Quality Assurance Testing

Application	Portfolio Website Backend
Version	`1.0`
Environment	Development/Production E2E
Date Tested	7.31.2023
Performance Test Plan	PortfolioWebsite_Backend_Performance.jmx

Performance Testing:

Small Load Test

Purpose: To verify if the system can handle the minimum expected user load.

Parameters:

Number of Threads (Users): 50

Ramp-Up Period (in seconds): 20

Loop Count: 10

Screenshot:

Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received KB/sec
Register User R...	500	8963	9169	11434	12227	13718	1655	14397	0.00%	27.1/min	0.20
Delete User Req...	500	7899	7511	10669	11413	14061	1504	16997	0.00%	26.9/min	0.11
Login User Req...	500	4651	3995	7384	7696	8236	1161	10044	0.00%	26.9/min	0.33
Get Users Requ...	500	5175	4391	7839	8421	9472	1042	9861	0.00%	26.8/min	0.56
Update User Re...	500	9548	8821	12518	13387	14631	2608	16567	0.00%	26.6/min	0.33
Refresh Token ...	500	4834	4342	7724	8067	9265	2352	9946	0.00%	26.6/min	0.32
Forgot Passwor...	500	9795	9046	13231	13850	15032	3163	16567	0.00%	26.6/min	0.12
Reset Password...	500	4923	4508	7713	8755	9334	2249	9486	0.00%	26.6/min	0.26
Reset Password...	500	6062	4935	9301	9487	9941	2132	10115	0.00%	26.7/min	0.12
Logout User	500	5875	4904	9268	9486	9947	1639	10131	0.00%	26.7/min	0.18
Get Contacts R...	500	5829	4832	9241	9435	9912	977	10131	0.00%	26.9/min	0.17
Get Contacts B...	500	5620	4822	9192	9385	9940	892	10129	0.00%	26.9/min	0.18
Get Contacts B...	500	5395	4734	8936	9375	9903	827	9964	0.00%	27.0/min	0.18
Get Contacts B...	500	5300	4775	8612	9268	9627	799	10129	0.00%	27.1/min	0.12
Add Contact	500	8629	8518	12072	13413	14130	933	15032	0.00%	27.2/min	0.19
Update Contact	500	7465	7401	9524	10143	12293	1028	14042	0.00%	27.4/min	0.19
Delete Contact	500	7256	7130	9759	10341	11296	924	12560	0.00%	27.6/min	0.14
TOTAL	8500	6660	6586	9946	11404	13630	799	16997	0.00%	7.4/sec	3.56

Medium Load Test

Purpose: To verify if the system can handle the minimum expected user load.

Parameters:

Number of Threads (Users): 100

Ramp-Up Period (in seconds): 40

Loop Count: 10

Screenshot:

Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received KB/sec
Register User R...	1000	17787	16578	23278	25333	28420	1090	146689	0.00%	26.5/min	0.19
Delete User Req...	1000	16805	16086	21001	23272	28197	1038	138010	0.00%	26.4/min	0.11
Login User Req...	1000	9280	8338	14417	16356	18629	972	19833	0.00%	26.3/min	0.33
Get Users Requ...	1000	9904	8811	15835	17723	18922	808	20610	0.00%	26.3/min	0.54
Update User Re...	1000	18682	18273	24851	27196	28680	2218	33242	0.00%	26.3/min	0.32
Refresh Token ...	1000	10240	9539	15679	17368	18920	903	20810	0.00%	26.4/min	0.31
Forgot Passwor...	1000	18641	18489	23870	26177	28419	2151	47621	0.00%	26.4/min	0.11
Reset Password...	1000	9808	9250	14761	16849	18686	1709	20171	0.00%	26.4/min	0.26
Reset Password...	1000	11074	9677	17583	18590	20363	1391	20805	0.00%	26.4/min	0.11
Logout User	1000	10357	9563	16408	17841	19650	1023	20805	0.00%	26.4/min	0.18
Get Contacts R...	1000	10767	9611	17076	18139	19651	1035	20407	0.00%	26.5/min	0.17
Get Contacts B...	1000	10698	9592	16786	18346	20174	965	21343	0.00%	26.6/min	0.18
Get Contacts B...	1000	10103	9141	15862	17514	19158	904	21343	0.00%	26.7/min	0.18
Get Contacts B...	1000	10064	9050	15933	17356	19261	888	20805	0.00%	26.9/min	0.12
Add Contact	1000	17389	17159	22419	24394	27659	991	29960	0.00%	27.0/min	0.19
Update Contact	1000	16827	16219	21964	23628	27412	966	138008	0.00%	27.3/min	0.19
Delete Contact	1000	16680	15869	22228	23574	27167	950	146688	0.00%	27.4/min	0.14
TOTAL	17000	13242	12780	19650	22156	27170	808	146689	0.00%	7.4/sec	3.57

Heavy Load Test

Purpose: To verify if the system can handle the minimum expected user load.

Parameters:

Number of Threads (Users): 200

Ramp-Up Period (in seconds): 80

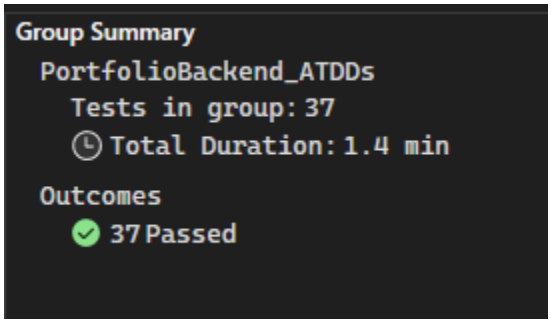
Loop Count: 10

Screenshot:

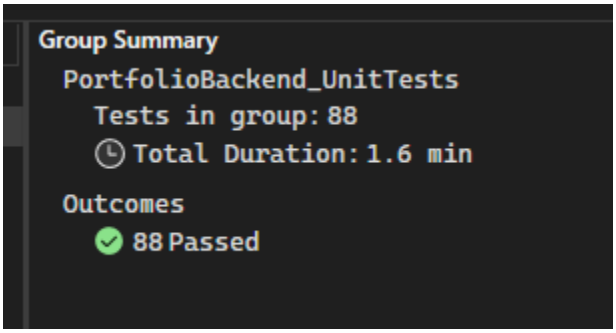
Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received KB/sec
Register User R...	2000	34336	34378	43225	46180	52707	1200	166626	0.00%	27.2/min	0.20
Delete User Req...	2000	31266	29819	41042	43537	49084	1127	170714	0.00%	27.0/min	0.11
Login User Req...	2000	21227	20699	29767	32528	36829	1103	42535	0.00%	26.8/min	0.33
Get Users Requ...	2000	18916	16985	29230	31932	35050	1061	38899	0.00%	26.7/min	0.55
Update User Re...	2000	35907	34228	47499	50570	54101	2490	57383	0.00%	26.6/min	0.33
Refresh Token ...	2000	22150	21251	31171	33789	38101	2082	42413	0.00%	26.5/min	0.31
Forgot Passwor...	2000	35923	34437	46492	49387	53324	5576	170714	0.00%	26.4/min	0.11
Reset Password...	2000	20910	18543	31291	33772	38330	2576	41776	0.00%	26.4/min	0.26
Reset Password...	2000	22530	20347	32630	34811	38658	3429	41590	0.00%	26.4/min	0.11
Logout User	2000	20401	18277	31704	34160	38327	1713	41700	0.00%	26.5/min	0.18
Get Contacts R...	2000	21260	18682	32236	34494	38482	2403	47203	0.00%	26.5/min	0.17
Get Contacts B...	2000	21438	19263	31945	34120	38319	2149	47204	0.00%	26.5/min	0.18
Get Contacts B...	2000	20622	18260	31699	34028	37826	972	42826	0.00%	26.6/min	0.18
Get Contacts B...	2000	20113	18003	31163	33613	37676	872	47205	0.00%	26.7/min	0.12
Add Contact	2000	34679	34031	45773	49434	54601	1054	60770	0.00%	26.7/min	0.19
Update Contact	2000	33270	32257	43533	46806	53099	1055	166623	0.00%	26.9/min	0.18
Delete Contact	2000	32099	31810	41587	44814	51681	1038	157400	0.00%	27.2/min	0.13
TOTAL	34000	26297	26588	39163	43191	50840	872	170714	0.00%	7.4/sec	3.61

Service Tests:

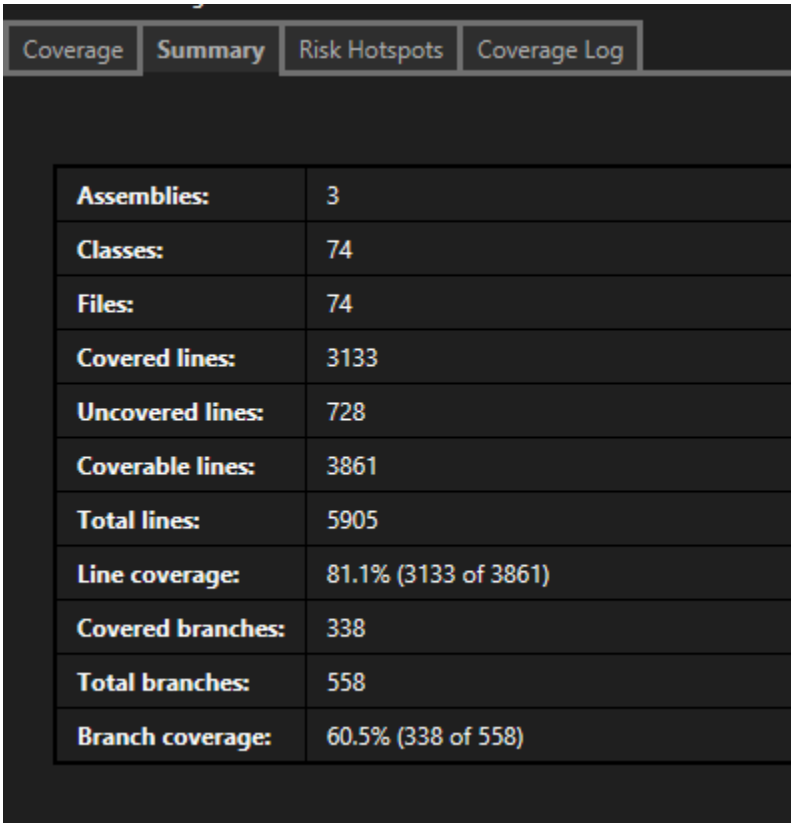
ATTDs



Unit Tests



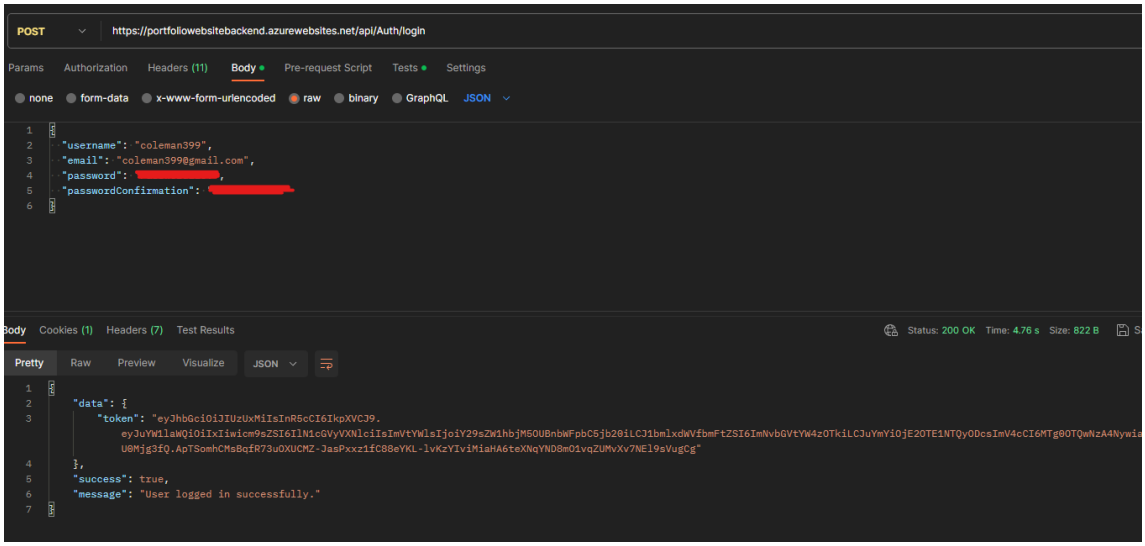
Code Coverage



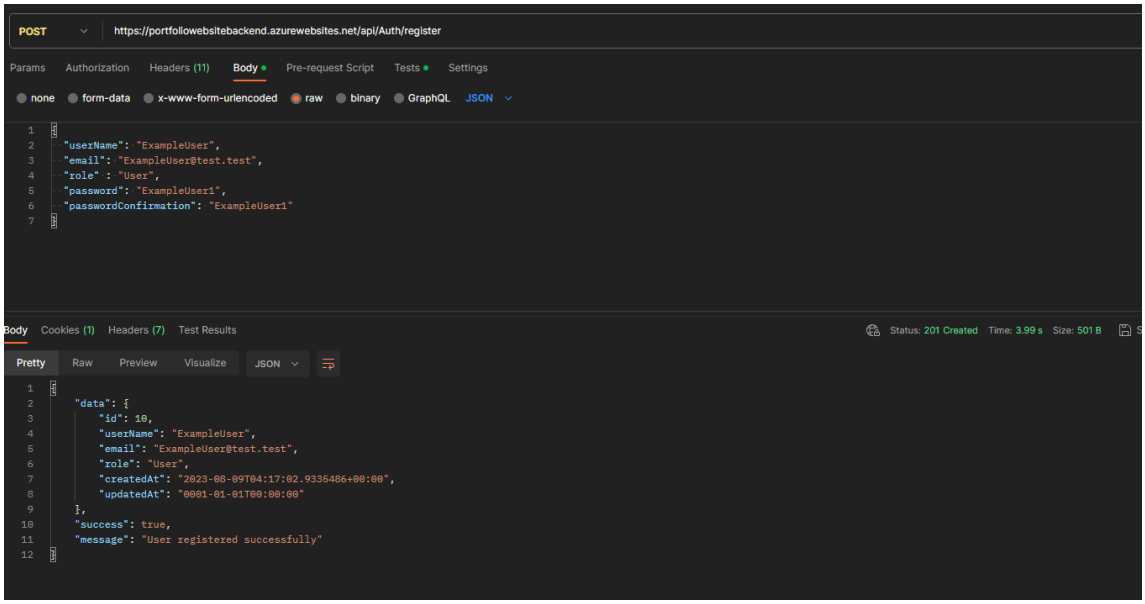
Assemblies:	3
Classes:	74
Files:	74
Covered lines:	3133
Uncovered lines:	728
Coverable lines:	3861
Total lines:	5905
Line coverage:	81.1% (3133 of 3861)
Covered branches:	338
Total branches:	558
Branch coverage:	60.5% (338 of 558)

Production End to End:

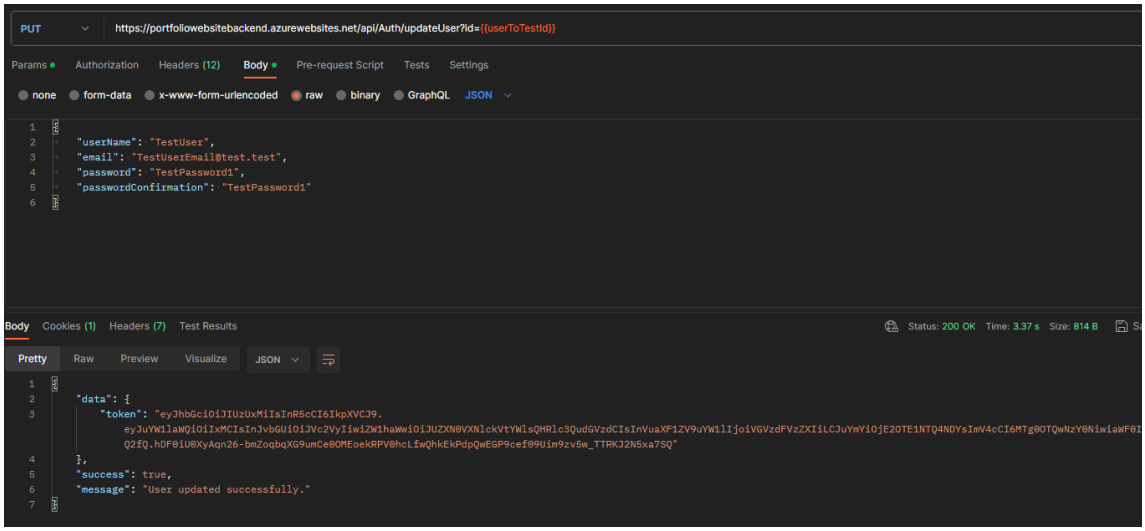
1. Log in



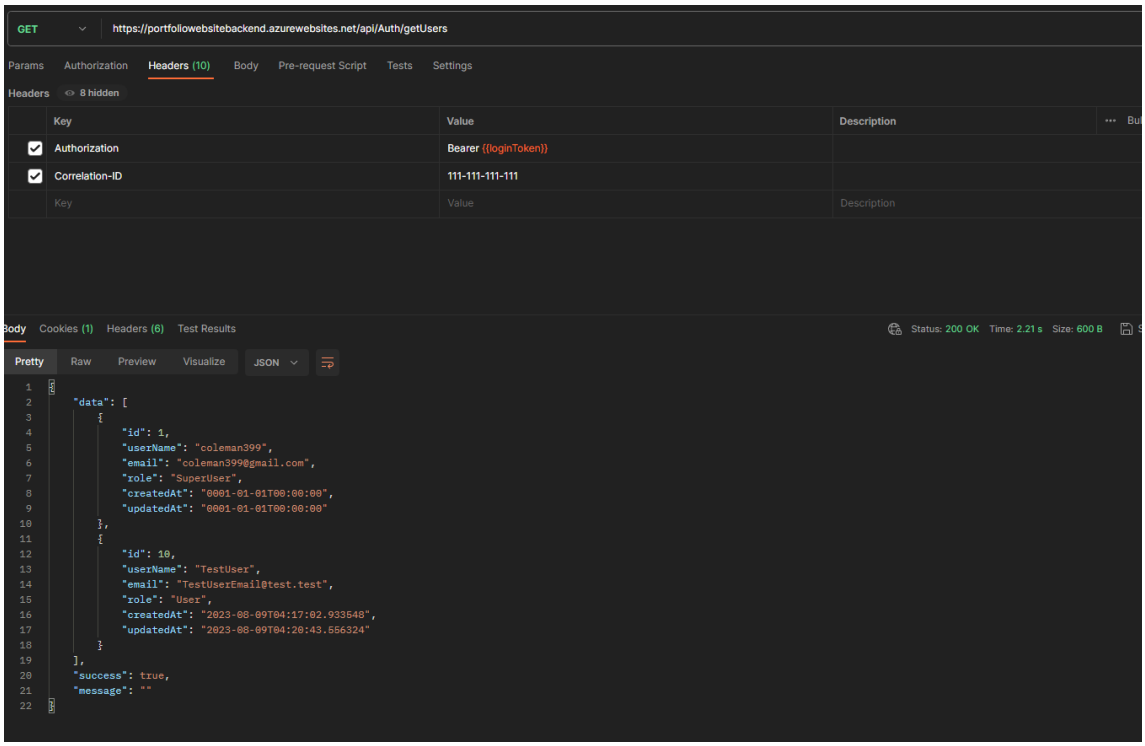
2. Register User



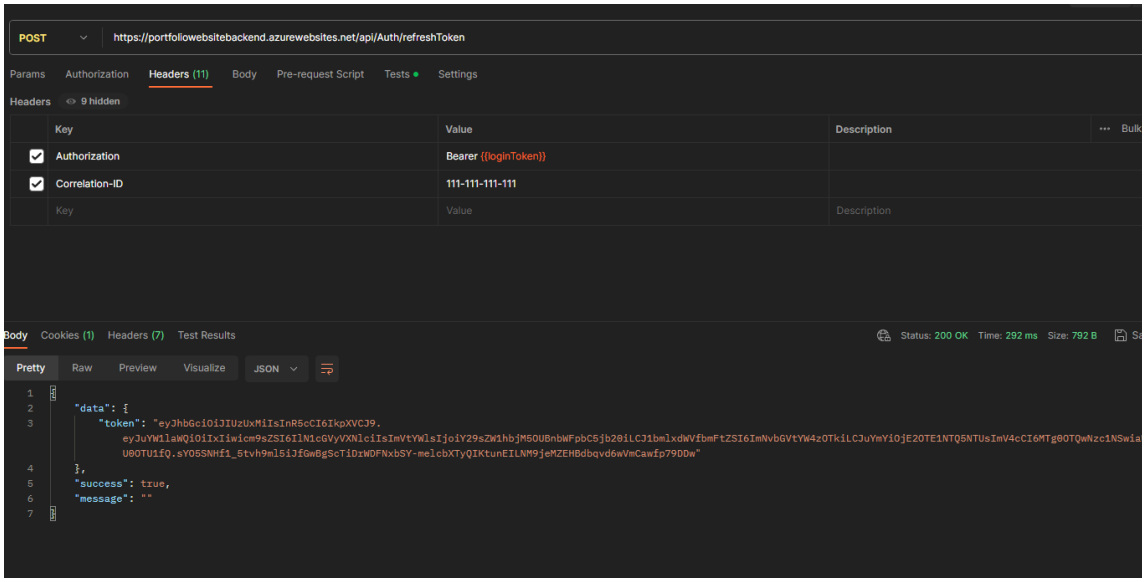
3. Update User



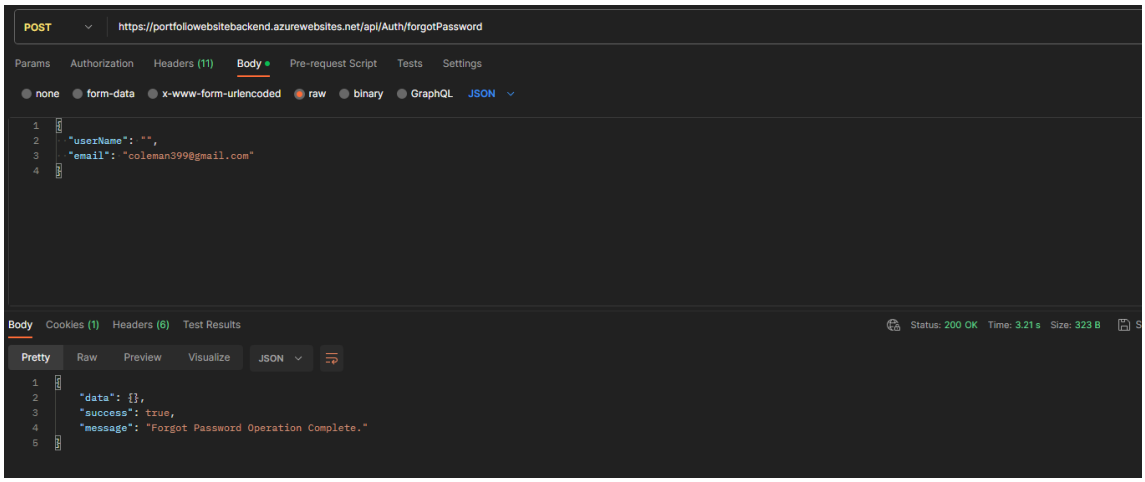
4. Get Users



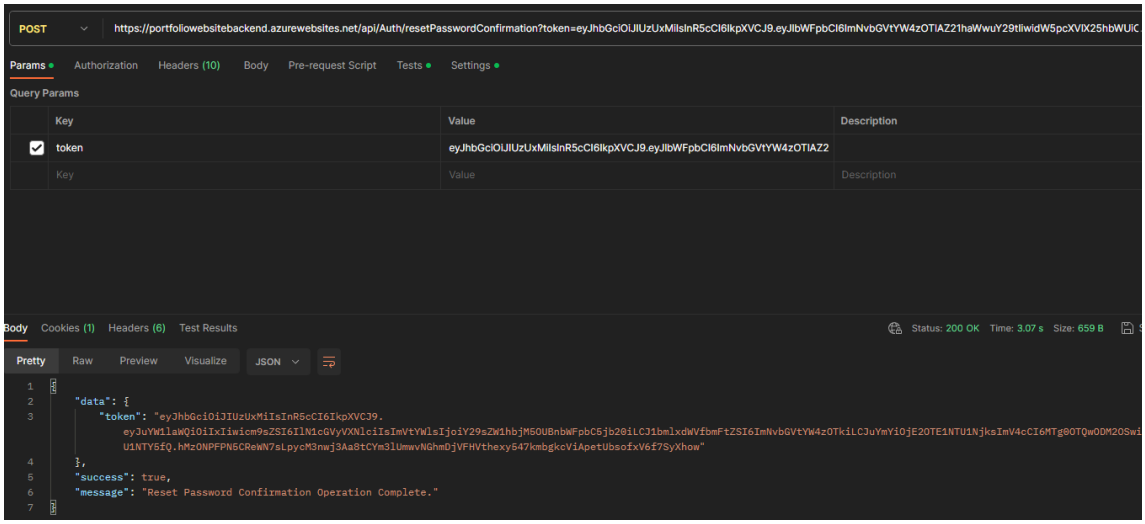
5. Refresh Token



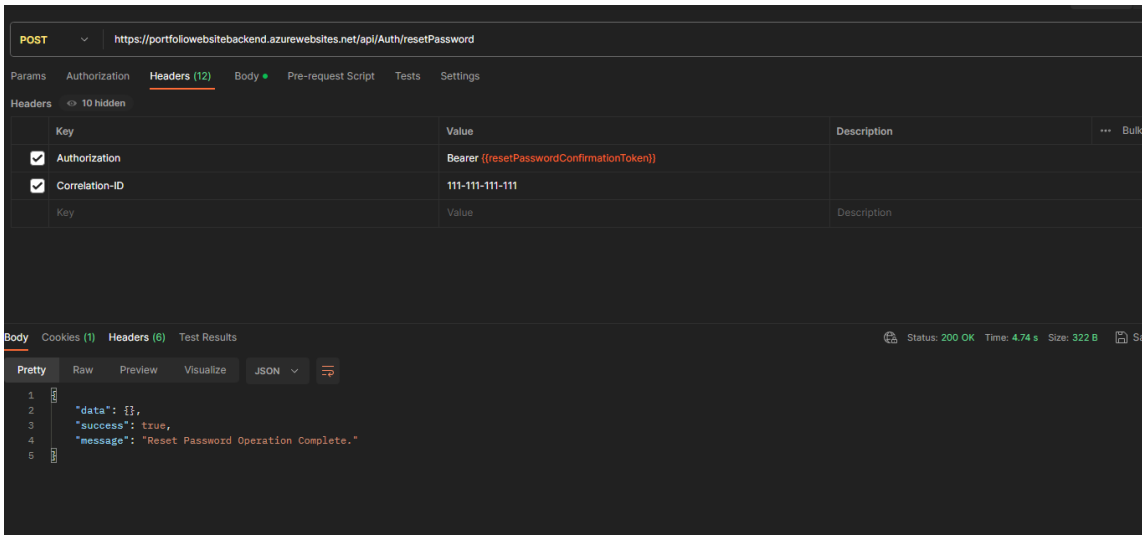
6. Forgot Password



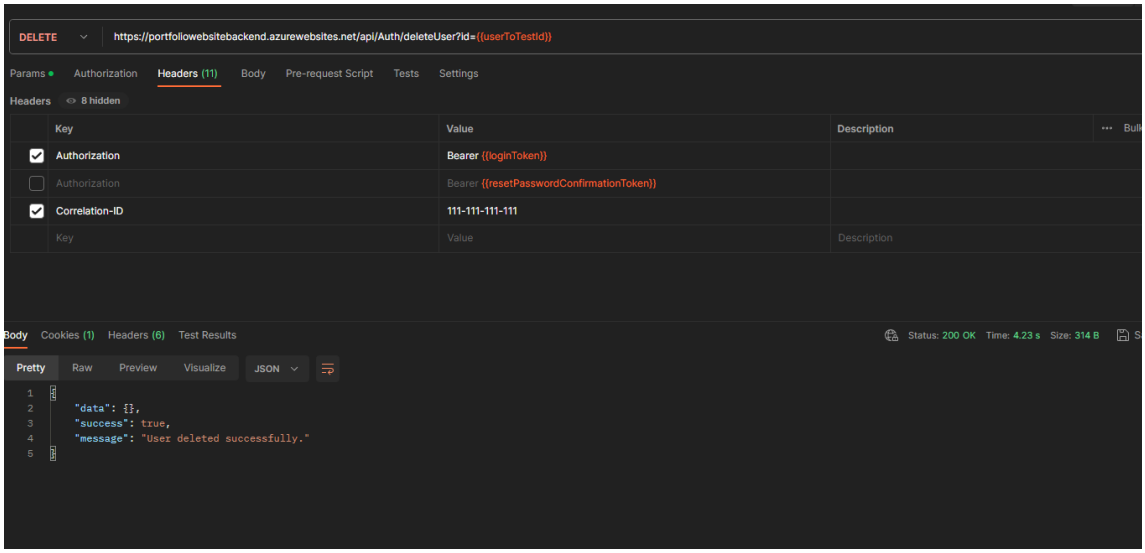
7. Reset Password Confirmation



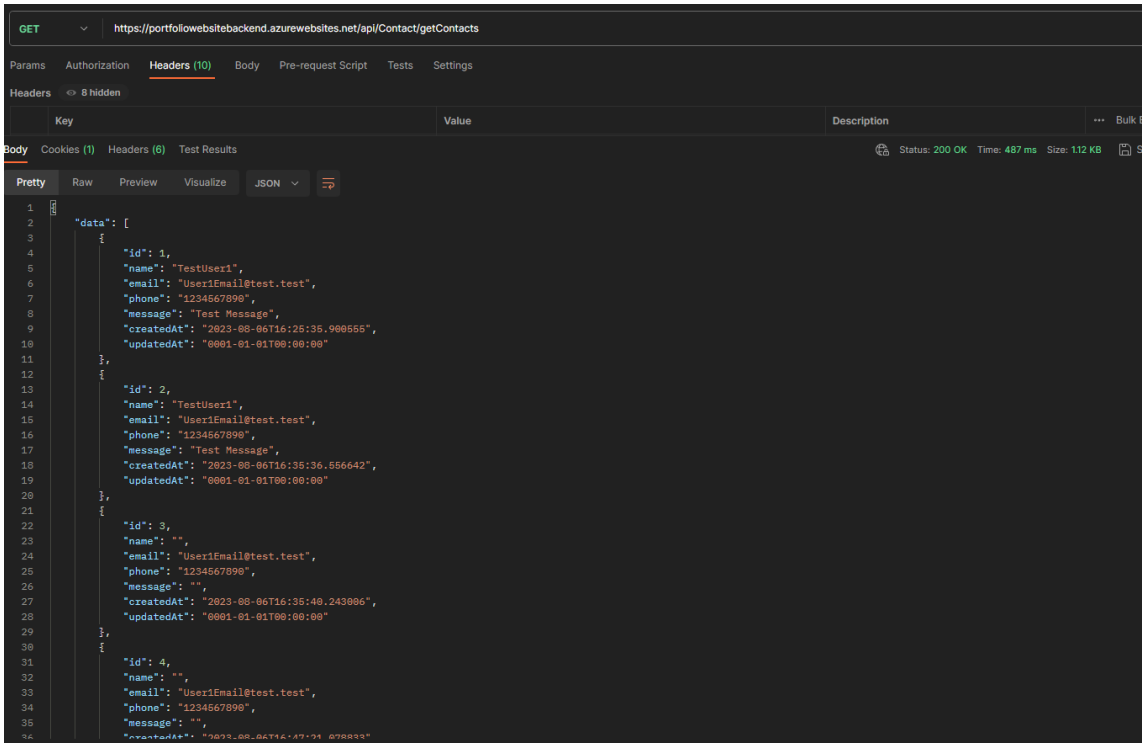
8. Reset Password



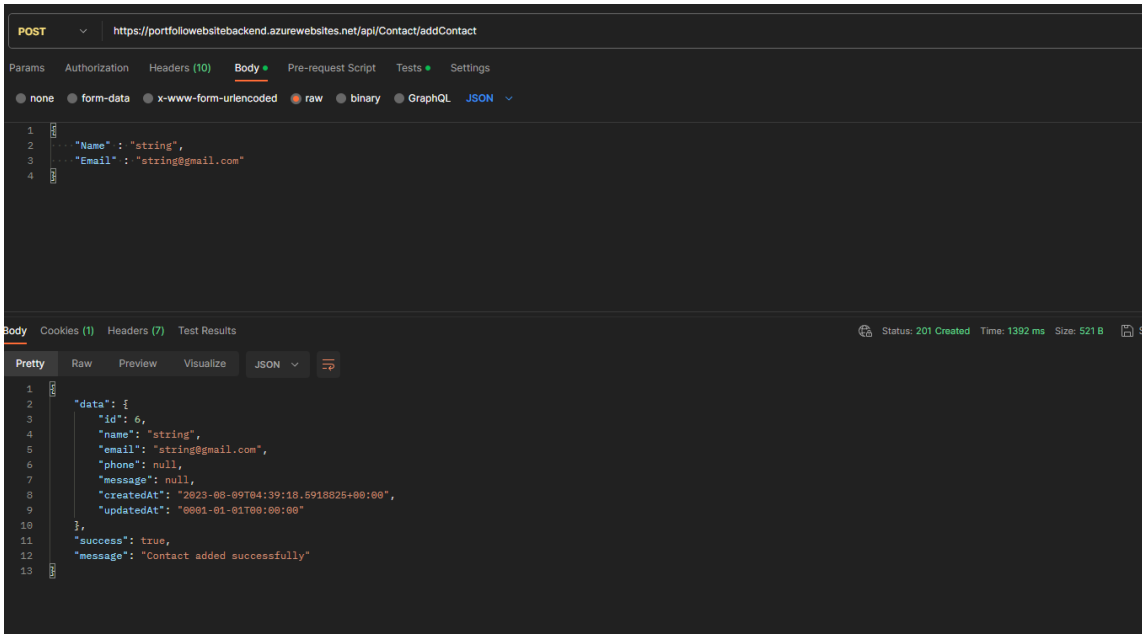
9. Delete User



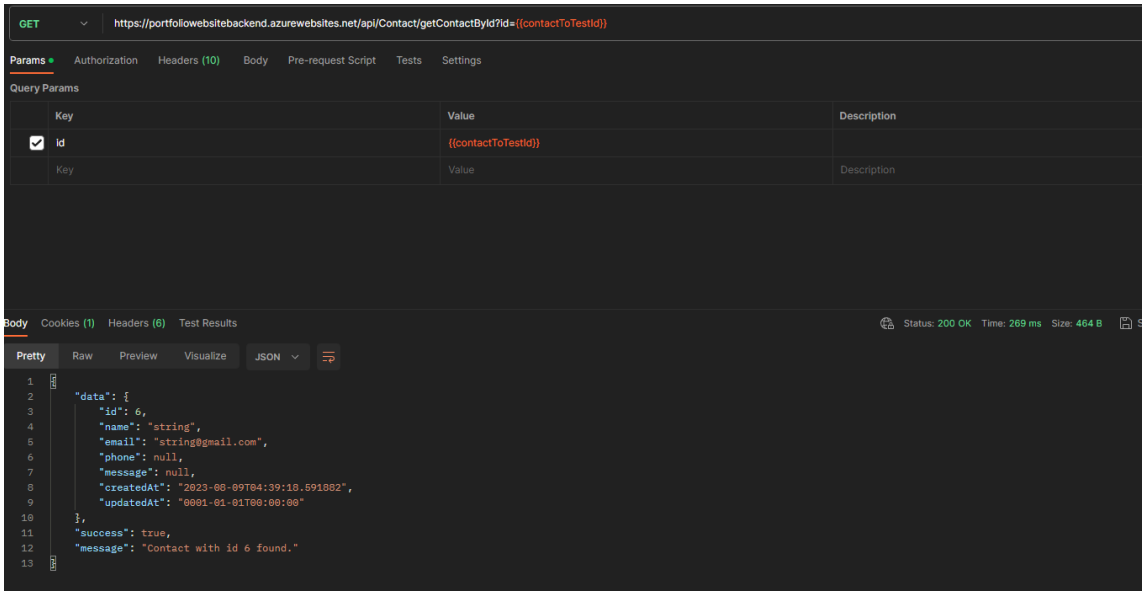
10. Get Contacts



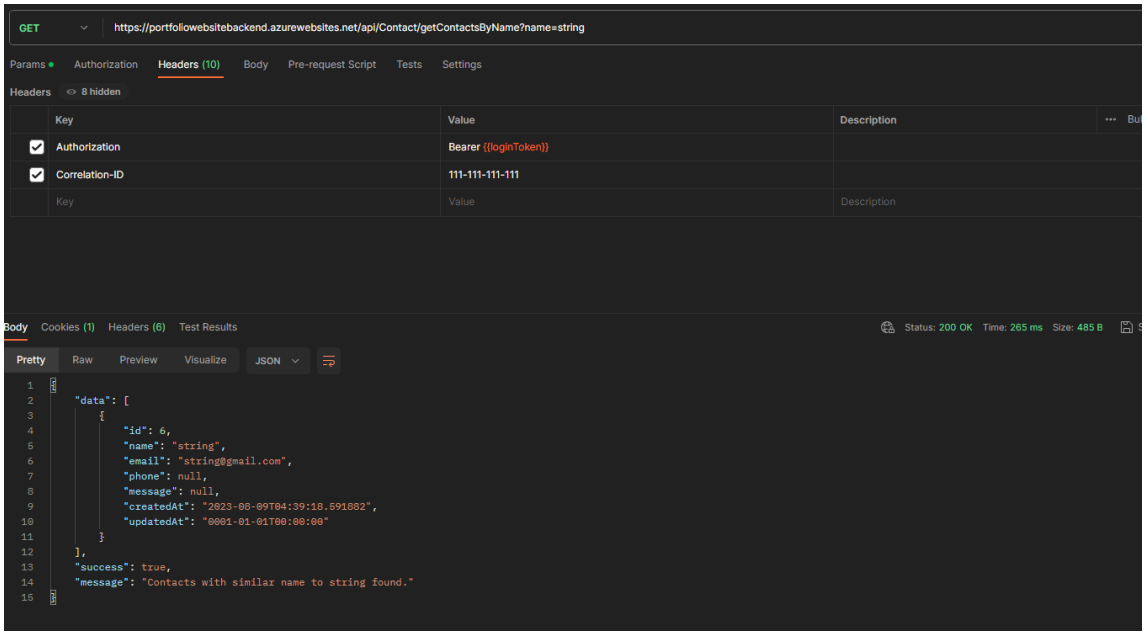
11. Add Contact



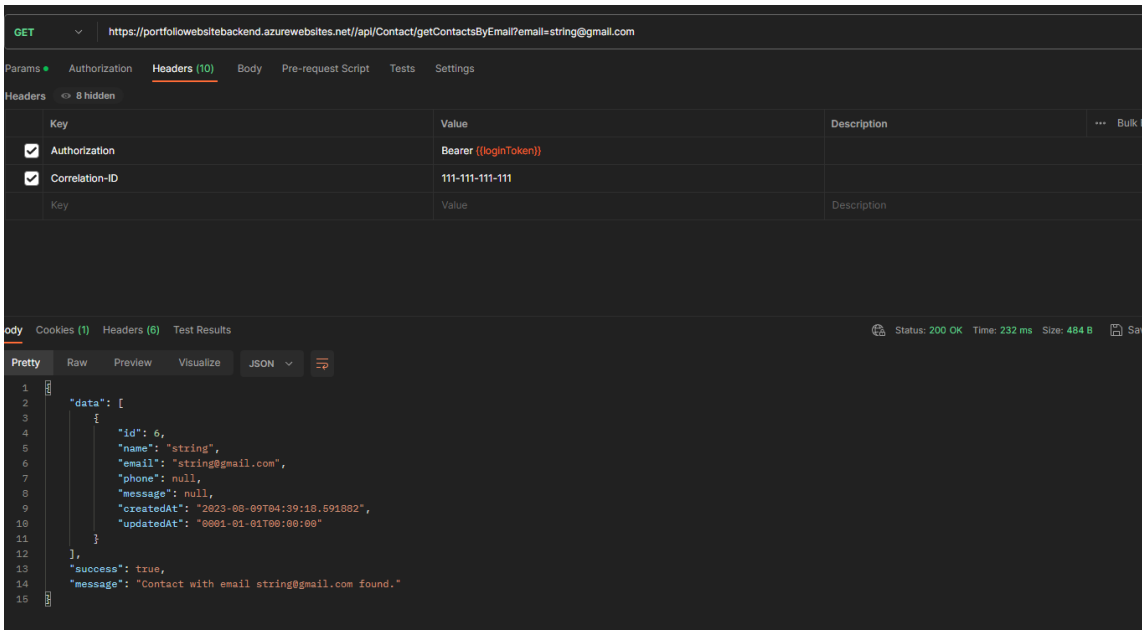
12. Get Contact by Id



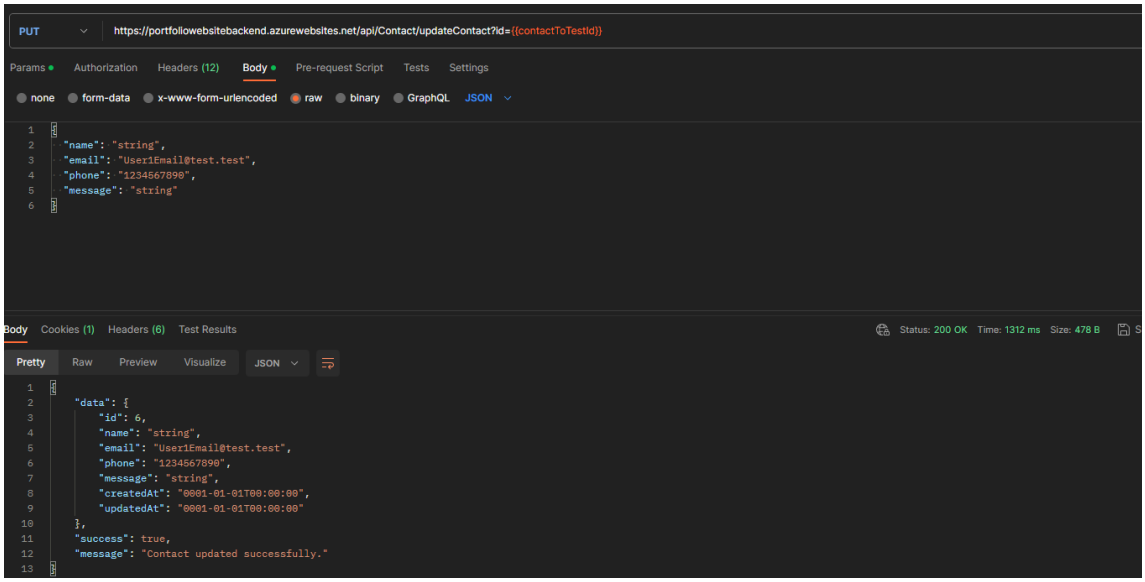
13. Get Contact by Name



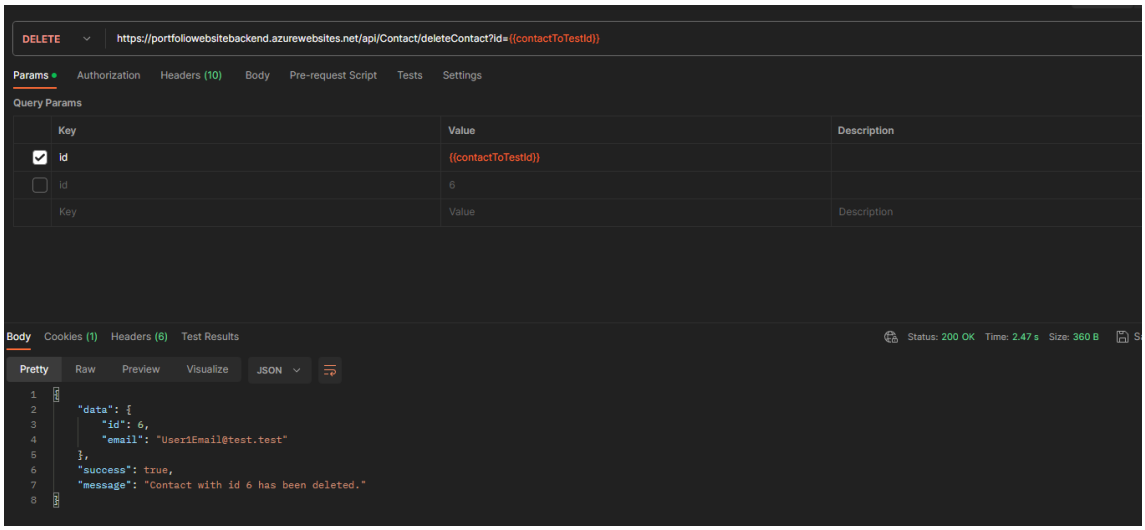
14. Get Contact by Email



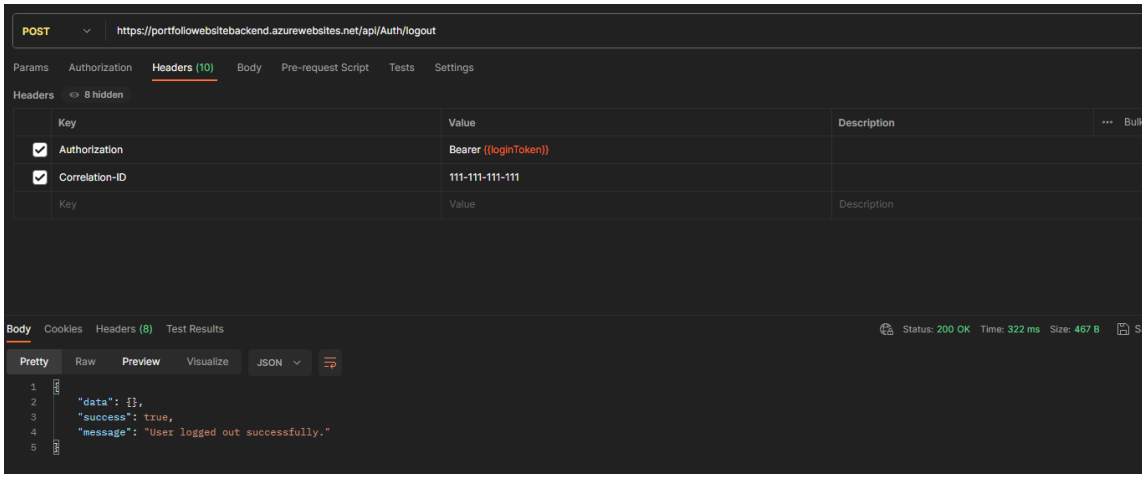
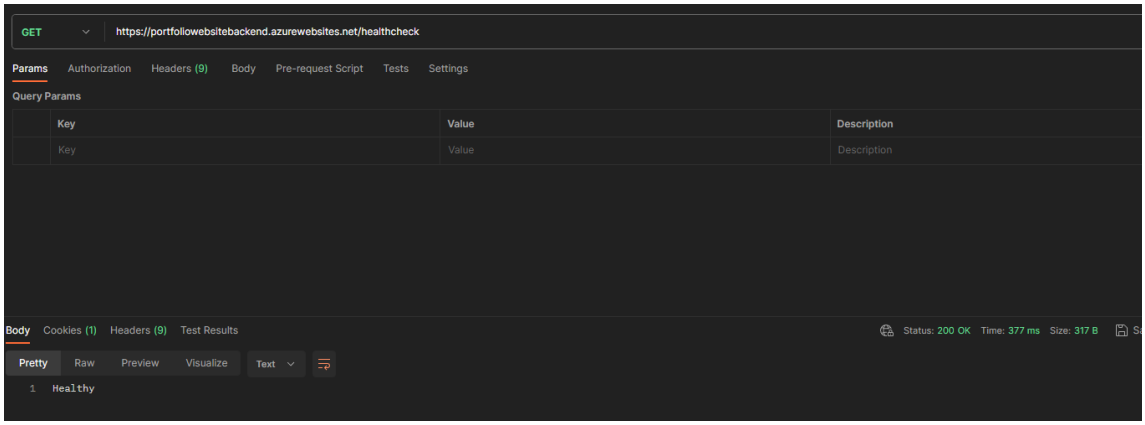
15. Update Contact



16. Delete Contact



17. Logout User



18. Health Check