# DevOps your Fabric code







### Brian Bønk

Senior Principal, Microsoft MVP INTELLISHORE

in https://linkedin.com/in/brianbonk

https://dcode.bi

https://github.com/brianbonk





FastTrack Recognized Solution Architect Power BI 2022 >>



Certified Trainer Data Platform

2018 >>



Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.

#### 20% complete



For more information about this issue and possible fixes, visit https://www.windows.com/stopcode

If you call a support person, give them this info:

Stop code: CRITICAL\_PROCESS\_DIED

### The challenge







Messy and disorganized project files

Collaboration

Tracking changes

Manual and error-prone deployments

Complex code structures

### Agenda

**V** 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

Π

**Deployment Pipelines** 















































































#### Power Bl report

```
KETXEOTDC4NULNULBSNULLKEYGSd^\
uæoìnakmarm"=.å°z>pcê×ackúbsösohackbó\óvtackusifª^‡-bé!"îh fvïirot?âb a
EOTÇÚŸ™;7%D®ÖÛ9gPNAKSOHÁÜȰ††|ãêETXÑ÷âESC ãÁ¥«Ý +DELSOHPKETXEOTDC4NULNULBSNUUÌKFYh5ÂhōSOHNUUNUURR
##0$80#M]]##ZSÓ÷2wú Wœšő…$' Uûl|ĀDCTRŸBMĀ@1$T%cË|">"$UBæ*:èpŒï%.çŰIï"yuô%r,"v..."ïr]s|E$@UVCêû`èÊébqVЁÊBWT|$YNÔTB1P¼"ôKêŌ®¤N...</ld>
gæÞNU<¦ýß~;ù��v°ÝÚèDr'ÿ)øðj¯Ñ50"¢Çï6»;wdnÆ)5Ž€¬¹e
¶b`°FOŐ*æ,èünak}×òstxpketxkeondc4nuunuunuubsnuuìkfy€löeå-nuunuu.}}etxnuu
yë+ö iNAKûfyyt±wu[mÉwl9y×BANpì-DANöäz'çßióŸ7uï;pì5DANi3{j½y"yë7¶ÇpÁŸ¹åy¾+ß¹äDAN ó'.øswå°¢öĨ;eÏÅïcäé$NKJDAN;/Øï¼VYê]ữwûX,ç!ÿä3}äeÙŸ?nxï"DANo`DANDANiŸDANiyDANiYDANiyDA
ý»⊁B″i:>Ü}gù—å+ Vû²/SUBË®JRW9 ©Ë™lKoGS%Y}+′\+IKx``ý»፼1_}NAK°2èZµ°DDDy,"ĆĒGS′æ¢÷RS†c7.àèg@NBⶦÏ+šùSOH—ÅUMW6ÙÕgå[ö°ú£″,″®ùY[ŒSOH?`VI‡SÄNx
ė m?iß³müöëó«½DDBåcœMëöúlœGANrDDISOHµ>rēiQnj÷®JIŌú‱ûî™,ō¿¶B‡GSsw ¤ō/ldm7SYN²D ÅùAì‡êDDSYNû``üîRSÖ¶
¤†?ãOü
αÛ∢JIf∢É¢ ⟨,,
²(Ú[DC4ë°5v'{±vNÖ~ÐXDIBs&mæC¬cGÀ@D‰ßŐ¼&Êuv^BMßluf
?ia'O;¥g€bìBDNq;z¾iwSUBŠóAGKUS†Þý¼,um°òg(″ÖlC ø·BDDå°2ýNSUBDM;Qq#zPÕ>z·~SNÏU;¯÷DNQ>ï¦d¯USÀž²£¯€UāÆÀÜŽŽêznª16Ö^1«êu¾Qqa')SN®é″™ø¦^U™ã1cb5″צŨŐx;@MyŸV3GJöbƾÙ2WŸj
nï,{Ä-"Z+ò»ESC^Û5ÿO%÷qÅBELDC3PPWI¹+ØkE[Øž5®xCAN=3>æDTX®á|3Â$EMñùPßO«saDTBFuÝ8†ð1õíSI-
;Aóø·ŶôM;1"ÍÍf¾<¹çB_ÞÍÞBÚ:BN}$NX'™V90np¶äþ†QÁÁ™ðïøóðUSÉúR®«,<+1>KþöDGUDDDg†þÌXL¦•MMÍÖBDD#5DêBNØÓL«fÉBNBLó¬´ôUNSXN`qNAN32
}1,,RS%+ï...ÂûcêfémNAKPTÌÍ2°LKK×PTBÂÄêf5µUS¥--®~žñ3øË°TÝâ|6>Ö«¨ä%ÿî%ÿy×üGŽÙ
x3TÛÈÿ"DUî£a^jumí2Ò8¾žWµÈ:2"-•¶4Űé°pÉtŐ;äÇ'?~EWB'$åÇUSDC3BÍ=æÄx#BSCŠ1(²;ȆòK#NAKGSGŠCAN~14DC31üE<zÄöGSC^âzFïN‡æ4
Kwš, BPyô%#H%BNOÝ~ò-¤ÊDCIÔøŽÔ-CANŠ2GSCUS^ãV]y'kp... £CANDC3I~sPþ¥FF-";Ÿæ•OÍ=²m
s¤,56ið⊡SGñ±ÙFNa÷¶Ô$ÙxçâÍô$Í██'Ÿ"-ÖÏ, Ÿ"ÄÊ×ì[ðMåoó/)∢mæ∢†q7Se‱îNÚyPMÓVR⊙AN,+‹kvâÈŽ‡K|ÊÝäSvŸŪSŌ±™™,ÕLs¦ï9SE ÚÌžövo‱...Zp]f[û-°f^ýÄןÜDOĞÜÚñĨ⁴xv∅-⟨NAK.Î-"□∰☐ÍŒDÚ\>;██
×#P°:7<1DC4
† *à >G".; ü DVXx.»g%»äÂ-6) Ú6 12 2U) CÕB SUBò
ËN|°üB′r=Büî2vüóB'¥†½ 0...Ô \DBå
}ñ±!•p<ÜÎ]Íe8¾ÝÂ]OÜÛúh7ê»o>ÞāÓÄúVM•:±þÆ<zÃß^9DC4ë+.ÛkjHSUEo³BDL®™Ë¥DC1gàÓyÏÌû¥ªÞ±;MM d;o¯…Þ-!…yWpv″®£oþ
nŸ;ÉÀĠŰ%äqs6ÃÇh>IËÏSO^É`BSqcÄbBBBà³-SYN?&r&a2îvúIBBBëwzBh‡Í'´,QDCl÷Ýh&RSvNUI(^+GÎÜ@ÃfRS4lSOH; PÄBYNVI;äonàl‰öeT,μ×:>SYNSYN"ö,™XX³äVI¦\°YETXDC2Ö<SYXENOÄq°æQ^<fýV®îÛr
f±BW=SW; f}hiizží³'%ZBKT²±Äfíöù<ã₽™-Ú©Ÿb¢(BÊî rãÜ vWW™fýËBK°;«ï± $07F%T'<ÂêÈZUS○RQRWWXDDD=ýÅ)hāWJōV‡w<»ZtCà`tËSW?BS"j<SYNNéža>¤åíl]'ÂyBWBPLüÖöő′SO≋I`ËcÂ8BNOfeRŏ-ø'KBWX
p¬xxäÜ႗ññテ%,iLQI; `SUB7œ{qC%,aø H\ìïRSæè=ܬò»!US+ѬMûÓ¶áѬnuŸá{oá÷RMÞ³ªìU{žÃZ«~û ±mEKEUSUSf½vÁçîDMR5~¨òn`~ wvÜe9gŽas]ÁªÖ%?³ßNMXxt"ÂGÄ[ž™øouyw0+8oó``J;áß~±ÚxÈûz>i Jî
.
¥Ý SYNÞUðtkŸx=æwSUBÈqXÂ`WPþESCY™BMzcá¹ êDAÐbΫ*SI™5»î,DC2!(Sðòßøol³èuç"HÝÔG!′7uŏ««ĀFNUD*dÍ£DAÐWÏ©» n`tÎÙ;Øxoj¾©ÉEFE-Ö$rùIC°ÔzÒ°ŸÙŏŏÃÂPeÇ»MJk-Íó;^ESC|¥ŰoßñÝF?DC3ESC|
XTBS1 •øÖ
US‰=ðÖÛß
ð/kg×üDClþóð60FBv†ÅPÖ£RSŠzEDClx^~¢30ûfDC2cDnBé†GÅÍ ÍÖŽVžÂ°óiDDBckSOGkSO(6^!27uW^ÜMÍuHš<4×Vj®sc*×Ěki³ŸBS-"+0Ò°>:STX;»NAKÓ9KÀI"%T:DÖ(-DSI¥0í,;¤%C)Ú'SÖÖÕESC¤%†~SIJróPsAdv-
 ǙrZÆÉqØ¥ÞDC462®[S>ÆBŽ″A3ðÙNAK-¹sÞjÓ5DG8¯{æNl"ÙlÞÍ]Èç·~<±ž]ýæb¥\œÛ`WŐÓ94-ñƲ[^Ő″³&nzÜ·=qb·9ÐúÝŒSX40úœ'Uœ¶ÍŒisSYXÓ¹vqÝ.³¬MKSÊæ:qG[0āB`p)Ù±cbÝ-!*©)nLäÐ>XßáQ 2rlêŒSSÉøsGŽ
n'Ùrd>M48P≿NGCIWÌF∙«48,28W|HSUBO³}ïQNAB}^?€∵×STWXÏÇ~{#²-478ÍÝÄ=GS>dot³GANÄØ>ts³^BNONGEX9®\#^nª™QS`SOH'¢NDAB→%;{NGCNDNO-_,oßÄÖNABÓ-ÄRSD—≿NGCY™[·$Μ8ZSOÏ6äaGANŽÍðf.Œ>…ÑÌI
 mSOOSn¤giàls'Î6...÷'
w-ŐQT£2-±p466âø8Z^\VT¦q'DLEÙSYNL£hs/ŠSYN"ã, áCANšs\"ì ·ruÞ-»Òuò^Y ·ESCÉÚālÍlæ*
ögÄçl⊠NDOZGwi¥™ =™rïÚå߬Þ)0KOß/¾V]ý]wå÷™ØöФåÄMMo^àí{q¶é¾USw ¶®KOËESÖŽžmÅ/io¦=9ÞžLBS®ÖBS,Anûèí*,>ĭ ,Kg :K,%åáÁ′+Qŏ¤å, —Z6þmNNNú¹MÞUDOJóŽŒf;-¦ígÈuÌzcä§SDcÌÄ3ÒçBÌ×Ë)
™q4] iš%¦pû©'»iÂ`I,=Y}qS@&Ä″DJI>A2ÖÚü‱X,‰¹1'ä³$Â$[0Í™BS\nÁ4ObéÁI()BYBBBB$B4K:.0àRSÖ×=?#;/%Ô"ŏÉÓ©}†VY?£ŽÁ{oá÷BJIÞïê°ö<BJI-QýöDG3rJDG4-RAN}|BGq;VJÞÞ�bcôC•wSYXkó°¢-.Ё±wBB3
4.ù XX®à SÀKDDDERSB+nNUL YSIZÌÖY7P×NARŸWIESSIY IÑ IVÉÖ¢v¢kä j3AGK (çœ#¿2yWWB=Ö:DGB)@JåSOH»†ÒnóÍU¼4úUÖWÓ†BSZ3DDNŬ|P¯o¤¾:tê«GMDDUZSOHYWWX°1Ú‡ō-|Îr(°ù¼Xúlñ°>WN
ûfSOݰ|ö¹l6üFtaXqípðöľ8bÝmSUBÏÚSYN|;ESOs;°•Òl[;îB^éS*Ü...*>E{SYN}°ÇSieuÏhßBz i÷¼Y~¶>bN′Oö‰űŠŸY•oð{E<DCAÔ¶ì® Õ×5îNUB;ϱå,y © Ïcb±înnž¶|NCANSYNqUSCX°rÓ°EODÍÉ%+7å^'•;"•+K
```

ß

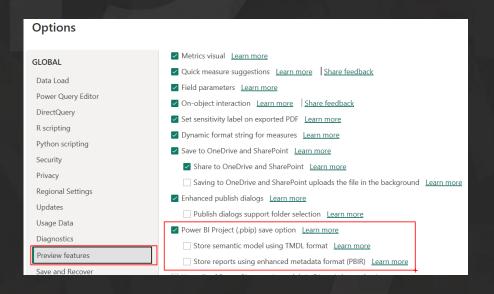


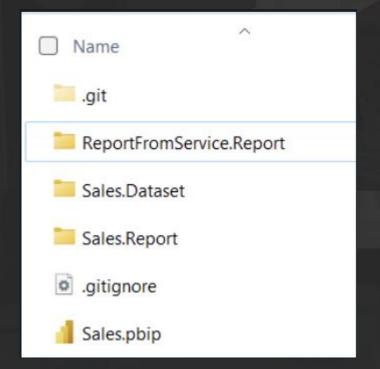
#### Power BI report

Options				
GLOBAL	✓ Metrics visual <u>Learn more</u>			
Data Load	✓ Quick measure suggestions <u>Learn more</u>   <u>Share feedback</u>			
	✓ Field parameters <u>Learn more</u>			
Power Query Editor	✓ On-object interaction Learn more   Share feedback			
DirectQuery	✓ Set sensitivity label on exported PDF <u>Learn more</u>			
R scripting	✓ Dynamic format string for measures <u>Learn more</u>			
Python scripting	✓ Save to OneDrive and SharePoint <u>Learn more</u>			
Security	✓ Share to OneDrive and SharePoint <u>Learn more</u>			
Privacy	Saving to OneDrive and SharePoint uploads the file in the background <u>Learn more</u>			
Regional Settings	✓ Enhanced publish dialogs <u>Learn more</u>			
Updates	· · · · · · · · · · · · · · · · · · ·			
Usage Data	Publish dialogs support folder selection <u>Learn more</u>			
Diagnostics	✓ Power BI Project (.pbip) save option <u>Learn more</u>			
Preview features	Store semantic model using TMDL format <u>Learn more</u>			
Save and Recover	Store reports using enhanced metadata format (PBIR) <u>Learn more</u>			
Save and Necover	·			



#### Power BI report







#### Power BI report

```
□ Name
□ .git
□ ReportFromService.Report
□ Sales.Dataset
□ Sales.Report
□ .gitignore
□ Sales.pbip
```

```
"config": "{\"version\":\"5.42\",\"themeCollection\":{},\"activeSectionInde
"layoutOptimization": 0,
"pods": [
   "boundSection": "ReportSection3",
   "config": "{\"acceptsFilterContext\":1}",
   "name": "Pod"
   "boundSection": "ReportSection4",
   "config": "{\"acceptsFilterContext\":1}",
   "cortanaEnabled": true,
   "name": "Pod2"
"sections": [
   "config": "{}",
   "displayName": "Bad Hires",
   "displayOption": 0,
   "filters": "[{\"name\":\"Filter\",\"expression\":{\"Column\":{\"Express
   "height": 720.00,
   "name": "ReportSection",
   "ordinal": 2,
   "visualContainers": [
       "config": "{\"name\":\"VisualContainer\",\"layouts\":[{\"id\":0,\"]
       "height": 90.00,
       "width": 240.26,
       "x": 24.64,
       "y": 6.21,
       "z": 0.00
```



Power BI report

# 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

**Deployment Pipelines** 

**V** 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

Π

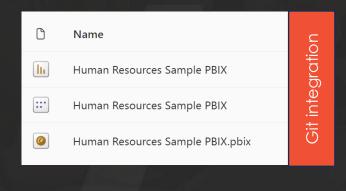
**Deployment Pipelines** 

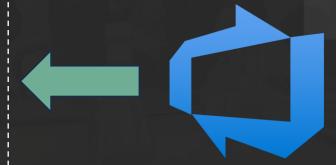






#### Workspace







Fabric as Code

Git and Azure DevOps

Deployment Pipelines

































































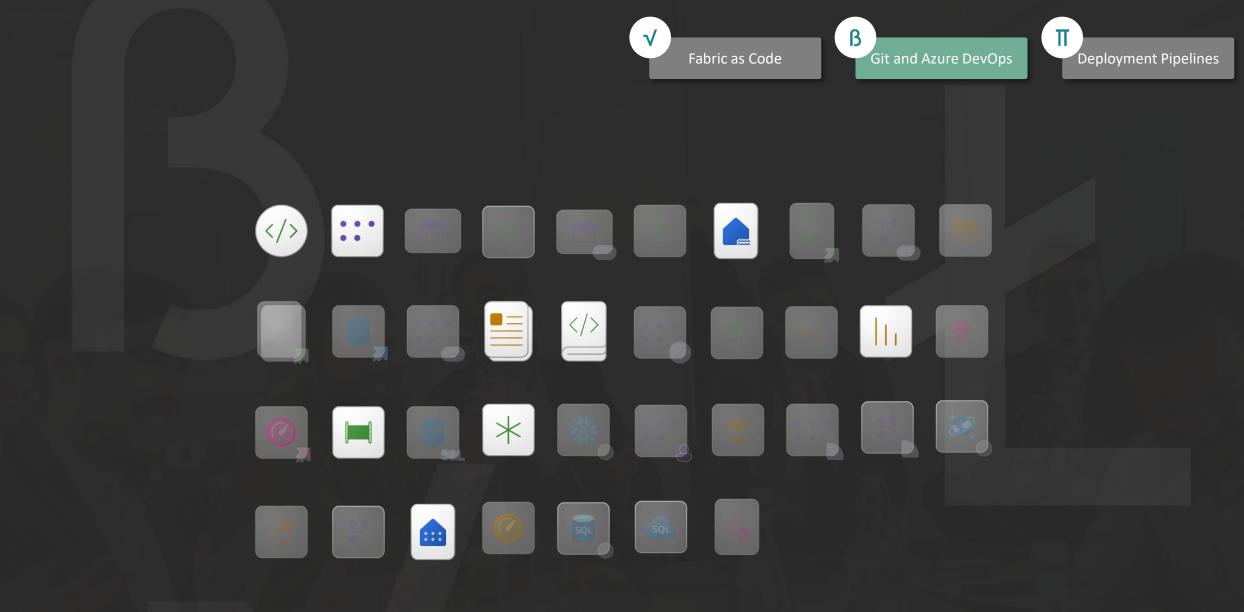












**√** 

Fabric as Code

Git and Azure DevOps

Deployment Pipelines

# 

**V** 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

Π

**Deployment Pipelines** 

**V** 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

Π

**Deployment Pipelines** 

Fabric as Code

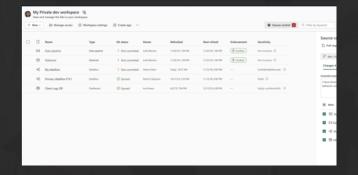
Git and Azure DevOps





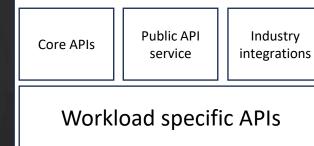
GA

#### Git integration



Public preview

#### **REST APIs**



Public preview

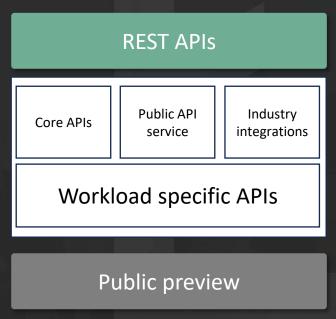
Ease of use Constraints

Flexibility Responsibility

#### Announced at FabCon Stockholm



Public Preview (right now, will change over time)
Uses the current APIs from Fabric
Requires Terraform >= 1.8.x
Does not support Trial capacity



Announcing the new Terraform Provider for Microsoft Fabric (Public Preview) | Microsoft Fabric Blog | Microsoft Fabric Docs overview | microsoft/fabric | Terraform | Terraform Registry

Fabric as Code

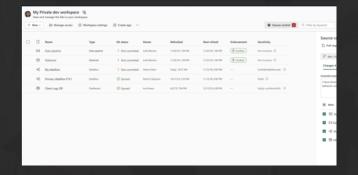
Git and Azure DevOps





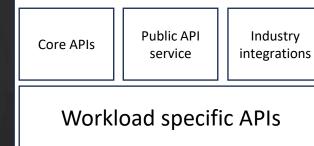
GA

#### Git integration



Public preview

#### **REST APIs**



Public preview

Ease of use Constraints

Flexibility Responsibility

#### Deployment pipelines



GA

The only CI/CD service in GA for Fabric Ease of use, with full UI support (no code) Cherry picking and full deployments Up to 10 workspaces in one pipeline History of deployments Review and change tracking

**√** 

Fabric as Code

Git and Azure DevOps

Deployment Pipelines

# 

**V** 

Fabric as Code

Messy and disorganized project files

ß

Git and Azure DevOps

The connections and process

Π

**Deployment Pipelines** 









Feedback

## Thank you

Brian Bønk

Senior Principal, Microsoft MVP



in https://linkedin.com/in/brianbonk

∝ https://dcode.bi

nttps://github.com/brianbonk





FastTrack Recognized Solution Architect Power BI 2022 >>



Certified Trainer Data Platform

2018 >>