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1  Generating RSA Key Pair.
2
3  Transforming the Public Key into Base64 format to share it with the Server.
4
5  Building payload request H5 model from the Server.
6
7  Requesting an ANN Model from Server.
8
9  Decrypting the random AES Key using which the model was encrypted.
10
11 Decrypting the model.
12
13 Saving the decrypted model.
14 ann_id=simple_model_h5_1683991151.0928674.h5.encrypted
15
16 Loading the decrypted model.
17 ann_id=simple_model_h5_1683991151.0928674.h5.encrypted
18
19 Building payload to send to the server.
20
21 secret_message: message id:74aad09-5e13-4064-97f5-234c261499f5
22 English: FYKO is a cool project
23 Telugu: FYKO ఒక మంచి ప్రాజెక్ట్
24 Hindi: FYKO एक अच्छा प्रोजेक्ट है
25 Portugese: FYKO é um projeto legal
26 Thai: FYKO เป็นโครงการที่ยอดเยี่ยม
27 Chinese: FYKO是一個很酷的項目
28 Japanese: FYKOはクールなプロジェクトです
29 Korean: FYKO는 멋진 프로젝트입니다
30 Irish: Is tionscadal fionnuar é FYKO
31 Arabic: FYKO مشروع رائع
32
33 request_json={'random_string': 'dd244843-b414-4a26-81c1-b454634cfb62',
34 'utc_time_seconds': 1683991151, 'encrypted_message':
35 '7+/Dro6/n2hIAvlmuCPCSu6NiJYv1UTW155KSbphUCebO/WLEKZKFO+1I5F2CfOYHV6v6KMZfoHYPcvO4K7HnHz+
36 eQdw4oU/CqCMREfdTZSm+5GNoTps9qJHSTObyjNaDJGGX8xuZDAiLwmiQWbFD/4BqCkWsIRQ8oaipZgnG717H4qE/
37 OvpJhqYkzeK4eaqpuF2HvXzBiOwatqzT1WE08TzTqelDzvfywWct9JMAzy6rb3038/Pv3LOftZMC0wLx2f807UJH3
38 V0aE3z/7lqkzBYohxZQO+lQtr5DReU2QyeJYbJfB8RsZsxFmqEwJ7klusNgn3bzYeTumCLvJKj7T1MnA0nguqEXX3
39 QvPWCONtuqvYVYtkLvqRNYgoMS6CPHFJ8xrvMvyZNYZkaGUUnLC4r15VgTxxixa8wkGgzQx8mt0/hNYiBSgYdsFL/
40 N3L1gpoUZ9Zc1lw2IWwEfWF/fI3aNLy68M2bMr15zgSmVE6q0ZRVqZkx35j1NdLS05pSmGonHnNtvGvC0trTnz34k
41 SD/wDFvW3Ct82Iq5YornuN9Du/ej3jX0KI8ON4lgixLceY9e/2ZiTsDH8f8ezKpAZF+HfyhDAV4uz82DZsb2Tit3D
42 ux3GMvIqARW0lY1shlnmV+XSS/zKjv1z0JaTjakNanTU3yGf4KluFGWgTnTmhMKDB9IVykHMTv6ex7dPxK1WymdUj
43 C8YE6iEfTINKzeiESbIR13lN2TE//VRC6LY/LC1MAB86isIFM2RteAn+w6Z9g1m/HYZqVj1SBT34dFNAqtgc8gQcI
44 t2qXZZZH0kPbS9mV9/DOtonuhqScZlm37SVrnMBJkAqiP8eV6Svjm6l7O3IetycgAroT3RwLy0abTUiV00ODbsbc6
45 q5IA/kXwtIgJ2e5lxBGtJCulH5hbvOaelUhhU9BQWZAE9fVSC+3mHEuufBa8kKT6SOzVGzqbO2VQ2jRadE+kOcbLT
46 CIh0EV5DuQnhvOodHnRGX5174=', 'ann_id': 'simple_model_h5_1683991151.0928674.h5.encrypted'}
47
48 Sending request to the Server with encrypted message, random string, utc time and ann id.
49
50 response_json={'request_message': 'message
51 id:74aad09-5e13-4064-97f5-234c261499f5\nEnglish: FYKO is a cool project \nTelugu: FYKO
52 ఒక మంచి ప్రాజెక్ట్ \nHindi: FYKO एक अच्छा प्रोजेक्ट है \nPortugese: FYKO é um projeto legal \nThai: FYKO
53 เป็นโครงการที่ยอดเยี่ยม \nChinese: FYKO是一個很酷的項目 \nJapanese: FYKOはクールなプロジェクトです \nKorean: FYKO는
54 멋진 프로젝트입니다 \nIrish: Is tionscadal fionnuar é FYKO \nArabic: FYKO مشروع رائع'}
55
56 Verifying decrypted message sent back by the Server:
57
58 Original Message: message id:74aad09-5e13-4064-97f5-234c261499f5
59 English: FYKO is a cool project
60 Telugu: FYKO ఒక మంచి ప్రాజెక్ట్
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68 Arabic: FYKO مشروع رائع
69 Message decoded by Server: message id:74aad09-5e13-4064-97f5-234c261499f5

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53 English: FYKO is a cool project
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63 Is the original secret message sent equal to the request message in response:True
64
65 Replay Attack Scenario:
66 send_stale_message response_json={'error_message': 'Stale Request: Rejecting it'}
67
68 Future Request Scenario:
69 send_future_message response_json={'error_message': 'Request from the future: Rejecting
it'}
70
71 Wrong random string scenario:
72 send_wrong_inputs response_json={'request_message': 'could not decrypt'}
```