Here's how to convert a double array to a compressed Base64 encoded string in Java:

**1. Convert Double Array to Byte Array:**

* Use ByteBuffer to convert the double[] into a byte[]. This is done by allocating a buffer with the correct size for the double array and then putting the double values into the buffer.

| import java.nio.ByteBuffer;  private static byte[] doubleToByteArray(double[] doubleArray) {  ByteBuffer buffer = ByteBuffer.allocate(Double.SIZE / Byte.SIZE \* doubleArray.length);  buffer.asDoubleBuffer().put(doubleArray);  return buffer.array();  } |
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**2. Compress the Byte Array:**

* Use java.util.zip.Deflater to compress the byte array.

| import java.util.zip.Deflater;  import java.io.ByteArrayOutputStream;  import java.io.IOException;  private static byte[] compressByteArray(byte[] byteArray) throws IOException {  Deflater deflater = new Deflater();  deflater.setInput(byteArray);  deflater.finish();  ByteArrayOutputStream outputStream = new ByteArrayOutputStream(byteArray.length);  byte[] buffer = new byte[1024];  while (!deflater.finished()) {  int count = deflater.deflate(buffer);  outputStream.write(buffer, 0, count);  }  outputStream.close();  return outputStream.toByteArray();  } |
| --- |

**3. Base64 Encode the Compressed Byte Array:**

* Use java.util.Base64 to encode the compressed byte array into a Base64 string.

| import java.util.Base64;  private static String base64Encode(byte[] byteArray) {  return Base64.getEncoder().encodeToString(byteArray);  } |
| --- |

**4. Combine the Steps:**

* Create a method to combine the above steps.

| import java.io.IOException;  public static String compressAndBase64Encode(double[] doubleArray) throws IOException {  byte[] byteArray = doubleToByteArray(doubleArray);  byte[] compressedByteArray = compressByteArray(byteArray);  return base64Encode(compressedByteArray);  } |
| --- |

Example Usage:

| public static void main(String[] args) {  double[] testArray = {1.0, 2.0, 3.0, 4.0, 5.0};  try {  String encodedString = compressAndBase64Encode(testArray);  System.out.println("Base64 Encoded String: " + encodedString);  } catch (IOException e) {  e.printStackTrace();  }  } |
| --- |

**Important Notes:**

* **Compression:** The compression step is optional but can significantly reduce the size of the encoded string, especially for large arrays.
* **Error Handling:** The code includes basic error handling for the compression step.
* **Decompression:** You'll need to implement a corresponding decompression and decoding process to get the original double array back from the encoded string.

*AI responses may include mistakes.*

[-] <https://stackoverflow.com/questions/47614489/compress-then-encrypt-via-buffer-in-java>