



<https://pkg.go.dev/github.com/gogf/gf/v2/container/gtree>

NewBTree

- `NewBTreem()` BTreesafe tree false
- `m3panic`
-

```
NewBTree(m int, comparator func(v1, v2 interface{}) int, safe ...  
bool) *BTree
```

```
func ExampleNewBTree() {  
    bTree := gtree.NewBTree(3, gutil.ComparatorString)  
    for i := 0; i < 6; i++ {  
        bTree.Set("key"+gconv.String(i), "val"+gconv.String  
(i))  
    }  
    fmt.Println(bTree.Map())  
  
    // Output:  
    // map[key0:val0 key1:val1 key2:val2 key3:val3 key4:val4  
key5:val5]  
}
```

NewBTreeFrom

- `NewBTreeFromm()` map[interface{}]interface{} data BTreesafe tree false
- `m3panic`
-

```
NewBTreeFrom(m int, comparator func(v1, v2 interface{}) int, data map  
[interface{}]interface{}, safe ...bool) *BTree
```

```
func ExampleNewBTreeFrom() {  
    bTree := gtree.NewBTree(3, gutil.ComparatorString)  
    for i := 0; i < 6; i++ {  
        bTree.Set("key"+gconv.String(i), "val"+gconv.String  
(i))  
    }  
  
    otherBTree := gtree.NewBTreeFrom(3, gutil.ComparatorString,  
bTree.Map())  
    fmt.Println(otherBTree.Map())  
  
    // Output:  
    // map[key0:val0 key1:val1 key2:val2 key3:val3 key4:val4  
key5:val5]
```

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Clone

- `clonetreeBTree`

```
Clone() *BTree
```

```
func ExampleBTree_Clone() {
    b := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        b.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    tree := b.Clone()

    fmt.Println(tree.Map())
    fmt.Println(tree.Size())

    // Output:
    // map[key0:val0 key1:val1 key2:val2 key3:val3 key4:val4
key5:val5]
        // 6
}
```

Set

- Settreekey/value
-

```
Set(key interface{}, value interface{})
```

```
func ExampleBTree_Set() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String
(i))
    }

    fmt.Println(tree.Map())
    fmt.Println(tree.Size())

    // Output:
    // map[key0:val0 key1:val1 key2:val2 key3:val3 key4:val4
key5:val5]
        // 6
}
```

Sets

- Setstreekey/value
-

```
Sets(data map[interface{}]interface{})
```

```

func ExampleBTree_Sets() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)

    tree.Sets(map[interface{}]interface{}{
        "key1": "val1",
        "key2": "val2",
    })

    fmt.Println(tree.Map())
    fmt.Println(tree.Size())

    // Output:
    // map[key1:val1 key2:val2]
    // 2
}

```

Get

- GetkeyvaluekeyNil
-

```
Get(key interface{}) (value interface{})
```

-

```

func ExampleBTree_Get() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+strconv.Itoa(i), "val"+strconv.Itoa(i))
    }

    fmt.Println(tree.Get("key1"))
    fmt.Println(tree.Get("key10"))

    // Output:
    // val1
    // <nil>
}

```

GetOrSet

- GetOrSetkeyvaluekeykeyvalue
-

```
GetOrSet(key interface{}, value interface{}) interface{}
```

-

```

func ExampleBTree_GetOrSet() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetOrSet("key1", "newVal1"))
    fmt.Println(tree.GetOrSet("key6", "val6"))

    // Output:
    // val1
    // val6
}

```

GetOrSetFunc

- GetOrSetFunc(key interface{}, f func() interface{}) interface{}
-

```
GetOrSetFunc(key interface{}, f func() interface{}) interface{}
```

-

```

func ExampleBTree_GetOrSetFunc() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetOrSetFunc("key1", func() interface{} {
        return "newVal1"
    }))
    fmt.Println(tree.GetOrSetFunc("key6", func() interface{} {
        return "val6"
    }))

    // Output:
    // val1
    // val6
}

```

GetOrSetFuncLock

- GetOrSetFunc(key interface{}, f func() interface{}) interface{}
- GetOrSetFuncLockGetOrSetFuncf
-

```
GetOrSetFuncLock(key interface{}, f func() interface{}) interface{}
```

-

```

func ExampleBTree_GetOrSetFuncLock() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetOrSetFuncLock("key1", func() interface{}{
    {
        return "newVal1"
    }))
    fmt.Println(tree.GetOrSetFuncLock("key6", func() interface{}{
    {
        return "val6"
    }}))

    // Output:
    // val1
    // val6
}

```

GetVar

- GetVarkey*gvar.Var
- gvar.Var
-

```
GetVar(key interface{}) *gvar.Var
```

```

func ExampleBTree_GetVar() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetVar("key1").String())

    // Output:
    // val1
}

```

GetVarOrSet

- GetVarOrSetGetOrSet*gvar.Var
- gvar.Var
-

```
GetVarOrSet(key interface{}, value interface{}) *gvar.Var
```

```

func ExampleBTree_GetVarOrSet() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetVarOrSet("key1", "newVal1"))
    fmt.Println(tree.GetVarOrSet("key6", "val6"))

    // Output:
    // val1
    // val6
}

```

GetVarOrSetFunc

- GetVarOrSetFuncGetOrSetFunc*gvar.Var
- gvar.Var
-

```
GetVarOrSetFunc(key interface{}, f func() interface{}) *gvar.Var
```

```

func ExampleBTree_GetVarOrSetFunc() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetVarOrSetFunc("key1", func() interface{} {
        return "newVal1"
    }))
    fmt.Println(tree.GetVarOrSetFunc("key6", func() interface{} {
        return "val6"
    }))

    // Output:
    // val1
    // val6
}

```

GetVarOrSetFuncLock

- GetVarOrSetFuncLockGetOrSetFuncLock*gvar.Var
- gvar.Var
-

```
GetVarOrSetFuncLock(key interface{}, f func() interface{}) *gvar.Var
```

```

func ExampleBTree_GetVarOrSetFuncLock() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.GetVarOrSetFuncLock("key1", func() interface{} {
        return "newValue"
    }))
    fmt.Println(tree.GetVarOrSetFuncLock("key6", func() interface{} {
        return "val6"
    }))

    // Output:
    // val1
    // val6
}

```

SetIfNotExist

- keySetIfNotExist map key / value true / key false / value
-

```
SetIfNotExist(key interface{}, value interface{}) bool
```

-

```

func ExampleBTree_SetIfNotExist() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.SetIfNotExist("key1", "newValue"))
    fmt.Println(tree.SetIfNotExist("key6", "val6"))

    // Output:
    // false
    // true
}

```

SetIfNotExistFunc

- keySetIfNotExistFunc f true / key false / value
-

```
SetIfNotExistFunc(key interface{}, f func() interface{}) bool
```

-

```

func ExampleBTree_SetIfNotExistFunc() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.SetIfNotExistFunc("key1", func() interface{} {
        return "newVal1"
    }))
    fmt.Println(tree.SetIfNotExistFunc("key6", func() interface{} {
        return "val6"
    }))

    // Output:
    // false
    // true
}

```

SetIfNotExistFuncLock

- keySetIfNotExistFuncfunc ctruekeyfalsevalue
- SetIfNotExistFuncLockSetIfNotExistFuncmutex.Lockf
-

```
SetIfNotExistFuncLock(key interface{}, f func() interface{}) bool
```

```

func ExampleBTree_SetIfNotExistFuncLock() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.SetIfNotExistFuncLock("key1", func() interface{} {
        return "newVal1"
    }))
    fmt.Println(tree.SetIfNotExistFuncLock("key6", func() interface{} {
        return "val6"
    }))

    // Output:
    // false
    // true
}

```

Contains

- Containskeytreekeytruefalse
-

```
Contains(key interface{}) bool
```

-

```

func ExampleBTree_Contains() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Contains("key1"))
    fmt.Println(tree.Contains("key6"))

    // Output:
    // true
    // false
}

```

Remove

- keytreevaluevalue
-

```
Remove(key interface{}) (value interface{})
```

-

```

func ExampleBTree_Remove() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Remove("key1"))
    fmt.Println(tree.Remove("key6"))
    fmt.Println(tree.Map())

    // Output:
    // val1
    // <nil>
    // map[key0:val0 key2:val2 key3:val3 key4:val4 key5:val5]
}

```

Removes

- Removeskeytreevalue
-

```
Removes(keys []interface{})
```

-

```

func ExampleBTree_Removes() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    removeKeys := make([]interface{}, 2)
    removeKeys = append(removeKeys, "key1")
    removeKeys = append(removeKeys, "key6")

    tree.Removes(removeKeys)

    fmt.Println(tree.Map())

    // Output:
    // map[key0:val0 key2:val2 key3:val3 key4:val4 key5:val5]
}

```

IsEmpty

- IsEmptytree true false
-

```
IsEmpty() bool
```

-

```

func ExampleBTree_IsEmpty() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)

    fmt.Println(tree.IsEmpty())

    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.IsEmpty())

    // Output:
    // true
    // false
}

```

Size

- Size tree
-

```
Size() int
```

-

```

func ExampleBTree_Size() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)

    fmt.Println(tree.Size())

    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Size())

    // Output:
    // 0
    // 6
}

```

Keys

- Keys key
-

```
Keys() []interface{}
```

-

```

func ExampleBTree_Keys() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 6; i > 0; i-- {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Keys())

    // Output:
    // [key1 key2 key3 key4 key5 key6]
}

```

Values

- Values key value
-

```
Values() []interface{}
```

-

```

func ExampleBTree_Values() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 6; i > 0; i-- {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Values())

    // Output:
    // [val1 val2 val3 val4 val5 val6]
}

```

Map

- Mapmap[key/value]
-

```
Map() map[interface{}]interface{}
```

-

```

func ExampleBTree_Map() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Map())

    // Output:
    // map[key0:val0 key1:val1 key2:val2 key3:val3 key4:val4
key5:val5]
}

```

MapStrAny

- MapStrAnymap[string]interface{}key/value
-

```
MapStrAny() map[string]interface{}
```

-

```

func ExampleBTree_MapStrAny() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set(1000+i, "val"+gconv.String(i))
    }

    fmt.Println(tree.MapStrAny())

    // Output:
    // map[1000:val0 1001:val1 1002:val2 1003:val3 1004:val4
1005:val5]
}

```

Clear

- Cleartree
-

```
Clear()
```

```
func ExampleBTree_Clear() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set(1000+i, "val"+gconv.String(i))
    }
    fmt.Println(tree.Size())

    tree.Clear()
    fmt.Println(tree.Size())

    // Output:
    // 6
    // 0
}
```

Replace

- Replacemap[interface{}]interface{}data|treekey/value
-

```
Replace(data map[interface{}]interface{})
```

```
func ExampleBTree_Replace() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Map())

    data := map[interface{}]interface{}{
        "newKey0": "newValue0",
        "newKey1": "newValue1",
        "newKey2": "newValue2",
    }

    tree.Replace(data)

    fmt.Println(tree.Map())

    // Output:
    // map[key0:value0 key1:value1 key2:value2 key3:value3 key4:value4
    key5:value5]
    // map[newKey0:newValue0 newKey1:newValue1 newKey2:newValue2]
}
```

Height

- Heighttree
-

```
Height() int
```

-

```
func ExampleBTree_Height() {
    tree := gtree.NewBTree(3, gutil.ComparatorInt)
    for i := 0; i < 100; i++ {
        tree.Set(i, i)
    }
    fmt.Println(tree.Height())

    // Output:
    // 6
}
```

Left

- Left *BTreeEntry node tree nil
-

```
Left() *BTreeEntry
```

-

```
func ExampleBTree_Left() {
    tree := gtree.NewBTree(3, gutil.ComparatorInt)
    for i := 1; i < 100; i++ {
        tree.Set(i, i)
    }
    fmt.Println(tree.Left().Key, tree.Left().Value)

    emptyTree := gtree.NewBTree(3, gutil.ComparatorInt)
    fmt.Println(emptyTree.Left())

    // Output:
    // 1 1
    // <nil>
}
```

Right

- Left *BTreeEntry node tree nil
-

```
Right() *BTreeEntry
```

-

```

func ExampleBTree_Right() {
    tree := gtree.NewBTree(3, gutil.ComparatorInt)
    for i := 1; i < 100; i++ {
        tree.Set(i, i)
    }
    fmt.Println(tree.Right().Key, tree.Right().Value)

    emptyTree := gtree.NewBTree(3, gutil.ComparatorInt)
    fmt.Println(emptyTree.Left())

    // Output:
    // 99 99
    // <nil>
}

```

String

- Stringreenode
-

```
String() string
```

-

```

func ExampleBTree_String() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.String())

    // Output:
    // key0
    // key1
    //     key2
    // key3
    //     key4
    //     key5
}

```

Search

- Searchkeytreekeyfoundtruefalse
-

```
Search(key interface{}) (value interface{}, found bool)
```

-

```

func ExampleBTree_Search() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    fmt.Println(tree.Search("key0"))
    fmt.Println(tree.Search("key6"))

    // Output:
    // val0 true
    // <nill> false
}

```

Print

- Printtree
-

```
Print()
```

```

func ExampleBTree_Print() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    tree.Print()

    // Output:
    // key0
    // key1
    //     key2
    // key3
    //     key4
    //     key5
}

```

Iterator

- Iterator IteratorAsc
-

```
Iterator(f func(key, value interface{}) bool)
```

```

func ExampleBTree_Iterator() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 10; i++ {
        tree.Set(i, 10-i)
    }

    var totalKey, totalValue int
    tree.Iterator(func(key, value interface{}) bool {
        totalKey += key.(int)
        totalValue += value.(int)

        return totalValue < 20
    })

    fmt.Println("totalKey:", totalKey)
    fmt.Println("totalValue:", totalValue)

    // Output:
    // totalKey: 3
    // totalValue: 27
}

```

IteratorFrom

- IteratorFrom IteratorAscFrom
-

```

IteratorFrom(key interface{}, match bool, f func(key, value interface{})) bool

```

-

```

func ExampleBTree_IteratorFrom() {
    m := make(map[interface{}]interface{})
    for i := 1; i <= 5; i++ {
        m[i] = i * 10
    }
    tree := gtree.NewBTreeFrom(3, gutil.ComparatorInt, m)

    tree.IteratorFrom(1, true, func(key, value interface{}) bool
    {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 1 , value: 10
    // key: 2 , value: 20
    // key: 3 , value: 30
    // key: 4 , value: 40
    // key: 5 , value: 50
}

```

IteratorAsc

- IteratorAsc tree f true false
-

```

IteratorAsc(f func(key, value interface{}) bool)

```

-

```

func ExampleBTree_IteratorAsc() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 10; i++ {
        tree.Set(i, 10-i)
    }

    tree.IteratorAsc(func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 0 , value: 10
    // key: 1 , value: 9
    // key: 2 , value: 8
    // key: 3 , value: 7
    // key: 4 , value: 6
    // key: 5 , value: 5
    // key: 6 , value: 4
    // key: 7 , value: 3
    // key: 8 , value: 2
    // key: 9 , value: 1
}

```

IteratorAscFrom

- `IteratorAscFrom(tree key keymatchtruekeyftruefalse`
-

```

IteratorAscFrom(key interface{}, match bool, f func(key, value
interface{}) bool)

```

-

```

func ExampleBTree_IteratorAscFrom_Normal() {
    m := make(map[interface{}]interface{})
    for i := 1; i <= 5; i++ {
        m[i] = i * 10
    }
    tree := gtree.NewBTreeFrom(3, gutil.ComparatorInt, m)

    tree.IteratorAscFrom(1, true, func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 1 , value: 10
    // key: 2 , value: 20
    // key: 3 , value: 30
    // key: 4 , value: 40
    // key: 5 , value: 50
}

```

```

func ExampleBTree_IteratorAscFrom_NoExistKey() {
    m := make(map[interface{}]interface{})
    for i := 1; i <= 5; i++ {
        m[i] = i * 10
    }
    tree := gtree.NewBTreeFrom(3, gutil.ComparatorInt, m)

    tree.IteratorAscFrom(0, true, func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
}

```

```

func ExampleBTree_IteratorAscFrom_NoExistKeyAndMatchFalse() {
    m := make(map[interface{}]interface{})
    for i := 1; i <= 5; i++ {
        m[i] = i * 10
    }
    tree := gtree.NewBTreeFrom(3, gutil.ComparatorInt, m)

    tree.IteratorAscFrom(0, false, func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 1 , value: 10
    // key: 2 , value: 20
    // key: 3 , value: 30
    // key: 4 , value: 40
    // key: 5 , value: 50
}

```

IteratorDesc

- IteratorDesc{tree, true, false}
-

```
IteratorDesc(f func(key, value interface{}) bool)
```

-

```

func ExampleBTree_IteratorDesc() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 10; i++ {
        tree.Set(i, 10-i)
    }

    tree.IteratorDesc(func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 9 , value: 1
    // key: 8 , value: 2
    // key: 7 , value: 3
    // key: 6 , value: 4
    // key: 5 , value: 5
    // key: 4 , value: 6
    // key: 3 , value: 7
    // key: 2 , value: 8
    // key: 1 , value: 9
    // key: 0 , value: 10
}

```

IteratorDescFrom

- `IteratorDescFrom(tree key keymatchtruekeytruefalse`
-

```

IteratorDescFrom(key interface{}, match bool, f func(key, value
interface{}) bool)

```

-

```

func ExampleBTree_IteratorDescFrom() {
    m := make(map[interface{}]interface{})
    for i := 1; i <= 5; i++ {
        m[i] = i * 10
    }
    tree := gtree.NewBTreeFrom(3, gutil.ComparatorInt, m)

    tree.IteratorDescFrom(5, true, func(key, value interface{}) bool {
        fmt.Println("key:", key, ", value:", value)
        return true
    })

    // Output:
    // key: 5 , value: 50
    // key: 4 , value: 40
    // key: 3 , value: 30
    // key: 2 , value: 20
    // key: 1 , value: 10
}

```

MarshalJSON

- `MarshalJSONjson.Marshal`
-

```
MarshalJSON() ([]byte, error)
```

```
func ExampleBTree_MarshalJSON() {
    tree := gtree.NewBTree(3, gutil.ComparatorString)
    for i := 0; i < 6; i++ {
        tree.Set("key"+gconv.String(i), "val"+gconv.String(i))
    }

    bytes, err := json.Marshal(tree)
    if err == nil {
        fmt.Println(gconv.String(bytes))
    }

    // Output:
    // {"key0":"val0","key1":"val1","key2":"val2","key3":"val3",
    // "key4":"val4","key5":"val5"}
}
```