



Getting Started with IBM Bluemix Hands-On Workshop

Exercise 3b: Deploy and Update the Application by Using the CLI

Deploy and then update the application by using the CLI

In this exercise, you use the cf command-line interface (CLI) to work with Bluemix. You use this tool in a terminal or command window on your workstation.

Use the same sample application that was used in exercise 3a.

1. Click Start Coding and then click Download Starter Code.

How do you want to start coding?									
0	Eclipse Tools for Bluemix Develop, integrate, and push applications to Bluemix using Eclipse.		CF Command Line Interface Run your code locally. Manually push to Bluemix.	•	GIT Deploy your app with the Git CLI, or use Bluemix DevOps Services.				
	Start coding with Cloud Foundry command line interface								
	You can use the Cloud Foundry instances.	command line	interface to deploy and modify ap	plications and	l service				
(s Setup: Before you begin, ir	nstall the cf cor	nmand line interface.						
	Download CF Comm	nand Line Interfa	ace						
	Restriction: The Cloud Four Foundry command line inte	ndry commanc rface in a com	I line interface is not supported by mand line window other than the C	Cygwin. Use Cygwin comm	the Cloud and line window.				
	After the cf command line interfa	ace is installed,	you can get started:						
(1 Download your starter code	е.							
	Download Starter Code								
(2 Extract the package to a ne	ew directory to	set up your development environn	nent.					
(3 Change to your new directe	ory.							
	cd your_new_directory	y							

- 2. After the starter package is downloaded, move it to a directory on your workstation where you want to work, such as the Bluemix directory in your Documents folder.
- 3. Extract the package by double-clicking or right-clicking and click **Extract** or **Unarchive**. Do *not* delete the .zip file: you will need it in Exercise 3c.
- 4. Delete the deployed application so that you can deploy it from the command line. Click the **Overview** page for the application, click the gear wheel in the application, and then click **Delete App**.

BM Bluemix	DASHBOARD	SOLUTIONS C		DOCS		313	Ø	\bigcirc	
Eack to Dashboard Each to Dashboard	bi-workshop-3 Routes: bi-workshop-3.au-gb.	mybluembr.net 💉			Stop App	AD	DGIT	*)
Overview >	(\cdot)	INCOMO DE L		400	Restart Ap	р			
SDK for Node.js™	JS	INSTANCES:		APP	Edit App D	escription			
Files and Logs	SDK FOR NODE.JS™	1		v	Rename A	рр			
Environment Variables	MEMORY QUOTA:	AVAILABLE MEMO	ORY: SAVE	ACT	Edit Route	s and App A	CCESS		
Start Obtaing	512 0	1.687 GB	RESET	-	Favorite				
SERVICES	(MB per Instance)		•	7/	2 Pelete App) FOITWOITEST) Up=3 app		

5. Delete the service and the route with the application by selecting the checkbox in the **Services** tab and the **Routes** tab:

Are you sure you want to delete the 'bi-	Are you sure you want to delete the 'bi-
workshop-3' app?	workshop-3' app?
After 'bi-workshop-3' app is deleted, some services and routes will not	After 'bi-workshop-3' app is deleted, some services and routes will not
be associated with any application.	be associated with any application.
Services Routes	Services Routes
Select the services to be deleted when the application is deleted.	Select the routes to be deleted when the application is deleted.
Services that are not deleted can still be administered from the	Routes that are not deleted remain bound to the space, and only
Dashboard.	applications within the space will be able to use them.
 bi-workshop-3-cloudantNoSQLDB bi-workshop-3-MonitoringAndAnalytics 	✓ bi-workshop-3.eu-gb.mybluemix.net

- 6. Click **OK** to delete the application.
- 7. Open a command or terminal window and change the directory to the location where you extracted the downloaded sample application. (The file package.json should be in your current directory.)
- 8. Log in to Bluemix by issuing one of the following commands. Use the same region that you used in the Bluemix web UI:

cf	1	-a	https://api.ng.bluemix.net	(Region: US South)
cf	l	-a	https://api.eu-gb.bluemix.net	(Region: United Kingdom)

- 9. Enter the email and password that you used to log in to the Bluemix web UI. If prompted, select the organization and space that you want to work in.
- 10.Before you deploy the application, deploy a Cloudant database. View the available services by running this command:

cf marketplace

11. In the list of services, find the cloudantNoSQLDB service.

WorkloadScheduler	free	Use the workload Scheduler service to create and schedule repeata
ble business processes	to make applications production ready	. Trigger your processes to run based on an event or according to a
schedule		
blazemeter	free-tier	The JMeter Load Testing Cloud
cleardb	spark	Highly available MySQL for your Apps.
cloudamqp	lemur	Managed HA RabbitMQ servers in the cloud
cloudantNoSQLDB	Shared	Cloudant NoSQL DB provides access to a fully managed NoSQL JSON d
ata layer that's always	s on. This service is compatible with	CouchDB, and accessible through a simple to use HTTP interface for
mobile and web applicat	tion models	
elephantsql	turtle	PostgreSQL as a Service
erservice-beta1	free	IBM Embeddable Reporting for Bluemix provides a mechanism to conn
ect to relational data	sources, create reports/dashboard, an	d embed this service within your application.
loadimpact	lifree	Automated and on-demand performance testing
memcachedcloud	2 5mb	Enterprise-Class Memcached for Developers
mongodb	100	MongoDB NoSQL database
mongolab	sandbox	Fully-managed cloud MongoDB
mqlight	Default	Develop responsive, scalable applications with a fully-managed me
ssaging provider in the	e cloud. Quickly integrate with applic	ation frameworks through easy-to-use APIs.
mysql	100	MySQL database
nownolic	standard	Manage and monitor your anne

12. Create the service by running this command:

cf cs cloudantNoSQLDB Shared BICloudant

- CloudantNoSQLDB is the name of the service from the cf marketplace command.
- Shared is the name of the service plan that you want to use from the cf marketplace command.
- BICloudant is the name of the service instance that you want to use. Enter your own name rather than BICloudant. You will use this new name when connecting (binding) the service to the application.

13. Refresh your web UI to you see the deployed service.



14. Deploy the application.

Push the application to Bluemix by entering the following command. Change the application name to your unique name:

```
cf push BI-MyFirstDeploy-3 -c "node app.js" -m 128M --no-manifest --no-start
```

- BI-myFirstDeploy-3 is the application name and host name.
- -c specifies the command to start the application.
- -m specifies the amount of memory to allocate to each application instance. The default is 1 GB.
- --no-manifest instructs to CLI tool to ignore the supplied manifest, which will be explained later.
- --no-start instructs to CLI tool not to automatically start the application.

Don't allow the application to automatically start because it needs a database to run. You must link the Cloudant database instance to the application before you start the application.

15. Link the database and application by using the following command. Substitute the application name and service instance names that you used previously:

cf bs BI-MyFirstDeploy-3 BICloudant

- BImyFirstDeploy is the application name used when the application is deployed.
- BICloudant is the service instance name used when the service is deployed.

If you refresh the web UI, you see that the application and service are linked, but the application is still stopped.

16. Start an application by running the following command. Substitute the name of your application:

```
cf start BI-MyFirstDeploy-3
```

• BI-myFirstDeploy-3 is the application that you want to start.

If you refresh the web UI, you should see the application running. If not, you can start the application from the Dashboard.



17. Launch the application by clicking the route in the web UI.



- 18. In a text editor, open the file app.js and modify the name of the file, the file description, and the value (lines 306, 307 and 310):
 - Line 306: Change the docName from 'sample doc' to 'test doc'
 - Line 307: Change the docDesc from 'A sample Document' to 'A test Document'
 - Line 310: Change the value from 'A sample Document' to 'A test Document'

Save the file when you're finished editing.

```
app.get('/api/favorites', function(request, response) {
  console.log("Get method invoked.. ")
  db = cloudant.use(dbCredentials.dbName);
  var docList = [7]:
 var i = 0;
  db.list(function(err, body) {
    if (!err) {
      var len = body.rows.length;
      console.log('total # of docs -> '+len);
      if(len == 0) {
        //push sample data
        // save doc
        var docName = 'sample_doc';
        var docDesc = 'A sample Document';
        db.insert({
          name : docName,
          value : 'A sample Document'
```

When the application starts for the first time, it creates the sample document in the database.

We have just modified the code that creates the sample document in the database. The document must be deleted from the database before you restart the application to allow the database to be populated again.

19. In the Bluemix web UI, select the Cloudant Service instance and then start the Cloudant Dashboard.



20. Launch the Cloudant console.

Cloudant NoSQL DB			LAUNC	н 🗔
You should see a single database. Sel	ect the database:			
Databases	Database name	Q	S Add New Database	API URL
8 Your Databases				

o Tour Databases				
Name	Size	# of Docs	Update Seq	Actions
my_sample_db	89 bytes	1	1	

21. Edit the database document.

<	my_sample_db •	٥	Se Se	ect		🔅 Query Options	S API URL
Pe	rmissions						
Ch	anges		\circ	id	"b883fb81574144747569faace49f8a76"		
All	Documents	0	\bigcirc				
All Design Docs		0		"_ic "_re "val "re }	1" "b883fb81574144747569faace49f8a76" ev" "1-68bf69a09284f2fc7c4d3ede47e59d01" lue" ev" "1-68bf69a09284f2fc7c4d3ede47e59d01" y" "b883fb81574144747569faace49f8a76"		
					End of results		

22. Delete the document.

<	b883fb81574144747569faace49f8a76						
	Save Cancel	O Upload Attachment	C Clone Document	Delete			
1	E			Delet			
2	"_id": "b883fb81574144747569faace49f8a76",						
3	"_rev": "1-68bf69a09284f2fc7c4d3ede47e59d01",						
4	"name": "sample_doc",						
5	"value": "A sample Document"						
6	}						

23. Confirm the deletion when prompted.

Please confirm		×
Are you sure you want to delete this document?		
	Cancel	/

24. Redeploy the updated application with the push command. This time, you don't need to include the --no-start or memory parameter.

cf push BI-MyFirstDeploy-3 -c "node app.js" --no-manifest

25. After the application has restarted, test it to ensure that your changes are now running.



After the application is tested to confirm that the modified code is running, the application can be deleted to release resources for the next exercise.

26. Delete the application and service and confirm the deletion when prompted by running the following two commands:

Delete the application: cf d BI-MyFirstDeploy-3 -r

- BI-myFirstDeploy-3 is the application name to be deleted.
- -r instructs Bluemix to also delete the routes attached to the application.

Delete the service: cf ds BICloudant

• BICloudant is the name of the service instance to be deleted.

Confirm the deletion of the application and service.