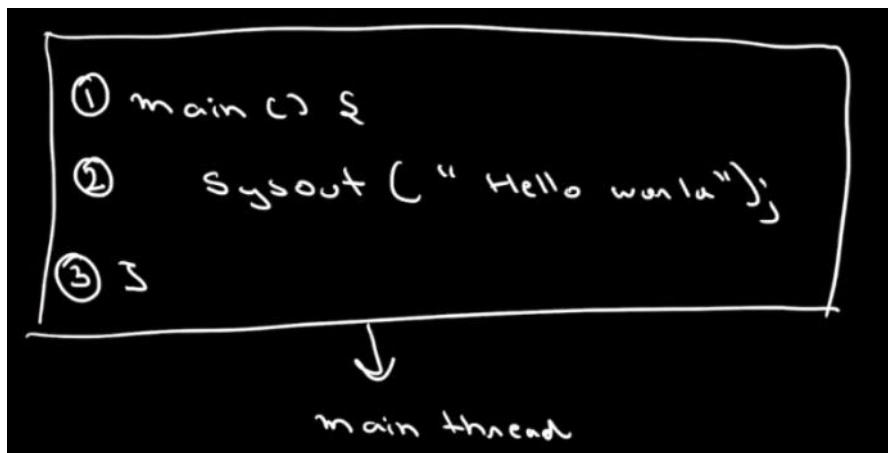
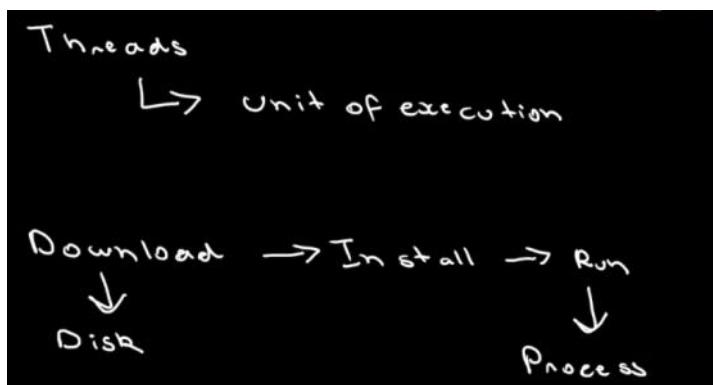
Sunday, December 4, 2022 5:21 PM

What does CPU execute - thread, not a process.

Thread is a unit of execution.

What is process? Process or task is synonymous.

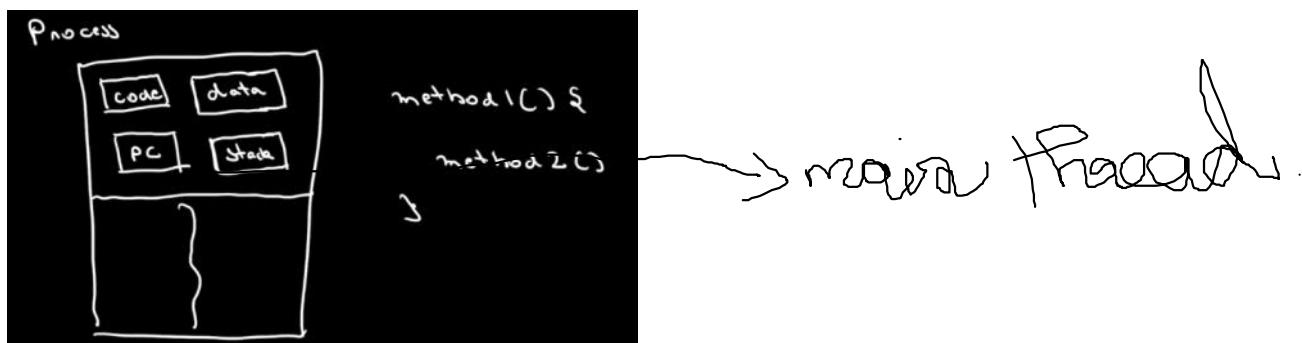
Every process has its own thread.



Single threaded process -

Stack - it has the different methods that the CPU has to execute

Program counter - what exactly the CPU has to execute at that point in time.



Multi threaded process -

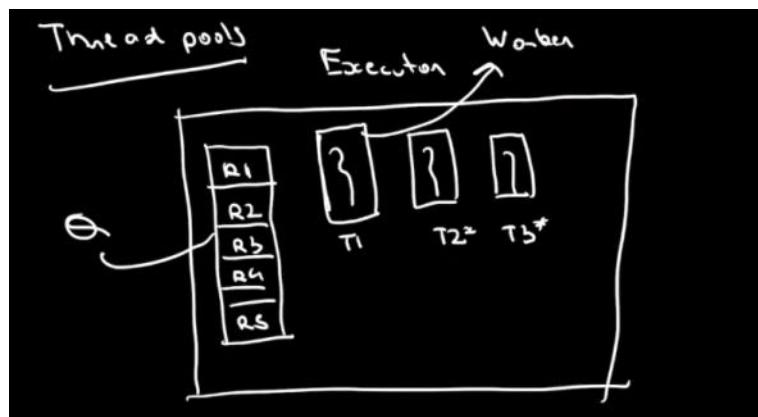
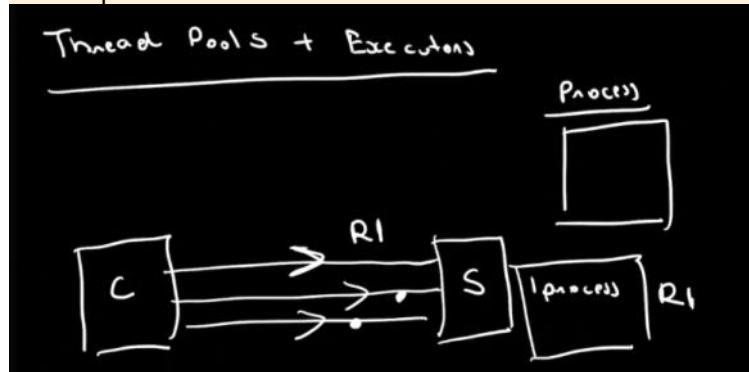
Code and data is common and shared across threads.

PC and Stack is specific to the thread that executes it.

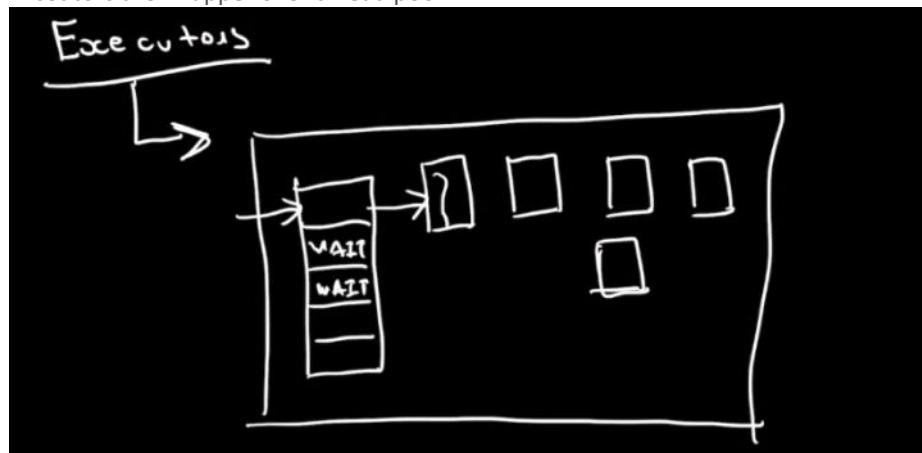
since thread is executing a particular part of the code, the stack and program counter is different for different threads, hence cannot be shared.

<https://github.com/kanmaytacker/fundamentals/tree/master/os/code/os/src/main/java/com/scaler>  
<https://github.com/kanmaytacker/fundamentals/tree/master/os/code/os/src/main/java/com/scaler/mergesort>

Thread pools have some set of worker threads to address the incoming request.



Executors are wrapper over thread pool.



Types of thread pool (Executors)

SingleThreadPool executor has only one thread in it to run task. - example android app and redis cache.

FixedThreadPool Executor - fixed number of threads are created pre-hand

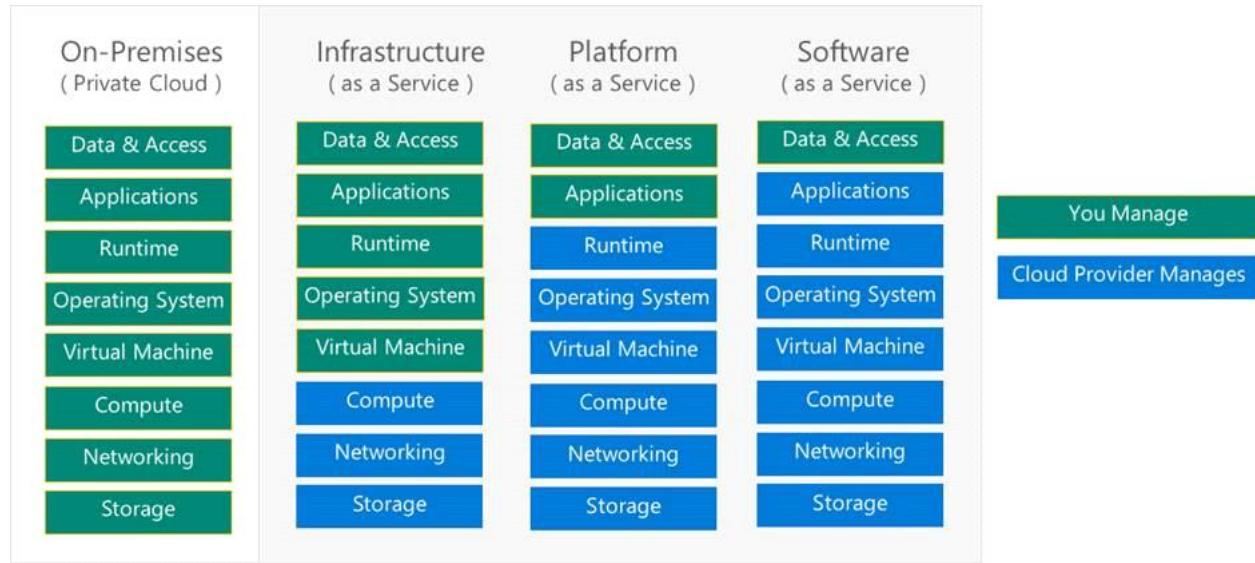
CacheThreadPool Executor - thread are created on a lazy loaded manner, that is created when needed, better than fixed.

The screenshot shows a live video call interface for a 'Multi-threading and Java Concurrency | Masterclass'. At the top, there are browser tabs for 'Sign in to your account', 'Webinar Link - We Are LIVE!', 'Live | Multi-threading and Java Concurrency-3/live', and several other bookmarks. The main content area displays the masterclass curriculum, which is organized into four main levels: Beginner, Intermediate, Advanced, and Specialization. The Beginner level is for 'Non coders' and includes 'Beginner Module (Introduction to Programming)' (4-8 weeks), 'Beginner Complete' (8 weeks), and 'Beginner Refresher' (4 weeks). The Intermediate level is for 'Basic coders' and includes 'Intermediate Module (Programming Constructs)' (8 weeks). The Advanced level is for 'Experienced coders' and includes 'Advanced Module' (17 weeks) with sub-topics like 'Arithmetic Problem Solving & DS with CS fundamentals', 'Programming language Internals', 'CS Fundamentals', 'Object Oriented Design (LLD)', and 'System Design (HLD)'. The Specialization section allows choosing between 'Backend and Fullstack Engineering' (3 weeks) or 'Data Engineering' (8 weeks). Below the curriculum is a 'Career & Placement Support' section. On the right side of the screen, there is a video feed of the instructor, Mihil Dikshit, wearing glasses and a dark shirt. The video controls show a timer at 01:18:49. To the right of the video is a 'Chat' sidebar where users can message the instructor. The sidebar also shows a list of messages from Anant Barthwal, a poll asking about the cost of a program, and an 'Ask Question' button.

Join our coding communities where Notes and learnings from this Masterclass will be shared! Discord - <https://bit.ly/3gMEL3f>, Telegram - <https://bit.ly/3CaiJmi>

# IaaS vs PaaS vs SaaS vs DbAAS

Monday, December 12, 2022 6:22 PM



IaaS and PaaS - comes under shared responsibility model. That is, some responsibility lies with consumer as well.

Examples -

IaaS - VM and network services.

PaaS - IaaS + OS + Runtime is managed by Azure. What application to deploy, that is, whether **Database/web app/Azure Function/Service Bus/ MI learning Studio/Redis** lies with the user. That is choice of application is responsibility of user.

SaaS - complete responsibility lies with Azure. User only creates an account and procures license. E.g. **Azure DevOps, O365 suite of application, Gmail.**

**DBaaS** -

The term "**Database-as-a-Service**" (DBaaS) refers to software and/or services that enables users to set up, operate and scale databases without the need for setting up physical hardware, installing software or configuring for performance. E.g. MongoDB Atlas

# Node JS

Wednesday, December 7, 2022 9:24 AM

Syllabus -

- Architecture of a full stack application on JS frameworks
- Importance of server side scripting
- Different server side f/w's
- Introduction to NodeJS
- Architecture of NodeJS
- Features of NodeJS
- Installation of Node + Environment
- Programming in NodeJS
- Different Modules supported in NodeJS
- Work on the file reading , writing ops
- Events in NodeJS
- Streams in NodeJS
  - \* Different types of streams supported
- Web server with the NodeJS
- Express JS

- Features of NodeJS
- Installation of Node + Environment
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- Work on the file reading , writing ops
- Events in NodeJS
- Streams in NodeJS
  - \* Different types of streams supported
- Web server with the NodeJS
- Express JS
- Integration to the database
- Object modelling packages : Mongoose
- Promise object
- Async programming

URLs

<https://dev.to/nodedoctors>  
[Why Node.js is a single threaded language ? - GeeksforGeeks](#)

Reading List

[Node.js animated: Event Loop Phases - DEV Community](#)  

# MEAN

Wednesday, December 7, 2022 9:38 AM

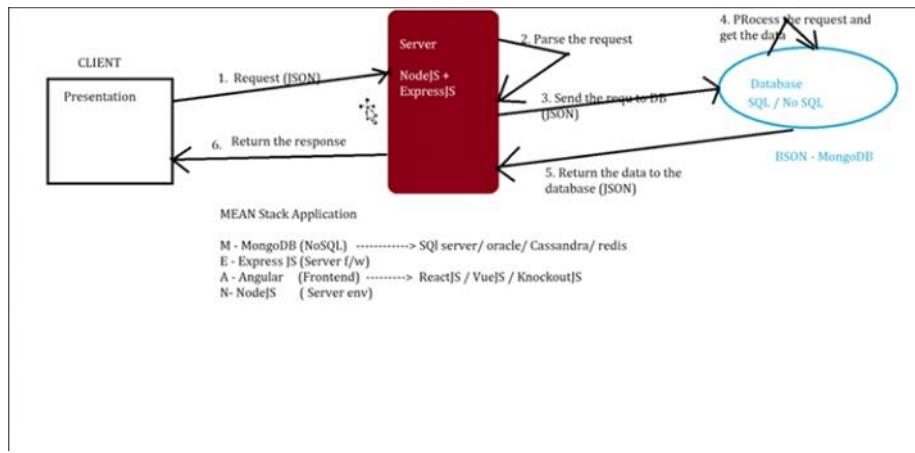
## MEAN Stack Application

M - MongoDB (NoSQL) -----> SQL server/ oracle/ Cassandra/ redis

E - Express JS (Server f/w)

A - Angular (Frontend) -----> ReactJS / VueJS / KnockoutJS

N- NodeJS ( Server env)



MERN – Mongo, Express , RaectJS , NodeJS

CERN – Cassandra , Express, React, Node

MEVN – Mongo, Express, Vue, Node

## Node JS Framework

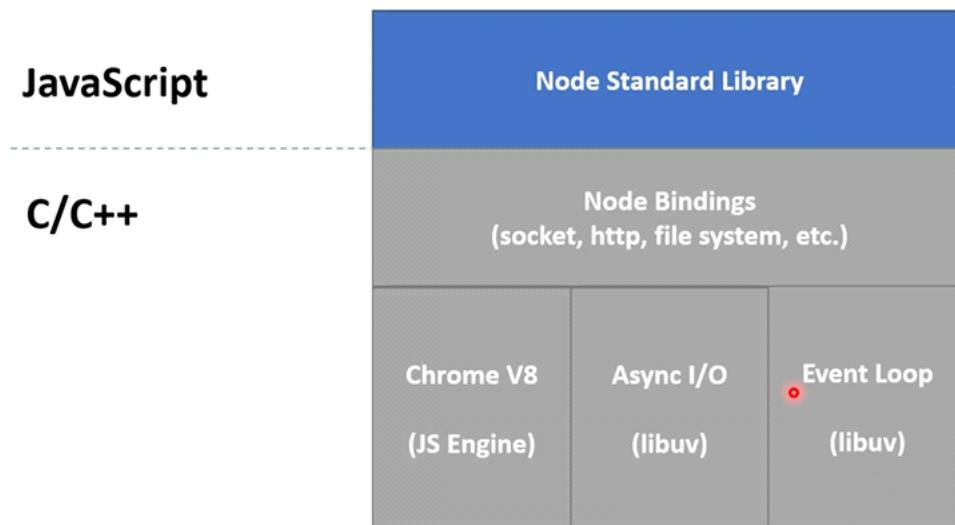
- Free
- Opensource
- web application f/w
- exclusively to run the JS code in a non-browser environment
- 2009, Ryan Dahl
- runtime environment to execute the code
- Build applications with IO bound operations
- Apps like
  - \* Chat server
  - \* E commerce apps
  - \*

**\*\*Features of NodeJS :**

- Single threaded
- Events
- Streams
- Asynchronous programming |

# Architecture

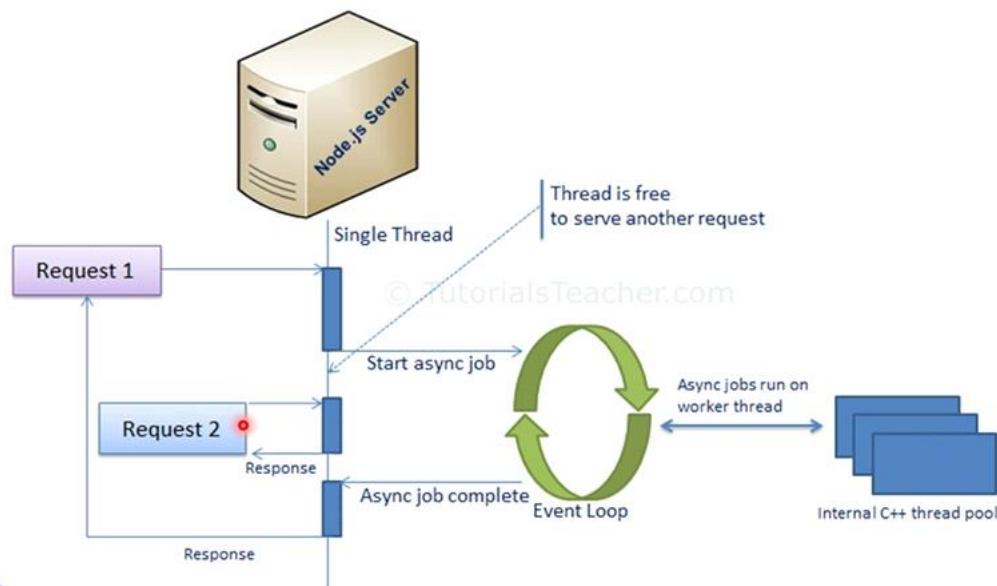
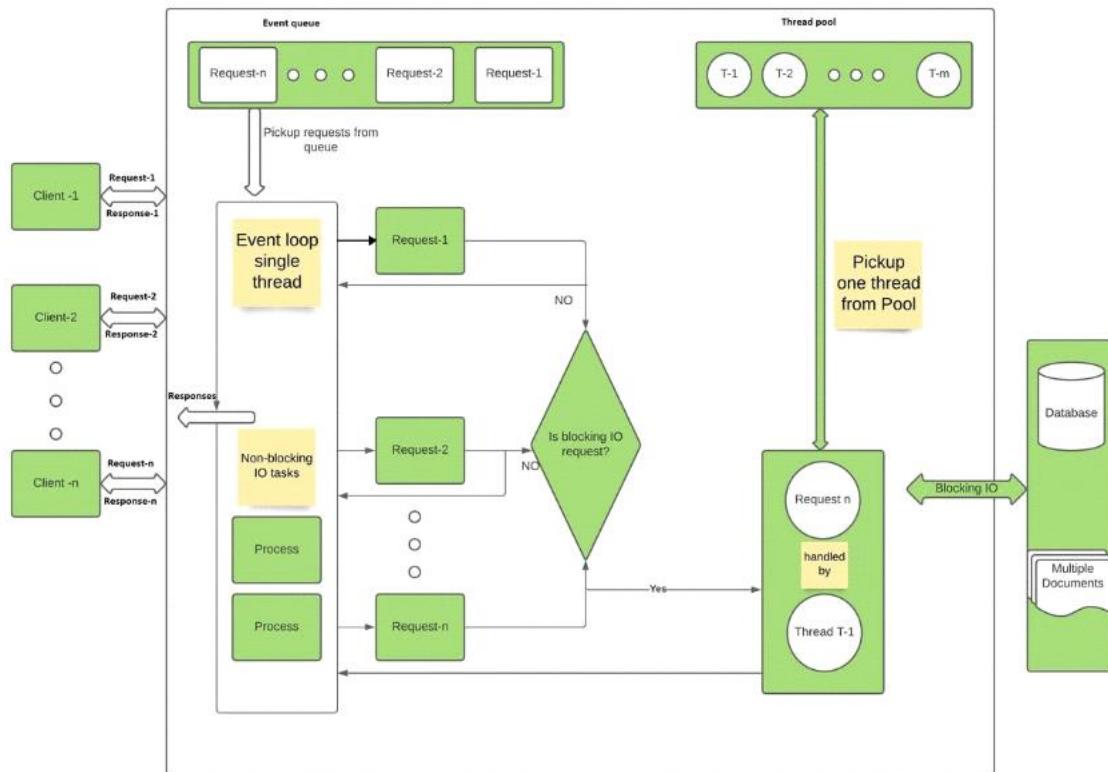
---



# Node JS - Single Threaded

Wednesday, December 7, 2022 10:27 AM

To the client requests, Node JS is single threaded, that is, accepts one request at a time and queues the requests, If the request is blocking then assigns to a thread from thread pool and picks up the next request from queue.



# libuv

---

- libuv is a multi-platform support library with a focus on asynchronous I/O.
- It was primarily developed for use by Node.js
- It's also used by Luvit, Julia, pyuv, and others.
- Enforces asynchronous, event-driven style of programming
- Job is to provide an event loop and callback based notification of I/O and other activities
- Offers core utilities like timers, non-blocking networking support, asynchronous file system access, child processes etc.

```
//using query string parameter
//test the url : http://localhost:3400/courses?limit=4
app.get('/courses',(req,res)=>{
  var course=['node','angular','react','next','nuxt','bootstrap'];
  if(req.query.limit >=0)
    //display the course values from 0 till the value provided
    res.json(course.slice(0,req.query.limit));
  else
    res.json(course);
});

app.listen(3400,()=>{
  console.log("Server is running at 3400");
})
}

```

#### For Mongo DB installation

```
** Mongodb installation :
  - Create two folders under c:/

    C:/data
      - db
      - log
}

async function ProcessWorkdayReportData(record) {
  console.log(`Inside ProcessWorkdayReportData Method, Processing Reference_ID: ${record.Reference_ID}`);

  const uuid = await InsertToBaseTable(record);
  if (uuid) {
    await InsertToQueue(record.Reference_ID, uuid);
  }
}

try {
  console.log(`Event Received >> ${JSON.stringify(event)}`);
  const executionDttm = (new Date()).toISOString();
  console.log(`Execution Started By: ${executionDttm}`);

  const reportData = await GetWorkdayReportData();
  if (reportData) {
    // for (const i in reportData) {
    //   await ProcessWorkdayReportData(reportData[i]);
    // }
    //const result;
    for (let i = 0; i < reportData.length; i += 1) {
      ProcessWorkdayReportData(reportData[i]);
    }

    // const keys = Object.keys(currentValues);
    // const values = Object.values(currentValues);
    // for (let i = 0; i < reportData.length; i += 1) {
    //   await ProcessWorkdayReportData(reportData[i]);
    // }

    // console.log(`Processing One Record${JSON.stringify(reportData[0])}`);
    // await ProcessWorkdayReportData(reportData[0]);
  }
} catch (err) {
  await errServ.ErrorAction(constData.ErrorType.MAINERROR, err, context.functionName, true, true);
}
}
}

```

MongoDB University All Learning Certifications ^

Associate Developer Certification

Associate Database Administrator Certification

# MongoDB Certification Program

Validate your skills and level up your career by earning a MongoDB Certification!

```
router.get('/allProducts',(req,res,next)>{
  MongoClient.connect(connection,(err,client)=>{
    if(err)
      res.send("Error occurred");
    else{
      var mydb=client.db(database);
      mydb.collection('products').find({}).sort({_id:1}).toArray((err,result)=>{
        if(err)
          res.send("Error in fetching the data from database");
        else
          res.send(result);
      })
    }
  })
}
}

```

# Mongo DB

Monday, December 12, 2022 1:53 PM

Mongo DB internally stores data in Binary JSON format (BSON) which is a cousin to JSON. BSON supports date and binary data format and advanced integer types like floating point numbers (with decimals) which lacks in JSON.

	JSON	BSON
<b>Encoding</b>	UTF-8 String	Binary
<b>Data Support</b>	String, Boolean, Number, Array, Object, null	String, Boolean, Number (Integer, Float, Long, Decimal128...), Array, null, Date, BinData
<b>Readability</b>	Human and Machine	Machine Only

# SQL vs No-SQL & Datawarehouse vs DataLake

Monday, December 12, 2022 2:06 PM

**SQL** - Best suited for structured, semi-structured data (JSON/XML)

**NoSQL - Semi Structured** -> Document DB (JSON)/ Redis (key-value pair)/ Mongo (BSON internally)/

Graph data stores (nodes - entities and edges - relation between entities)

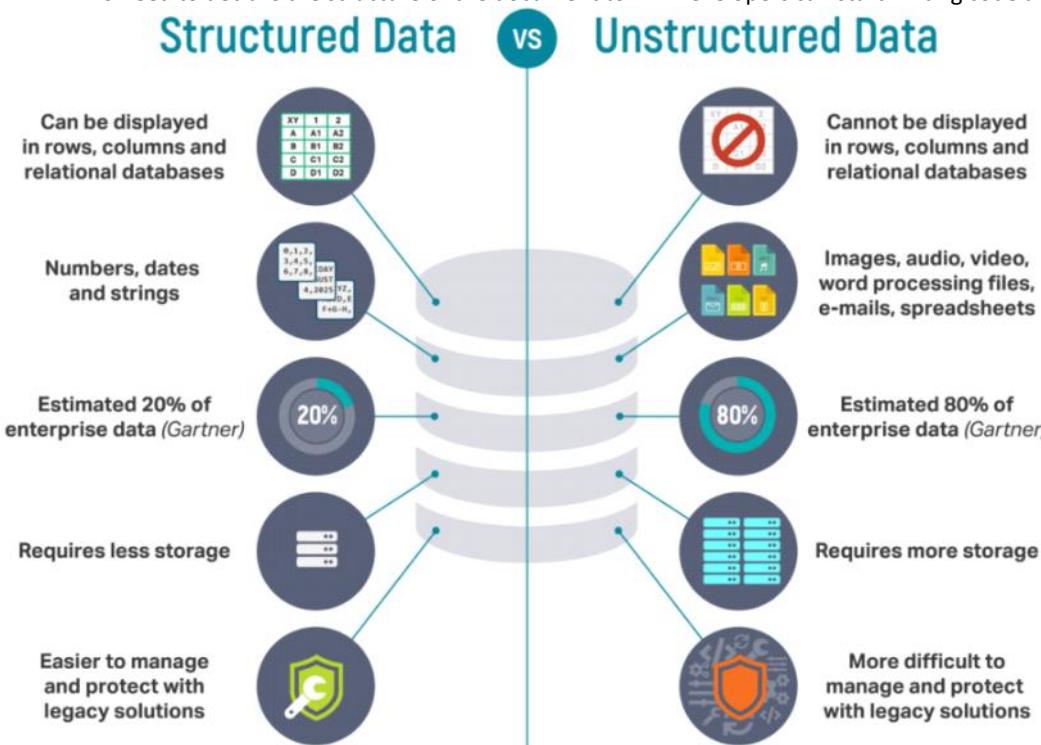
**unstructured data** -> Azure Blob storage (for large binary objects or blobs like files, audio, video, streams, images etc)

**SQL** - Rigid and tabular schema.

Schema should be declared before-hand.

**NoSQL** - dynamic and flexible schema that is, polymorphic. Fields can vary from document to document in the same collection.

No need to declare the structure of the document to DB. Developers can start writing code and persist data as they require.



Structured data generally consumes less storage space than unstructured data.

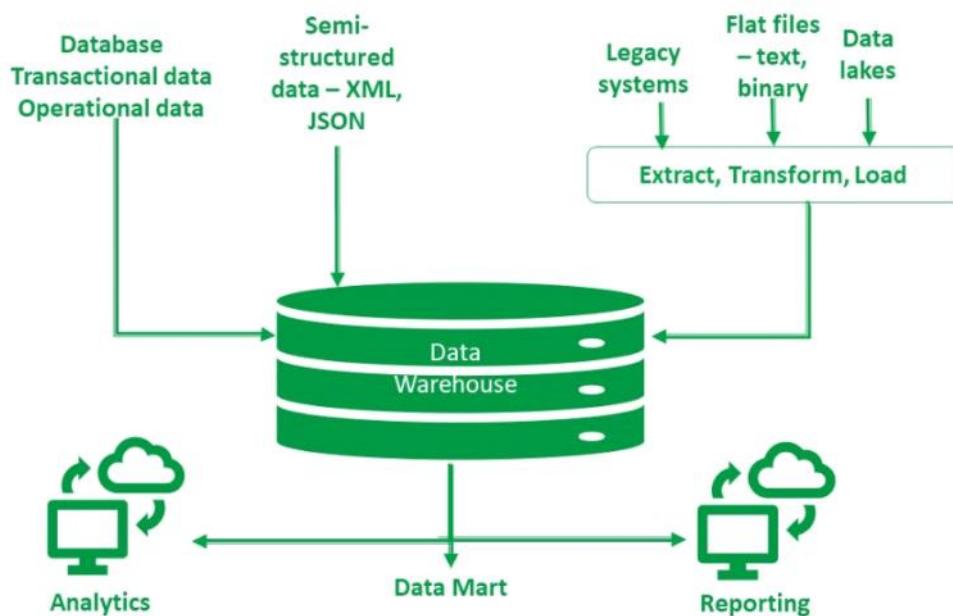
Unstructured data - more insight - <https://www.mongodb.com/unstructured-data/storage>

## Data warehouse -

A **data warehouse** is a repository created for analytics and reporting purposes. It usually works on a structured storage (predefined and fixed relational schema) (**schema-on-write**), unlike data lakes. Data warehouses primarily **store past and current** structured or semi-structured data, which is internal to the organization and available in standard format. **Unstructured data** (like that from the internet) should be processed and formatted with an **ETL step before being ingested into a data warehouse**. This makes the data consistent and of high quality—and, therefore, ready for analysis. You can say that a **data warehouse is an analytical database used for business intelligence**. The schema-based format makes data analysis easier.

The goal of using a data warehouse is to combine disparate data sources in order to analyze the data, look for insights, and create business intelligence (BI) in the form of reports and dashboards.

Once the data is in the warehouse, business analysts can connect data warehouses with [BI tools](#) like Power BI.



## Data warehouse example:

- Amazon Redshift.
- Google BigQuery.
- IBM Db2 Warehouse.
- Microsoft Azure Synapse.
- Oracle Autonomous Data Warehouse.
- Snowflake.
- Teradata Vantage.

From <<https://www.mongodb.com/databases/data-lake-vs-data-warehouse-vs-database#what-is-a-data-warehouse>>

## DataLake

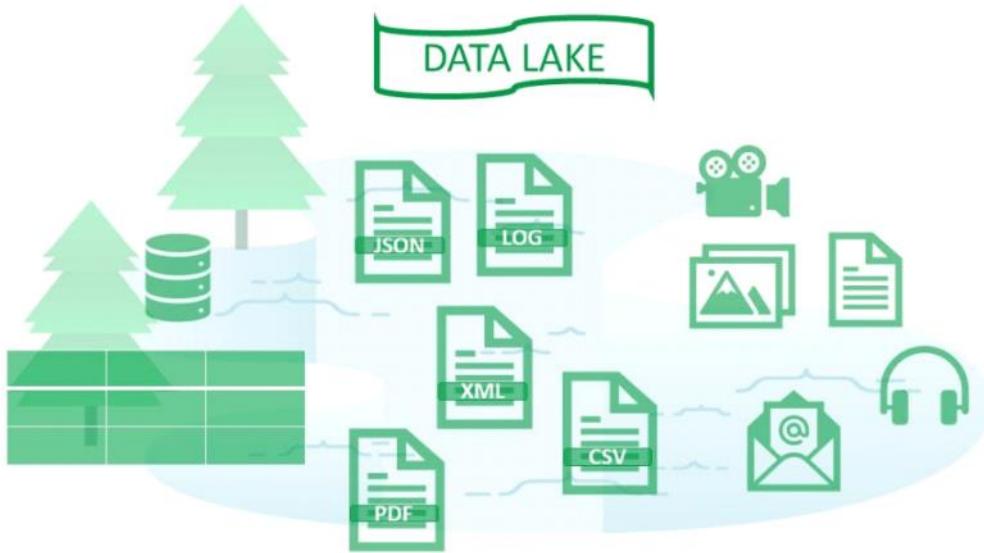
A data lake is a repository of data from disparate sources that is stored in its original, raw format (native format). Like data warehouses, data lakes store large amounts of current and historical data. Data lakes are vast and store any amount of unstructured, structured, or semi-structured big data. That is, they can contain everything from relational data to JSON documents to PDFs to audio files. They work on the **schema-on-read principle** (i.e., do not have a predefined schema)

**Data sources** can be IoT devices, web applications, streaming data like netflix.

Typically, the primary purpose of a [data lake is to analyze the data to gain insights](#). However, organizations sometimes use data lakes simply for their **cheap storage** with the idea that the **data may be used for analytics in the future**.

Use a data lake when you want to gain insights into your current and historical data in its raw form without having to transform and move it.

Since data lakes are configured on commodity hardware and clusters, they are highly scalable and inexpensive.



## Data lake examples

Data lakes can provide storage and compute capabilities, either independently or together.

The following are examples of technology that provide flexible and scalable storage for building data lakes:

- AWS S3
- Azure Data Lake Storage Gen2
- Google Cloud Storage

Other technologies enable organizing and querying data in data lakes, including:

- [MongoDB Atlas Data Lake](#).
- AWS Athena.
- Presto.
- Starburst.
- Databricks SQL Analytics.

## No-Sql over SQL

### Flexibility -

The data model should be flexible to accommodate new fields and data types with minimum impact on existing schema or data, thus requiring no downtime.

When we want to maintain relationships and deal transactional data and require ACID properties then SQL is best fit.

# Tech Terms

Monday, December 12, 2022 7:04 PM

## 1. Workload isolation in databases

Workload isolation means **resources are reserved, exclusively, for a workload group.**

Example, setting up replica nodes in specific service region to optimize local reads and setting up separate nodes to run analytics query so that they won't interfere with operational workload.

Invalidation policy..how to repopulate after invalidation?  
What happens when redis goes down?

The screenshot shows a Microsoft Teams meeting interface. The title bar reads "myComp Fortification Sprint 6 DSM". The video player displays a YouTube video titled "Using Hash Tags in a Redis Cluster" by "HEAD IN THE CORNER". The video thumbnail features a man with a beard. Below the video, there is a "Watch on YouTube" button. The Teams interface includes a navigation bar with links like "Products", "Solutions", "Developers", "Resources", and "Company". On the right side, there is a sidebar with user profiles for "Rajendran, Hari...", "Noval, Mo...", and "Charles Lobo, Iv...". The bottom of the screen shows the Windows taskbar with various pinned icons and system status indicators.

# Messaging option in Azure

Wednesday, February 1, 2023 12:58 PM

## Comparing Messaging Options in Azure

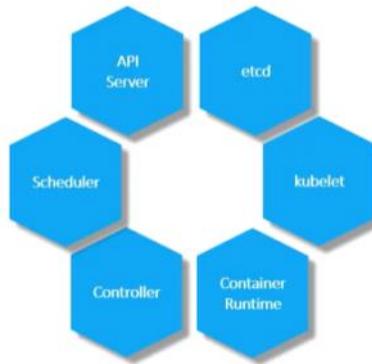
	SB Queues	SB Topics	Event Grid	Event Hubs	IoT Hub	N-Hubs	Logic Apps / Functions	SignalR / Web PubSub
Send a message to make something happen	●	●			●		●	●
Subscribe to and publish discrete events			●			●		●
Analyze contextual data in bulk				●				
Send a message to one subscriber	●							
Send a message to multiple subscribers		●	●	●	●	●	●	●
Orchestrate a message-driven workflow					●		●	
Receive and send messages to IoT devices					●			
Send notifications to many devices over different protocols						●		

# Kubernetes

Saturday, March 18, 2023 1:04 PM

## KUBERNETES ARCHITECTURE

### Components

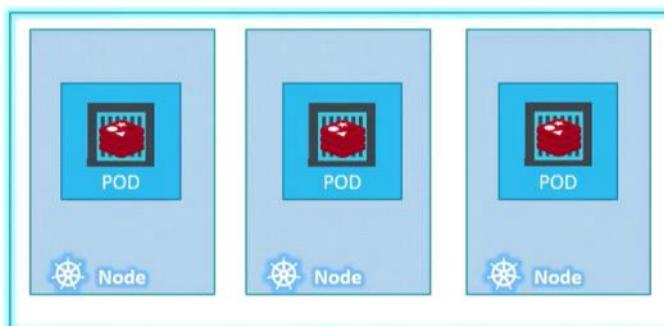


### Master vs Worker Nodes



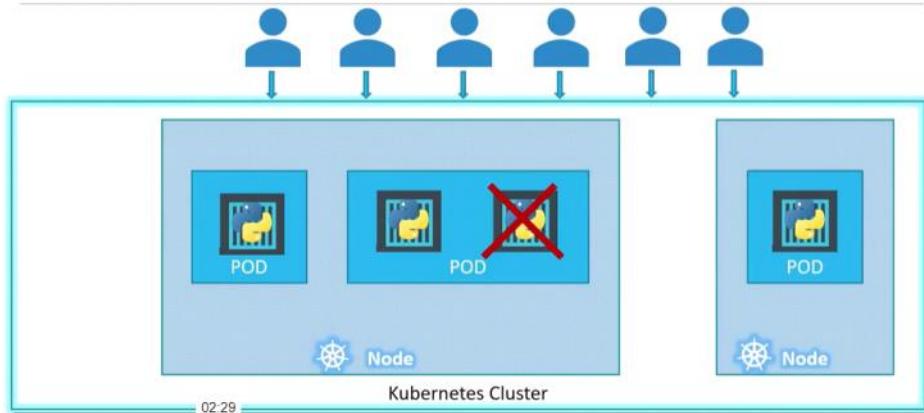
Kubectl is the command line tool to interact with APIs on Kube - API Server in the master node.

### POD



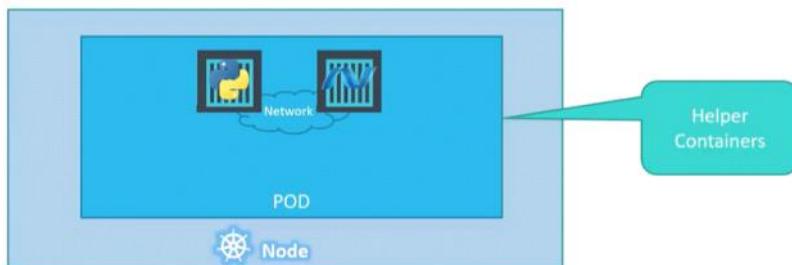
POD is a wrapper of the container instance. It is a single instance of the application. Other words, it is the smallest object we create in Kubernetes.

## POD



Pods have one to one mapping with containers running our application.

## Multi-Container PODs



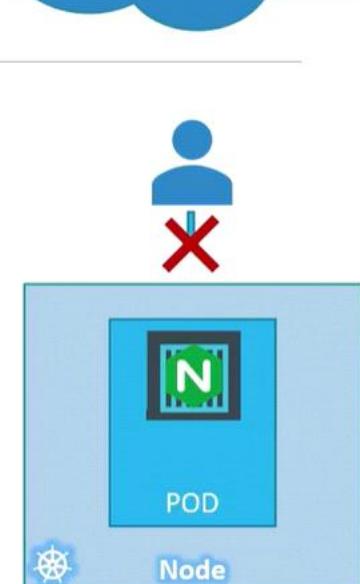
## kubectl

```
kubectl run nginx --image nginx
```

```
kubectl get pods
```

```
C:\Kubernetes>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
nginx-8586cf59-whssr  0/1     ContainerCreating   0          3s
```

```
C:\Kubernetes>kubectl get pods
NAME          READY   STATUS    RESTARTS   AGE
nginx-8586cf59-whssr  1/1     Running   0          8s
```



## Create an NGINX Pod

```
kubectl run nginx --image=nginx
```

As of version 1.18, kubectl run (without any arguments such as --generator ) will create a pod instead of a deployment.

To create a deployment using imperative command, use **kubectl create**:

```
kubectl create deployment nginx --image=nginx
```

From <<https://kodekloud.com/topic/a-note-about-creating-pods-4/>>

# YAML

Saturday, March 18, 2023 2:14 PM

### DICTIONARY vs LIST vs LIST OF DICTIONARIES

The screenshot illustrates the difference between three data structures:

- Dictionary/Map:** A single key-value pair where the key is "Banana" and the value is a map of nutritional information.
- Array/List:** A list of items, each represented by a small icon and a list of properties (e.g., "Orange: Fat: 0.4 g").
- List Of Dictionaries:** A list of multiple dictionaries, each representing a car with its color, model, name, transmission, price, and year.

Four important properties in a object/resource definition file

```
pod-definition.yml
apiVersion: v1
kind: Pod
metadata:
  name: myapp-pod
  labels:
    app: myapp
    type: front-end
spec:
  containers:
    - name: nginx-container
      image: nginx
```

Kind	Version
POD	v1
Service	v1
ReplicaSet	apps/v1
Deployment	apps/v1

```
kubectl create -f pod-definition.yml
```

### YAML - NOTES

The terminal shows the following notes and examples:

- Dictionary/Map:** Shows a mapping from "Banana" to its nutritional values.
- Dictionary – Unordered List – Ordered:** Compares an unordered list of dictionaries with an ordered list of dictionaries.
- Array/List:** Shows a list of fruits with their properties.
- # List of Fruits:** Shows a list of fruits preceded by a hash comment.
- Hash # – Comments:** Shows a hash symbol followed by a comment.

## Replica Controller | ReplicaSets

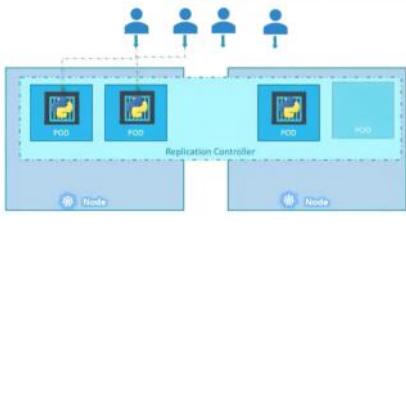
Sunday, March 19, 2023 10:30 PM

Replica controller is responsible for maintaining the no. of pods that need to always run and load balancing b/w multiple pods, thus ensuring HA.

### High Availability



### Load Balancing & Scaling



Replica Set replaces Replication Controllers to handle replication and serves same purpose

```
rc-definition.yml
apiVersion: v1
kind: ReplicationController
metadata:
  name: myapp-rc
  labels:
    app: myapp
    type: front-end
spec:
  template:
    metadata:
      name: myapp-pod
      labels:
        app: myapp
        type: front-end
    spec:
      containers:
        - name: nginx-container
          image: nginx
  replicas: 3

pod-definition.yml
apiVersion: v1
kind: Pod
```

```
> kubectl create -f rc-definition.yml
replicationcontroller "myapp-rc" created
> kubectl get replicationcontroller
NAME      DESIRED   CURRENT   READY   AGE
myapp-rc   3         3         3       19s
> kubectl get pods
NAME            READY   STATUS    RESTARTS   AGE
myapp-rc-41v9k  2/2     Running   0          20s
myapp-rc-wc2ef  2/2     Running   0          20s
myapp-rc-pdpzj  1/1     Running   0          20s
```

### Labels and Selectors



Scale up after the initial creation

### Scale

```
> kubectl replace -f replicaset-definition.yml
> kubectl scale --replicas=6 -f replicaset-definition.yml
> kubectl scale --replicas=6 replicaset myapp-replicaset
```

```
replicaset-definition.yml
apiVersion: apps/v1
kind: ReplicaSet
metadata:
  name: myapp-replicaset
  labels:
    app: myapp
    type: front-end
spec:
  template:
    metadata:
      name: myapp-pod
      labels:
        app: myapp
        type: front-end
    spec:
      containers:
        - name: nginx-container
          image: nginx
  replicas: 6
  selector:
    matchLabels:
      type: front-end
```

### commands

```
> kubectl create -f replicaset-definition.yml
> kubectl get replicaset
> kubectl delete replicaset myapp-replicaset
*Also deletes all underlying PODs
> kubectl replace -f replicaset-definition.yml
> kubectl scale --replicas=6 -f replicaset-definition.yml
```

# Deployment

Monday, March 20, 2023 7:45 PM



## Definition

```
> kubectl create -f deployment-definition.yml  
deployment "myapp-deployment" created
```

```
> kubectl get deployments
```

NAME	DESIRED	CURRENT	UP-TO-DATE	AVAILABLE	AGE
myapp-deployment	3	3	3	3	21s

```
> kubectl get replicaset
```

NAME	DESIRED	CURRENT	READY	AGE
myapp-deployment-6795844b58	3	3	3	2m

```
> kubectl get pods
```

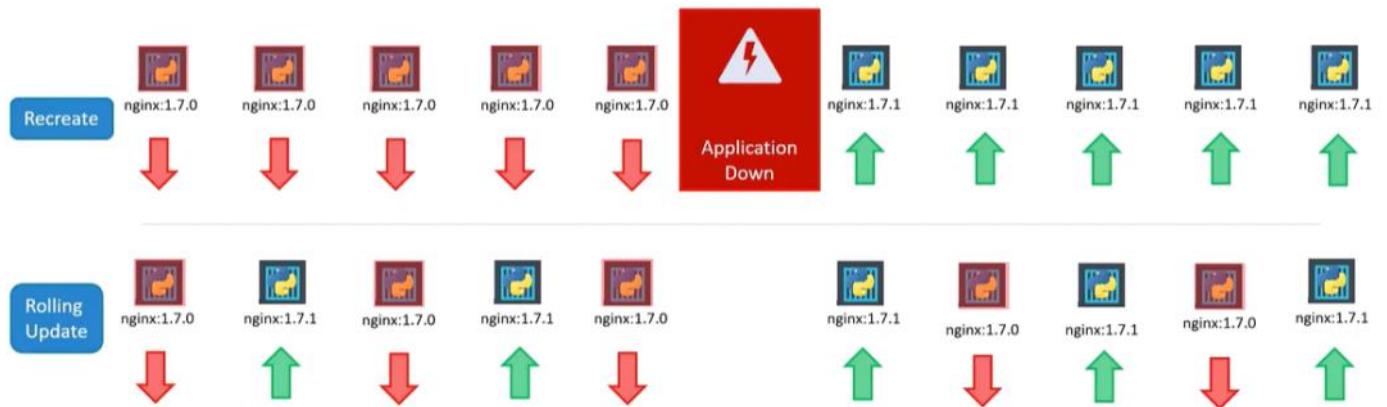
NAME	READY	STATUS	RESTARTS	AGE
myapp-deployment-6795844b58-5rbjl	1/1	Running	0	2m
myapp-deployment-6795844b58-h4w55	1/1	Running	0	2m
myapp-deployment-6795844b58-1fjhv	1/1	Running	0	2m

```
deployment-definition.yml
```

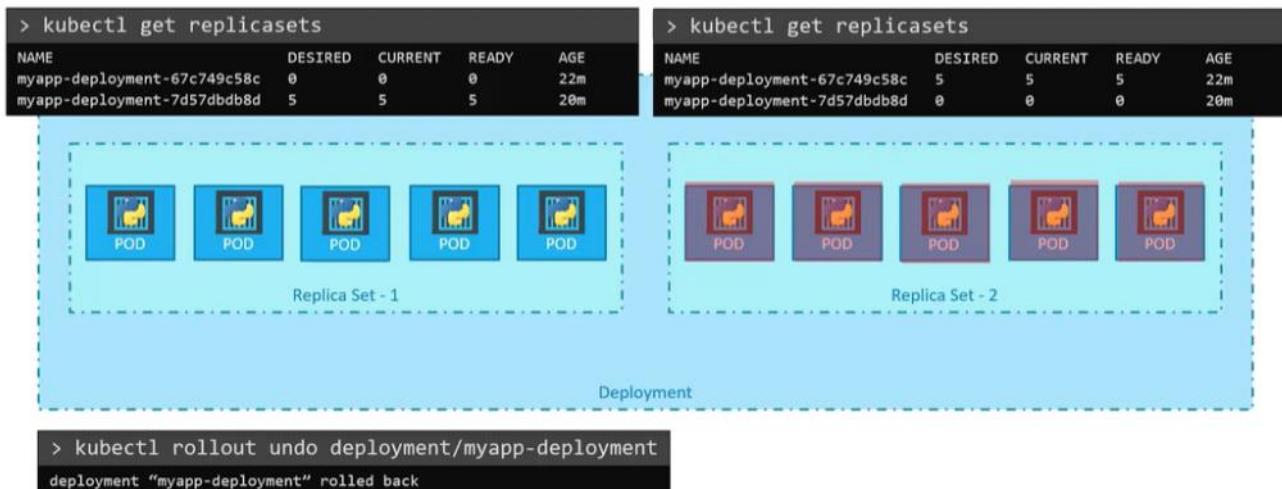
```
apiVersion: apps/v1  
kind: Deployment  
metadata:  
  name: myapp-deployment  
  labels:  
    app: myapp  
    type: front-end  
spec:  
  template:  
    metadata:  
      name: myapp-pod  
      labels:  
        app: myapp  
        type: front-end  
    spec:  
      containers:  
      - name: nginx-container  
        image: nginx  
  replicas: 3  
  selector:  
    matchLabels:  
      type: front-end
```

2 types of deployments in Kubernetes 1. Recreate (caused app downtime) 2. Rolling Update (no app downtime and default deployment strategy)

# Deployment Strategy



## Rollback

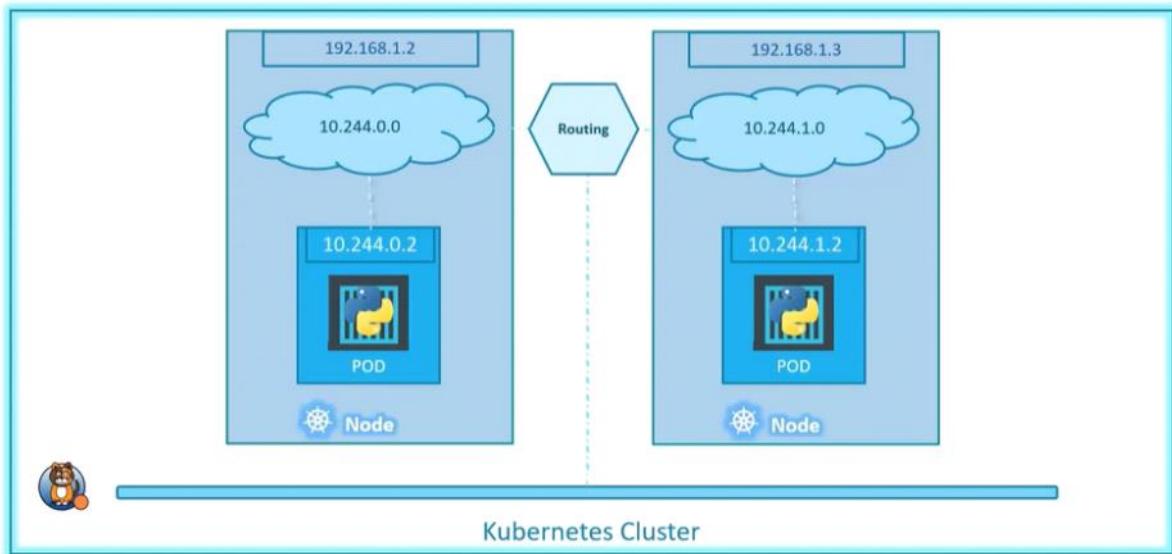


## Summarize Commands

Create	<code>&gt; kubectl create -f deployment-definition.yml</code>
Get	<code>&gt; kubectl get deployments</code>
Update	<code>&gt; kubectl apply -f deployment-definition.yml</code> <code>&gt; kubectl set image deployment/myapp-deployment nginx=nginx:1.9.1</code>
Status	<code>&gt; kubectl rollout status deployment/myapp-deployment</code> <code>&gt; kubectl rollout history deployment/myapp-deployment</code>
Rollback	<code>&gt; kubectl rollout undo deployment/myapp-deployment</code>

With Kubernetes Network Providers like CISCO, VMWare etch will take care of assigning unique n/w address to clusters and communication via routing b/w the clusters.

# Cluster Networking



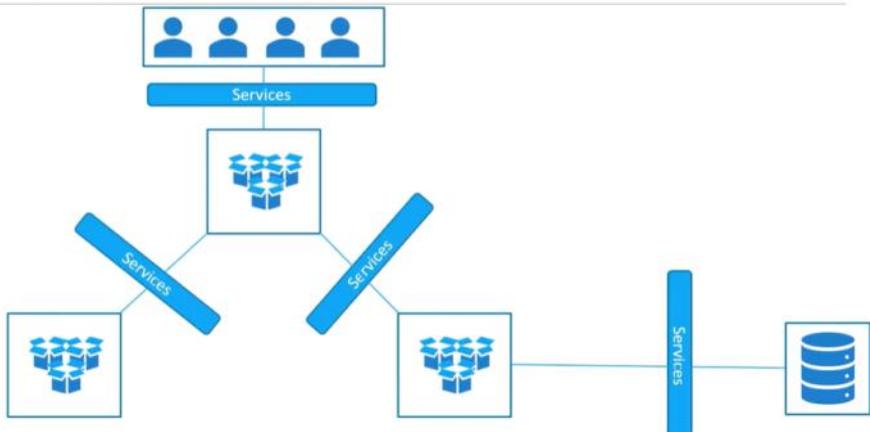
Se

# Services

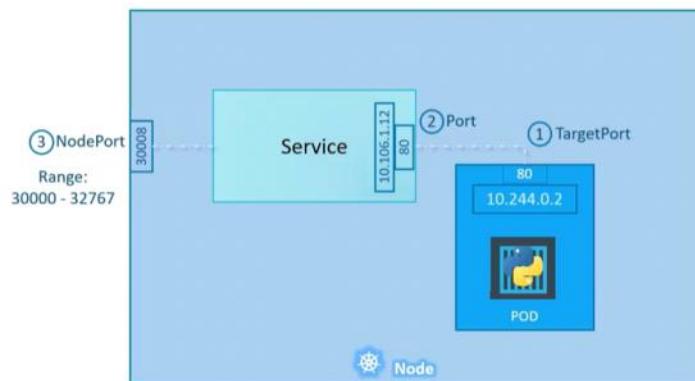
Tuesday, March 21, 2023 4:09 PM

Enables communication within and outside of applications.

## Services



## Service - NodePort



```
service-definition.yml
apiVersion: v1
kind: Service
metadata:
  name: myapp-service
spec:
  type: NodePort
  ports:
    - targetPort: 80
      port: 80
      nodePort: 30008
```

Linking service with the target POD with **Selectors**

# Service - NodePort

---

```
service-definition.yml
apiVersion: v1
kind: Service
metadata:
  name: myapp-service
spec:
  type: NodePort
  ports:
    - targetPort: 80
      port: 80
      nodePort: 30008
  selector:
    app: myapp
    type: front-end
```

```
pod-definition.yml
apiVersion: v1
kind: Pod
metadata:
  name: myapp-pod
  labels:
spec:
  containers:
    - name: nginx-container
      image: nginx
```

... etc

# Linking containers in Docker

Tuesday, March 28, 2023 8:05 PM

docker run --links

```
docker run -d --name=redis redis
docker run -d --name=db postgres:9.4
docker run -d --name=vote -p 5000:80 --link redis:redis voting-app
docker run -d --name=result -p 5001:80 --link db:db result-app
docker run -d --name=worker --link db:db --link redis:redis worker
try {
    Jedis redis = connectToRedis("redis");
    Connection dbConn = connectToDB("db");
    System.out.println("Watching vo
    and the other link
    to link Postgres database.
```

The diagram illustrates the Docker linking mechanism. It shows four containers: 'voting-app' (blue box with a yellow elephant icon), 'result-app' (green box with a blue dollar sign icon), 'in-memory DB' (yellow box with a red database icon), and 'db' (blue box with a white elephant icon). Arrows indicate the links: a dashed arrow from 'voting-app' to 'in-memory DB', another dashed arrow from 'voting-app' to 'db', and a solid arrow from 'result-app' to 'db'. A callout box contains Java code demonstrating how the 'worker' container connects to both 'redis' and 'db' via their aliases ('redis' and 'db') defined in the links.

07:06

# Microsoft Links

Tuesday, March 28, 2023 2:56 PM

Application Objects vs Service Principal Objects -

<https://learn.microsoft.com/en-us/azure/active-directory/develop/app-objects-and-service-principals>

Application insights mapped to app log analytics workspace

Password less authentication for SQL

Delegated permissions for external access

Application Logs to Datadog, centralized

Keyvault enforcement on BAU

Prepare Code checklist

# JS Advanced Topics

Thursday, March 30, 2023 6:15 PM

FUNDAMENTALS

## JavaScript

- Primitives
- Scopes & Hoisting
- Closures
- Execution context
- Variables (var, let, const)
- Operators
- Type Conversions
- Arrays + methods
- Objects + methods
- Functions + Arrow functions
- Try Catch & Error handling
- Strict mode
- Timeout & Interval
- Classes

# Azure Bicep

Friday, April 7, 2023 11:19 AM

## Comparison between Azure Bicep, Terraform & ARM Templates

**Disclaimer :**  
Not trying to suggest which tool is better or worse here. Each one brings its own value. Just trying to show a comparison for relativity.

Azure Bicep	Terraform	ARM Templates
<ul style="list-style-type: none"><li>Language:</li><li>Abstraction:</li><li>Cross-Platform Support:</li><li>Readability and Maintainability:</li><li>Tooling:</li></ul>	<ul style="list-style-type: none"><li>Bicep is a new Domain-specific language DSL by MS.</li><li>Because of Modules, Bicep provides a higher level of abstraction compared to ARM templates.</li><li>Bicep only supports Azure.</li><li>Bicep has a simpler syntax and offers features like variables, loops, and conditionals making it easy to manage and maintain.</li><li>Bicep has native support in Azure Portal and VS Code.</li></ul>	<ul style="list-style-type: none"><li>Terraform uses Hashicorp Conf language HCL.</li><li>Likewise to Bicep</li><li>Terraform is a cross-platform tool and supports Azure, AWS, GCP etc.</li><li>Likewise to Bicep.</li><li>Terraform has its own CLI and IDE plugins for various code editors.</li></ul>
<ul style="list-style-type: none"><li>Language:</li><li>Abstraction:</li><li>Cross-Platform Support:</li><li>Readability and Maintainability:</li><li>Tooling:</li></ul>	<ul style="list-style-type: none"><li>ARM templates use JSON or YAML.</li><li>ARM templates do not have modules, and the JSON structure can be complex and hard to read.</li><li>ARM templates are specific to Azure.</li><li>ARM templates can be harder to read and maintain due to their JSON structure.</li><li>Likewise to Bicep.</li></ul>	

Kumar V, Sandeep

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Meeting now

Pop out People Raise React View More Camera Mic Share Leave

Participants: Kumar V, Sandeep, Ganesan, S., Sadhu, Avik, Jyoti Mohan, Sen, Nilank...

AS

99+

## Code Visualization

The diagram illustrates a complex network of Azure resources and collections. It shows numerous interconnected nodes representing different types of resources such as storage accounts, databases, and key vaults, all connected through various collection points. The connections are represented by lines, indicating dependencies or relationships between the components.

Kumar V, Sandeep

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Participants: Kumar V, Sandeep, Kallakuri, Umak..., Sadhu, Avik, Jyoti Mohan, Radhakrish..., Participants

UK AS 99+

Participants

Type a name

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In this meeting (811)

Mute all

Yuvraj, Thilagavathy  
Adoni, Sriram Kumar Yadav  
Agarwal, Alok  
Aggarwal, Shuchi  
AGNES JERIN B, DERICK  
Aravind Achari, Kammani  
Balaraju Nelli... (g)  
External  
Behera, Diptimayee A.

# Important URLs

Tuesday, April 11, 2023 3:19 PM

## Enable multiple authentication schemes at Gateway API

<https://medium.com/@lucas.rafael.araujo/net-5-api-with-ocelot-multiple-auth-schemes-iwt-7e9cb8f61ca8>

Protection/ Zero trust implementation with Microsoft Identity Framework - [Calling an API from another API | Microsoft Learn](#)

Microservices DDD - team topology (book) <https://teamtopologies.com/>  
BoundedContext - <https://martinfowler.com/bliki/BoundedContext.html>

Domain-Driven Design Boot Camp - O'Reilly Live Events ([oreilly.com](https://oreilly.com))  
<https://www.linkedin.com/in/sandeepsiagtap/>  
<https://leanpub.com/domaindrivendesignandmicroservicesexplained>

Interesting video on Event Storming from the author, Alberto :

[https://www.youtube.com/watch?v=fGm62ra\\_mQ8](https://www.youtube.com/watch?v=fGm62ra_mQ8)  
<https://github.com/ddd-workshop-org/ddd-modular-monolith-customer-account>

Axonframework

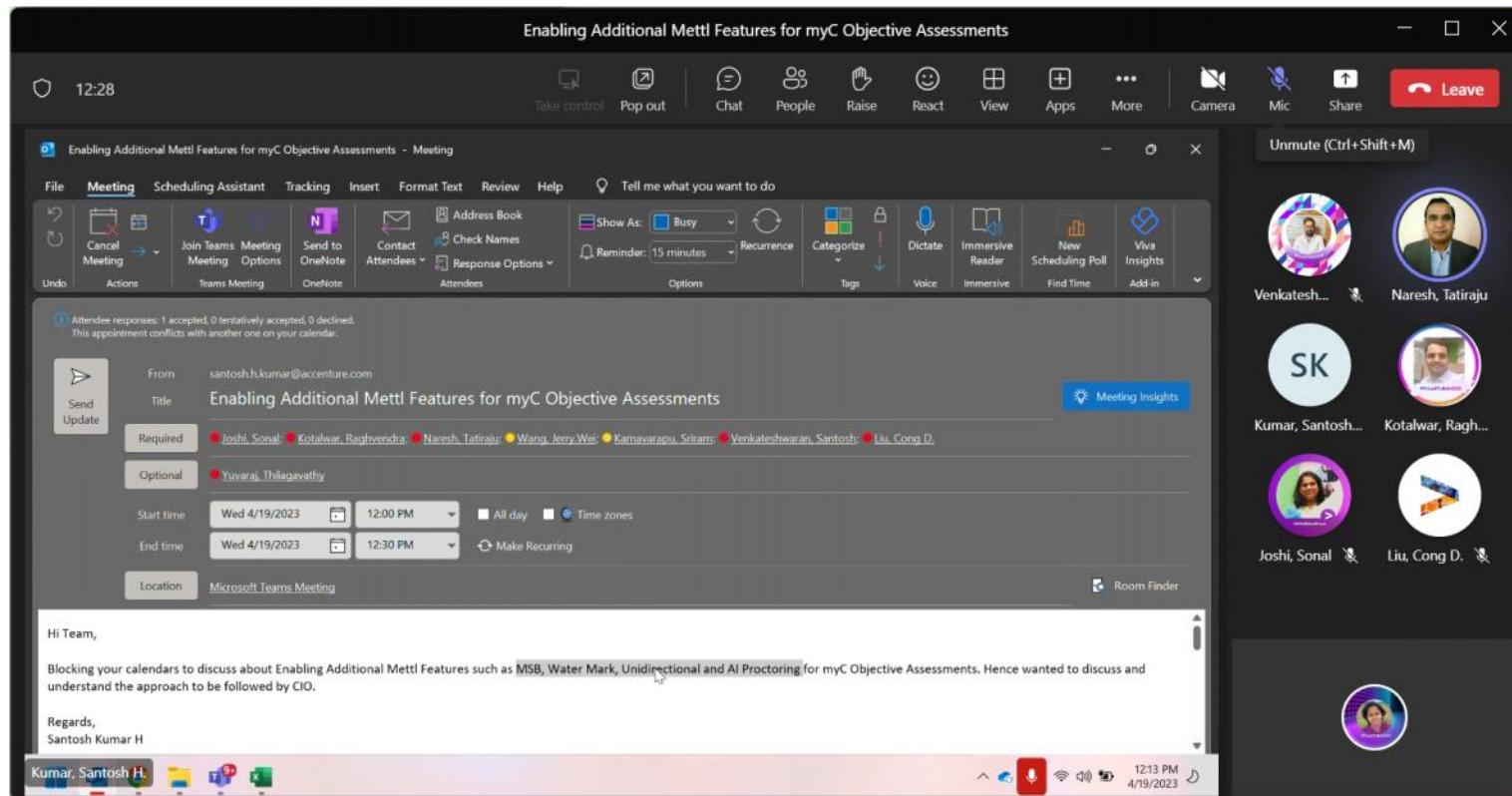
Akka Persistence

Life Beyond Distributed Transactions

Pat Helland

Messages -> read as domain event

Entity -> Read as DDD Aggregate



K R, Abishek, Rajendran, Harikrishna

42:07

Take control Pop out Chat People Raise React View Apps More Camera Mic Share Leave

AR K R, Abishek

Meeting chat

Add mycomp gateway permission to pilot URL

Last read

5:34 PM [17:25] Ananda Bamane, Akash

Actually ESO shim triggers after every 4 hours so once you integrate your app with eso shim we have to wait to trigger ESO shim

[17:26] Ananda Bamane, Akash

after that your application will work fine

Type a new message

12 Ted Lasso Leadership Lessons:

1. Believe in yourself
2. Doing the right thing is never the wrong thing
3. All people are different people
4. See good in others
5. Courage is about being willing to try
6. Vulnerability is a strength not a weakness
7. Tell the truth
8. Winning is an attitude
9. Optimists do more
10. Stay teachable
11. Be a Goldfish - If you do something wrong do not let it define you. Forget it - like a goldfish - within 10 seconds.
12. Happiness is a choice

# SERIALIZABLE ISOLATION in SQL SERVER

Friday, May 12, 2023 8:09 PM

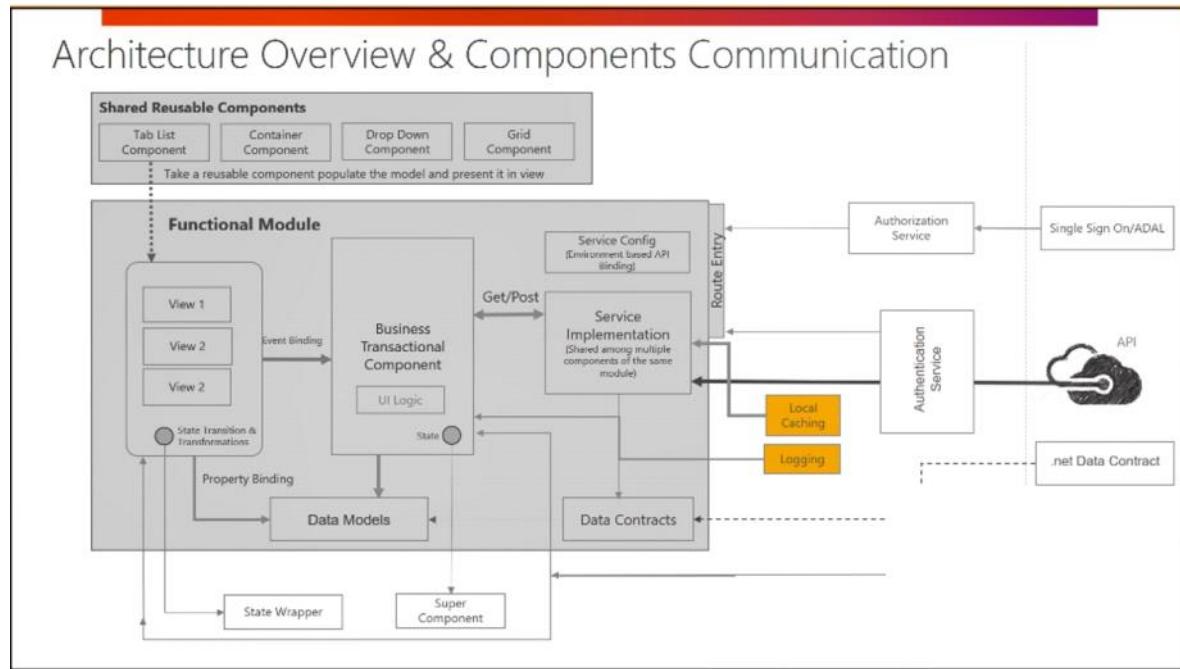
SERIALIZABLE is the highest isolation level in SQL Server.

It does 3 things:

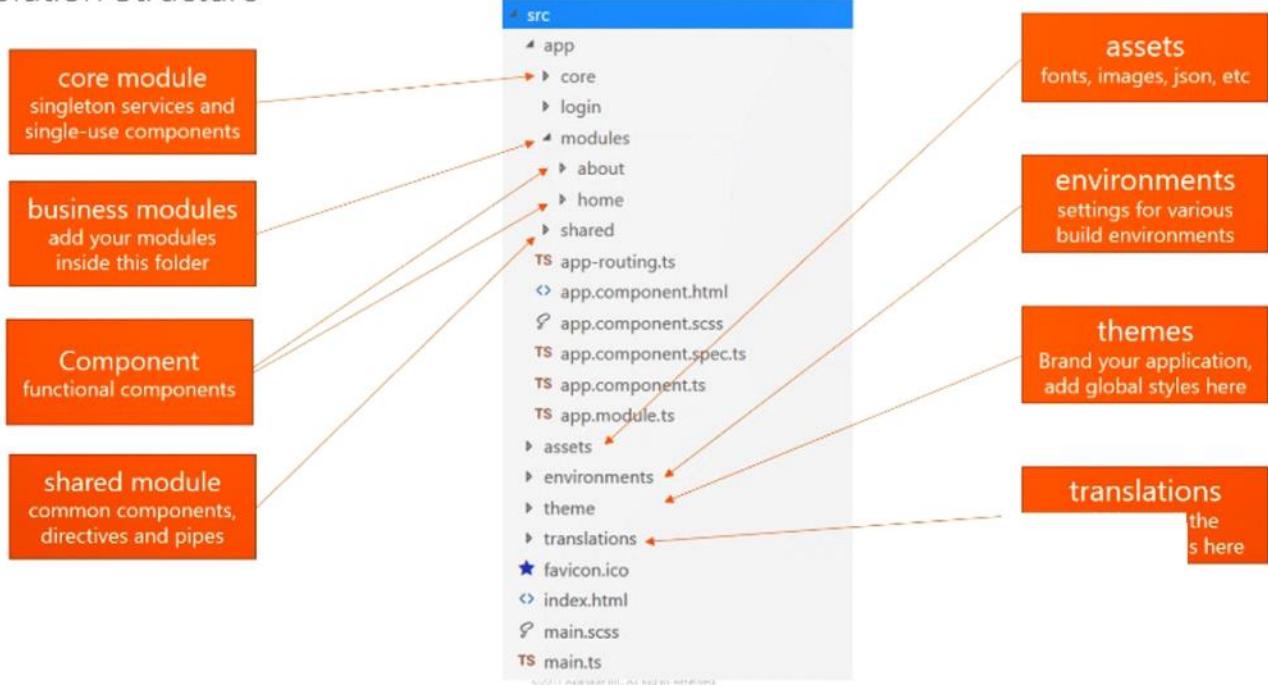
- Statements cannot read data that has been modified but not yet committed by other transactions (the same way READ COMMITTED does).
- No other transactions can modify data that has been read by the current transaction until the current transaction completes (the same way REPEATABLE READ does).
- If the current transaction has queried data that would fall in the range of keys of an INSERT statement of another session, the INSERT statement will be on hold until the SERIALIZABLE transaction completes.

# Contextual - Angular UI Approach

Thursday, October 1, 2020 7:32 PM



## Solution Structure



# Microsoft Bot Training

Tuesday, March 5, 2019 11:57 AM

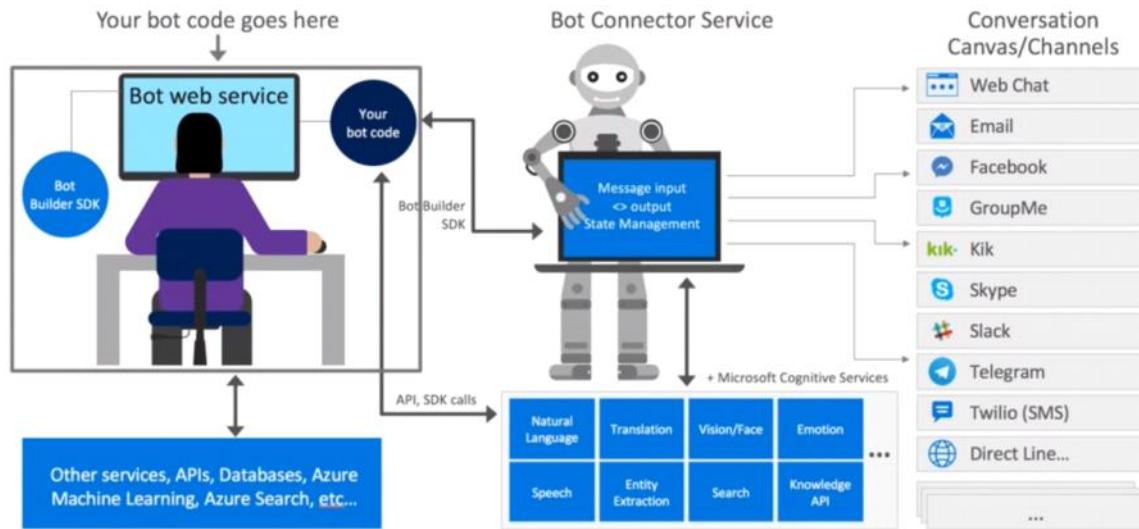
C:\Users\thilagavathy.yuvaraj\Source\Repos\MyFirstBotApplication\MyFirstBotApplication

My first app created via Visual Studio

<https://myfirstbotapplication1.azurewebsites.net/>



## Bird's Eye View



This diagram is taken from dev.botframework.com documentation



Microsoft Virtual Academy

41:51 / 42:33

0 1 2 3 40 %

## Resources

- Documentation: <https://docs.microsoft.com/en-us/bot-framework/>
- Code Samples: <https://github.com/Microsoft/BotBuilder-Samples>
- Bot Project Template for Visual Studio: <http://aka.ms/bf-bc-vstemplate>
- Bot Builder SDK: <https://www.nuget.org/packages/Microsoft.Bot.Builder/>
- Bot Emulator: <http://emulator.botframework.com/>



# Rubin Chacko George tech Mail

Thursday, July 25, 2019 1:18 PM

Hi All,

Please find the details of the discussion on the autocomplete feature held today:

## Autocompletion/Suggestions before users submit their query. (FED & Middleware MVC)

The autocomplete/Suggestions feature implemented by Dipa displays 5 suggestions to the user when the user is in text area and still typing. Out of the 5 suggestions the top suggestion would be that of most recent query that the user had posted earlier. The remaining 4 suggestions will be the top trending questions inferred from the text typed by the User and fetched via azure search. The two MVC components used by Dipa for the autocomplete module are :

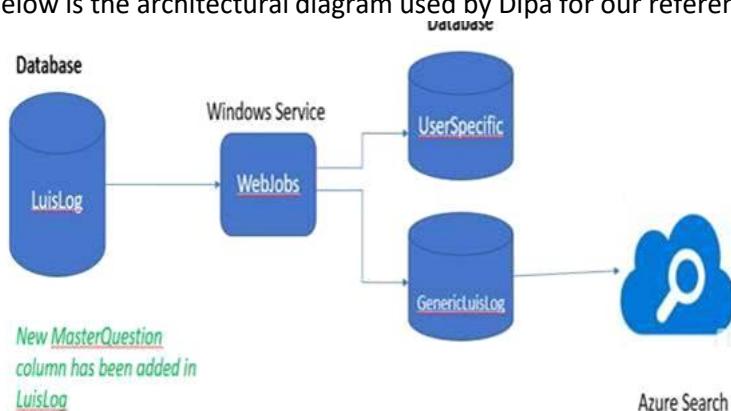
1.) **Query History of User:** The user's query history for the last 24 hours is fetched by the Controller from the database and returned to UI to be cached in the browser. All new queries posted by the user is further added to the browser storage for faster retrieval and no further call is made to the controller.

2.) **Top Trending queries search:** The controller fetches the top trending queries from the azure search for whatever input value is present in the input text area. The same is appended with the most recent query of the user and the final top 5 unique results are displayed to the user.

The following azure services will be required for the autocomplete module

- 1.) An Azure Search which will connect to a trending queries table and return the top trending queries for a given input.
- 2.) A Web Job which would read the information present in our conversation logs, analyze this information and extract the top trending queries. The same would be written to the trending queries table at periodic intervals.

Ajay from the Dipa team has shared the snippets to be used by the FED and MVC workstreams for our reference. Please note that there is no code required in the Bot Service for this feature. Also The autocomplete feature has not yet been released to prod for Dipa and is still in its testing phase.  
Below is the architectural diagram used by Dipa for our reference.



[@M G, Jyothi](#) / [@Kumar, Ajay](#) Please feel free to add on or correct any discrepancies.

[@Yadav, Varsha D.](#) Requesting you to kindly elaborate on the FED part of this module.

Regards,  
Rubin

**From:** George Chacko, Rubin  
**Sent:** Monday, May 6, 2019 6:18 PM  
**To:** M G, Jyothi <[jyothi.m.g@accenture.com](mailto:jyothi.m.g@accenture.com)>; Jacob, Sarina <[sarina.jacob@accenture.com](mailto:sarina.jacob@accenture.com)>; Yadav, Varsha D. <[varsha.d.yadav@accenture.com](mailto:varsha.d.yadav@accenture.com)>; Anant Bhat, Jayant <[jayant.anant.bhat@accenture.com](mailto:jayant.anant.bhat@accenture.com)>; Yuvaraj, Thilagavathy <[thilagavathy.yuvaraj@accenture.com](mailto:thilagavathy.yuvaraj@accenture.com)>  
**Cc:** Singh Sethi, Gurbir <[gurbir.singh.sethi@accenture.com](mailto:gurbir.singh.sethi@accenture.com)>; Sakthivel, Poongodi <[poongodi.sakthivel@accenture.com](mailto:poongodi.sakthivel@accenture.com)>  
**Subject:** RE: Sprint Backlog Analysis and architectural guidance for Middleware

Hi All,  
Please find the MOM for the backlog items discussed today for Sprint 5

- 1.) **Guided conversation based on intents with close scores. (eg. Is your question related to compensation or offer letter):-** For guided conversation Dipa has an additional threshold of 60%. Intents of queries returning more than 60% Luis scores are checked for a .5% difference between the next closest intent in order to post a response to the user for clarification. For intents of queries returning less than 60% the top 3 intent's utterances are posted to the user for clarification without any further checks. Dipa also logs the clarification provided by the user to the Database to further improve the scores of luis/qna as part of active learning. Jyothi has also suggested to explore the out of the box active learning provided by LUIS/Qna and see if those could be leveraged. Due to lack of time we would be continuing the discussion on Guided workflow tomorrow.
- 2.) **Autocompletion/Suggestions before users submit their query. (FED/Middleware MVC):** Would be covered in tomorrow's call.
- 3.) **Follow on conversation.(eg. when is my interview? Is it telephonic?):-** For Follow on conversation, Dipa has a *FollowOn* intent in the parent Luis which contains utterances for follow on conversations such as "is it telephonic?". On receiving the *FollowOn* parent intent we will need to fetch the previous child intent from the bot state and route the query to the child Luis of that category. This child Luis should also contain the followon utterances of that category, in this case "is it telephonic?". She has also suggested that while logging follow on conversation to the database we should have the response code set to FollowOn and the LuisCategory set to the category of the Parent Category (i.e *Interview* intent and not the *FollowOn* intent).
- 4.) **Incident creation:-** The Team will require more details on the incident creation workflow as the information we have at present is very minimal. Questions raised by the Team are ,what are the information we need for creating an incident?, what transcripts need to be saved and what data needs to be avoided? Is there a possibility to use Service now to log incidents instead of the abacus database? Dipa is giving an option to send a mail to log incidents via smtp hence should we take this route?  
We would also be need to run the incident creation with GDPR team for compliance.
- 5.) **Uncaptured Logs incase Database services are down or not operational:-**Jyothi has suggested to check DTU utilization of the Conversation Database and other database configuration. She has also recommended to have the Database Load Tested. Dipa is not facing this issue even with 1000+ concurrent users. She has suggested to store the logs in app insights as an additional cross reference. Jyothi has suggested that if this issue is not getting resolved after following these steps then we could get a Microsoft consultant involved.
- 6.) **Response not displayed to the user due to various reasons:-** Jyothi has asked to

articulate the various issues faced by the team in order to be forward to Microsoft for further action.

[@M G, Jyothi](#) please feel free to add on any information or correct any discrepancies if any.

Regards,

Rubin

-----Original Appointment-----

**From:** George Chacko, Rubin

**Sent:** Monday, May 6, 2019 2:15 PM

**To:** M G, Jyothi; Jacob, Sarina; Yadav, Varsha D.; Anant Bhat, Jayant; Yuvaraj, Thilagavathy

**Cc:** Singh Sethi, Gurbir; Sakthivel, Poongodi

**Subject:** Sprint Backlog Analysis and architectural guidance for Middleware

**When:** Monday, May 6, 2019 3:00 PM-4:00 PM (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi.

**Where:** Skype Meeting

Hi All,

The following backlog items are to be discussed as part of post Go Live Enhancements.

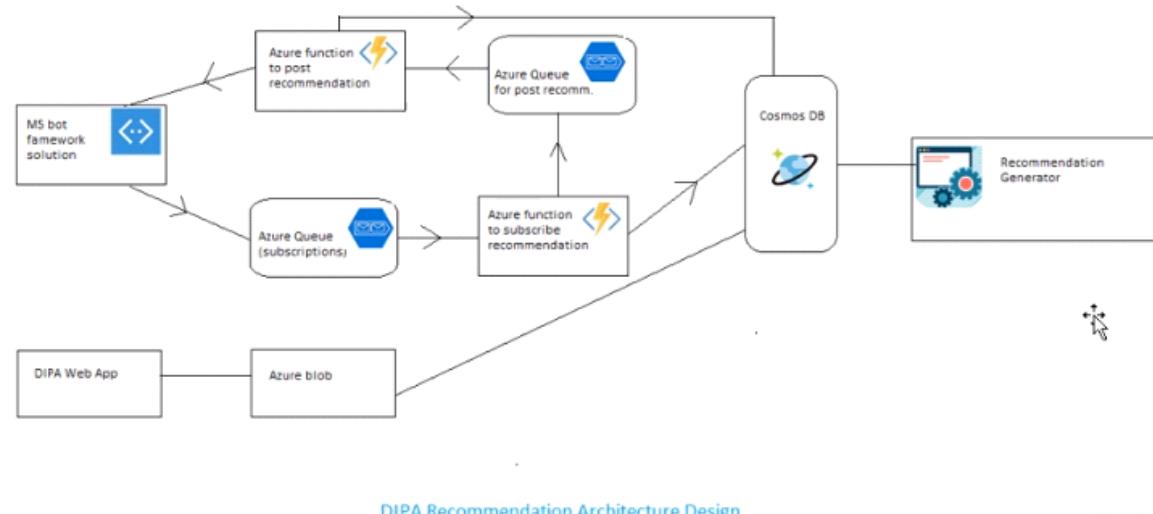
- 1.) Guided conversation based on intents with close scores. (eg. Is your question related to compensation or offer letter)
- 2.) Autocompletion/Suggestions before users submit their query. (FED/Middleware MVC)
- 3.) Follow on conversation.(eg. when is my interview? Is it telephonic?)
- 4.) Incident creation .
- 5.) Uncaptured Logs incase Database services are down or not operational.
- 6.) Response not displayed to the user due to various reasons.

Apart from these the other items which will not require discussion are:

1. Failover messages with placeholder.
2. Actual query should be logged along with the refined query post applying spell check in the database.

# recommendation engine -cosmos db and queue

Tuesday, December 17, 2019 3:00 PM



DIPA Recommendation Architecture Design

	Azure Table Storage	Azure Cosmos DB
Throughput	Up to 20K operations per second	No upper limit, supports >10M operations per second
Redundancy	One optional secondary read-only region	Multiple configurable worldwide regions
Latency	No upper bounds	Single-digit milliseconds
Consistency	Strong and Eventual consistency models	Five defined consistency models
Query	Optimized for query on primary key	Improved query performance because all fields are indexed
Failover	Can't initiate failover	Automatic and manual failovers
Billing	Storage-based	Throughput-based

## STORAGE QUEUE VS AZURE BUS

- Storage queues is the part of [Azure storage](#) infrastructure, feature a simple REST-based GET/PUT/PEEK interface, providing reliable, persistent messaging within and between services.
- An architecture perspective, a Storage Queue receive is usually a Windows service that loops to check if the queue has a new message ready to be processed. Your architecture needs to allow room for a Windows Service.
- you may have a business requirement that messages should be processed in order. With Azure Storage Queue, the order messages are processed are not guaranteed.
- Storage queue can hold 500TB. In situation when you need storage because your receivers can be offline for days, Storage Queue can definitely be a solution.
- Service Bus queues are part of a broader [Azure messaging](#) infrastructure that supports queuing as well as publish/subscribe, and more advanced integration patterns.
- Azure Service Bus does not need a separated Windows service to run. Service Bus receiver has an event pump messaging system wrapped up in a callback or handler that is thread safe.
- [Service Bus you can enable session](#) and truly guarantee a First In First Out order (FIFO)
- Service Bus introduces the notion of topic and subscription. The topic is your sender and subscriptions are the receivers that filter which message to process.
- Service Bus Queue/Topics can only hold a to FY20- Architects R messages

## B2C Code

Tuesday, October 13, 2020 4:36 PM

Storage Accounts

REGION: East US TYPE: Block Blob Storage PERFORMANCE TIER: Standard STORAGE ACCOUNT TYPE: General Purpose V2

REDUNDANCY: LRS ACCESS TIER: Cool

Capacity: 0 GB

Savings Options: Pay as you go (selected), 1 year reserved, 3 year reserved. Average per month (\$0.00 charged upfront) = \$0.00. Average per month (\$0.00 charged upfront) = \$0.00.

Write Operations: 2640 Operations × \$0.100 Per 10,000 operations

Screen clipping taken: 10/27/2020 9:10 AM

Storage Accounts

REGION: East US TYPE: Block Blob Storage PERFORMANCE TIER: Standard STORAGE ACCOUNT TYPE: General Purpose V2

REDUNDANCY: LRS ACCESS TIER: Cool

Capacity: 0 GB

Savings Options: Pay as you go (selected), 1 year reserved, 3 year reserved. Average per month (\$0.00 charged upfront) = \$0.00. Average per month (\$0.00 charged upfront) = \$0.00.

Write Operations: 2640 Operations × \$0.100 Per 10,000 operations = \$0.03

The following API calls are considered Write Operations: PutBlob, PutBlock, PutBlockList, AppendBlock, SnapshotBlob, CopyBlob and SetBlobTier (when it moves a Blob from Hot to Cool, Cool to Archive or Hot to Archive).

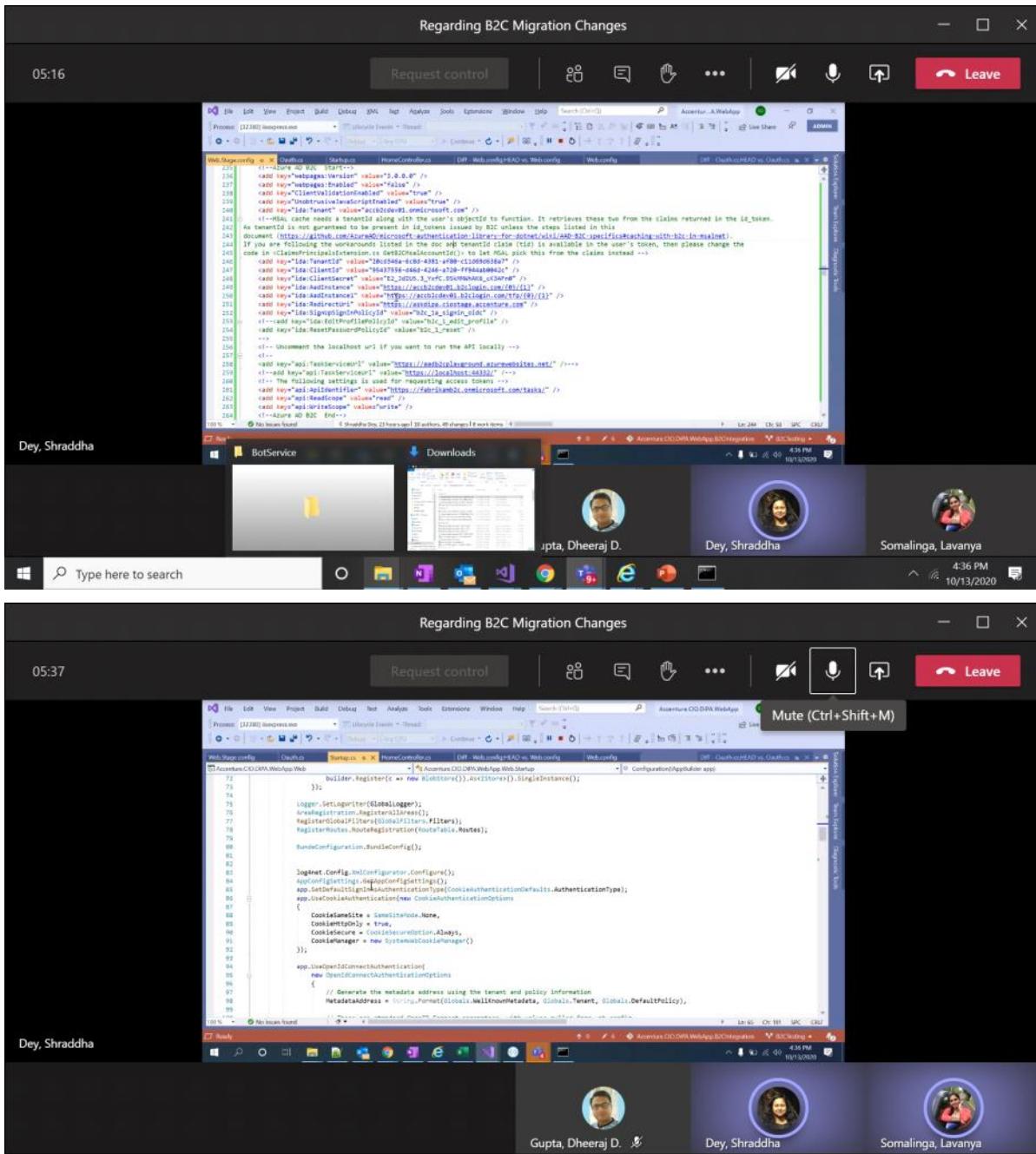
List and Create Container Operations: 1480 Operations × \$0.050 Per 10,000 operations = \$0.01

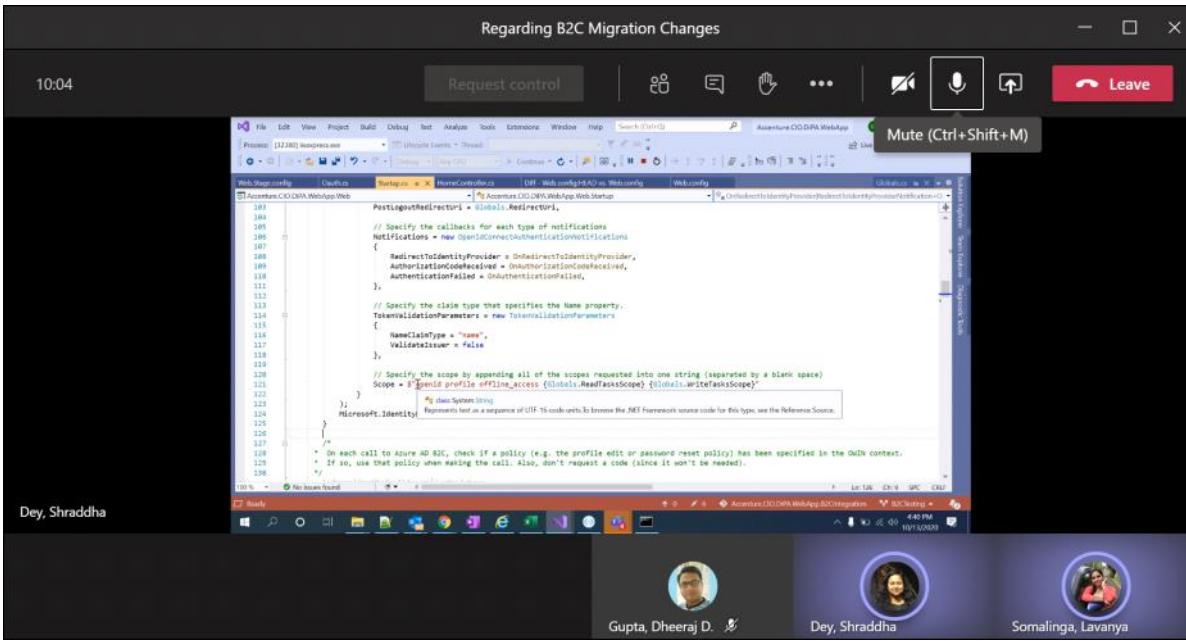
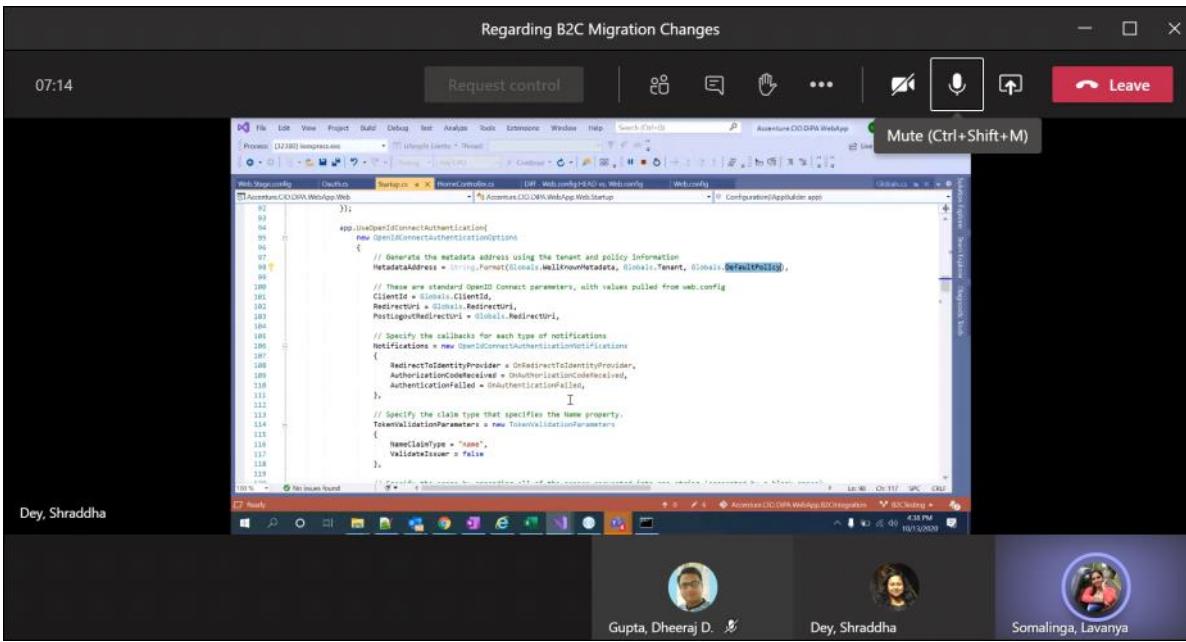
Read operations: 0 Operations × \$0.010 Per 10,000 operations = \$0.00

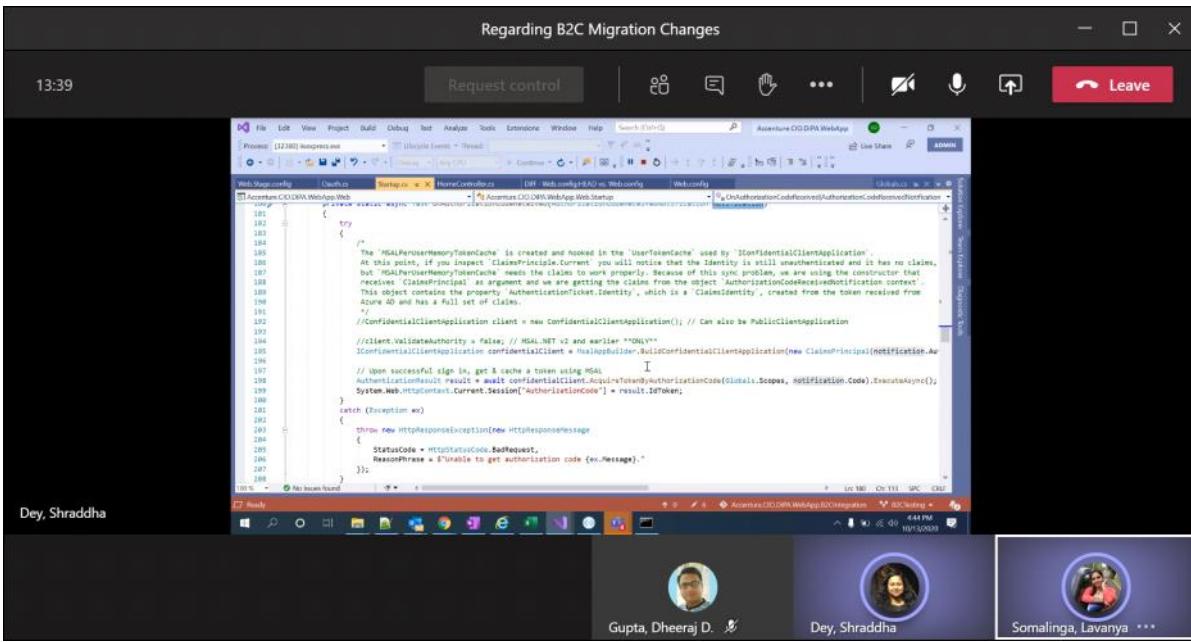
The following API calls are considered Read Operations: GetBlob, SetBlobTier (when it moves a Blob from Archive to Cool, Cool to Hot or Archive to Hot).

All other operations: 9172 Operations × \$0.004 Per 10,000 operations = \$0.01

Screen clipping taken: 10/27/2020 9:21 AM







# Dynamic Programming Example

Monday, December 11, 2017 2:49 PM

The idea is to use Dynamic Programming to solve the problem.

Before that we will convert given binary string into integer array of value 1s and -1s, say arr[]. That can be easily done by traversing the given binary string and if ith index contain '0' make -1 in corresponding position in array. Similarly, if ith index contain '1', make 1 in the array.

Now, at each index i we need to make decision whether to take it or skip it. So, declare a 2D array of size  $n \times 2$ , where n is the length of the given binary string, say dp[n][2].

```
dp[i][0] define the maximum value upto  
index i, when we skip the i-th  
index element.  
dp[i][1] define the maximum value upto  
index i after taking the i-th  
index element.  
Therefore, we can derive dp[i][] as:  
dp[i][0] = max(dp[i+1][0], dp[i+1][1] + arr[i])  
dp[i][1] = max(dp[i+1][1] + arr[i], 0)
```

For all ones we check this case explicitly.

```
// CPP Program to find the length of  
// substring with maximum difference of  
// zeroes and ones in binary string.  
#include <bits/stdc++.h>  
#define MAX 100  
using namespace std;  
  
// Return true if there all 1s  
bool allones(string s, int n)  
{  
    // Checking each index is 0 or not.  
    int co = 0;  
    for (int i = 0; i < s.size(); i++)  
        co += (s[i] == '1');  
  
    return (co == n);  
}  
  
// Find the length of substring with maximum  
// difference of zeroes and ones in binary  
// string  
int findlength(int arr[], string s, int n,  
               int ind, int st, int dp[][3])  
{  
    // If string is over.  
    if (ind >= n)  
        return 0;  
  
    // If the state is already calculated.  
    if (dp[ind][st] != -1)  
        return dp[ind][st];  
  
    if (st == 0)  
        return dp[ind][st] = max(arr[ind] +  
                               findlength(arr, s, n, ind + 1, 1, dp),  
                               findlength(arr, s, n, ind + 1, 0, dp));  
  
    else
```

```

        return dp[ind][st] = max(arr[ind] +
findlength(arr, s, n, ind + 1, 1, dp), 0);
}

// Returns length of substring which is
// having maximum difference of number
// of 0s and number of 1s
int maxLen(string s, int n)
{
    // If all 1s return -1.
    if (allones(s, n))
        return -1;

    // Else find the length.
    int arr[MAX] = { 0 };
    for (int i = 0; i < n; i++)
        arr[i] = (s[i] == '0' ? 1 : -1);

    int dp[MAX][3];
    memset(dp, -1, sizeof dp);
    return findlength(arr, s, n, 0, 0, dp);
}

// Driven Program
int main()
{
    string s = "11000010001";
    int n = 11;
    cout << maxLen(s, n) << endl;
    return 0;
}

```

Output:

6

From <<http://www.geeksforgeeks.org/maximum-difference-zeros-ones-binary-string/>>

# Mycomp roles and responsibilities

Thursday, July 8, 2021 8:20 PM

MyCompetency - Application Architecture & Delivery

1. Lead technical team and carry on hands on technical tasks.
2. SME and mentoring for project related skills.
3. Taking part in solution planning.
4. Work on project compliance on CIO standards and remediating vulnerabilities.
5. Agile compliance

# Testing static class

Monday, August 16, 2021 11:18 AM

```
public class ProductBL
{
    public void LogMessage(string message)
    {
        Logger.Write(message);
    }
}

public class Logger
{
    public static void Write(string message)
    {
        //Write your code here to log data
    }
}
```

```
public class LogWrapper : IWrapper
{
    string _message = null;
    public LogWrapper(string message)
    {
        _message = message;
    }
    public void LogData(string message)
    {
        _message = message;
        Logger.Write(_message);
    }
}
```

```
public interface IWrapper
{
    void LogData(string message);
}
```

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

```
public class ProductBL
{
    readonly IWrapper _wrapper;
    static string _message = null;
    public ProductBL(IWrapper wrapper)
    {
```

```

        _wrapper = wrapper;
    }
    public void LogMessage(string message)
    {
        _message = message;
        _wrapper.LogData(_message);
    }
}

```

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

```

var mock = new Mock<IWrapper>();
mock.Setup(x => x.LogData(It.IsAny<string>()));
new ProductBL(mock.Object).LogMessage("Hello World!");
mock.VerifyAll();

```

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

```

public class UnitTestForStaticMethodsDemo
{
    [Fact]
    public void StaticMethodTest()
    {
        var mock = new Mock<IWrapper>();
        mock.Setup(x => x.LogData(It.IsAny<string>()));
        new ProductBL(mock.Object).LogMessage("Hello World!");
        mock.VerifyAll();
    }
}

```

From <<https://www.infoworld.com/article/3571962/how-to-unit-test-static-methods-in-csharp.html>>

```

fixture.Customizations.Add( new TypeRelay( typeof(IAssessmentStatusContext),
typeof(AssessmentStatusContextBase));

```

# Book to read

Friday, July 7, 2023 1:01 PM

Thinking, Fast and Slow by Daniel Kahneman

- Recommended by Anirudh

# Security Scans in Pipeline

Friday, July 7, 2023 1:03 PM

ASA Scan

ASAP Scan

SAST Scan

DAST Scan

SCA Scan

Web and mobile application scanning are performed by the IS Security Operations Center (SOC) scanning teams.

Data Protection - GDPR

Security Advocate Training

Tool



[CIO Now – Compliance](#) - Is a tool used for ongoing monitoring of metrics at portfolio, app or leadership level. A vulnerability is not considered closed until it's been removed from CIO Now Compliance.

[CIO NOW -Team View](#) - Is a tool that all team members should be using that contains the new security programs and projects that are forthcoming for CIO Now Compliance metrics

[Information Security Dashboard \(Infrastructure Vulnerabilities\)](#) - Is used for Application & Infrastructure vulnerability source data

SCA- Software Composition Analysis

# Asp.net

Wednesday, March 24, 2021 2:48 PM

An **interface** merely declares a contract or a behavior that implementing classes should have. It may declare only properties, methods, and events with no access modifiers. All the declared members must be implemented.

An **abstract class** provides a partial implementation for a functionality and some abstract/virtual members that must be implemented by the inheriting entities. It can declare fields too.

Neither interfaces nor abstract classes can be instantiated.

From <<https://www.toptal.com/dot-net/interview-questions>>

.NET supports only single inheritance. However the purpose is accomplished using multiple interfaces.

## When to use inheritance

- Your inheritance hierarchy represents an "is-a" relationship and not a "has-a" relationship.
- You can reuse code from the base classes.
- You need to apply the same class and methods to different data types.
- The class hierarchy is reasonably shallow, and other developers are not likely to add many more levels.
- You want to make global changes to derived classes by changing a base class.

## Explain the Event Life cycle of ASP.NET 2.0?

The events occur in the following sequence. Its best to turn on tracing(<% @Page Trace="true"%>) and track the flow of events :

**PreInit** – This event represents the entry point of the page life cycle. If you need to change the Master page or theme programmatically, then this would be the event to do so. Dynamic controls are created in this event.

**Init** – Each control in the control collection is initialized.

**Init Complete\*** - Page is initialized and the process is completed.

**PreLoad\*** - This event is called before the loading of the page is completed.

**Load** – This event is raised for the Page and then all child controls. The controls properties and view state can be accessed at this stage. This event indicates that the controls have been fully loaded.

**LoadComplete\*** - This event signals indicates that the page has been loaded in the memory. It also marks the beginning of the rendering stage.

**PreRender** – If you need to make any final updates to the contents of the controls or the

page, then use this event. It first fires for the page and then for all the controls.

**PreRenderComplete\*** - Is called to explicitly state that the PreRender phase is completed.

**SaveStateComplete\*** - In this event, the current state of the control is completely saved to the ViewState.

**Unload** - This event is typically used for closing files and database connections. At times, it is also used for logging some wrap-up tasks.

The events marked with \* have been introduced in ASP.NET 2.0.

### Explain the ViewState in ASP.NET?

Http is a stateless protocol. Hence the state of controls is not saved between postbacks. ViewState is the means of storing the state of server side controls between postbacks. The information is stored in HTML hidden fields. In other words, it is a snapshot of the contents of a page.

You can disable viewstate by a control by setting the EnableViewState property to false.

## Discuss the difference between constants and read-only variables.

[Hide answer](#)

While constants and read-only variable share many similarities, there are some important differences:

- Constants are evaluated at compile time, while the read-only variables are evaluated at run time.
- Constants support only value-type variables (the only exception being strings), while read-only variables can hold reference-type variables.
- Constants should be used when the value is not changing during run time, and read-only variables are used mostly when their actual value is unknown before run time.
- Read-only variables can only be initialised at the time of declaration or in a constructor.

From <<https://www.toptal.com/dot-net/interview-questions>>

## Why can't you specify access modifiers for items in an interface?

It is always public

## What is a delegate in .NET?

[Hide answer](#)

A delegate in .NET is similar to a function pointer in C or C++. Using a delegate allows the programmer to encapsulate a reference to a method inside a delegate object. The delegate object can then be passed to code which can call the referenced method, without having to know at compile time which method will be invoked. In addition, we could use delegate to create custom event within a class. For example,

```
public delegate void FooDelegate();
class FooClass
{
    // custom event
    public event FooDelegate FooEvent;
}

FooClass FooObj = new FooClass()
FooObj.FooEvent += new FooDelegate();
```

From <<https://www.toptal.com/dot-net/interview-questions>>

There are 3 ways to register a service using DI, what are they and difference

- Transient operations are always different, a new instance is created with every retrieval of the service.
- Scoped operations change only with a new scope, but are the same instance within a scope.
- Singleton operations are always the same, a new instance is only created once.

# MVC - Basics

Wednesday, March 24, 2021 2:55 PM

What is each layer doing in MVC, your understanding?

## What is the page life cycle of MVC?

**Answer:** The page life cycle of MVC starts with Application initialization, followed by routing, instantiate and execute controller and thereby reaching to locate and invoke the controller action and finally the applying instantiate and render view.

From <<https://hackr.io/blog/mvc-interview-questions>>

## Can you spell out some of the significant advantages of MVC?

**Answer:** There are several advantages of MVC, and among them, the major is the Multiple View Support, Change Accommodation, Separation of Concerns, Lightweight, Testability, and More Control.

## Do you think that we can maintain a session in MVC?

**Answer:** Yes, the session in the MVC can be maintained using three different ways. These are temp data, view bag, and view data.

Temp data - action to action

View data and view bag - controller to view

## What are the different return types of a controller action method?

**Answer:** There are several return types of a controller action method, including JSON Result, Redirect Result, View Result, Javascript Result, and Content Result.

## Question: Can we implement validation in the MVC?

**Answer:** Yes, we can implement validation in the MVC application by making use of validators that are well defined in the System.ComponentModel.DataAnnotations namespace.

From <<https://hackr.io/blog/mvc-interview-questions>>



# Intermediate

Wednesday, March 10, 2021 2:48 PM

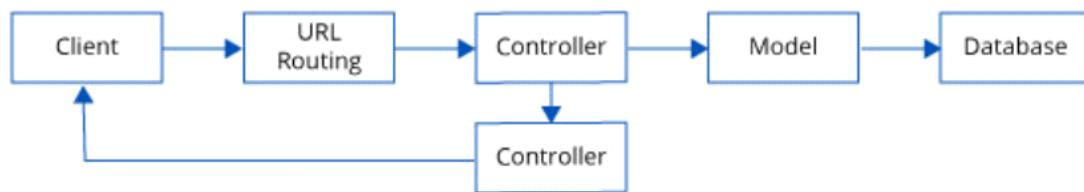
## How can we maintain sessions in MVC

### Action Methods

1. **PartialviewResult (Partial view the ):** This is used to send part of a view that is going to render inside another view.
2. **RedirectResult (Redirect):** This is used to redirect to any other controller and action method based on the URL.
3. **RedirectToRouteResult (RedirectToAction, RedirectToRoute):** This is used to redirect to any other action method.
4. **ContentResult (Content):** This is used to return HTTP content type text/plain as the result.
5. **JSONResult (JSON):** This is used to return JSON as a result.
6. **JavascriptResult (javascript):** This is used to return the JavaScript code that will run in the browser.
7. **FileResult (File):** This is used to return binary output as a response.
8. **EmptyResult:** This is used when nothing (void) to return.

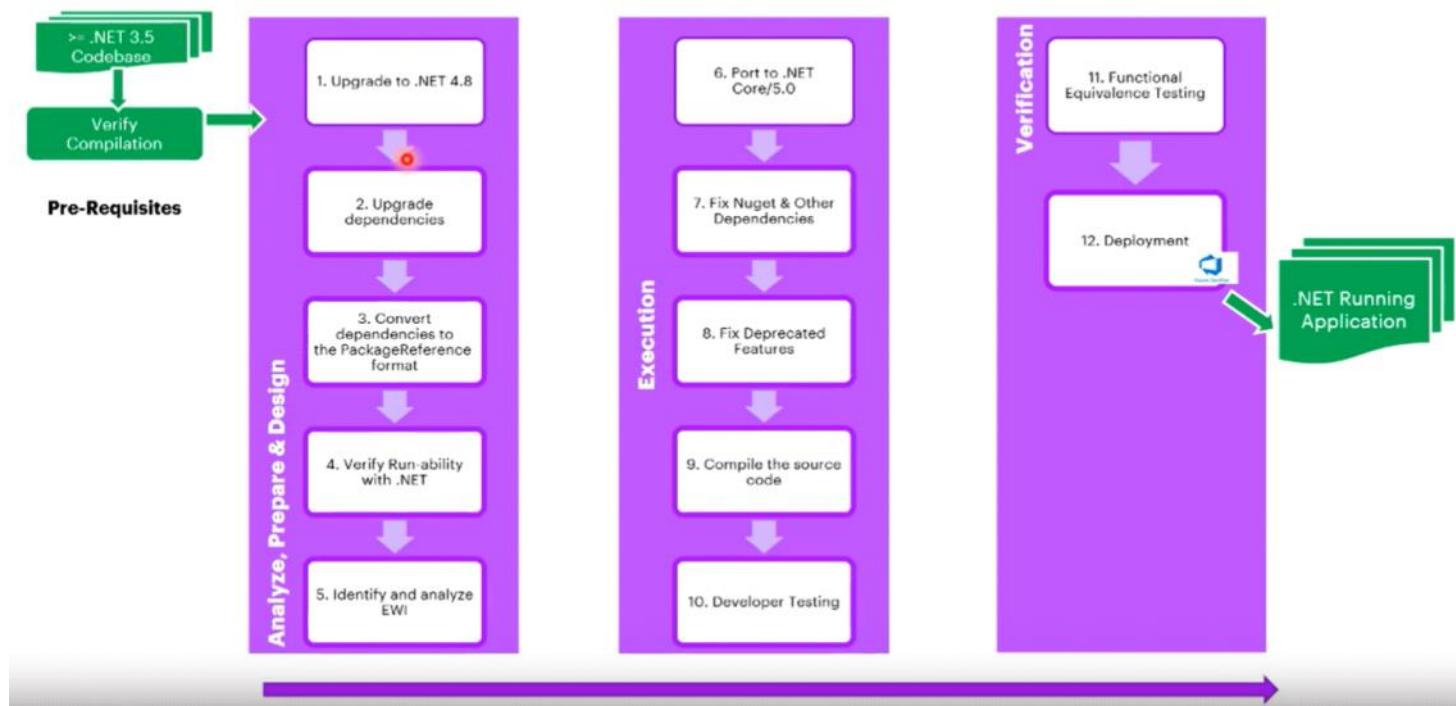
From <<https://www.knowledgehut.com/interview-questions/mvc>>

### Flow of Request



# .net to .netcore migration

Tuesday, February 8, 2022 11:43 AM

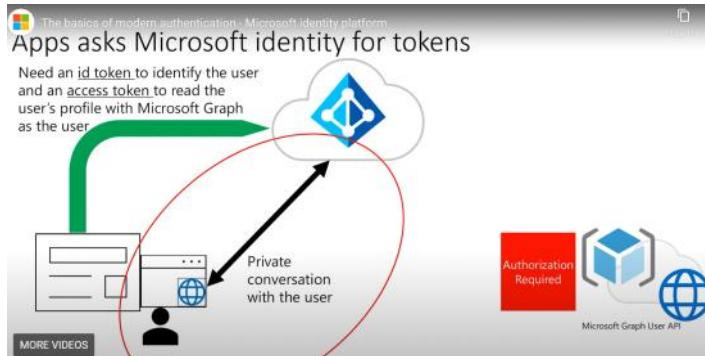


[Join live event](#)

# Microsoft Identity Platform

Friday, February 11, 2022 4:08 PM

## [The basics of modern authentication - Microsoft identity platform](#)



1. App requests for id token to identify the user and access token to call microsoft graph on behalf of user to fetch user profile.
2. This is a private conversation between user who is logging in and the Microsoft's identity provider which is Azure AD. The app developer is devoid of this conversation.
3. Post successful login, artifacts like session state or cookies get left on the user's machine which will be used for next time for authN and authZ enabling Single Sign On. This is called Silent login as the user will not get login prompt next time.

## Basics of Modern Authentication

- Apps request tokens from Microsoft Identity
- Authentication happens over shared web surfaces to provide SSO
- App pass Access Tokens to APIs
- API validate Access Tokens before returning results
- Recommendation: use an Identity provider!

**Microsoft Identity platform** used **Open ID Connect (OIDC)** protocol for Authentication and **Oauth 2.0 protocol** for Authorization.

OIDC is built on top of Oauth 2.0 so terms and flow are similar between two.

SAML is synonymous to OIDC and is used for authentication. It is commonly used with identity providers -> ADFS federated to Azure AD commonly used by enterprise applications

OIDC - Used by apps that are purely in cloud, websites, mobile apps and web api's

# MSAL - Microsoft Authentication Library

Monday, September 5, 2022 3:32 PM

MSAL web applications to authenticate users using [Azure AD](#) work and school accounts (AAD), Microsoft personal accounts (MSA) and social identity providers like Facebook, Google, LinkedIn, Microsoft accounts, etc. through [Azure AD B2C](#) service. It also enables your app to get tokens to access [Microsoft Cloud](#) services such as [Microsoft Graph](#).

# Microsoft Identity Platform - Identity solution for authentication and authorization

Wednesday, June 15, 2022 12:34 PM

## OpenID Connect

From <<https://openid.net/connect/faq/>>

OpenID Connect = (Identity, Authentication) + OAuth 2.0

Oauth 2.0 is the standard protocol for authorization.



## OpenID and /ADAL

Adding sign-in to a web app is about protecting the web app and validating a user token, which is what **middleware** libraries (**OWIN**) do. In the case of .NET, this scenario does not yet require the *Microsoft Authentication Library (MSAL)*, which is about *acquiring a token* to call protected APIs. *Authentication libraries for .NET will be used in scenario, when the web app needs to call web APIs.*

From <<https://docs.microsoft.com/en-us/azure/active-directory/develop/scenario-web-app-sign-user-overview?tabs=aspnet>>

- Microsoft.IdentityModel

Windows Identity Foundation enables .NET developers to externalize identity logic from their application, improving developer productivity, enhancing application security, and enabling interoperable federation. Enjoy greater productivity, applying the same tools and program

The **Microsoft.IdentityModel** library only *validates* tokens - it cannot request ID or access tokens.

From <<https://docs.microsoft.com/en-us/azure/active-directory/develop/scenario-web-app-sign-user-app-configuration?tabs=aspnet>>

- Microsoft.AspNetCore.Authentication - provides the authentication middleware like owin for .net  
**Microsoft.AspNetCore.Authorization** - provides authorization middleware to add policy.

From <<https://www.nuget.org/packages/Microsoft.AspNetCore.Authentication/>>

Language / framework	Project on GitHub	Package	To Read - <a href="https://docs.microsoft.com/en-us/azure/active-directory/azuread-dev/azure-ad-endpoint-comparison#incremental-and-dynamic-consent">https://docs.microsoft.com/en-us/azure/active-directory/azuread-dev/azure-ad-endpoint-comparison#incremental-and-dynamic-consent</a>
What is incremental / dynamic consent			
.NET	MSAL.NET 	Microsoft.Identity.Client 	
.NET	Microsoft.IdentityModel 	Microsoft.IdentityModel 	
ASP.NET Core	ASP.NET Core 	Microsoft.AspNetCore.Authentication 	
ASP.NET Core	Microsoft.Identity.Web 	Microsoft.Identity.Web 	
Java	MSAL4J 	msal4j 	
Node.js	MSAL Node 	msal-node 	
Python	MSAL Python 	msal 	
<b>Sign in users</b>	<b>Access APIs</b>	<b>Generally available (GA) or Public preview<sup>1</sup></b>	
 		GA	
  <sup>2</sup>		GA	
 		GA	
 		GA	
 		GA	
 		GA	

# MSAL - Protected Resource Map

Monday, September 5, 2022 2:01 PM

## Protected Resource Map - URLs and scopes case sensitive

The protected resources and corresponding scopes are provided as a protectedResourceMap in the MsalInterceptor configuration.

Syntax for scopes

- `["user.read"]` for Microsoft Graph
- `["<Application ID URL>/scope"]` for custom web APIs (that is, `api://<Application ID>/access_as_user`)

1. Scopes can be array of strings (regardless of http method)

```
{  
    interactionType: InteractionType.Redirect,  
    protectedResourceMap: new Map<string, Array<string> | null>([  
        ["https://graph.microsoft.com/v1.0/me", ["user.read", "profile"]],  
        ["https://myapplication.com/user/*", ["customscope.read"]]  
    ]),  
}
```

2. An array of ProtectedResourceScopes, which will attach scopes only for specific HTTP methods.

```
{  
    interactionType: InteractionType.Redirect,  
    protectedResourceMap: new Map<string, Array<string|ProtectedResourceScopes> | null>([  
        ["https://graph.microsoft.com/v1.0/me", ["user.read"]],  
        ["http://myapplication.com", [  
            {  
                httpMethod: "POST",  
                scopes: ["write.scope"]  
            }  
        ]]  
    ])  
}
```

3. A combination of strings and ProtectedResourceScopes. In the below example, a GET request will have the scopes "all.scope" and "read.scope", whereas as PUT request would just have "all.scope".

```

{
  interactionType: InteractionType.Redirect,
  protectedResourceMap: new Map<string, Array<string|ProtectedResourceScopes> | null>([
    ["http://myapplication.com", [
      "all.scope",
      {
        httpMethod: "GET",
        scopes: ["read.scope"]
      },
      {
        httpMethod: "POST",
        scopes: ["info.scope"]
      }
    ]]
  ])
}

```

#### Notes regarding ProtectedResourceMap

1. A scope value of **null**, indicating that a resource is to be **unprotected** and will not get tokens.  
Resources not included in the protectedResourceMap are not protected by default.

```

{
  interactionType: InteractionType.Redirect,
  protectedResourceMap: new Map<string, Array<string> | null>([
    ["https://graph.microsoft.com/v1.0/me", ["user.read", "profile"]],
    ["https://myapplication.com/unprotected", null],
    ["https://myapplication.com/unprotected/post", [{ httpMethod: 'POST', scopes: null }]],
    ["https://myapplication.com", ["custom.scope"]]
  ]),
}

```

null resource should be put before any similar base urls or wildcards.

From <<https://github.com/AzureAD/microsoft-authentication-library-for-js/blob/dev/lib/msal-angular/docs/v2-docs/msal-interceptor.md>>

# Ocelot

Friday, February 11, 2022 6:49 PM

Ocelot code samples - <https://github.com/catcherwong-archive/APIGatewayDemo>

**Microsoft Ocelot Implementation** - <https://docs.microsoft.com/en-us/dotnet/architecture/microservices/multi-container-microservice-net-applications/implement-api-gateways-with-ocelot>

# Different Ways to Inject Dependencies in .NET Core



It is impossible nowadays to design classes/controllers which don't depend on other objects. Rather than instantiating those objects inside other objects directly, it is a good practice to register them once and then use them as needed. This improves testability and maintenance due to loose coupling. You would realize this benefit when you write mock tests and have different implementations. In this article, we will see three different ways you can inject dependencies and also look into pitfalls to avoid memory leaks.

## Using Constructor Injection

This is the most common way of resolving dependencies. Below is

an interface to implement a custom logger.

```
public interface ICustomFileLogger
{
    public string Text { get; set; }
    public void Log(string message);
}
```

Now let's create a concrete class that implements the above interface.

```
public class CustomFileLogger : ICustomFileLogger
{
    public string Text { get; set; }
    public void Log(string message)
    {
        // Your implementation logic
    }
}
```

Register above class in *Program.cs* file as a **scoped** service.

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddScoped<ICustomFileLogger, CustomFileLogger>();
}
```

And then use it in your controller as shown below.

```
● ● ●

[Route("api/[controller]")]
[ApiController]
public class DefaultController : ControllerBase
{
    private ICustomFileLogger _logger;
    public DefaultController(ICustomFileLogger logger)
    {
        _logger = logger;
        if(string.IsNullOrEmpty(_logger.Text))
            _logger.Text = DateTime.UtcNow.ToString();
    }
    [HttpGet]
    public string Get()
    {
        _logger.Log($"Get method called at {DateTime.UtcNow.ToString()}");
        return "Hello Azilenite";
    }
}
```

The *DefaultController* constructor accepts an instance of type *ICustomFileLoger* as a parameter. The concrete object is provided by .NET IoC (Inversion of Control) container.

Ok great, but why register the dependency as a scoped service? Let's take a look at three service lifetimes provided by .NET. By service lifetime, we intend to say when the service (object) would be disposed of.

### Singleton

This lifetime creates only one instance of the service. This service will be alive in the memory as long as your application running on the server. Once you bring down your application, the object wouldn't be accessible anymore when you restart the application.

Such lifetime is great for use cases like caching.

Although caching is a good candidate for this lifetime, you should create a mechanism to update/invalidate the cached data when the original data source changes.

One case which might discourage you to use this lifetime is *memory leak*. The objects are not released/disposed of until the *end of the application*. Thus, it is important to dispose them off at the right time. Also, if you use *scoped* or *transient* services from singleton services it might create a problem because *transient* services are not designed to be thread-safe. If you have no other choice and still need to use them, then take care of multi-threading.

You can create a singleton service using the **Add()** method or **AddSingleton()** method.

### Transient

This lifetime creates objects each time you request it. This means, that a service injected in the constructor of a class will last as long as that class instance exists. Use this lifetime when you generally don't care about *multi-threading* and *memory leaks* as the service has a short life. As discussed in the previous lifetime, do not use it from *singleton* lifetime as it will get converted into *singleton* when you expect it to be *transient*.

To create a service with a transient lifetime, you have to use the **AddTransient()** method.

### Scoped

The scoped lifetime allows you to create an instance of a service for *each* client (connection) request. This is a great lifetime as all the services will use this single instance during the same client request. The good point of this lifetime is that you don't need to worry about thread safety as each request will have its own instance.

Use **AddScoped()** method to create this lifetime service.

### Using Action Method Injection

You should always prefer constructor injection whenever you

need to use the injected instance in multiple methods of the same class. However, if that is not the case and you just need the service instance in only one method, you can ask IoC container from the method itself.

```
[HttpPost("Log")]
public IActionResult Log([FromServices] ICustomFileLogger customFileLogger)
{
    //Write your code here
    return Ok();
}
```

## Using `IServiceProvider`

There are cases where you need multiple services to be injected into your class. In our case, it is just `customFileLogger` but you might need some more like `repository` and `domain` services.

In such a case, you can just inject `IServiceProvider` into constructor and then use it to request a specific instance of the service.

```
public class DefaultController : Controller
{
    private IServiceProvider _provider;
    public DefaultController(IServiceProvider provider)
    {
        _provider = provider;
    }

    [HttpGet]
    public string Get()
    {
        ICustomFileLogger logger =
ICustomFileLogger)_provider.GetService(typeof(ICustomFileLogger));
        logger.Log($"Get method called at {DateTime.UtcNow.ToString()}")
        return "Hello Azilenite!";
    }
}
```

Though this approach looks good, Microsoft recommends not to use it. Instead, use *Constructor Injection* pattern.

## Conclusion

The beauty of DI is that you register your service and rely on the platform to create instances and dispose them off for you. It is not mandatory to register all services. There are two types of services in .NET.

**Framework services:** these are part of the .NET Core framework. For example, *IApplicationBuilder*, *IConfiguration*, *ILoggerFactory*, etc.

**Application services:** these are the ones that you create in your application since IoC doesn't know them, you need to register them explicitly.

Let me also brief you on some terms that you might come across when reading about dependency injection.

### *Dependency Inversion Principle*

It is a software design principle; it suggests a solution to the

dependency problem but does not say how to implement it or which technique to use it.

### *Inversion of Control*

It is a way to implement the Dependency Inversion Principle.

Rather than **you** controlling object creation and deletion, the control is with the framework. So the control is inverted.

### *Dependency Injection*

It is a design pattern to implement Inversion of Control. Through this, you can inject a concrete implementation of a low-level component into a high-level component.

### *IoC Container*

A programming framework that provides you with an automatic Dependency Injection of your components.

*Originally published at <https://www.azilen.com> on November 29, 2021.*

*Original Source: <https://www.azilen.com/blog/different-ways-to-inject-dependencies-in-net-core/>*

6

From <<https://medium.com/@AzilenTech/different-ways-to-inject-dependencies-in-net-core-d147ad0279cd>>

# 8 Common Interview Mistakes

Tuesday, November 29, 2022 12:32 PM

## MISTAKE-1: Going on the job board with no plan

- People go to random websites and apply in no specific fashion for any job vacancy.

## Mistake-2: Sticking to what they know

- If you want to move ahead in your career then you need to upskill your skillset.
- If you are doing something that you don't like and want to do, why waste time on the same.
- You can always learn things and make a change.

## MISTAKE-3: Taking whatever they are getting

- An average job applicant takes the first job offer they receive.
- This makes them so easy for the recruiter.
- They don't negotiate and don't specify their goals
- They don't interview the companies
- They just apply to the jobs they think are a good fit for you and reject which are not.
- Trust me, some don't take this much pain as well.
- They just go to the job board and randomly apply for the jobs.

## Mistake-4: Over emphasis on things that hardly matter

- When recruiters ask you about yourself, they launch their answers from the birthplace to the history of your ancestors.
- Ask yourself, do they really need to know this.
- The object of this question is to break the ice and make you comfortable along with having a brief idea about yourself.
- You should focus on things that really matter and spend your time working towards them.

## MISTAKE-5: Applying randomly

- People go to the job portals and apply to the job applications randomly.
- Later they get disappointed in not getting to hear back from the recruiters.
- Remember recruiters are looking for the best candidate, who really want to work with them, and here you are just applying to them for the sake of it.
- Do you really think you would be able to stand out?

## MISTAKE-6: Not personalizing the job application

- Hundreds and thousands of people apply for a job, and you want to stand out from them to get noticed by the recruiters.
- The first touch of contact is really important, and it can make or break it.

## MISTAKE-7: Not trusting yourself

- People get underconfident and think low of them.
- Some don't apply for a job because their past rejections had brought down their confidence.
- They think they are not suitable for that.

## MISTAKE-8: Not following up

- Recruiters have a lot of work and a burden on them.
- This can make them forget about your job application.
- If you will follow up this will help you stand out from others and grabbing the attention of the recruiters is very important at this time.

What mistakes you made in your job hunt?

How did you overcome?

Do share your thoughts in the comments.

Follow [Priyank Ahuja](#) for more.

From <<https://www.linkedin.com/feed/>>

# Architect Roles & Resp.

Wednesday, October 5, 2022 7:30 PM

## Management Areas

What is requirement management

Risk management

Resource Management

Issue Management

Deliverable Management

Change Management

Defect Management

Configuration Management

- Review quality code
- Understand business use case and tech requirements and convert them to technical design
- Mapping the decisions with requirements and translate them to developers
- Writing and reviewing great quality code.
- Understanding the clients business use cases and technical requirements and be able to convert them into the technical design which elegantly meets the requirements.
- Mapping decisions with requirements and be able to translate the same to developers.
- Identifying different solutions and being able to narrow down the best option that meets the clients requirements.
- Defining guidelines and benchmarks for NFR considerations during project implementation
- Writing and reviewing design document explaining the overall architecture, framework, and high-level design of the application for the developers
- Reviewing architecture and design on various aspects like extensibility, scalability, security, design patterns, user experience, NFRs, etc., and ensure that all relevant best practices are followed.
- Developing and designing the overall solution for defined functional and non-functional requirements; and defining technologies, patterns, and frameworks to materialize it.
- Understanding and relating technology integration scenarios and applying these learnings in projects
- Resolving issues that are raised during code/review, through exhaustive systematic analysis of the root cause, and being able to justify the decision taken.
- Carrying out POCs to make sure that suggested design/technologies meet the requirements.

# How to take Interviews

Wednesday, March 31, 2021 9:22 PM

The video player interface features four tabs at the top: "Opening" (highlighted in light blue), "Probing", "Accenture related questions", and "Closing". A large white box contains the text "Interview preparation:" followed by a bulleted list: • Understand skill requirement • Read resume and make notes • Identify gaps. To the right of the list is a large black play button icon.

The video player interface features four tabs at the top: "Opening", "Probing" (highlighted in light blue), "Accenture related questions", and "Closing". A large white box contains a bulleted list: • Discuss past project experience • Probe to know more about relevant/recent experience • Inquire specific roles and responsibilities so far. To the right of the list is a large black play button icon.

The video player interface features four tabs at the top: "Opening", "Probing", "Accenture related questions" (highlighted in light blue), and "Closing". A large white box contains a bulleted list: • Do you think this position will pose as a challenge to you? • How will Accenture fit in your career goals? To the right of the list is a large black play button icon.

- Review the entire session
- Ensure all identified areas of investigation are covered
- Give opportunity to clarify doubts
- Be objective
- Thank the candidate
- Mention that the next steps will be communicated by HR
- Refrain from giving feedback
- Avoid confirming outcome of interview assessment to applicants
- Smile and end on a friendly note



#### The Dos:

1. Login 10 minutes early for the interview.
2. Test the system before interviewing. Email invitation contains the interview link.
3. Avoid giving personal details about self, related to experience, tenure in the organization.
4. Inform the candidate(s) to display/flash their government identity card before commencing the interview process.
5. Be cautious with candidate's expression and ensure the lip movement is in sync with the audio.
6. Contact the Recruiting team/scheduler in case of doubts on candidate's authenticity.



#### The Dos:

7. Update the Abacus status as 'Fraud Candidate' if the candidate is.
8. Use a well-lit and noise free room space; avoid a room with bright light.
9. Be sure you can hear well and be heard. Use headphones with a good microphone to avoid echo.
10. Dress-up as if you were interviewing in person and look at the candidate during the interview.
11. Keep your head and shoulders within the frame of the camera while recording. Relax and don't forget to smile!



#### The Don'ts:

1. Do not click on 'disable video for all participants' on the HireVue page.
2. Do not continue the interview on phone in case of any Technical issues. Try to re-login and encourage the candidate to do the same. Telephonic interviews will not be considered.
3. Refrain from giving feedback and confirming outcome of interview assessment to applicants.
4. State the standard/neutral answer to the applicant on questions related to your project. It will be provided by the recruitment team.

## PROCESS STEPS

Update Online Assessment Form

The EI is required to fill the online assessment form within 15 minutes of the interview completion.

In cases of candidate or interviewer renege, skill mismatch and fraud candidate, it is not mandatory to fill the assessment form.



Helpdesk

## Empaneled Interviewers (EI) Helpdesk



Contact number:  
08043381225

Operational between 9:00 a.m.  
to 6:00 p.m.

Connect through:  
[ATCI.EI.helpdesk.query  
@accenture.com](mailto:ATCI.EI.helpdesk.query@accenture.com)

**The data traffic that your home router directs between your local network and the internet can be vulnerable.**

Change your router's default password – which can be easily found online by hackers – to something unique and secure.

For help remembering all your personal passwords, and auto-generating strong new ones, consider downloading a password manager such as **LastPass**, **Dashlane** or **Keeper** – you can find more information on password managers [here](#).

PKI encryption

What is TLS for message protection

TLS supersedes SSL

To avoid injection security issue - Perform FIEO (filter input escape output)

• OWASP Top Ten – example risk definitions

**A1 Injection**

Threat agents	Attack vectors	Security weakness		Technical impacts	Business impacts
Application specific	Exploitability EASY	Prevalence COMMON	Detectability AVERAGE	Impact SEVERE	Application/ business specific
Consider anyone who can send untrusted data to the system, including external users, internal users, and	Attacker sends simple text-based attacks that exploit the syntax of the targeted interpreter. Almost any source of data can be an injection point, including internal	Injection flaws occur when an application sends untrusted data to an interpreter. Injection flaws are very prevalent, particularly in legacy code. They are often found in SQL, LDAP, Xpath, or NSQL queries; OS commands; XML parsers, SMTP Headers, program arguments, etc. Injection flaws are easy to discover when examining code, but frequently hard to discover via fuzzer, scanners and	Injection can result in data loss or corruption, lack of accountability, or denial of access. Injection can sometimes lead to a complete host	In a business context, injection flaws can result in data loss or corruption, lack of accountability, or denial of access. Injection can sometimes lead to a complete host	

In this video, we discussed published security issues

- OWASP – Software Assurance Maturity Model:

A guide to building security into software development

- Defines four critical business functions:
  - Governance
  - Construction
  - Verification
  - Deployment
- Each function is subject to three security-oriented practices
- Three levels of achievement can be gained and attested



- Using third-party APIs

- PayPal example:

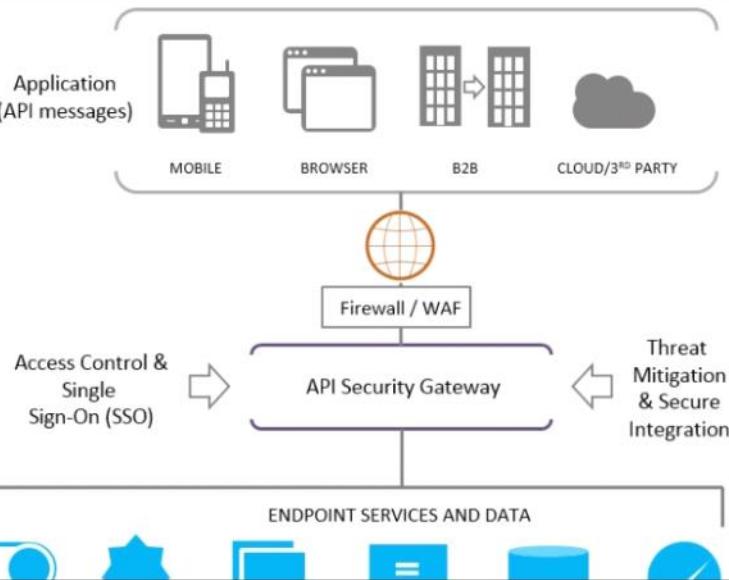
*"The PayPal API uses HTTP verbs and a RESTful endpoint structure. OAuth 2.0 is used as the API Authorization framework. Request and response payloads are formatted as JSON."*

- Third-party APIs are outside the control of your development team – trust becomes an issue
- Due diligence – research third-party APIs before use
  - Examine the vendor's API product documentation:
    - How much API operational detail is provided?
    - Does the vendor have a FAQ page?
    - Are API error codes defined and described?
    - Examine the vendor's documented API update and revision cycle
    - Examine API's documented request and response examples
    - Are other third-party APIs used?

# Cloud Application Architecture – API Gateway

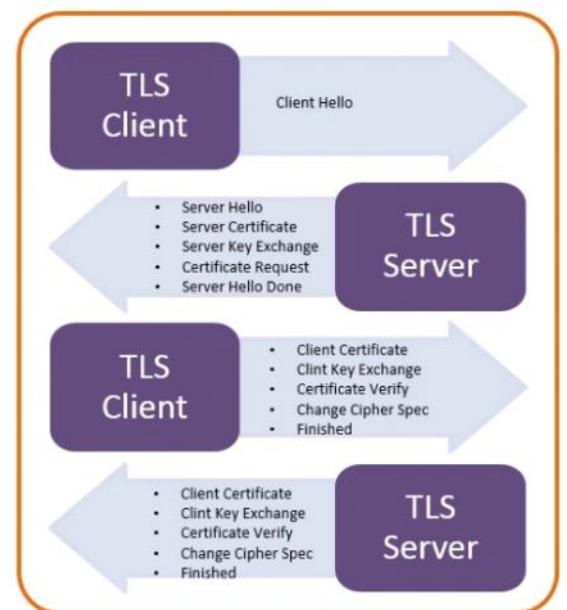
## • API Gateways Providers

- API Gateway Solution providers: Amazon Web Services, Oracle, Forum Systems, StrongLoop
- Third Party API proxy Gateway Providers: 3scale
- Open source: Tyk, WSO2

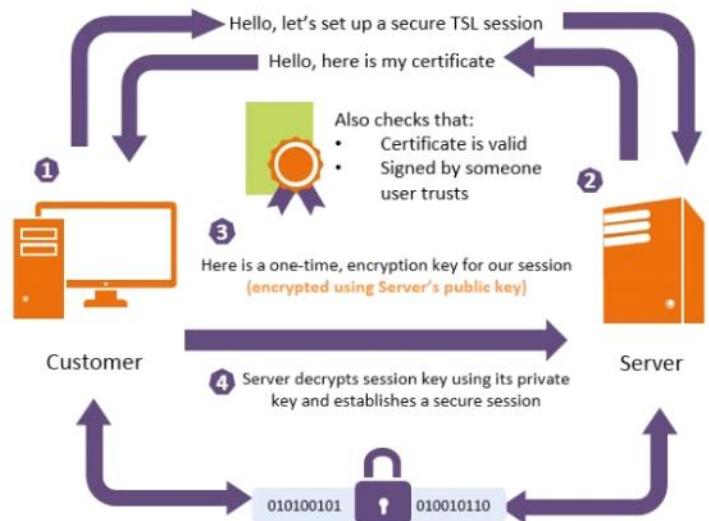


## • Transport Layer Security (TLS / SSL)

- OSI Model Session layer
- Used instead of the earlier SSL protocols
- Provides communications security over a computer network
- The TLS Process:
  - Utilizes certificates + cryptography
    - To establish trust
    - Both parties must negotiate a session encryption key and cipher which is used to protect data communication between the parties



- TLS deployment is supported by:
  - Public Key Infrastructure (PKI)
  - Certificate Authorities (CA)
    - A trusted third party – trusted by certificate owner and by the party relying upon the certificate

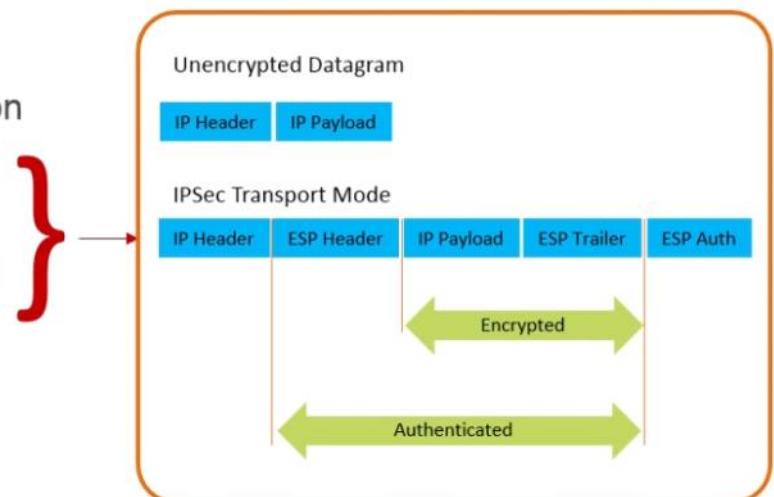


Last version of SSL was SSL 3.0, which is now deprecated and taken over by TLS

- IPsec
  - OSI Network layer
  - Deployed to secure Internet Protocol (IP) communications
  - Can protect all application traffic over an IP network
  - IP packets are authenticated and encrypted, after negotiation between endpoint entities
  - Message protection deployment modes:
    - Between a pair of hosts (host-to-host)
    - Between a pair of security gateways (network-to-network)
    - Between a security gateway and a host (network-to-host)

## • IPsec

- IPsec offers support for:
  - Network-level peer authentication
  - **Data origin authentication**
  - **Data integrity**
  - **Data confidentiality (encryption)**
  - **Replay attack protection**



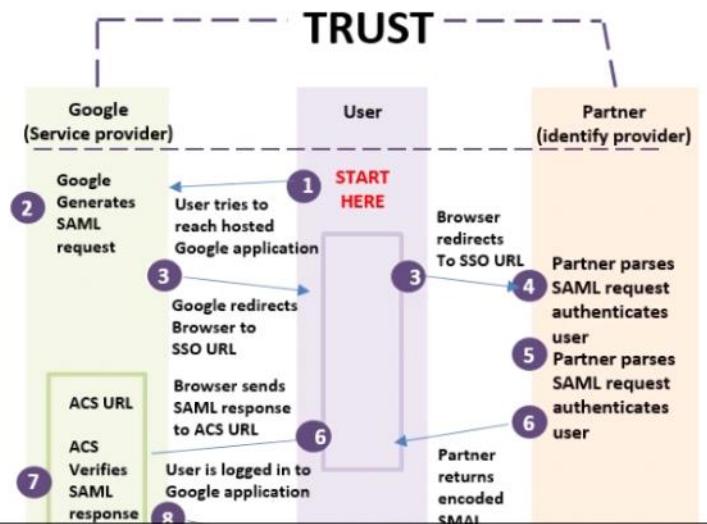
There are sandboxed (isolation) security solutions, please learn further

## Security Assertion Markup Language (SAML)

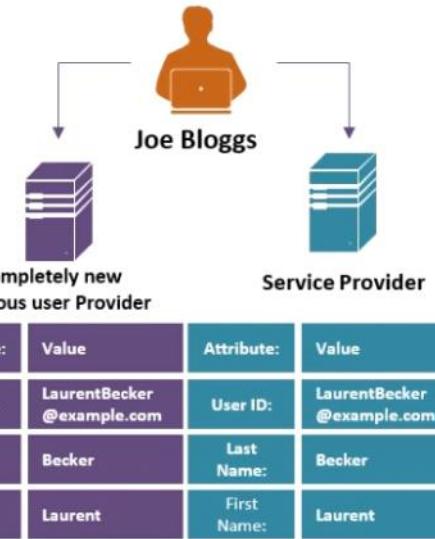
- Federated identity model is founded on open standards adoption
  - SAML, OAuth, OpenID
  - SAML defines resource access based on the identity of user / device / service
  - Standard data format for exchanging authentication and authorization data between trusting parties
  - Usually between an identity provider and a service provider
  - Individual companies manage their own user identity stores, but share an amount of required security verification data via a SAML token

## Identity and Access Management – Identity Providers

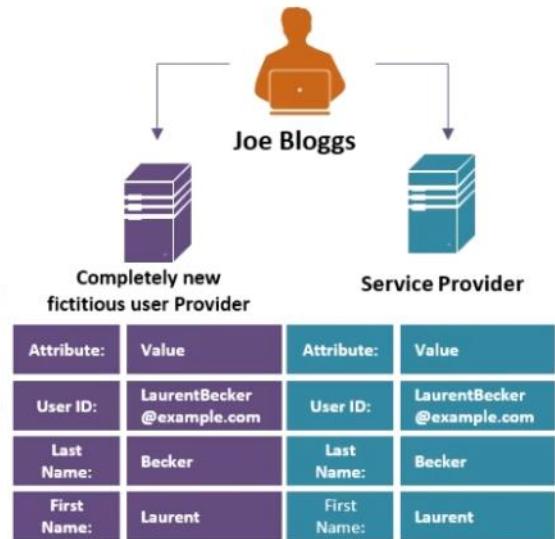
- The burgeoning Cloud Service market has taken Federation to a new level
- Cross-application Federation is now the single dominant identity mechanism across the internet



- Third party Identity provider – an **Identity Provider (IdP)**
  - Responsible for storing identifiable data for users
  - Authenticating users (and providing a security token as evidence)
  - Providing additional information about the user



- Third party Identity provider – an **Identity Provider (IdP)**
  - Responsible for storing identifiable data for users
  - Authenticating users (and providing a security token as evidence)
  - Providing additional information about the user
- Cloud Authentication Protocols
  - SAML – PingIdentity (Identity as a Service (IDaaS))
  - OAuth (Google, Facebook, Yahoo, Microsoft, PayPal)
  - OpenID (Flickr, Orange, Sun, VeriSign, WordPress)



SAML vs OAuth vs OpenID

# Simple Factory, Factory Method & Abstract Factory

Saturday, December 5, 2020 9:44 PM

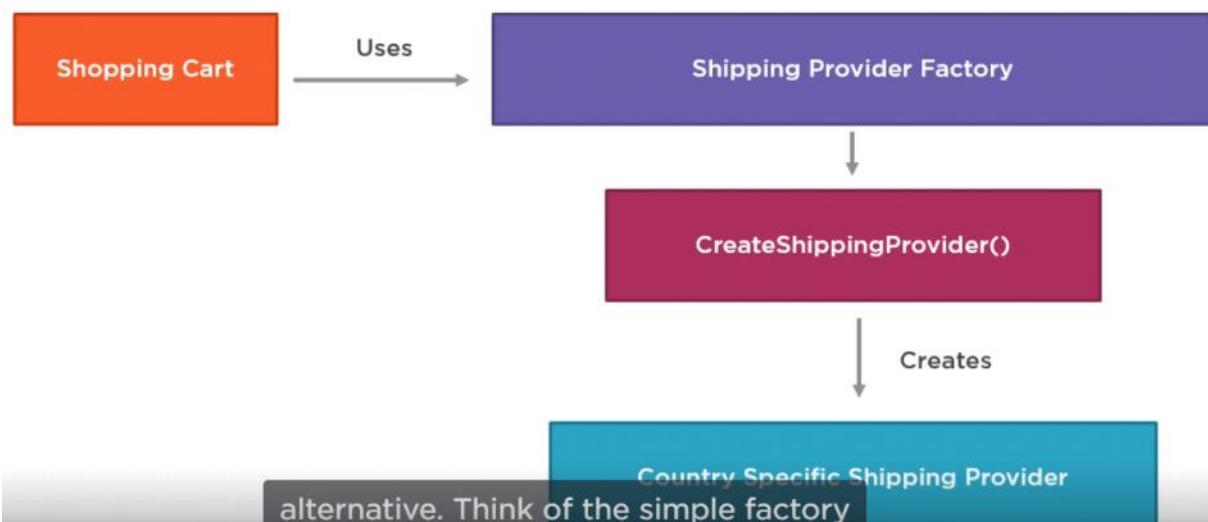
Reusable, Maintainable & Testable

Factory pattern isolates the client from the overhead of object creation and focus only on its own logic



For e.g., shopping cart class doesn't need to have the overhead of object creation of shipping provider if there are country based implementation.

Example: Simple Factory



Abstract factory pattern -

“The **abstract factory** pattern provides a way to encapsulate a group of individual factories that have a **common theme** without specifying their concrete classes”

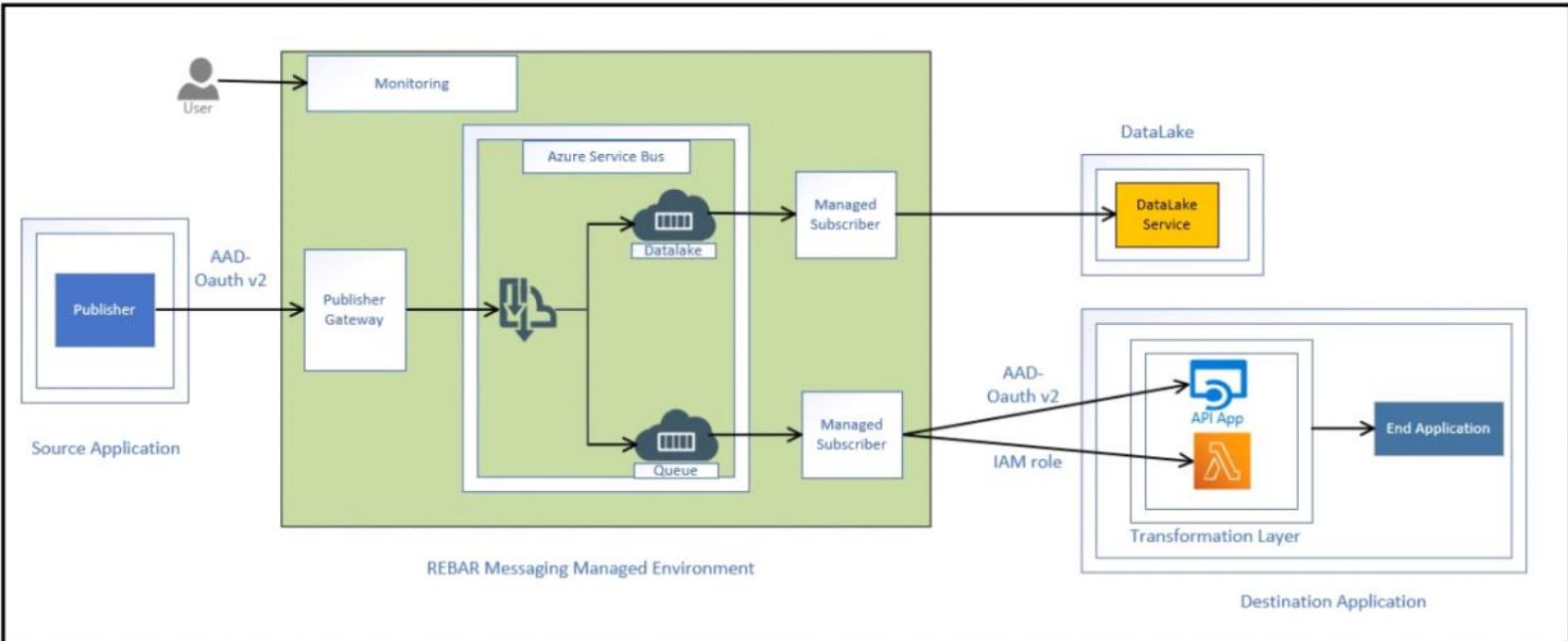
[Wikipedia](#)

[https://en.wikipedia.org/wiki/Abstract\\_factory\\_pattern](https://en.wikipedia.org/wiki/Abstract_factory_pattern)

# Managed Pub-Sub Architecture

Sunday, December 27, 2020 6:46 PM

## Managed Publisher and Subscriber Architecture:



# Mediator

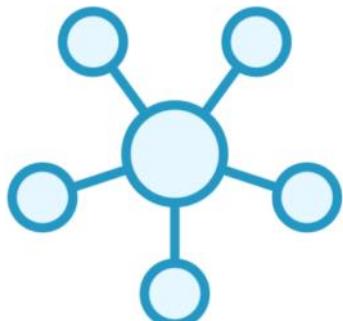
Saturday, December 5, 2020 9:29 PM

Design Patterns are just guide rails and not prescriptive implementation or rules. They can have many variations basis our need.

Mediator patterns helps encapsulate the communication between different objects and ensures loose coupling via Mediator object and Colleagues object.

Mediator knows all the colleagues it is interacting to, whereas colleagues do not need to know about each other.

## Communication – Mediator



## Composite Pattern Characteristics

### Mediator

I define communication between colleagues

### Concrete Mediator

I implement communication between colleagues

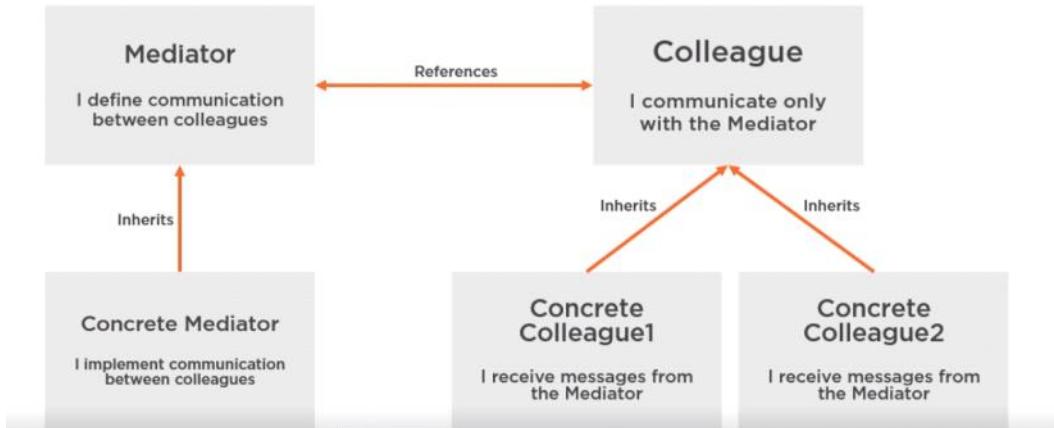
### Colleague

I communicate only with the Mediator

### Concrete Colleague

I receive messages from the mediator

## Mediator Pattern Characteristics

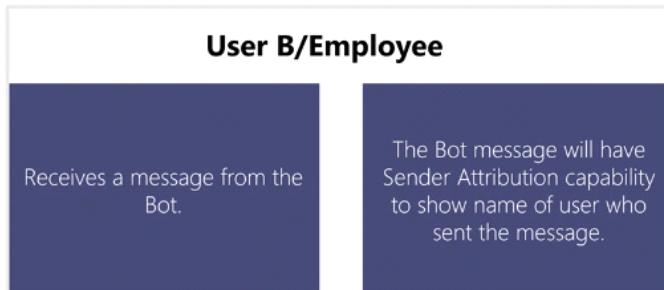
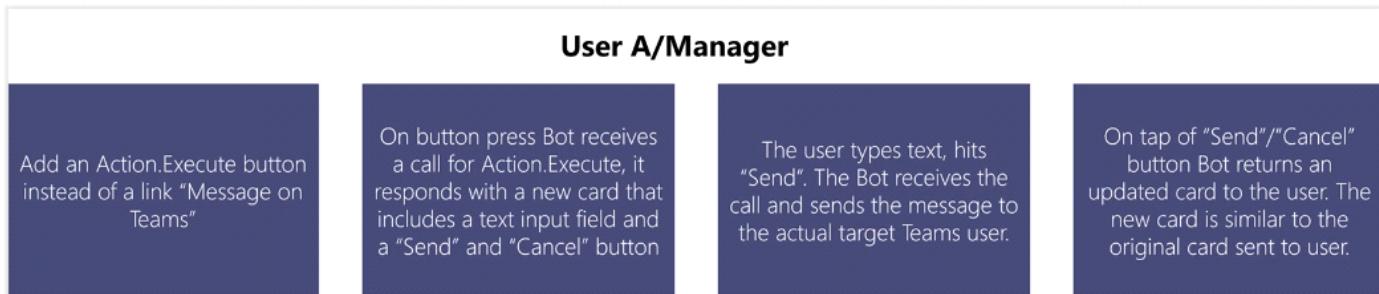


# Adaptive problem statement

Wednesday, December 2, 2020 3:07 PM

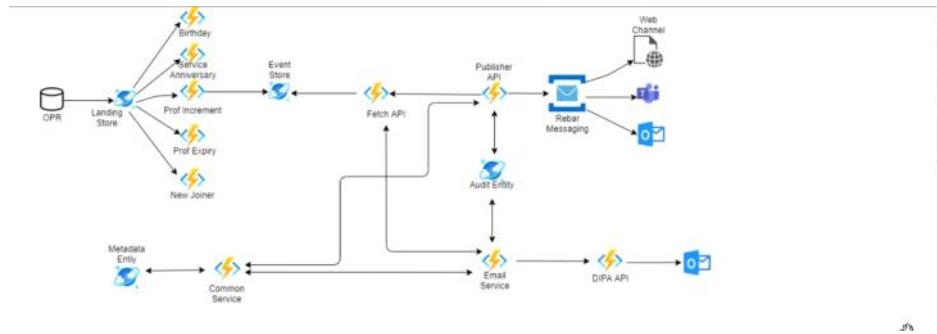
<b>Scenario</b>	Accenture's Bot sends "nudges" to users in Teams (1:1 messages). In the card the Bot sends, there is a deep link to open a new Teams message. This works fine, but clicks on that link cannot be tracked by the Bot since they are client-side only
<b>Need</b>	Tracking the action to open a new message

## Proposed Solution with Adaptive Cards v2

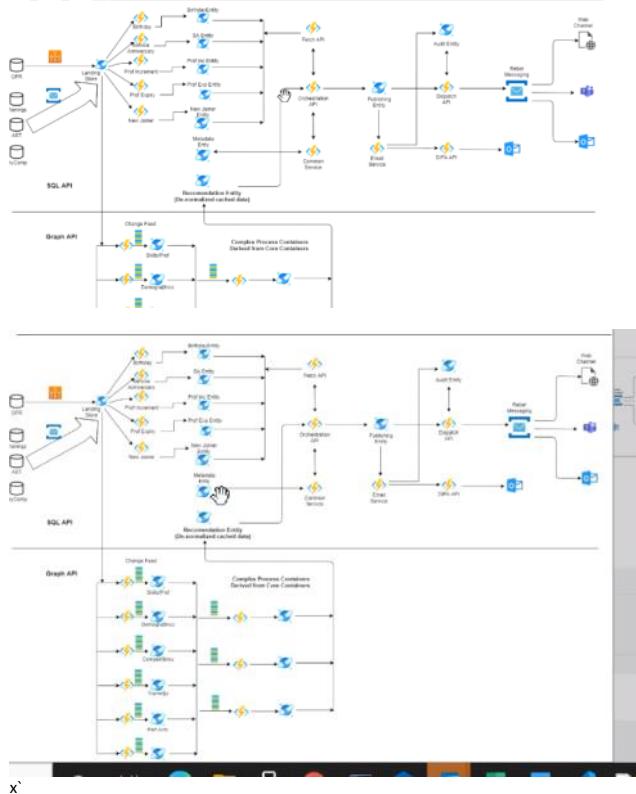


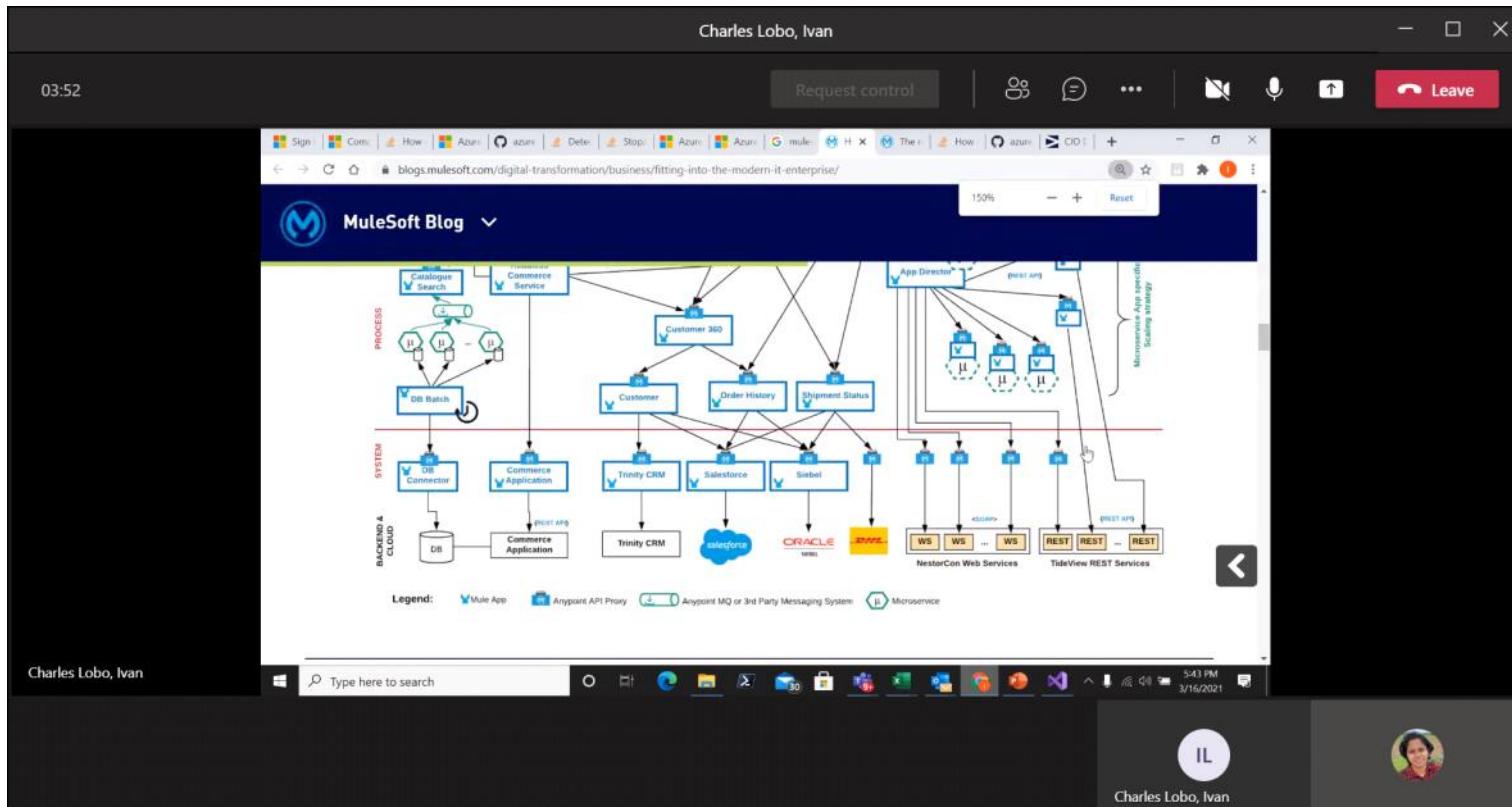
# Mulesoft Architecture

Monday, January 18, 2021 11:26 AM



New





dapper

# Rule engine sample

Friday, January 22, 2021 6:22 PM

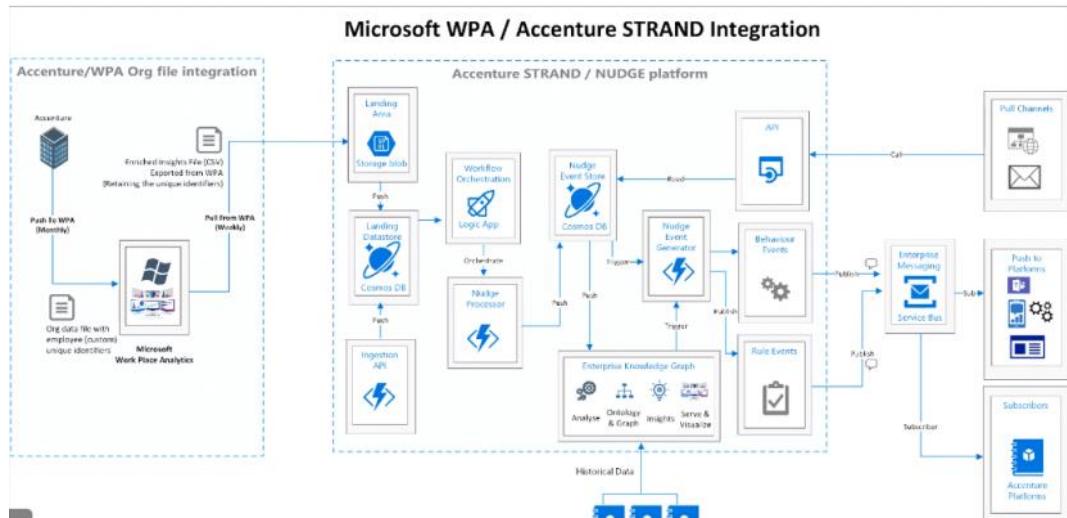
```
new Rule {Key = "NewJoinerPriorityConnect", Expression =
"Convert.ToDateTime(f.Date_Of_Joining).Date <= DateTime.Today.Date &&
Convert.ToDateTime(f.Date_Of_Joining).Date >= DateTime.Today.Date.AddDays(-119) &&
Convert.ToDateTime(f.Date_Of_Joining).Date <= DateTime.Today.Date.AddDays(-89) &&
(f.IsPriorityDocumented == true)", EventType = Events.NewJoinerPriorityConnect }

new Rule {Key = "NewJoinerToUpdateESS", Expression = "Convert.ToDateTime(f.Date_Of_Joining).Date
<= DateTime.Today.Date && Convert.ToDateTime(f.Date_Of_Joining).Date >=
DateTime.Today.Date.AddDays(-29)", EventType = Events.NewJoinerToUpdateESS },

    new Rule {Key = "NewJoinerToUpdateTalentCard", Expression =
"Convert.ToDateTime(f.Date_Of_Joining).Date <= DateTime.Today.Date.AddDays(-29) &&
Convert.ToDateTime(f.Date_Of_Joining).Date >= DateTime.Today.Date.AddDays(-44)", EventType =
Events.NewJoinerToUpdateTalentCard },
```

# Nudge Architecture

Monday, November 30, 2020 1:41 PM



Home > 64145-nudge-dev | Data Explorer

64145-nudge-dev | Data Explorer

Accenture Dev account

Search (Ctrl+F)

Overview Activity log Access control (IAM) Tags Diagnosis and solve problems Quick start Notifications Data Explorer Settings Features Replicate data globally Default consistency Backup & Restore Firewall and virtual networks Private Endpoint Connections CORS Keys

Sunny A.

Home > rg-64145-prod > 64145-nudge-prod

64145-nudge-prod | Data Explorer

Accenture Dev account

Search (Ctrl+F)

Overview Activity log Access control (IAM) Tags Diagnosis and solve problems Quick start Notifications Data Explorer Settings Features Replicate data globally Default consistency Backup & Restore Firewall and virtual networks Private Endpoint Connections CORS Keys

Sunny A.

The screenshot shows two Data Explorer windows side-by-side. Both windows have identical navigation bars and left-hand menus. The top menu bar includes 'Home', 'rg-64145-prod', '64145-nudge-prod', 'Accenture Dev account', 'Search (Ctrl+F)', and tabs for 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnosis and solve problems', 'Quick start', 'Notifications', and 'Data Explorer'. The left sidebar contains 'Settings' (Features, Replicate data globally, Default consistency, Backup & Restore, Firewall and virtual networks, Private Endpoint Connections, CORS, Keys), 'Diagnosis and solve problems' (Quick start, Notifications), and 'Data Explorer' (Overview, Activity log, Access control (IAM), Tags, Diagnosis and solve problems, Quick start, Notifications, Data Explorer, Settings). The main area displays the 'SQL API' for the 'Nudge' and 'strandMetaIdentity' entities, showing tables like 'nudge', 'strandMetaIdentity', and 'strandMetaIdentity'. The 'nudge' table has columns such as 'id', 'temp...', 'createdDate', 'status', 'eventType', 'correlationId', 'employeeId', 'supervisorId', 'supervisorName', 'attachments', and 'attachmentsCount'. The 'strandMetaIdentity' table has columns like 'id', 'temp...', 'scaleSettings', 'storedProcedures', 'userDefinedFunctions', 'triggers', 'conflicts', 'strandIdentity', 'strandMetaIdentity', 'strandMetaIdentity', 'strandMetaIdentity', and 'strandMetaIdentity'.

Semi nudge format is formed in transformation svc and will go into strandevententity

## Compare with your nudge

```
POST https://fa-64145-feedbackservice-stage.ase2-stage.paa5.p.azurewebsites.net/CoreServices/Fetch/GetEventDetails

Params Authorization Headers (10) Body ● Pre-request Script Tests Settings Cookies ▾

Body Cookies Headers (6) Test Results

Pretty Raw Preview Visualize JSON ▾  
```

Status: 200 OK Time: 526 ms Size: 4.42 KB Save Response

```
25 "employeeEnterpriseId": "s.a.singh.chhabra",
26 "eventMessage": "Swaranjeet Singh Chhabra **still has a PM in Apache Tomcat Application Deployment**. [encourage him to increase his proficiency and upskill]())",
27 "eventTimestamp": "2023-12-08T00:00:00+00:00",
28 "eventType": "PMU",
29 "eventSummary": {
30   "skillName": "Apache Tomcat Application Deployment",
31   "proficiency": "PA",
32   "employeeEnterpriseId": "s.a.singh.chhabra@accenture.com"
33 }
34
35
36
37 "supervisorEnterpriseId": "shivani.b.mishra",
38 "supervisorId": "111MP70B",
39 "supervisorName": "Shivani Mishra",
40 "employeeName": "Swaranjeet Singh Chhabra",
41 }
```

Technical Discussion. <NNTO>

01:39:59

Request control | Share | Comments | Leave

**Participants**

Invite someone or dial a number

In this meeting (6) Mute all

- Yuvraj, Thilagavathy
- Charles Lobo, Ivan
- Maheshwari, Heetesh
- Somalinga, Lavanya
- Verma, Sunny A. Organizer
- Wadd, Balasaheb

Others from chat (2)

Sheet1 Sheet2 Sheet3

Charles Lobo, Ivan

Search for anything

HM Verma, Sunny A. Charles Lobo, Ivan Somalinga, Lavanya Wadd, Balasaheb

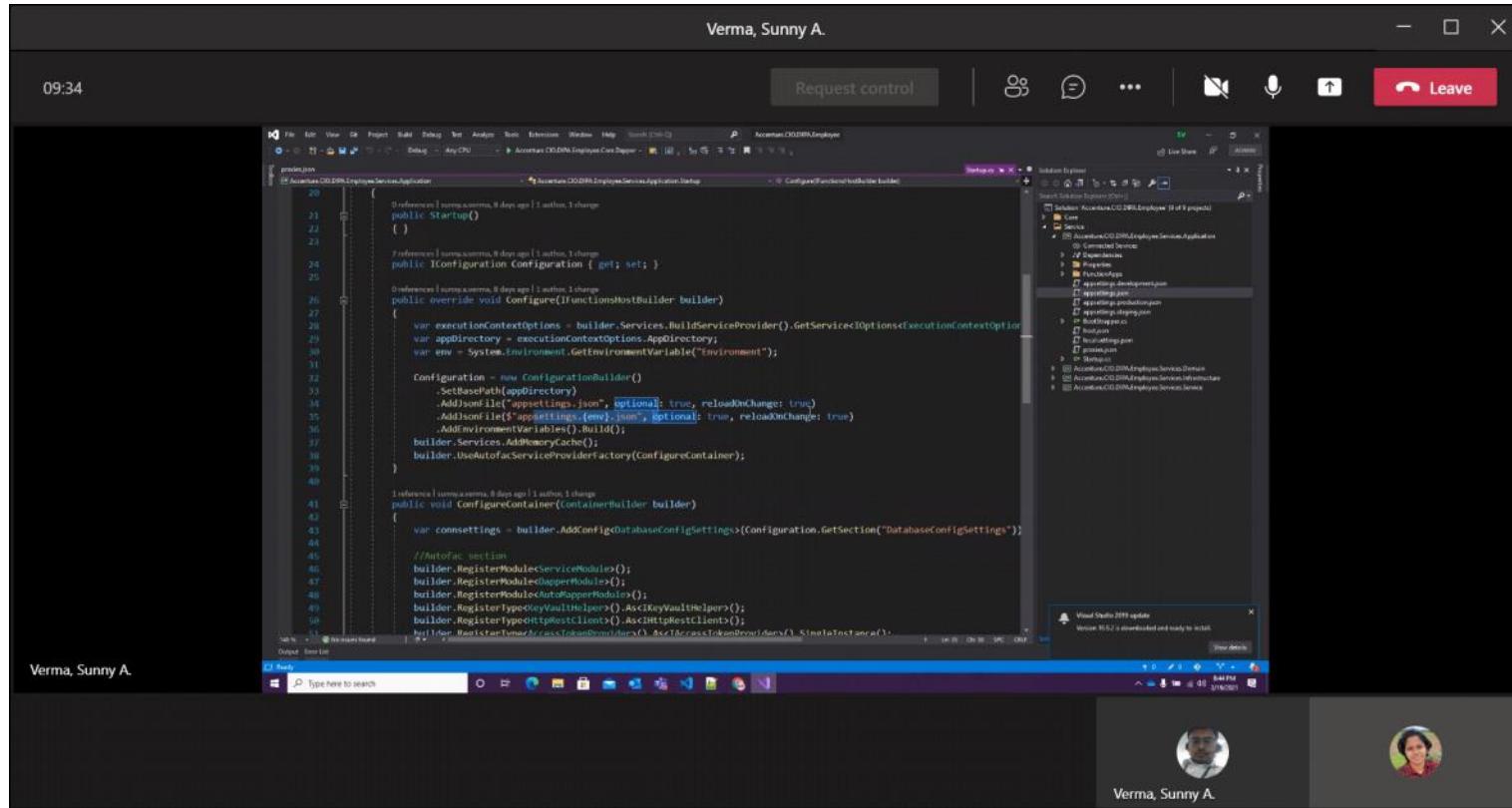
1 Not set

A	B	C	D	E	F	G	H	I	J
Strand	Ingestion					4	50 events		
Landing Entity	Transformation	StrandEventEntity				2			
New FA		10 subcategories							
SupervisorEntity									
Publishing		StrandPublishEntity	Fetch API	10 events	Algorithm	Thilaga	Team Details		
SupervisorIngestor			API driven Microservice						
Blob	ReadAllSupervisors								
foreach loop	24995 GetAllSupervisors (collection)								
{}	Mapping	Preferences	Callback						
	Deletes everything from	SupervisorEntity							
	Inserts new								

7:10 PM 12/7/2020

## Building configuration Object in startup.cs

Friday, March 19, 2021 8:44 PM



```
Verma, Sunny A.

9:34

File Edit View Go Project Build Debug Test Analyze Tools Extension Window Help Search (Ctrl+F)
AcmeCoreCD2019EmployeeServicesApplication -> AcmeCoreCD2019EmployeeServicesApplication -> ConfigureFunctionsHostBuilder.cs

public void ConfigureServices(IServiceCollection services)
{
    services.AddDbContext<EmployeeContext>(options =>
        options.UseSqlServer(Configuration.GetConnectionString("DefaultConnection")));
    services.AddControllers();
    services.AddSignalR();
}

public void Configure(IApplicationBuilder app, IWebHostEnvironment env)
{
    if (env.IsDevelopment())
    {
        app.UseDeveloperExceptionPage();
    }
    else
    {
        app.UseExceptionHandler("/Error");
        app.UseHsts();
    }

    app.UseHttpsRedirection();
    app.UseStaticFiles();
    app.UseRouting();
    app.UseAuthorization();
    app.UseEndpoints(endpoints =>
    {
        endpoints.MapControllerRoute(
            name: "default",
            pattern: "{controller=Home}/{action=Index}/{id?}");
        endpoints.MapHub<EmployeeHub>("/EmployeeHub");
    });
}

private void ConfigureContainer(ContainerBuilder builder)
{
    builder.RegisterModule<EmployeeModule>();
    builder.RegisterModule<MapperModule>();
    builder.RegisterType<KeyVaultHelper>().As<IKeyVaultHelper>();
    builder.RegisterType<HttpClient>().As<IHttpClient>();
    builder.RegisterTransient<ITokenDecoder>().As<ITokenDecoder>();
    builder.UseAutofacServiceProviderFactory(ContainerBuilder);
}

private void ConfigureDatabase(IServiceCollection services)
{
    services.AddDbContext<EmployeeContext>(options =>
        options.UseSqlServer(Configuration.GetConnectionString("DefaultConnection")));
}

private void ConfigureAuth(IServiceCollection services)
{
    services.AddAuthentication(JwtBearerDefaults.AuthenticationScheme)
        .AddJwtBearer(options =>
        {
            options.TokenValidationParameters = new TokenValidationParameters
            {
                ValidateIssuer = false,
                ValidateAudience = false,
                ValidateLifetime = true,
                ValidateIssuerSigningKey = true,
                IssuerSigningKey = new SymmetricSecurityKey(Encoding.UTF8.GetBytes("MySecretKey"))
            };
        });
}

private void ConfigureCors(IServiceCollection services)
{
    services.AddCors(options =>
        options.AddPolicy("AllowAll", builder =>
        {
            builder.AllowAnyOrigin()
                .AllowAnyMethod()
                .AllowAnyHeader();
        }));
}

private void ConfigureSignalR(IServiceCollection services)
{
    services.AddSignalR();
}
```

# Sample PPT

Tuesday, December 15, 2020 2:21 PM

## CIO15 - DU Meet

Request control |

### myCompetency

**Q1 REFLECTIONS**

- ENABLE GROWTH**
  - Secondary skill approval guidelines redefined for select levels
  - Provision to add skill recommendation as secondary skill
- DEEP EXPERTISE**
  - Refined STA, PCS assessment workflow
- EMPLOYEE EXPERIENCE**
  - Assessment stage specific proficiency archival alert mailers launched.
  - UI enhancements for clear assessment outcome communication.
  - Feedback record mechanism provisioned.
- TECH ENHANCEMENTS/ R&D**
  - MyCompetency- DSM Skill Proficiency interface remodeled.
  - Microservices launch of Home, Skill Management modules
  - Performance improvements on Home, Journey page
- OUTCOME**
  - Instant skill secondary skill approval for SE and above. **46,309** secondary skills of **30K** unique employees auto-approved, resulting in increased skill/employee ratio and score for ATCI in Global Dashboard.
  - Enhanced user experience – **3297** skill addition from recommendation page.
  - Reduced helpdesk queries, **64%** reduction in queries
  - Skill-Proficiency synergy established between myCompetency & downstream applications.

**Q2 PRIORITIES**

- INDUSTRY & FUNCTIONS**
  - Introduce workflow to foster Delivery, Industry skills.
- SKILLS STRATEGY: MULTI-SKILLING**
  - Enable Multiskilling
  - Talent hub Integration
- ENABLE GROWTH**
  - Demand, Specialization led Skill Recommendation for employees.
  - Primary skill approval guidelines revived for select ML and skills.
  - Coach prompts to Supervisors to encourage employees to update skills, take assessments
- ACCELERATE ENTRY LEVEL TRANSFORMATION - DEVELOPMENT & PROGRESSION**
  - Coach prompts to Supervisors to encourage employees to update skills, take assessments
- TECHNICAL ENHANCEMENTS & R&D**
  - Microservices- Assessment module launch
- EXPECTED OUTCOME**
  - Create a strong Industry & Functions network in ATCI
  - Establish talent supply chain and processes that enable the growth strategy
  - Promote multi-skilling and deep expertise.

Ramakrishnan, Shubha

+78 Sudhakaran, Divya Durairaj, Naveenraj Charles Lobo, Ivan IL Salunke, Rahul D. Saxena, Akash D. Sharma, Mohit aa

Participants ...

Devulapalli, Sreshtha Lanke, Amogh Mathivannan, Janani Mulla, Saeed Patnaik, Salini Pawar, Shravya Salunke, Rahul D. Saxena, Akash D. Sharma, Mohit aa

## CIO15 - DU Meet

Request control |

### The Spread that was..

DIPA & STRAND

Ramakrishnan, Shubha

+75 Sudhakaran, Divya Durairaj, Naveenraj Ghosh, Anirudh

### KEY METRICS

New visitors/ week	Unique visitors	Process Areas
<b>1.3k</b>	<b>206.1k</b>	<b>26</b>
Repeated Users interacting more than thrice	Infra Savings identified	Bot Effectiveness
<b>49%</b>	<b>2.6 K \$</b>	<b>81%</b>

**Popular Process Areas**

Payroll	6%
Exits	7%
About Me	8%
Comp & Benefits	10%
Leaves & Holidays	45%

**WORKDAY**

Questions	Answers
<b>19142</b>	<b>17934</b>
Employees	Accuracy
<b>8208</b>	<b>94%</b>

**Employee insights**

- Workday Enablers- Prompts/Content
- my Voice -Configurable Self Service
- Qlik Sense Insights Dashboard
- Intuitive Adaptive Cards Redesign
- Playbook Guide
- Continuous Corpus refinement
- Organizational supplements- ATCI Social

**Supervisor insights**

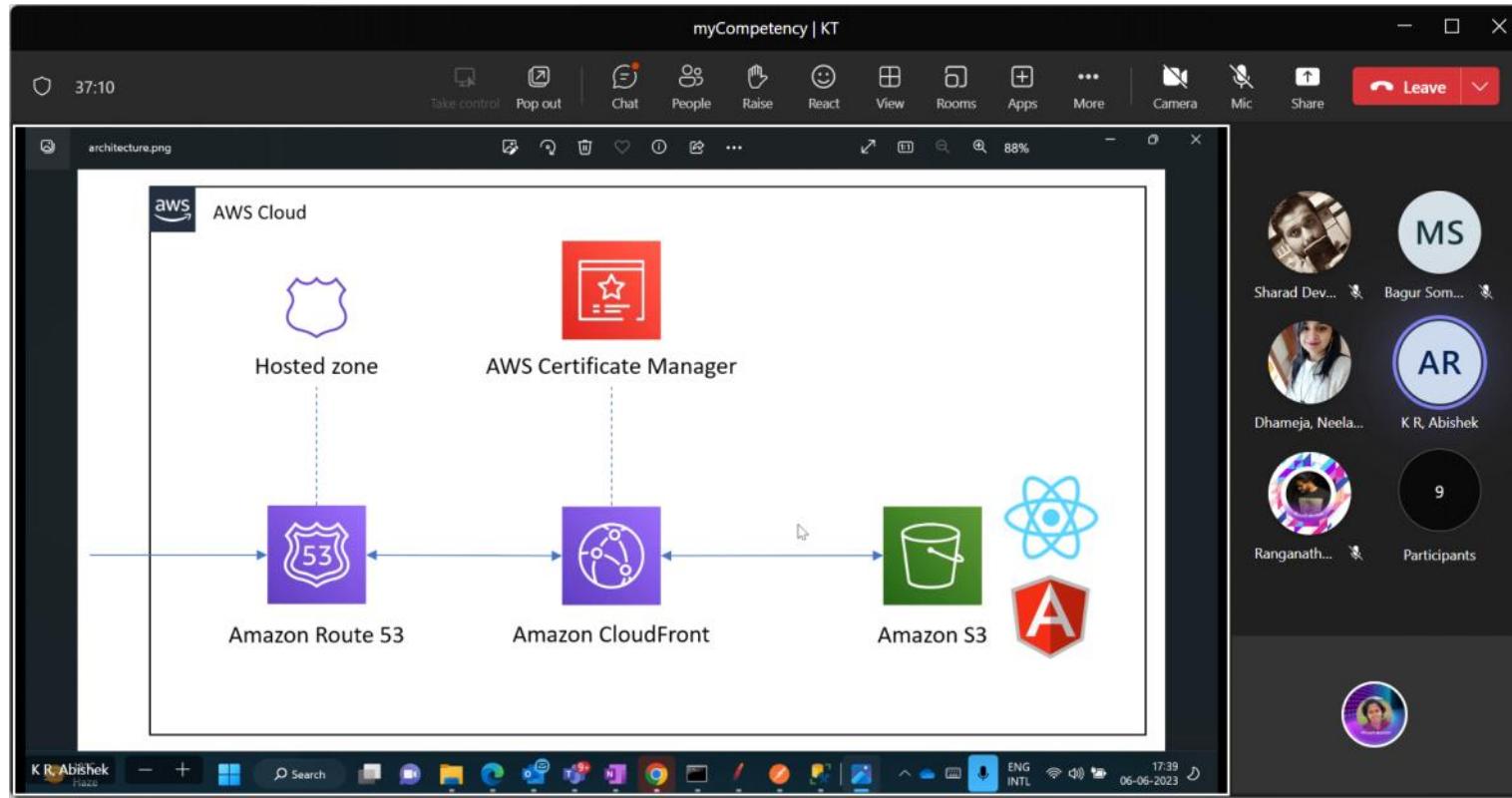
- Employee profile pic
- Email digest roll out
- Capsule feedback
- User preferences
- Personalized Nudges mapped to MyX

**Key priorities Q2**

- User option to opt-out.
- Measuring effectiveness by tracing action on the nudges ( call back)
- Feedback loop and Advanced analytics to understand usage and behavior insights

Participants ...

Yuvraj, Thilagavathy Afzal Ateeque, Syed Agarwal, Kunal Andrea Anthoniraj, Gwendlin Arora, Ratul Arun Relekar, Ashwini Ashok Bagwe, Ajinkya Awasthi, Durgesh



CIO India All Townhall

Nearing meeting capacity. Once it's full, new attendees can only watch. Learn more X

The main slide, titled 'The Journey Uphill', features a winding road through a mountainous landscape. Overlaid on the slide are several sections of text and icons:

- Year 4 CIO Operation Architecture**: Microsoft Azure and AWS Developer and Tech Lead, Technical Architect Associate, Devops Academy Program.
- Year 5-6 CIO Data Architecture**: Operations Lead APAC-DaaS-NoSQL, AWS DynamoDB, AWS OpenSearch, AWS ElastiCache, Azure-CosmosDB, Azure Cache, GCP-Firestore, Memorystore, AZ-900.
- Architecture**: Product Owner, Elasticache, Operations, Automations, Operations Lead APAC, CyberHer, Quantum Leap, AWS Immersion Day, MS & AWS Trainings.
- Year 8 CIO Data Architecture**: Product Area Manager, GCP SQL & NoSQL, Product Owner, ElastiCache & OpenSearch, Tech Arch (AWS), PMFS.

On the right side of the slide, there is a video feed of a woman with her hands raised, identified as Bagchi, Priyanka. Below the video feed are four smaller video thumbnails showing other participants. A circular icon with a person's profile and '+990' indicates the number of additional attendees.

# Power BI Integration

Monday, November 21, 2022 1:08 PM

Weekly Arch status call

3625 Request control Pop out People Chat Reactions Apps More Camera Mic Share Leave

Power BI AAME PMO

+ New Get help Search All Search

Data (preview)

Connections On-premises data gateways Virtual network data gateways

Cloud and data gateway connections for artifacts. [Learn more about supported connections](#).

**V Net Gate Way**

Azure SQL → VNet → Power BI Service VNet Data Gateway → Power BI Service

**Data Gateway**

Gateway Cloud Service (Power BI Service) and On-Premises Data gateway (Extracted, Raw)

<https://www.datahai.co.uk/power-bi/connecting-power-bi-to-azure-sql-database-using-private-endpoints/>

<https://www.sqlshack.com/setting-up-power-bi-data-gateway/>

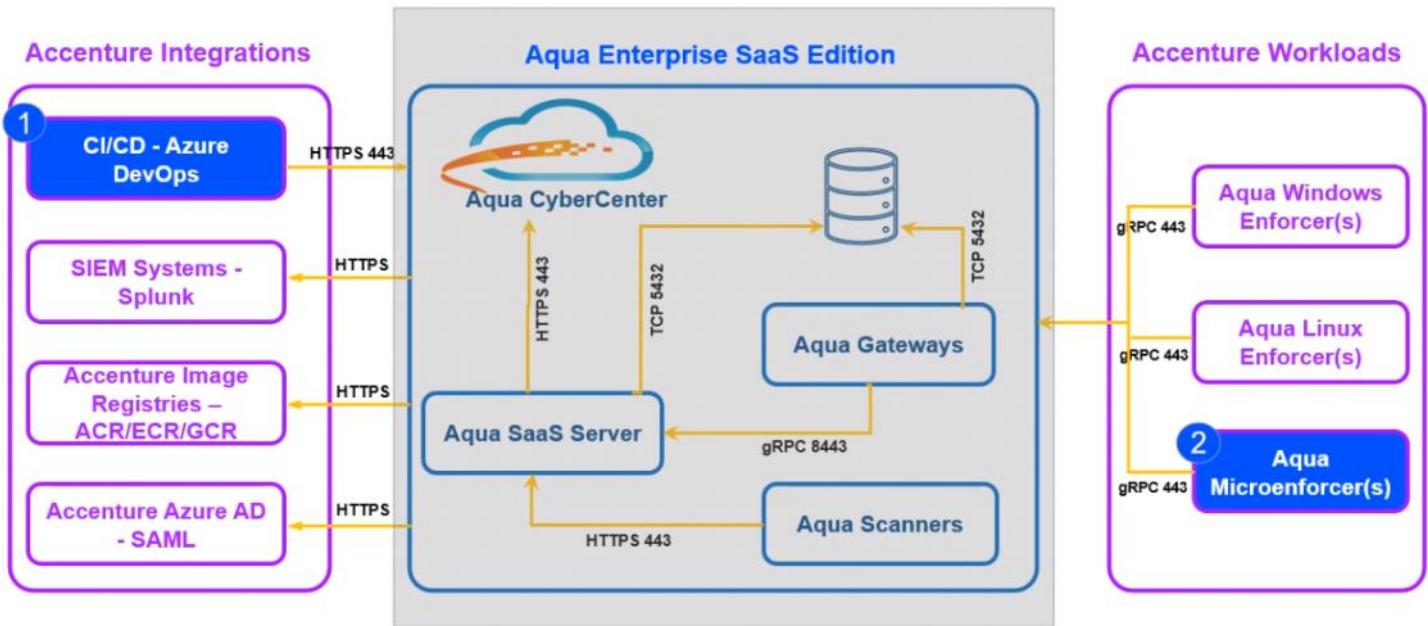
Gupta, Dheeraj D.

Ganeshlal Garg... Nageswaran, Sr...  
Kotalwar, Ragh... Gupta, Dheeraj ...  
Gokul, Aarthi ...

+6

# AQUA Scanner SaaS

Monday, August 9, 2021 5:42 PM



# Microsoft Hosted Agent

Tuesday, July 13, 2021 9:52 PM

Microsoft-hosted agents can't be listed by service tags. If you're trying to grant hosted agents access to your resources, you'll need to follow the IP range allow listing method.

## Security

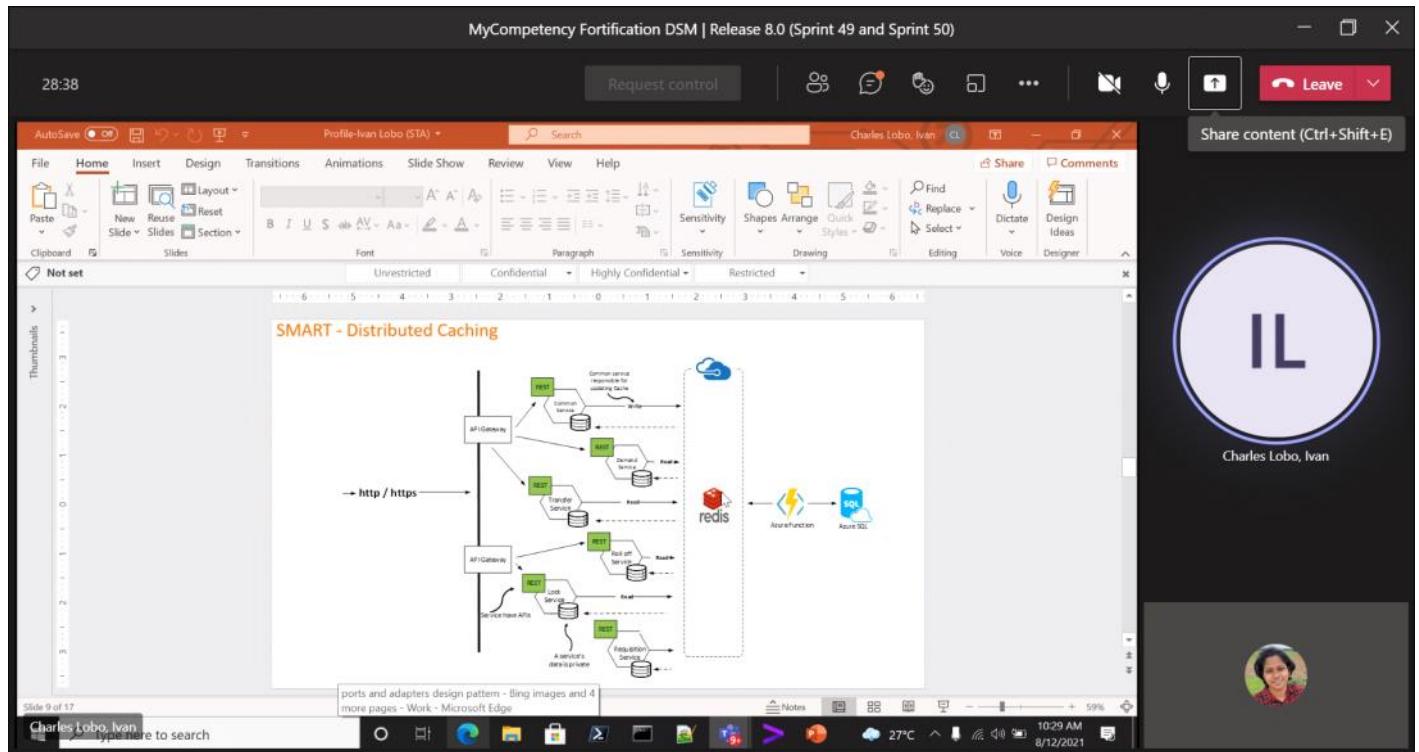
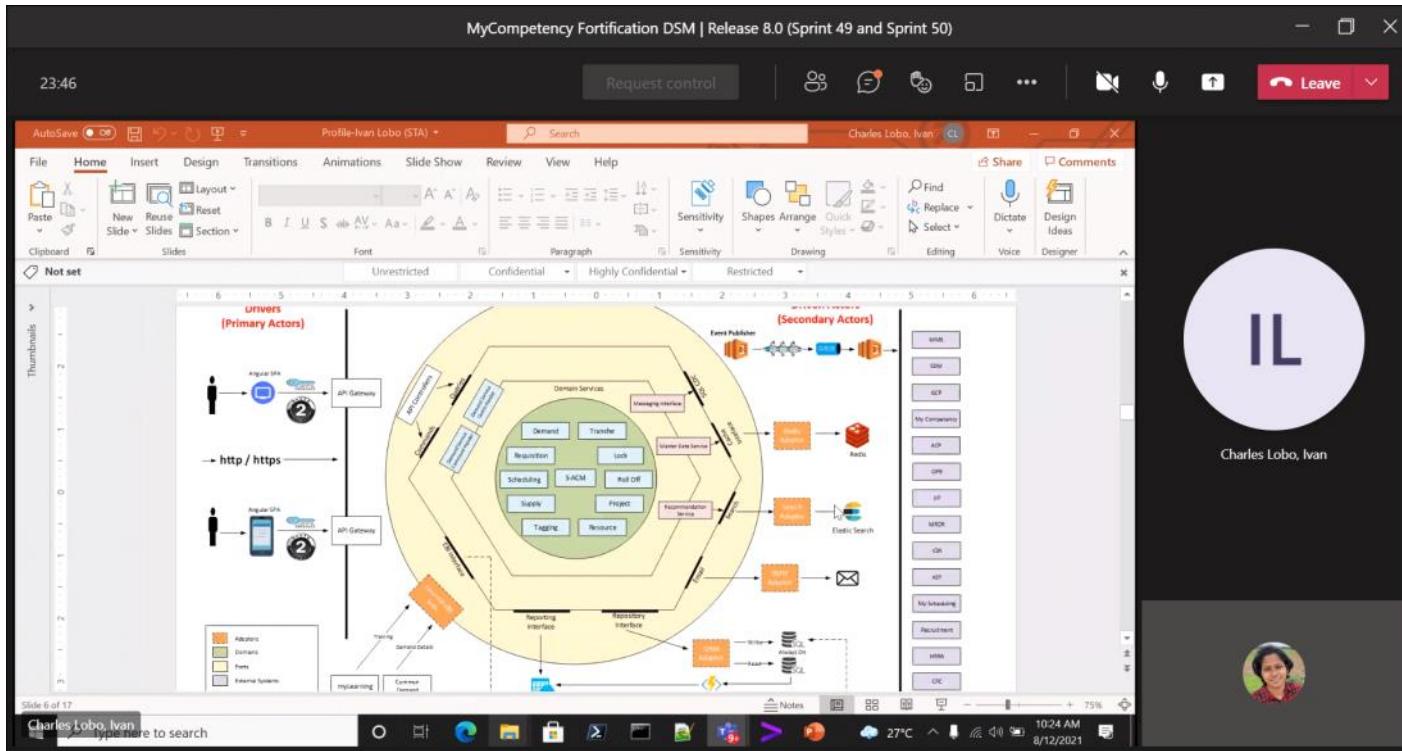
Microsoft-hosted agents run on secure Azure platform. However, you must be aware of the following security considerations.

- Although Microsoft-hosted agents run on Azure public network, they are not assigned public IP addresses. So, external entities cannot target Microsoft-hosted agents.
- Microsoft-hosted agents are run in individual VMs, which are re-imaged after each run. Each agent is dedicated to a single organization, and each VM hosts only a single agent.
- There are several benefits to running your pipeline on Microsoft-hosted agents, from a security perspective. If you run untrusted code in your pipeline, such as contributions from forks, it is safer to run the pipeline on Microsoft-hosted agents than on self-hosted agents that reside in your corporate network.
- When a pipeline needs to access your corporate resources behind a firewall, you have to allow the IP address range for the Azure geography. This may increase your exposure as the range of IP addresses is rather large and since machines in this range can belong to other customers as well. The best way to prevent this is to avoid the need to access internal resources.
- Hosted images do not conform to [CIS hardening benchmarks](#). To use CIS-hardened images, you must create either self-hosted agents or scale-set agents.

From <<https://docs.microsoft.com/en-us/azure/devops/pipelines/agents/hosted?view=azure-devops&tabs=yaml>>

# Hexagonal Architecture

Thursday, August 12, 2021 9:33 AM



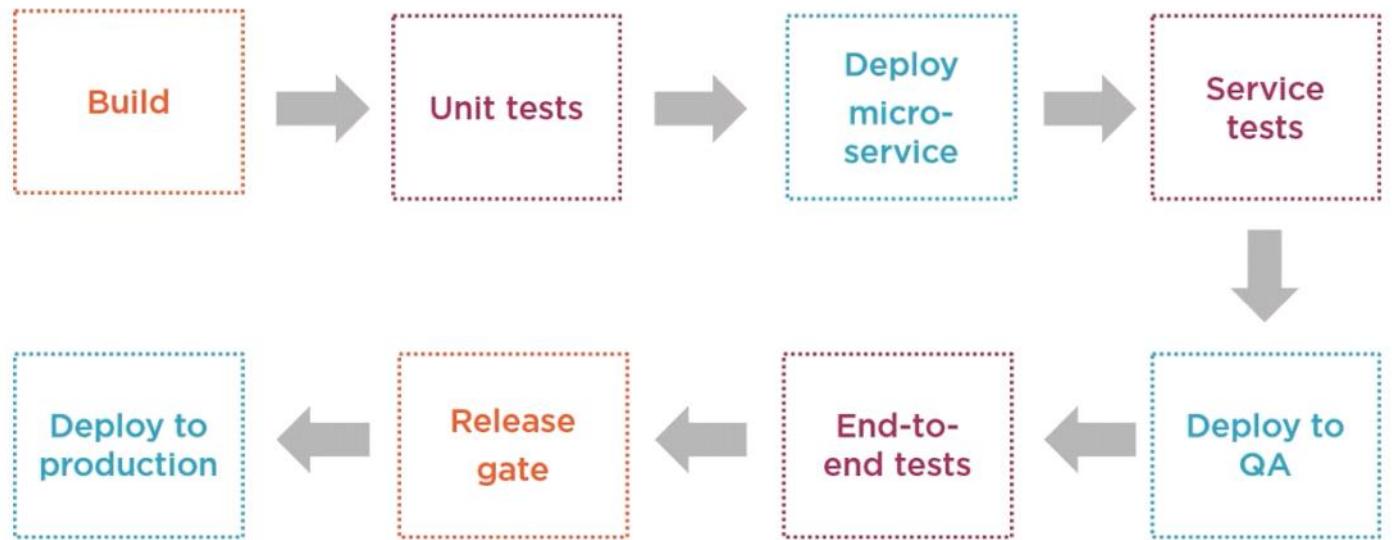
When will master get updated? Master update should be redis cache update first

Rest transactions should be SQL first

# Typical CI/CD Pipeline

Wednesday, July 12, 2023 11:13 AM

## Release Pipelines



Vendor Evaluation -

Agile development

Mock environment to integration test

Authentication & Authorization - Azure b2b enabled?

Deployment model - on-premise / cloud?

Product delivery cycle - do they follow agile?

What other security aspects -OWASP?

Charles Lobo, Ivan, Sudhakaran, Divya

17:18 Request control Sudhakaran, Divya

Charles Lobo, Ivan, Sudhakaran, Divya

My Notebook FV17 Priorities Chatbot SSA- Cosmetics Changes GCP Primary Contact NA-GCP as UR GCP Interim Prerequisites

How might we ...

Solve for Business

- Grow more super niche talent internally through upskilling & cross-skilling
- Find most role relevant talent for multi-skill demand
- Reduce attrition by providing growth opportunities to people
- Create a culture of proactive rotation and enable it with state-of-the-art solutions
- Find relevant internal talent for time-bound gigs

Solve for People

- Understand career aspirations of each individual and guide him/her on a systemic & personalized career journey helping them achieve their aspirations.
- Know skills and experiences of people and offer skilling advice basis skill gap between current state and future aspiration
- Offer part-time / stretch gig experiences to people in field of their aspirations

Screen clipping taken: 10/7/2021 11:40 AM

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Charles Lobo, Ivan, Sudhakaran, Divya

25°C Light rain 5:56 PM 10/11/2021

Charles Lobo, Ivan, Sudhakaran, Divya

17:32 Request control Sudhakaran, Divya Leave

**Nurturing Talent - OneNote**

File Home Insert Draw History Review View Help

Calibri 11 To Do (Ctrl+1) Important (Ctrl+2) Question (Ctrl+3) To Do Tag Find Tags Outlook Tasks Email Page Meeting Details Meetings

Basic Text Styles Tags

Clipboard Paste Copy Format Painter

My Notebook FY17 Priorities Chatbot SSA- Cosmetics Changes GCP Primary Contact NA-GCP as UR GCP Interim Prerequisites

A synchronized “Push” & “Pull” is needed to succeed

People centricity, Flexibility & Transparency

Talent Rotation Rotation Index Advance learning Glide path Value for projects Change management

Nurturing Talent Culture of growth Understand career aspirations Personalize career journey Opportunity marketplace Personalize learning

Screen clipping taken: 10/7/2021 11:41 AM

Sudhakaran, Divya 25°C Light rain 5:56 PM 10/11/2021

Charles Lobo, Ivan, Sudhakaran, Divya

Request control Sudhakaran, Divya Leave

**Nurturing Talent - OneNote**

File Home Insert Draw History Review View Help

Calibri 11 To Do (Ctrl+1) Important (Ctrl+2) Question (Ctrl+3) To Do Tag Find Tags Outlook Tasks Email Page Meeting Details Meetings

Basic Text Styles Tags

Clipboard Paste Copy Format Painter

My Notebook FY17 Priorities Chatbot SSA- Cosmetics Changes GCP Primary Contact NA-GCP as UR GCP Interim Prerequisites

Just Imagine...

Nisha Joshi Education: Graduate Skills: SLM, Cognitive Experience: Nil Aspiration: Full stack developer

Infrastructure Associate Back-end Developer Software Developer Full Stack Developer TL

Training: Java, SQL, never knowledge Ora 2 short term plan time high Training: NLP, Agile, JMS, GCP Ora 2 iron, short part time high Training: Reactjs, Bootstrap, MEAN Ora short learn part time high

Screen clipping taken: 10/7/2021 11:42 AM

Sudhakaran, Divya 25°C Light rain 5:56 PM 10/11/2021

# Architecture Sample

Wednesday, June 2, 2021 11:08 AM

Charles Lobo, Ivan, Verma, Sunny A.

37:22 Request control. ... Leave

Verma, Sunny A. Charles Lobo, Iv...

Meeting chat

INCORPORATING ACTIONABLE INSIGHTS to all ACTI supervisors and thus the product Strand came into existence. Strand is built on the Azure cloud platform using customized Microservice APIs and complex design patterns like DDD, CQRS/ES, IOC/DI & Fluent APIs for real time data flow and extensibility and uses multiple channels as the front end interface to resurface these insights. The main highlight of the application is a custom built dynamic rule engine in .net core which converts text based rule syntax into code dynamically at runtime and evaluates the fact data against the rulesets.

Type a new message

The diagram illustrates the architecture blueprint for the 'K1 - Architecture Blueprint (Outgoing & In-Box)' slide. It shows the flow of data from external clients (StarAI Supply Mobile App, Abacus Traditional Web App, SMART SPA Web App) through an API Gateway to internal services. The internal services include User Identity Service (Azure AD + OAuth 2.0), Logging Service, Telemetry Service, Master Data Service (Redis Cache), Demand Service, API Offload Service, and Reporting Service (DMS - Materialized Views, NoSQL). These services interact with External Sources via a central bus. The slide also includes sections for Docker and Azure Kubernetes Services.

Charles Lobo, Ivan, Verma, Sunny A.

34:50 Request control. ... Leave

Verma, Sunny A. Charles Lobo, Iv...

Meeting chat

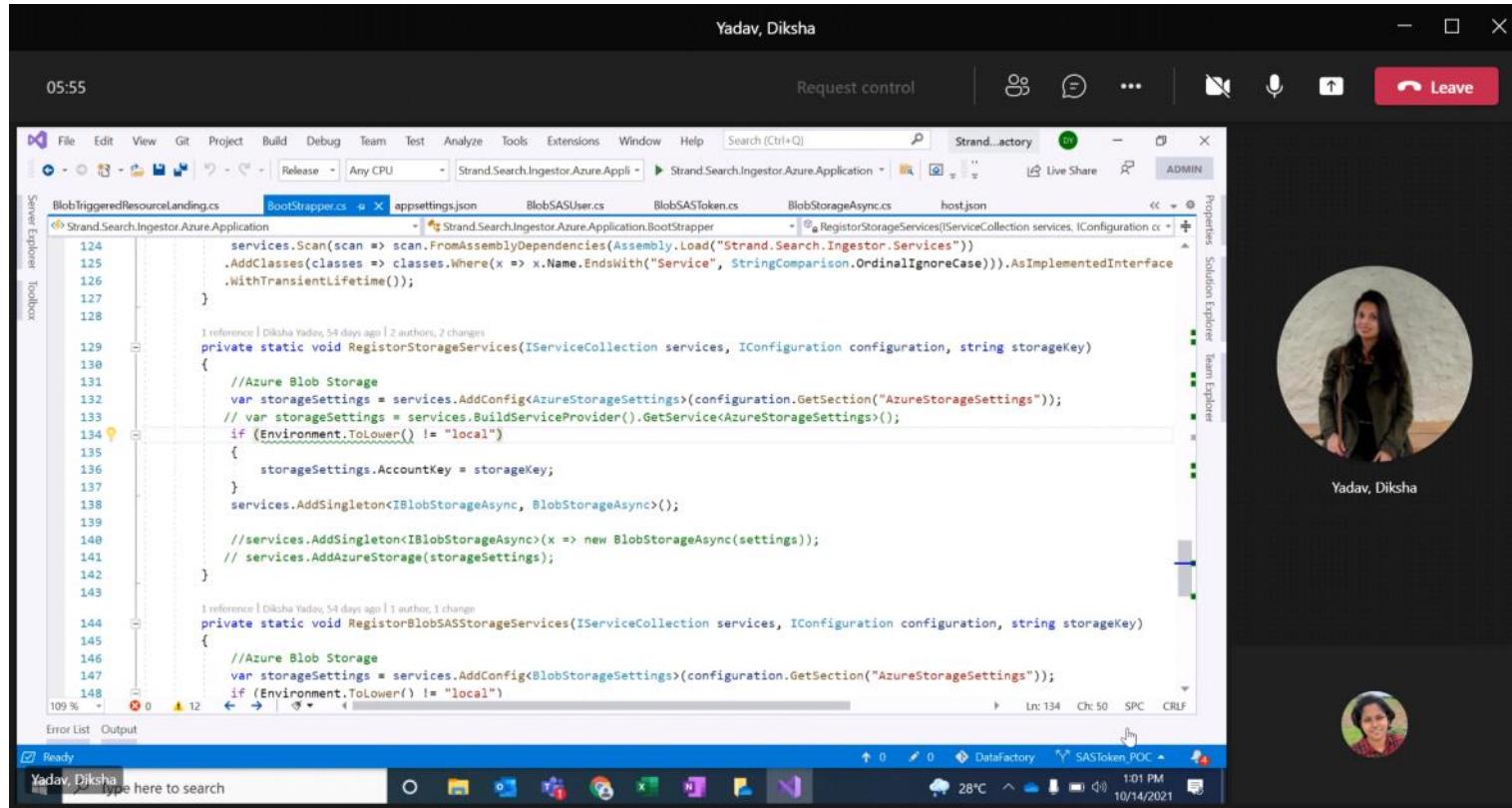
INCORPORATING ACTIONABLE INSIGHTS to all ACTI supervisors and thus the product Strand came into existence. Strand is built on the Azure cloud platform using customized Microservice APIs and complex design patterns like DDD, CQRS/ES, IOC/DI & Fluent APIs for real time data flow and extensibility and uses multiple channels as the front end interface to resurface these insights. The main highlight of the application is a custom built dynamic rule engine in .net core which converts text based rule syntax into code dynamically at runtime and evaluates the fact data against the rulesets.

Type a new message

The diagram illustrates the architecture blueprint for the 'K1 - Architecture Blueprint (Outgoing & In-Box)' slide. It shows the flow of data from external clients (SMART SPA Web App, Monitoring) through an API Management service to internal services. The internal services include Master Data Service (Redis Cache), Demand Service, API Offload Service, Recommendation Service (MarkIt), Reporting Service (DMS - Materialized Views, NoSQL), and Analysis (Azure Data Lake). These services interact with External Sources via a central bus. The slide also includes sections for Docker and Azure Kubernetes Services.

## Bootstrap custom class to register services

Thursday, October 14, 2021 1:01 PM



The screenshot shows a Microsoft Visual Studio interface with the following details:

- Title Bar:** Strand.Search.Ingestor.Azure.Application
- User Profile:** Yadav, Diksha
- Code Editor:** BootStrapper.cs (highlighted)
- Code Content:**

```
124     services.Scan(scan => scan.FromAssemblyDependencies(Assembly.Load("Strand.Search.Ingestor.Services")))
125         .AddClasses(classes => classes.Where(x => x.Name.EndsWith("Service", StringComparison.OrdinalIgnoreCase)).AsImplementedInterface()
126             .WithTransientLifetime());
127 }
128
129 // reference [ Diksha Yadav, 54 days ago | 2 authors, 2 changes
130 private static void RegisterStorageServices(IServiceCollection services, IConfiguration configuration, string storageKey)
131 {
132     //Azure Blob Storage
133     var storageSettings = services.AddConfig<AzureStorageSettings>(configuration.GetSection("AzureStorageSettings"));
134     // var storageSettings = services.BuildServiceProvider().GetService<AzureStorageSettings>();
135     if (Environment.ToLower() != "local")
136     {
137         storageSettings.AccountKey = storageKey;
138     }
139     services.AddSingleton<IBlobStorageAsync, BlobStorageAsync>();
140
141     //services.AddSingleton<IBlobStorageAsync>(x => new BlobStorageAsync(settings));
142     // services.AddAzureStorage(storageSettings);
143 }
144
145 // reference [ Diksha Yadav, 54 days ago | 1 author, 1 change
146 private static void RegisterBlobSASServices(IServiceCollection services, IConfiguration configuration, string storageKey)
147 {
148     //Azure Blob Storage
149     var storageSettings = services.AddConfig<BlobStorageSettings>(configuration.GetSection("AzureStorageSettings"));
150     if (Environment.ToLower() != "local")
```
- Toolbars:** Standard, Git, Project, Build, Debug, Team, Test, Analyze, Tools, Extensions, Window, Help
- Status Bar:** Ln: 134 Ch: 50 SPC CRLF
- Bottom Icons:** Ready, Type here to search, File Explorer, Task List, Solution Explorer, Team Explorer, Properties, Live Share, Leave

# Redis Cache

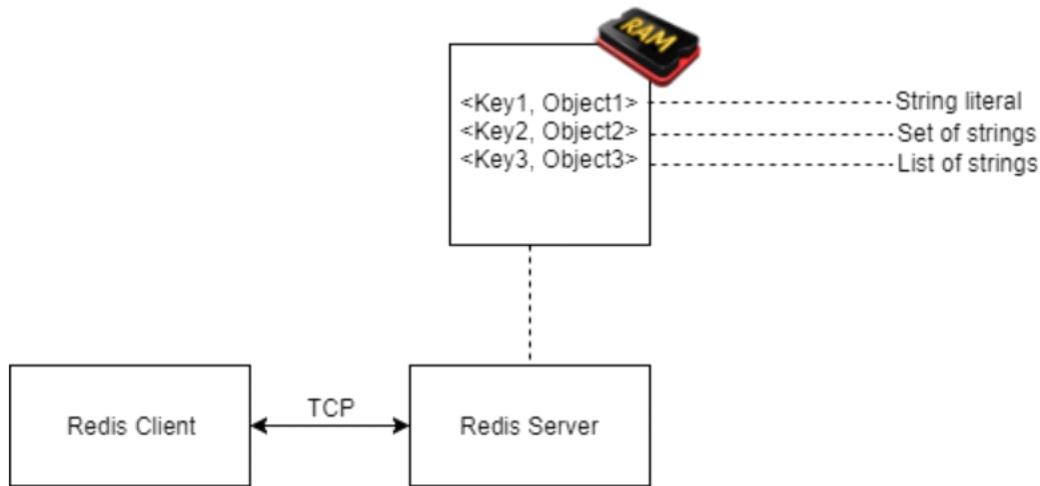
Friday, April 30, 2021 3:44 PM

REDIS (Remote Dictionary Server)

We can perform CRUD operations on Redis cache

We can define an expiration for each key and value pair stored in Redis.

Post expiration, it will be deleted.



We have to host redis client in our application, which will communicate request to the redis server. Communication happens over simple, TCP protocol.

Value can be a simple string to List of objects.

Redis is very interesting as a centralized Cache / Datastore / Synchronized data provider is that it is **blazing fast**, mostly because **all data is persisted in-memory**. By default, Redis will also persist all data to non-volatile storage, a setting that can be configured, and it also supports replication and high-availability.

# Follow Along!



<https://github.com/bmaluijb/NationalCookies>



Visual Studio 2017

# InstancePerLifetimeScope

Thursday, October 21, 2021 10:06 PM

Use `InstancePerLifetimeScope` instead of `InstancePerRequest`. In previous ASP.NET integration you could register a dependency as `InstancePerRequest` which would ensure only one instance of the dependency would be created per HTTP request. This worked because Autofac was in charge of setting up the per-request lifetime scope. With the introduction of `Microsoft.Extensions.DependencyInjection`, the creation of per-request and other child lifetime scopes is now part of the conforming container provided by the framework, so all child lifetime scopes are treated equally - there's no special "request level scope" anymore. Instead of registering your dependencies `InstancePerRequest`, use `InstancePerLifetimeScope` and you should get the same behavior. Note if you are creating your own lifetime scopes during web requests, you will get a new instance in these child scopes.

From <<https://teams.microsoft.com/multi-window/?agent=electron&version=21090302911>>

# CONGRATULATIONS ON YOUR PROMOTION!

**It takes a lot of hard work and dedication. You should be proud of achieving this major career milestone.**

**You invested your time and energy to deliver results.**

You made an impact.  
We see you.  
We are invested in you.

**THILAGAVATHY  
YUVARAJ**

**Level: 8**

**Effective: 1 December 2021**



**Thilagavathy, here's how we're recognizing and rewarding YOU:**

Your new Base Pay:  
Variable Bonus  
awarded:

**1,588,910 INR**  
**163,383 INR**

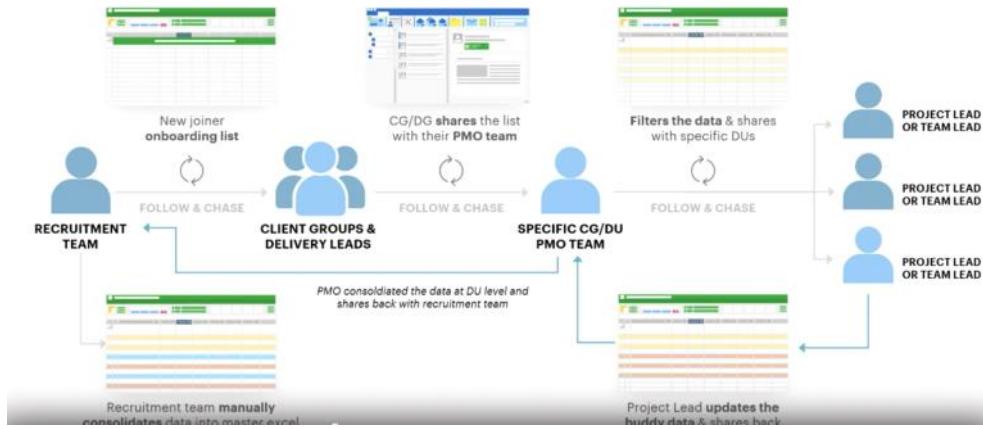
[Click here](#) to learn more about the rewards available to you at your new level.

# PowerApps Real Scenarios

Tuesday, December 14, 2021 1:48 PM

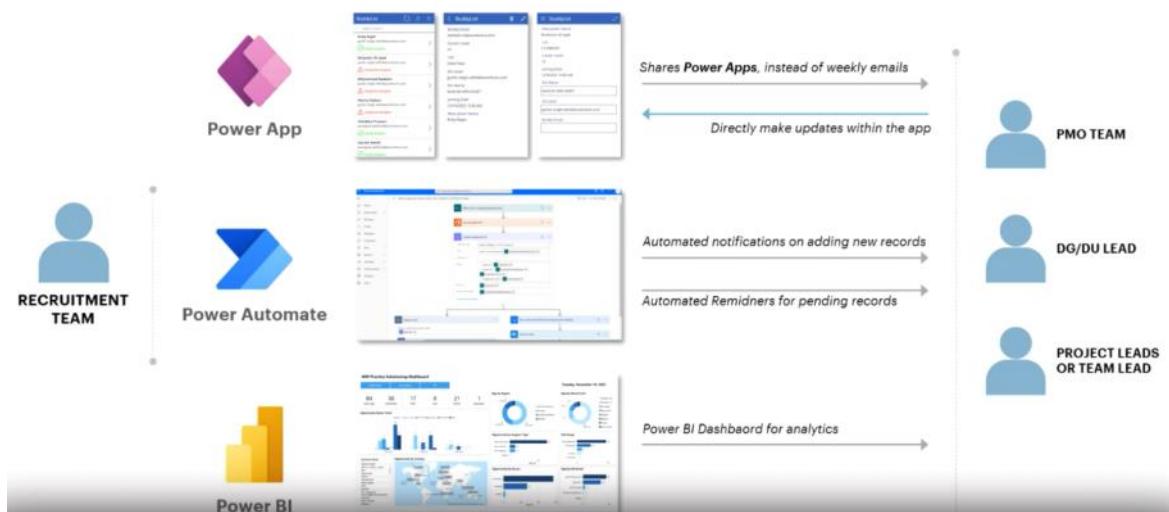
Problem statement - mundane manual work -

## LET'S LOOK AT A REAL WORLD USE-CASE TYPICAL BUDDY ASSIGNMENT PROCESS FOR NEW JOINERS



Solution using Powerapps

## INNOVATING BUDDY ASSIGNMENT ELIMINATE MANUAL DATA ENTRY, AUTOMATE FOLLOW & CHASE



# START INNOVATING WITHIN OUR GROUPS

Rate with Power Platform 15-Dec-21

Need help?

Leave



## Performance Management

- > Priority Review, Updates & Feedbacks
- > Talent Groups Mapping
- > People alignment with Talent Groups
- > Talent Outcome Review and Checks
- > Reward Communicator Mapping

## Recruitment & Talent Management

- > Demand Tracking
- > EI Availability and Skill & level Mapping
- > Employee Referral Tool & Status Tracker
- > Interviews Updates & Feedback Tracker
- > New Joiner Pipeline Tracker

## Employee Lifecycle Management

- > Buddy Assignment
- > Employee onboarding Checklist
- > HR Policies & others Training References
- > Automated Welcome Emailers
- > Employee Service Request Management

## Employee Experience & Wellbeing

- > Employee wellbeing apps like Vaccine Management, CARES app, Plasma Donor.
- > Automated emailers for anniversaries and birthdays.
- > Social Connections & People Finder
- > Milestone celebrations

## Team Management & Operations

- > Automated Reports for HC, Attrition, Retention, bench time, etc.
- > Employee Profile App with mapping to skills, certifications & proficiency
- > Streamline data capture, consolidation & reporting

Innovate with Power Platform 15-Dec-21

# INNOVATE FOR SELF

Search

Activity (27)

Chat (31)

DIPA

Teams

Calendar

Calls

Files

...

Help

Need help? Leave

Help

Settings

...

### PERSONAL PRODUCTIVITY

Easily automate personal reminders & notifications, and create workflows to eliminate repetitive & manual tasks

### TEAM MANAGEMENT

Effectively manage teams, maintain employee profile summary, capture key data like vacations, feedbacks, recognitions, etc.

### TEAM COLLABORATION

Quickly create team engagement surveys/polls, conduct & manage community events, extend with Teams & Yammer integration

### TASK MANAGEMENT

Efficiently manage individual to-do list, track project related activities & approvals, schedule meeting invites with automated tracking

### DATA CONSOLIDATION

Quickly build data entry apps, consolidate data from multiple sources, and create data visualizations with actionable insights

The screenshot shows a Microsoft Teams meeting interface. On the left, there's a dark sidebar with various team communication and collaboration icons. The main content area displays a presentation slide titled "Power To Everyone Submit Idea". The slide contains two screenshots of the "myInnovation" portal's "SUBMIT AN IDEA" form. The first screenshot shows the initial form with dropdown menus for category and challenge. The second screenshot shows the form after an idea has been submitted, with the challenge dropdown now set to "Power to Everyone". Below these screenshots, a text box reads: "Submit your Idea on [myInnovation](#) portal by selecting Innovation Contest as 'Power to Everyone' and selecting the respective theme from the challenge dropdown". To the right of the slide, another screenshot of the "Powerthon Ideafest" website is visible, showing a "Submit Idea - Innovate for Self" section. A text box next to it states: "After submitting the idea on myInnovation portal, the idea details – 'Category' & 'Idea Number' need to be updated on [Power To Everyone](#) portal". The bottom of the screen shows the standard Microsoft Teams navigation bar with icons for Help, Live, and recording status.

<https://powertoeveryone.accenture.com>

# DevSecOps

Tuesday, October 26, 2021 7:13 PM

## Entry Criteria

The minimum viable product behaviors, represents current MVP for CIO delivery teams. These will be revisited regularly as new capabilities and practices become available. Guidelines, best practices, and specific expectations & requirements will be provided to teams in a playbook.

DEVSECOPS OUTCOMES		Governance	DevSec	Ops
<b>Agility</b>	One Team, development & operations, working from a common backlog	Continuously Identify and action automation & improvement opportunities	No static quality analysis issues	Automated deploy and rollback
	Code is Peer Reviewed	Source Code Management System Branching and Merge Strategy	Delivering with Agile Practices	Service reliability and scalability planned
	Business Owner(s) engaged in prioritization of the common backlog	MVP 03 SCM and Branch Strategy	MVP 09 No static quality analysis issues	MVP 16 Service reliability and scalability planned
	Release Risks Accepted by Product Owner	MVP 04 Release Risks Accepted by Product Owner	MVP 10 Delivering with Agile Practices	MVP 17 Managing to CIO SLOG and Acceptance processes
	Responsible Individual Identified to bring Operations Priorities to the common product backlog	MVP 05 Responsible individual Identified	MVP 11 CI Implemented and Build without error	MVP 18 Monitoring with actionable alerts
<b>Quality</b>	MVP 06 Complies with CIO Security Standards	MVP 07 Continuously Identify and action	MVP 12 Test Automation and Coverage expectation met per SLOG	MVP 19 Manage to Administer Infrastructure Priorities & Compliance items
	MVP 08 SCM and Branch Strategy	MVP 09 No static quality analysis issues	MVP 13 Security vulnerabilities/findings remediated	MVP 20 Managing to prevent focused Security priorities and compliance items
	MVP 10 Delivering with Agile Practices	MVP 11 CI Implemented and Build without error	MVP 14 Managing to Stay Current priorities and compliance items	MVP 15 Managing to prevent focused Security priorities and compliance items
<b>Security</b>	MVP 12 Test Automation and Coverage expectation met per SLOG	MVP 13 Security vulnerabilities/findings remediated	MVP 16 Service reliability and scalability planned	MVP 17 Managing to CIO SLOG and Acceptance processes
	MVP 17 Managing to CIO SLOG and Acceptance processes	MVP 18 Monitoring with actionable alerts	MVP 19 Manage to Administer Infrastructure Priorities & Compliance items	MVP 20 Managing to prevent focused Security priorities and compliance items

HR Tech - IT Biz Agility Strategy

Request control

Leave

HR Tech - IT Biz Agility Strategy

Chrome File Edit View History Bookmarks Profiles Tab Window Help

dev.azure.com/accenturecio/ITO/\_backlogs/backlog/1.4%20Human%20Resources%20Technology/Epics/

Azure DevOps accenturecio01 / ITO / Boards / Backlog

1.4 Human Resources Technology

Backlog Analytics Feature Timeline Epic Roadmap + New Work Item View as Board Column Options ... Epics

Order	Work Item Type	Title	State	Effort	Business...	Value Area	Tags
5	Epic	Wave 4 - HR Technology	New		Business		
	Feature	9375 Talent Planning	New		Business		
	User Story	MVP 01 Common Backlog Establishment	Active		Business		
	User Story	MVP 02 Code is Peer Reviewed	Resolved		Business		
	User Story	MVP 03 Business Owner(s) engaged in prioritization of the common backlog	New		Business		
	User Story	MVP 04 Release Risks Accepted by Product Owner	New		Business		
	User Story	MVP 05 Responsible individual Identified	New		Business		
	User Story	MVP 06 Complies with CIO Security Standards	New		Business		
	User Story	MVP 07 Continuously Identify and action	New		Business		
	User Story	MVP 08 SCM and Branch Strategy	Resolved		Business		
	User Story	MVP 09 No static quality analysis issues	Resolved		Business		
	User Story	MVP 10 Delivering with Agile Practices	New		Business		
	User Story	MVP 11 CI Implemented and Build without error	Resolved		Business		
	User Story	MVP 12 Test Automation and Coverage expectation met per SLOG	Resolved		Business		
	User Story	MVP 13 Security vulnerabilities/findings remediated	Resolved		Business		
	User Story	MVP 14 Managing to Stay Current priorities and compliance items	New		Business		
	User Story	MVP 15 Automated deploy and rollback	Resolved		Business		
	User Story	MVP 16 Service reliability and scalability planned	New		Business		
	User Story	MVP 17 Managing to CIO SLOG and Acceptance processes	New		Business		
	User Story	MVP 18 Monitoring with actionable alerts	New		Business		
	User Story	MVP 19 Manage to Administer Infrastructure Priorities & Compliance items	New		Business		
	User Story	MVP 20 Managing to prevent focused Security priorities and compliance items	New		Business		

Thali, Nilesh N.

Request control

Leave

Chrome File View History Bookmarks Profiles Tab Window Help

ts.accenture.com/p/rates/CIODevSecOpsPilotForum/\_layouts/15/Doc.aspx?SourceId=ca7818C4AD8E-D4CD-4F4D-AEFA-B11A49E20A8D%7D&file=DevSecOps%20Ch... Apps Sustainability To-do this week Accenture agility wisdom Living Agility Health coding Google Meet COLLECT OM bookmarks Other Bookmarks Reading List

PowerPoint DevSecOps Champions Kickoff - Wave 4<sup>th</sup>, View-only - Search (Optional)

## Delivery Model Principles

1. Operate as **One Team** (Dev and Ops)
2. "You build it, you run it" culture
3. Product focus vs Project focus
4. Balance Product **Expertise**, Team **Velocity**, and People **Growth**
5. Secure From The Start
6. Maintain CIO SLOG Adherence and Operations Priorities
7. Keep It Simple – Only add complexity when needed
8. Enable Decentralized decision-making (when possible)
9. Build New, Deliver New
10. Enable Service Reliability Engineering for Stability, Resiliency, Performance

Monica

Thali, Nilesh N.

Musale, Shilpa T.

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TA Page 178

The screenshot shows a Microsoft Teams meeting window. On the left, there's a slide titled 'Delivery Model Principles' with a numbered list from 1 to 10. On the right, there are three participant profiles: 'Monica' (a man in a blue shirt), 'Thali, Nilesh N.' (a placeholder profile with a blue icon and '+22' friends), and 'Musale, Shilpa T.' (a woman in a red patterned shirt). The top of the screen has a toolbar with various icons like video, audio, and file sharing. The bottom has a footer with copyright information and page numbers.

# Database Troubleshooting

Monday, February 21, 2022 11:47 AM

Current data growth at the DB level

1. Table level file size
2. Top 20 max space utilization
3. Tables that are planned for clean up
4. Data retention and purging strategy as discussed with Business
  - Retention period for resigned employee data
  - Retention period for history data of active employees
  - Archival strategy for history data - Google data lake/ secondary archival SQL DB

Server Properties - 2113-mi-prod-mycompetenc-01.c38213951ba8.database.windows.net

Select a page

- General
- Memory
- Security
- Connections
- Database Settings
- Advanced
- Permissions

Script ▾ Help

Name	2113-mi-prod-mycompetenc-01.c38213951ba8.database.windows.net
Product	Azure SQL Database Managed Instance
Operating System	Windows Server 2019 Datacenter (10.0)
Platform	Windows
Version	12.0.2000.8
Language	English (United States)
Memory	40.8 GB
Processors	8
Root Directory	C:\WFRoot\DB24C.2\Fabric\work\Applications\Work
Server Collation	SQL_Latin1_General_CI_AS
Is Clustered	False
Is HADR Enabled	False
Is XTP Supported	True
Is PolyBase Installed	True
Hardware Generation	Gen5
Service Tier	Business Critical
Storage space usage	926.9 GB
Reserved storage space	1024 GB

Connection

Server: 2113-mi-prod-mycompetenc-01.c38213951ba8.database.windows.net

Connection: thilagavathy.yuvraj@accenture.com

[View connection properties](#)

Progress

Ready

Changes to server properties and settings may affect the performance, security, and availability of this SQL Server instance. Before making any such changes, consult the product documentation.

OK Cancel

### Query for DB file size

```
SELECT DB_NAME() AS DbName,
       name AS FileName,
       type_desc,
       size/128.0 AS CurrentSizeMB,
       size/128.0 - CAST(FILEPROPERTY(name, 'SpaceUsed') AS INT)/128.0 AS FreeSpaceMB
  FROM sys.database_files
 WHERE type IN (0,1);
```

### Query for Table size

```
SELECT t.NAME AS TableName,
       s.Name AS SchemaName,
       p.rows,
```

```
SUM(a.total_pages) *8ASTotalSpaceKB,
CAST(ROUND(((SUM(a.total_pages) *8) /1024.00), 2) ASNUMERIC(36, 2))
ASTotalSpaceMB,
SUM(a.used_pages) *8ASUsedSpaceKB,
CAST(ROUND(((SUM(a.used_pages) *8) /1024.00), 2) ASNUMERIC(36, 2))
ASUsedSpaceMB,
(SUM(a.total_pages) -SUM(a.used_pages)) *8ASUnusedSpaceKB,
CAST(ROUND(((SUM(a.total_pages) -SUM(a.used_pages)) *8) /1024.00, 2)
ASNUMERIC(36, 2)) ASUnusedSpaceMB
FROMsys.tables t
INNERJOINsys.indexes i ONt.OBJECT_ID =i.object_id
INNERJOINsys.partitions p ONi.object_id =p.OBJECT_ID ANDi.index_id =p.index_id
INNERJOINsys.allocation_units a ONp.partition_id =a.container_id
LEFTOUTERJOINsys.schemas s ONt.schema_id =s.schema_id
WHEREt.NAME NOTLIKE'dt%'ANDt.is_ms_shipped =0ANDi.OBJECT_ID >255GROUPBYt.Name,
s.Name, p.Rows
ORDERBYTotalSpaceMB DESC, t.Name
```

# Coding Best Practices

Wednesday, April 6, 2022 7:05 PM

Code coverage should be minimum level accepted by team (Check line coverage and block coverage).

Sonarlint warnings accepted by team should be fixed and not suppressed.

**API documentation via Swagger**

**All public interfaces should have well written comments**

**Check on the number of lines code. Minimum 50 lines.**

**Avoid Anti-Patterns -> No zombie codes/commented out codes. If needed in future add proper comments or could be restored from version management.**

Follow DRY!(Donot Repeat Yourself) - instead of copy pasting the same code (just variable / some value changes) create a common function.

Check for any deadlocks/race conditions that might cause issue.

(sample)

Static and hardcoded values should be used only when they are really necessary.

- Hardcoded values creates overhead in terms of maintenance and avoids SRP. Hence, always read frequently used strings from constant classes to increase the maintainability where ever required.

## Where can we use Static classes/methods

A Math class with all static methods. Static classes are useful and provide an easy way to access its members that does not need to work differently for different objects.

An App Configuration class that has all static settings about an app and the values of settings don't change based on the objects or users.

A DatabaseConfig class that may have members such as database name, server name, port number, and even a connection string. We know that these values will not change for objects.

From <<https://medium.com/att-israel/should-you-avoid-using-static-ae4b58ca1de5>>

Review Call for Coding Best Practices

Requesting control is disabled by t...

Gupta, Dheeraj D. Leave Share

File Home Insert Design Layout References Mailings Review View Help

Clipboard Font Paragraph Styles Editing

Not set Unrestricted Confidential Highly Confidential Restricted

As part of the technical review process in DiPA, we've defined the Code Metrics Guidelines. This will help us to ensure the code quality.

	Maintainability index	Cyclomatic Complexity	Depth of Inheritance	Class Coupling	Lines of Code
Green	100 to 20	1 to 10	1 to 2	0 to 9	1 to 10
Yellow	19 to 10	11 to 20	3 to 4	10 to 30	11 to 20
Red	9 to 0	>20	>4	>30	>20

Code metrics would be generated before every production deployment and values would be verified against the above guidelines. Code refactoring needs to be done if the generated code metrics values are not within the guidelines.

Also code metrics of current release would be compared against the last release. This way we can identify if any improvement/decline in code quality.

Page 1 of 1 135 words Focus

Gupta, Dheeraj D. type here to search 34°C 2:48 PM 4/13/2022

# Bulk Upload automation

Wednesday, July 20, 2022 9:06 AM

```
[FunctionName("ConvertExcelToCSV")]
public static async Task RunAsync(
    [BlobTrigger("excel-files/{blobName}")] Stream excelFileInput,
    [Blob("csv-files/{blobName}", FileAccess.Write)] Stream csvFileOutput,
    CancellationToken token,
    ILogger log){
    log.LogInformation($"Do your processing on the excelFileInput file here.");
    //Do your processing on another stream. Maybe,
    MemoryStream awaitMemoryStream.CopyToAsync(csvFileOutput, 4096, token);
}
```

From <<https://stackoverflow.com/questions/56552503/use-azure-functions-to-automate-saving-excel-to-csv>>

# Jmeter Installation

Wednesday, July 20, 2022 1:35 PM

=====

Don't use GUI mode for load testing !, only for Test creation and Test debugging.

For load testing, use CLI Mode (was NON GUI):

  jmeter -n -t [jmx file] -l [results file] -e -o [Path to web report folder]

& increase Java Heap to meet your test requirements:

  Modify current env variable HEAP="-Xms1g -Xmx1g -XX:MaxMetaspaceSize=256m" in the jmeter batch file

Check : <https://jmeter.apache.org/usermanual/best-practices.html>

=====

Charles Lobo, Ivan

01:10:20

Request control | Pop out | People | Chat | Apps | More | Camera | Mic | Share | Leave

Charles Lobo, Ivan

AutoSave | Search (Alt + Q)

File Home Insert Design Transitions Animations Slide Show Record Review View Help

Sensitivity Shapes Arrange Quick Styles Drawing Editing Voice Designer

Clipboard Slides

Unrestricted

1

2

3

4

5

Slide 2 of 5

Charles Lobo, Ivan Cloudy

Charles Lobo, Ivan

IL

APIs	URL Format
Ingest	/ingest/vertices/skills /ingest/edges/skills
Fetch	/fetch/vertices/skills/{id} /fetch/edges/skills/{id}
Common (Metadata)	/metadata/data-filtration/skills /metadata/data-transformation/skills
Extract (Subscriber)	/extract/vertices/skills /extract/edges/skills

1:56 PM 10/10/2022

This feature is really beneficial to have, as it will help people lead to curate a learning plan that is relevant to the project as well as provide a guided path to the people to achieve project goals.

Charles Lobo, Ivan

01:17:37

Request control | Pop out | People | Chat | Apps | More | Camera | Mic | Share | Leave

Charles Lobo, Ivan

Microsoft Teams

Domain Rule Engine

Game Core Engine

Charles Lobo, Ivan

IL

Charles Lobo, Ivan Cloudy

Charles Lobo, Ivan

2:03 PM 10/10/2022

# Redis

Wednesday, November 16, 2022 12:21 PM

Rajendran, Harikrishna

Request control Pop out People Chat Apps More Camera Mic Share Leave

Diagnosing latency issues | .Net5 Web API Redis Cache | Where are KEYS, SCAN, FU | SearchKeys: implementation | An easy way to use Stack... | StackExchange.Redis.Exten... | +

learmoreseekmore.com/2020/11/stackexchange-redis-extension-library.html

01:59

Overview On StackExchange.Redis.Extnesions Library:

The 'StackExchange.Redis.Extension' library extended from the main library 'StackExchange.Redis'. Some of the key features of this library like:

- Default serialization and deserialization.
- Easy to save and fetch complex objects.
- Search key.
- Multiple Database Access

Setup Redis Docker Instance:

For this sample to use Redis instance locally we will use Docker. If you don't have any prior knowledge on docker, not a problem just follow the steps

Ad removed Details

1.bp.blogspot.com/-CwqgU2tAmGQ/X7OjKvSki/.../pixels-anni-roenkae-2457278.jpg

Rajendran, Harikrishna

12:20 PM 16-11-2022

Config Values Optimization in HomePage and Expert Refactor Timeline Discussion

Request control Pop out People Chat Reactions Apps More Camera Mic Share Leave

Mute (Ctrl+Shift+M)

Diagnosing | .Net5 Web | Where are | SearchKeys: | An easy way to use Stack... | Work with | Helpful link | c# - Invalid | Redis Clust... | +

redis.com/blog/redis-clustering-best-practices-with-keys/

02:14:06

Google redis recommended hash slots

All Videos Images Books News More Tools

About 289,000 results (0.47 seconds)

Basically, Redis chooses **16384** slots because 16384 messages only occupy 2k, while 65535 would require 8k. For its Cluster scale design considerations, the cluster supports a maximum of 1000 shards. 16384 is a relatively good choice. Jul 1, 2021

<https://severalnines.com> • Blog Hash Slot vs. Consistent Hashing in Redis - Severalnines

<https://redis.io> • docs • reference • cluster-spec • Redis cluster specification

Redis Cluster implements a concept called hash tags that can be used to force certain keys to be stored in the same hash slot.

<https://redis.com/blog/redis-clustering-best-practices...> • Redis Clustering Best Practices with Multiple Keys

Jun 1, 2022 — These slots are actually hash slots, in which each key is put through a hashing function to mathematically derive a single number from a string ...

s HashTags

Rajendran, Harikrishna

05:15 PM 17-11-2022

Config Values Optimization in HomePage and Expert Refactor Timeline Discussion

02:27:19 Request control Pop out People Chat Reactions Apps More Camera Mic Share Leave Mute (Ctrl+Shift+M)

imperugo.gitbook.io/stackexchange-redis-extensions/usage/work-with-multiple-items

## Work with multiple items

If you need to add, remove or retrieve more than one item you don't have to send multiple requests into Redis. This library offers few methods that allow you to use a single command in order to do that increasing the performances because there is only one roundtrip from your app to the Redis server.

You instance:

```
var user1 = new User()
{
    Username = "imperugo",
    Firstname = "Ugo",
    Lastname = "Lattanzi",
    Twitter = "@imperugo"
    Blog = "http://tostring.it",
    Company = new Company
    {
        Name = "My Super Company",
        Vat = "IT12345678911",
        Address = "somewhere road 12"
    }
}

var user2 = new User()
{
    Username = "mario.rossi",
    Firstname = "Mario",
    Lastname = "Rossi",
    Twitter = "@mariorossi"
    Blog = "http://imperugo.tostring.it/",
    Company = new Company
```

Copy link

Noval, Ma...

Rajendran, Hari...

Powered By GitBook https://imperugo.gitbook.io/stackexchange-redis-extensions/usage Rajendran, Harikrishna

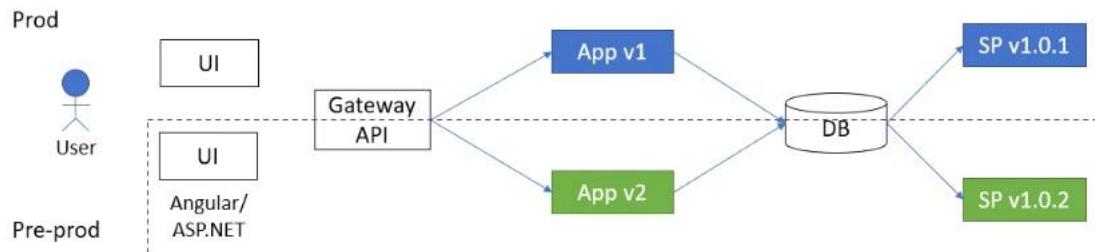
- Minimum 4 years of overall experience as a frontend developer, with at least 3 years experience in ReactJS
- Utilize ReactJS and Typescript to design and develop web application UIs that are both user-friendly and responsive
- Collaborate with the UX team to translate wireframes and designs into high-quality code.
- Work closely with the product management and engineering teams to ensure the timely delivery of high-quality software
- Write clean, well-documented, and maintainable code that adheres to established coding standards
- Optimize application performance and ensure a smooth user experience
- Identify and troubleshoot front-end performance bottlenecks
- Optimize state management to minimize unnecessary re-renders and improve application performance
- Utilize frontend storage technologies like **IndexedDB** to reduce server requests and improve application performance
- Experience with WebSockets in the context of large-scale applications.
- Familiarity with automation tools like Cypress, Playwright, and Selenium for testing and end-to-end automation
- Experience with CI/CD pipelines and deployment automation tools like Github actions
- Experience with AWS services such as S3, Cloudfront and Lambda
- Continuously improve development processes, tools, and frameworks
- Familiarity with monitoring tools such as logrocket and datadog

From <[https://www.linkedin.com/jobs/search/?alertAction=viewjobs&currentJobId=3531359879&distance=25&f\\_TPR=a1678952400-&keywords=lead%20software%20engineer&savedSearchId=1731625453&searchAlertRefId=ada0f4ee-f773-4e65-b124-ddd03a9672a5&sortBy=R](https://www.linkedin.com/jobs/search/?alertAction=viewjobs&currentJobId=3531359879&distance=25&f_TPR=a1678952400-&keywords=lead%20software%20engineer&savedSearchId=1731625453&searchAlertRefId=ada0f4ee-f773-4e65-b124-ddd03a9672a5&sortBy=R)>

# Blue green deployment w/ same database

Tuesday, January 25, 2022 12:10 PM

## Blue green deployment



UserId	URL/Feature
Aravind	App v1
Aruni	App v2

IsOpenforAll	Yes/No

# Feature Flag

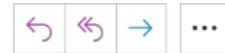
Wednesday, February 16, 2022 12:36 PM

## RE: Feature Flag : TMP



Gupta, Dheeraj D.

To ● Tanaji Mandake, Sunil; ● Viswanathan, Nivetha; ● Kotalwar, Raghvendra  
Cc ● Juliet B, Florence; ● Nageswaran, Sriram  
<[nivetha.viswanathan@accenture.com](mailto:nivetha.viswanathan@accenture.com)>  
Cc: Juliet B, Florence <[florence.juliet.b@accenture.com](mailto:florence.juliet.b@accenture.com)>; Kotalwar, Raghvendra  
<[raghvendra.kotalwar@accenture.com](mailto:raghvendra.kotalwar@accenture.com)>  
**Subject:** Feature Flag : TMP



Mon 12:36 PM

Hi Sunil/ Nivetha

We have to procure Azure App Configuration service to manage TMP feature based on feature flag.

### What is feature flag

<https://docs.microsoft.com/en-us/azure/azure-app-configuration/manage-feature-flags>

<https://docs.microsoft.com/en-us/azure/azure-app-configuration/quickstart-feature-flag-aspnet-core?tabs=core6x%2Ccore5x>

**Please work on below items then we can educate team for it functionality and usage.**

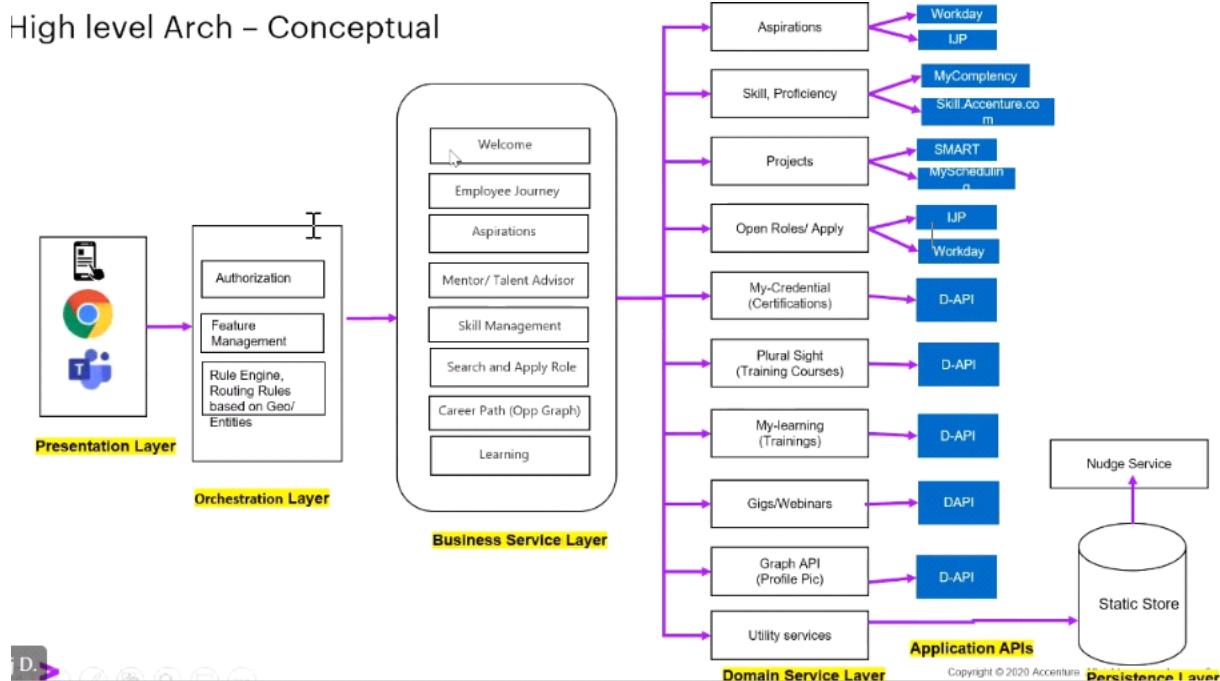
Add reference in welcome azure function to enable/disable the code base.

<https://github.com/Azure/AppConfiguration/tree/main/examples/DotNetCore>

Add reference in Angular application to enable/disable the UI component base on feature flag.

<https://docs.microsoft.com/en-us/answers/questions/317809/how-to-read-azure-application-setting-and-connecti.html>

## High level Arch – Conceptual



## What motivates you?

Wednesday, March 30, 2022 7:01 PM

Deep learning curve, thriving work environment, working as a team and leading one is what motivates me.

My motivation to build an inclusive team that learns and shares success constantly, keeps me going. I am looking forward to partnering with different teams and clients to gain more experience and exposure. To build my specialization in Z field, I expect support from the leadership.

```

    using (var dbContentScope = _unitOfWork.ContentScope())
    {
        var unitOfWorks = MultiSessionUnitOfWorkRegistry.SelectedSessionDetailInfo { EmployeeTransId = employeeQueryModel.EmployeeTransId }[0];
        var repository = _unitOfWork.GenericRepository<EmployeeQueryModel>(unitOfWorks.DatabaseContext);
        using (_unitOfWork.IsolationScopeInContext())
        {
            await repository.UpdateEmployeeAnswerAsync(queryAnswer);
            using (var context = _unitOfWork.CreateInContext())
            {
                var myResult = _mapper.Map<EmployeeResponse, EmployeeQueryModel>();
                await repository.Create(myResult);
            }
        });
        await _unitOfWork.SaveChangesAsync(dbContentScope);
    }
}

```

	Id	FileNm	TypeCd	Operator	StatusCd	MessageTxt	CreateUserId	CreateDtM
1	41741	BA Skill Assessment.xlsx	BAAssessment	T02113MyComp1000	2	NULL	T02113MyComp1000	2021-10-18 08:46:2
2	41740	Industry Powers BA Certification...	IPBACertification	T02113MyComp1000	-1	Microsoft.Data.SqlClient.SqlException (0...	T02113MyComp1000	2021-10-18 08:44:1
3	41739	Industry Powers BA Certification...	IPBACertification	T02113MyComp1000	-1	Microsoft.Data.SqlClient.SqlException (0...	T02113MyComp1000	2021-10-18 08:36:4
4	41738	SME Evaluation Pending Report...	SMEEvalPending	T02113MyComp1000	2	NULL	T02113MyComp1000	2021-10-18 08:33:6
5	41737	SME Evaluation Pending Report...	SMEEvalPending	T02113MyComp1000	2	NULL	T02113MyComp1000	2021-10-18 08:29:1

The screenshot shows a Microsoft Teams chat window titled "Charles Lobo, Ivan". The message history includes:

- Charles Lobo, Ivan: can we use background service?
- Charles Lobo, Ivan: .heloo thilaga
- Charles Lobo, Ivan: 8:30 PM MatchingScopeLifetimeTags.RequestLifetimeScopeTag

Below the chat, a Microsoft support article titled "Acquire tokens for web APIs" is open in a browser window. The article discusses OAuth 2.0 authentication code flow and provides a protocol diagram.

## Implement MSAL

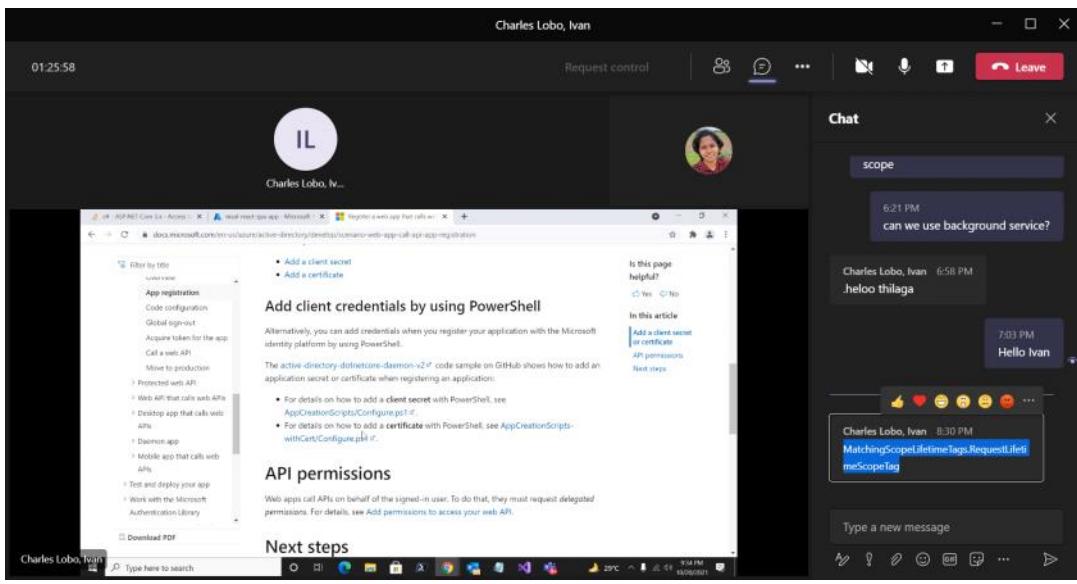
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Below the chat, a Microsoft support article titled "Acquire tokens for web APIs" is open in a browser window. The article provides code examples for acquiring tokens using MSAL.js.

The screenshot shows a Microsoft Teams chat window titled "Charles Lobo, Ivan". The message history includes:

- Charles Lobo, Ivan: can we use background service?
- Charles Lobo, Ivan: .heloo thilaga
- Charles Lobo, Ivan: 8:30 PM MatchingScopeLifetimeTags.RequestLifetimeScopeTag



# ExcelPackage code

Thursday, October 14, 2021 9:06 PM

```
string connectionString = "";
BlobServiceClient blobServiceClient = new BlobServiceClient(connectionString);
BlobContainerClient containerClient = blobServiceClient.GetBlobContainerClient("test");
BlobClient blobClient = containerClient.GetBlobClient("sample.xlsx");

ExcelPackage.LicenseContext = LicenseContext.NonCommercial;
using (var stream = await blobClient.OpenReadAsync(new BlobOpenReadOptions(true)))
    using (ExcelPackage package = new ExcelPackage(stream))
{
    //get the first worksheet in the workbook
    ExcelWorksheet worksheet = package.Workbook.Worksheets.FirstOrDefault();
    int colCount = worksheet.Dimension.End.Column; //get Column Count
    int rowCount = worksheet.Dimension.End.Row; //get row count
    for (int row = 1; row <= rowCount; row++)
    {
        for (int col = 1; col <= colCount; col++)
        {
            Console.WriteLine(" Row:" + row + " column:" + col + " Value:" + worksheet.Cells[row, col].Value.ToString().Trim());
        }
    }
}
```

From <<https://stackoverflow.com/questions/64401750/how-to-read-an-excel-file-stored-in-azure-storage-as-a-blob-file>>