```
public class GrantTypeAuthenticationConverter implements AuthenticationConverter {
       public static final String GRANT_TYPE = "grant_type";
 6
       @Nullable
       @Override
8
       public Authentication convert( HttpServletRequest request ) {
9
10
          // grant_type (REQUIRED)
11
          String grantType = request.getParameter( GRANT_TYPE );
12
          if (!"urn:ietf:params:oauth:grant-type:custom_code".equals( grantType )) {
13
               return null;
14
15
16
          Authentication clientPrincipal = SecurityContextHolder.getContext()
17
                                                                                                   .getAuthentication();
18
19
          MultiValueMap< String > parameters = getParameters( request );
20
21
          // code (REQUIRED)
22
          String code = parameters.getFirst( OAuth2ParameterNames.CODE );
23
          if ( !StringUtils.hasText( code ) || parameters.get( OAuth2ParameterNames.CODE ).size() != 1 ) {
24
               throw new OAuth2AuthenticationException( OAuth2ErrorCodes.INVALID_REQUEST );
25
          }
26
27
          Map< String, Object > additionalParameters = new HashMap<>();
28
29
           parameters.forEach( ( key , value ) -> {
30
              if (!key.equals( OAuth2ParameterNames.GRANT_TYPE ) && !key.equals(
31
                      OAuth2ParameterNames.CLIENT ID ) && !key.equals( OAuth2ParameterNames.CODE )) {
32
                            additionalParameters.put( key , value.get( 0 ) );
33
34
          } );
35
           return new OAuth2AuthorizationCodeAuthenticationToken( code , clientPrincipal , additionalParameters );
36
37
38
       private MultiValueMap< String, String > getParameters( HttpServletRequest request ) {
39
40
          Map< String, String[] > parameterMap = request.getParameterMap();
41
42
          MultiValueMap< String > parameters = new LinkedMultiValueMap<>( parameterMap.size() );
43
44
           parameterMap.forEach( ( key , values ) -> {
45
              if (values.length > 0) {
46
                   for (String value : values) {
47
                       parameters.add( key , value );
48
49
50
          } );
51
           return parameters;
52
53 }
54
```