Testing_2

March 23, 2025

[29]:
```python
import requests
import json

# The URL of the server
BASE_URL = "http://pase.pythonanywhere.com"
```

[34]:
```python
url = f"{BASE_URL}/generate-key"
response = requests.post(url, json={"key_type": "RSA", "key_size": 2048})
print(response.json())
```

```
{'key_id': '4', 'private_key': 'LS0tLS1CRUdJTiBQUklWQVRFIEtFWS0tLS0tCk1JSUV2UUlC
QURBTkJna3Foa2lHOXcwQkFRRUZBQVNDQktjd2dnU2pBZ0VBQW9JQkFRQ29UenN0UnY4UjRaTUEKeUxK
QzQ4djRVSzBSMFN4bUs1Rk1CeHpUd0c1NXdnQVdicThGWUd4b014Y3UzbFFpN1lGRUgvRTNPUFVuN1pF
SwowR1VZc3RYNTlIbDgyY2s2ZGhoMmg4V2dOdHIwd3pYT2U3aGNXSm5KOHdKTVBEUHVZSzZ3WlNBa3Fx
OGw1R3VZCkk0VlNYUWNIMFJ5NjRFK2FlTjBGZ20wM2ZuVXFyUy9tK2dUNUM5d3VoNk42TXNZRkhyLzJ4
RzhDQnBMQzF3UCsKeis4b3QyVXpvSmsrT3VlOHEySktMb0E2dnFrbi8xcWlmWCszVll4cGFjRDlFbzdX
elRSMmtjRkJ2a20yZHFQZQpGMXhtMk1WNzVENjdpaklySTZzQitSNEJLMkhSWHN5T254WGhMVEF4dllk
MU1kek5jMUtyMS92aWl3cTVHeUFsCnhHWUlMOXR2QWdNQkFBRUNnZ0VBTStXNmFZdXF1dWpEVzBxSExQ
and1L0NrYlFvQ2xyNTRYdWtTaW5pYm1BK3AKMTBEcDFzNlVuc3lpS1dHRXNBQnNDNFdONjJrMHJzc2lI
aU9FQ01tY0VTYkJEeTVZVGg1OERKQnc3Nlg2ZmQ1egppT2U5UVR4UXIyU3ZJTEt2a0tGZlBDVHlkRnZO
QmRJWkd5Qll5N3pEbmpWc2xuTDBHTDJMNlZiK05rNVg4b0JVClRRVmZGc0xTUGxvbjlaMnVFOGVVOTVZ
Y1hLS2NWd2RDNnk3OEJMcldMTzhMRzdDMmJjTGo3bERoT2hDRVFORFAKLy9iMlR5VE9GUmtIYWVMdDlG
WlEyTXRwTUx2UXB1YzBLZE82U0VFR2NjRXZBczZPYlFFYWZqTWxuQzdkSE9sdApFMzAxZHJQVm43Vzdt
VVRXNkhjdjBqYXQ0OXB4OW52RXVWMzBBWHdwQVFLQmdRRFpzQmNWN3dXdzBGZUxVQXoxClEyUEZreW83
cmtxWVdxaXJLZm9MdTBwNm11cHhESldGN3V3NjhrUEt0YWpQamhMbnJmZE11U3AyT3dUcHdtTzUKSkEx
OFBPRWI5ejNZUzJGOEJrd1pqNlk1b2JCNmtnQXY5RmNmS1d5QTlPYXJGUTlWck1NeDdhbW8wSUQ1NGt5
eQpzZGpUaTlDU2h2NE9ER0YxbmhOb1NheGJWd0tCZ1FERjdtY2pZZmZkN0xuWVVjM000eHBWMEU2L3dn
TUNaSHlwCnJLMnFCTC9oeUVjdXZ5MlFjVE42T3FzUnp3dThtWFErQ3U5UkhkbWp2TXZhTzVDOHJORVY0
VjBjaGRPN1hjN2kKVG5pMm9POTR3NXRWQ1ZlRjBVR2Jka1lIUkZ1QUQvQjZYZnFXRVdUNENCeGlhYjQr
MFFsM2dhVG01S3JwYUQ1OQpkNlVRemVxSnFRS0JnQ2R3MGgzMU9wQzRqc1A4OHZ3VkE2U3ViejUwNjZz
QzhnQmhFSjdEaGxFRWRHbWJJQlF1Ckg3cm1YZ1lDTjkyekhoVy8zVWlYVyt3ajhWWHhGR1JjOWR5R296
cVA1ektqSmJ4MDM2RForQUlGRzVaNWtYTWUKMEJJalRUZG9KOHJqZSszSDZXM0lZNjdrYUJuZU9Jcy8w
Y3N5VDgzY2kzYzhJd1JPYWJIQmQycnRBb0dBYjV6TQpGQ3UrZGlwemNnUlBKT1k3aDRCN3A2NWp2QW1t
TXBmcEppS2ZnVlpLclpXb3YvYlZyR3RBNUQzNHhGVlVNMWcvCk0ySzl3NU5HOEx6K0ZTYnVrSVFRMlhD
dHdNNVpSMHd3emV0YW5xTFBDTmpIdmZJT0tQZzg3UVFqQk1mNE4waWYKY2RoRk00aC9XUTkvOURRMFBt
dWc3WUtzemdtMmsxSFFodlZXK0dFQ2dZRUFxV0xDeXkxcTFoRmptOHd2MUt1UwoySUU2VGlsTDVUYWJX
eXFYT3Z6RjhCU1JTMDl2QmtWMjBpVkYrRG11c0lIOWZienlSMjB6UWl1bkoycm1uTkdiCmlYV2pxY1RH
elVLN0NnTE94OERZNDhaUnMxN1JLalUxZ2tyU09oQm02S3BZTTZNMGIyVzIzQm1hczBHTWY1ZzMKb1M0
a1N1eDZOOHdUM0E4clIxVktvRXM9Ci0tLS0tRU5EIFBSSVZBVEUgS0VZLS0tLS0K', 'public_key':
'LS0tLS1CRUdJTiBQVUJMSUMgS0VZLS0tLS0KTUlJQklqQU5CZ2txaGtpRzl3MEJBUUVGQUFPQ0FROEF
NSUlCQ2dLQ0FRRUFxRTg3TFViL0VlR1RBTWl5UXVQTAorRkN0RWRFc1ppdVJUQWNjMDhCdWVjSUFGbTZ
2QldCc2FETVhMdDVVSXUyQlJCL3hOemoxSisyUkN0QmxHTExWCitmUjVmTm5KT25ZWWRvZkZvRGJhOU1
NMXpudTRYRmlaeWZNQ1REd3o3bUN1c0dVZ0pLcXZKZVJybUNPRlVsMEgKQjlFY3V1QlBtbmpkQllKdE4
zNTFLcTB2NXZvRStRdmNMb2VqZWpMR0JSNi85c1J2QWdhU3d0Y0Qvcy92S0xkbApNNkNaUGpybnZLdGl
TaTZBT3I2cEovOWFvbjEvdDFXTWFXbkEvUktPMXMwMGRwSEJRYjVKdG5hajNoZGNadGpGCmUrUSt1NG9
5S3lPckFma2VBU3RoMFY3TWpwOFY0UzB3TWIySGRUSGN6WE5TcTlmNzRvc0t1UnNnSmNSbUNDL2IKYnd
JREFRQUIKLS0tLS1FTkQgUFVCTElDIEtFWS0tLS0tCg=='}
```

```
[35]: url = f"{BASE_URL}/encrypt"
      data = {"key_id": "4", "plaintext": "You are a wizard Harry", "algorithm":␣
        ↪"RSA"}

      response = requests.post(url, json=data)
      print(response.json())
```

```
{'ciphertext': 'mZFkbHBZ/DKYrm0s9uDCW8d9pKDpq6tLfYdSTqGZ1U+NU2ojmMORpCm+1lUrDc45
RqinqjJlerzu7vK/2ZHeeHLaAw95Uc9LLW9fiywgikrj3GzkFW0xJfqg1DCdQRMiKC2tP5HR3cyHco2E
SHGNNyv86af3ZqNL79lZjKVo7oGp5E3KxMHSPc9RgQ+4FBdaxivVkgZBdRXGjql0VTKecJ3YLZIrVzbl
7DDj2qp+gbGodgf+H+S1hnmGw3JerSYX0CvLVSoveggPk9U3rfmvSCaqUlNmzUBhKqFNx0ZBRRAxooTR
3l/Wg5fVw9ltaOdUleUCexvNWbV/4O8UoVoKxA=='}
```

```
[37]: url = f"{BASE_URL}/decrypt"
      data = {"key_id": "4", "ciphertext": "mZFkbHBZ/
        ↪DKYrm0s9uDCW8d9pKDpq6tLfYdSTqGZ1U+NU2ojmMORpCm+1lUrDc45RqinqjJlerzu7vK/
        ↪2ZHeeHLaAw95Uc9LLW9fiywgikrj3GzkFW0xJfqg1DCdQRMiKC2tP5HR3cyHco2ESHGNNyv86af3ZqNL79lZjKVo7oG
        ↪Wg5fVw9ltaOdUleUCexvNWbV/4O8UoVoKxA==", "algorithm": "RSA"}

      response = requests.post(url, json=data)
      print(response.json())
```

```
{'plaintext': 'You are a wizard Harry'}
```

```
[38]: url = f"{BASE_URL}/generate-hash"
      data = {"data": "You are a wizard, Harry!", "algorithm": "SHA-512"}

      response = requests.post(url, json=data)
      print(response.json())
```

```
{'algorithm': 'SHA-512', 'hash_value': 'p0AfFUXOXLnYWElwQD1aRa8NrjDl0MTiiBDr5ko1
eUZrdEkNY1+4PpQuFx/hI3J2WZz1IRt0gC/+3Eru7xxuQA=='}
```

```
[39]: url = f"{BASE_URL}/verify-hash"
      data = {"data": "You are a wizard, Harry!", "hash_value":␣
        ↪"p0AfFUXOXLnYWElwQD1aRa8NrjDl0MTiiBDr5ko1eUZrdEkNY1+4PpQuFx/hI3J2WZz1IRt0gC/
        ↪+3Eru7xxuQA==", "algorithm": "SHA-512"}

      response = requests.post(url, json=data)
```

```
print(response.json())
```

```
{'hash_validity': True, 'message': 'Hash matches the data.'}
```

```
[40]: url = f"{BASE_URL}/verify-hash"
      data = {"data": "Good morning, Harry!", "hash_value":␣
        ↪"Jp0AfFUX0XLnYWElwQD1aRa8NrjDl0MTiiBDr5ko1eUZrdEkNY1+4PpQuFx/hI3J2WZz1IRt0gC/
        ↪+3Eru7xxuQA==", "algorithm": "SHA-256"}

      response = requests.post(url, json=data)
      print(response.json())
```

```
{'hash_validity': False, 'message': 'Hash does not match the data.'}
```