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1 GOROOT=C:\Users\joe80\sdk\go1.18.3 #gosetup
2 GOPATH=C:\Users\joe80\sdk\go1.18.3\bin;C:\Local
   Project #gosetup
3 C:\Users\joe80\sdk\go1.18.3\bin\go.exe test -json
   ./... #gosetup
4 === RUN   TestClient
5 2022/11/25 03:25:56.697901 unit_test_utility.go:219:
   Test utility -> createServer: RPC server
   initialization routine start...
6 2022/11/25 03:25:56.730867 server.go:58: RPC server
   -> CreateServer: Created RPC server on address tcp
     @[::]:11125
7 2022/11/25 03:25:56.731412 service.go:97: RPC service
   -> createMethod: RPC service Arithmetic.Addition
   created and registered
8 2022/11/25 03:25:56.731412 service.go:97: RPC service
   -> createMethod: RPC service Arithmetic.Division
   created and registered
9 2022/11/25 03:25:56.731412 service.go:97: RPC service
   -> createMethod: RPC service Arithmetic.
   Multiplication created and registered
10 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service Arithmetic.Subtraction
    created and registered
11 2022/11/25 03:25:56.731412 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc00022c140 registerd
       service &{ServiceName:Arithmetic serviceType:
       0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:0xc00020e0b8
       flag:22} ServiceMethod:map[Addition:0xc00025c000
       Division:0xc00025c090 Multiplication:0xc00025c120
       Subtraction:0xc00025c1b0]} and hosting on address tcp
     @[::]:11125
12 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service BuiltinType.Array
    created and registered
13 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service BuiltinType.Map created
    and registered
14 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service BuiltinType.Pointer
    created and registered
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15 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service BuiltinType.Slice
        created and registered
16 2022/11/25 03:25:56.731412 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc00022c140 registerd
        service &{ServiceName:BuiltinType serviceType:
        0x7d6080 serviceValue:{typ:0x7d6080 ptr:0xb99428 flag
        :22} ServiceMethod:map[Array:0xc00025c240 Map:
        0xc00025c2d0 Pointer:0xc00025c360 Slice:0xc00025c3f0
        }] and hosting on address tcp@[::]:11125
17 2022/11/25 03:25:56.731412 service.go:97: RPC service
    -> createMethod: RPC service Timeout.SleepForTimeout
        created and registered
18 2022/11/25 03:25:56.731412 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc00022c140 registerd
        service &{ServiceName:Timeout serviceType:0x7b7a80
        serviceValue:{typ:0x7b7a80 ptr:0xc00020e0d0 flag:22}
        ServiceMethod:map[SleepForTimeout:0xc00025c480]} and
        hosting on address tcp@[::]:11125
19 2022/11/25 03:25:56.731412 unit_test_utility.go:236:
    Test utility -> createServer: RPC server
        initialization routine end, now launched and
        accepting...
20 2022/11/25 03:25:56.731412 client_unit_test.go:35:
    TestClient -> main: Server address fetched from
    serverChannel: tcp@[::]:11125
21 === RUN   TestClient/SynchronousCalls.Arithmetic.
    Addition
22 2022/11/25 03:25:56.732492 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function Arithmetic.Addition with inputs
        -> &{8 2}
23 2022/11/25 03:25:56.733025 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redircting RPC call 1 to service
        Arithmetic.Addition with inputs -> &{8 2}
24 2022/11/25 03:25:56.733025 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
25 2022/11/25 03:25:56.733025 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received

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25 response from call 0xc0000a80f0 with input &{A:8 B:2
 } and output -> &{C:10}
26 === RUN    TestClient/SynchronousCalls.Arithmetic.
 Subtraction
27 2022/11/25 03:25:56.733025 client.go:290: RPC client
 -> Call: RPC client 0xc0000ac000 invoking RPC
 request on function Arithmetic.Subtraction with
 inputs -> &{7 3}
28 2022/11/25 03:25:56.733565 server.go:260: RPC server
 -> requestHandle: RPC server tcp@[::]:11125 is
 handling and redircting RPC call 2 to service
 Arithmetic.Subtraction with inputs -> &{7 3}
29 2022/11/25 03:25:56.733565 service.go:110: RPC
 service -> Call: RPC service Arithmetic.Subtraction
 finished RPC call with input &{7 3} and output {4}
30 2022/11/25 03:25:56.733565 client.go:371: RPC client
 -> receiveCall: RPC client 0xc0000ac000 received
 response from call 0xc00006a2d0 with input &{A:7 B:3
 } and output -> &{C:4}
31 === RUN    TestClient/SynchronousCalls.Arithmetic.
 Multiplication
32 2022/11/25 03:25:56.733565 client.go:290: RPC client
 -> Call: RPC client 0xc0000ac000 invoking RPC
 request on function Arithmetic.Multiplication with
 inputs -> &{6 4}
33 2022/11/25 03:25:56.733565 server.go:260: RPC server
 -> requestHandle: RPC server tcp@[::]:11125 is
 handling and redircting RPC call 3 to service
 Arithmetic.Multiplication with inputs -> &{6 4}
34 2022/11/25 03:25:56.733565 service.go:110: RPC
 service -> Call: RPC service Arithmetic.
 Multiplication finished RPC call with input &{6 4}
 and output {24}
35 2022/11/25 03:25:56.733565 client.go:371: RPC client
 -> receiveCall: RPC client 0xc0000ac000 received
 response from call 0xc0000a8190 with input &{A:6 B:4
 } and output -> &{C:24}
36 === RUN    TestClient/SynchronousCalls.Arithmetic.
 Division
37 2022/11/25 03:25:56.734100 client.go:290: RPC client
 -> Call: RPC client 0xc0000ac000 invoking RPC
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37 request on function Arithmetic.Division with inputs
    -> &{5 5}
38 2022/11/25 03:25:56.734100 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redircting RPC call 4 to service
        Arithmetic.Division with inputs -> &{5 5}
39 2022/11/25 03:25:56.734100 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
        finished RPC call with input &{5 5} and output {1}
40 2022/11/25 03:25:56.734100 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc0000a8230 with input &{A:5 B:5}
        } and output -> &{C:1}
41 === RUN   TestClient/AsynchronousCalls.Arithmetic.
    Addition
42
43 === RUN   TestClient/AsynchronousCalls.Arithmetic.
    Subtraction
44 2022/11/25 03:25:56.734100 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function Arithmetic.Addition with inputs
        -> &{8 2}
45 === RUN   TestClient/AsynchronousCalls.Arithmetic.
    Multiplication
46 === RUN   TestClient/AsynchronousCalls.Arithmetic.
    Division
47
48 2022/11/25 03:25:56.734100 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function Arithmetic.Subtraction with
        inputs -> &{7 3}
49 2022/11/25 03:25:56.734100 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function Arithmetic.Division with inputs
        -> &{5 5}
50 2022/11/25 03:25:56.734100 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redircting RPC call 5 to service
        Arithmetic.Addition with inputs -> &{8 2}
51 2022/11/25 03:25:56.734100 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
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51 handling and redircting RPC call 6 to service
    Arithmetic.Subtraction with inputs -> &{7 3}
52 2022/11/25 03:25:56.734100 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
    finished RPC call with input &{8 2} and output {10}
53 2022/11/25 03:25:56.734100 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
    finished RPC call with input &{7 3} and output {4}
54 2022/11/25 03:25:56.734100 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function Arithmetic.Multiplication with
        inputs -> &{6 4}
55 2022/11/25 03:25:56.734100 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc0000a82d0 with input &{A:8 B:2
    } and output -> &{C:10}
56 2022/11/25 03:25:56.734100 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redircting RPC call 8 to service
        Arithmetic.Multiplication with inputs -> &{6 4}
57 2022/11/25 03:25:56.734100 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redircting RPC call 7 to service
        Arithmetic.Division with inputs -> &{5 5}
58 2022/11/25 03:25:56.737266 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc0001a8140 with input &{A:7 B:3
    } and output -> &{C:4}
59 2022/11/25 03:25:56.737266 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
    Multiplication finished RPC call with input &{6 4}
    and output {24}
60 2022/11/25 03:25:56.737266 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
    finished RPC call with input &{5 5} and output {1}
61 2022/11/25 03:25:56.737266 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc00022c320 with input &{A:6 B:4
    } and output -> &{C:24}
62 2022/11/25 03:25:56.737266 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received

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62 response from call 0xc00006a500 with input &{A:5 B:5
} and output -> &{C:1}
63 === RUN    TestClient/TypeCheckingCalls.BuiltinType.
Pointer
64 2022/11/25 03:25:56.737266 client.go:290: RPC client
-> Call: RPC client 0xc0000ac000 invoking RPC
request on function BuiltinType.Pointer with inputs
-> 7
65 2022/11/25 03:25:56.737799 server.go:260: RPC server
-> requestHandle: RPC server tcp@[::]:11125 is
handling and redircting RPC call 9 to service
BuiltinType.Pointer with inputs -> 7
66 2022/11/25 03:25:56.737799 service.go:110: RPC
service -> Call: RPC service BuiltinType.Pointer
finished RPC call with input 7 and output 7
67 2022/11/25 03:25:56.737799 client.go:371: RPC client
-> receiveCall: RPC client 0xc0000ac000 received
response from call 0xc00006a6e0 with input 7 and
output -> 0xc000090188
68 === RUN    TestClient/TypeCheckingCalls.BuiltinType.
Slice
69 2022/11/25 03:25:56.737799 client.go:290: RPC client
-> Call: RPC client 0xc0000ac000 invoking RPC
request on function BuiltinType.Slice with inputs
-> 7
70 2022/11/25 03:25:56.737799 server.go:260: RPC server
-> requestHandle: RPC server tcp@[::]:11125 is
handling and redircting RPC call 10 to service
BuiltinType.Slice with inputs -> 7
71 2022/11/25 03:25:56.737799 service.go:110: RPC
service -> Call: RPC service BuiltinType.Slice
finished RPC call with input 7 and output [7]
72 2022/11/25 03:25:56.737799 client.go:371: RPC client
-> receiveCall: RPC client 0xc0000ac000 received
response from call 0xc0000a83c0 with input 7 and
output -> &[7]
73 === RUN    TestClient/TypeCheckingCalls.BuiltinType.
Array
74 2022/11/25 03:25:56.737799 client.go:290: RPC client
-> Call: RPC client 0xc0000ac000 invoking RPC
request on function BuiltinType.Array with inputs
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74 -> 7
75 2022/11/25 03:25:56.738336 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redirecting RPC call 11 to service
        BuiltinType.Array with inputs -> 7
76 2022/11/25 03:25:56.738336 service.go:110: RPC
    service -> Call: RPC service BuiltinType.Array
        finished RPC call with input 7 and output [7]
77 2022/11/25 03:25:56.738336 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc00006a7d0 with input 7 and
        output -> &[7]
78 === RUN   TestClient/TypeCheckingCalls.BuiltinType.
    Map
79 2022/11/25 03:25:56.738336 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac000 invoking RPC
        request on function BuiltinType.Map with inputs -> 7
80 2022/11/25 03:25:56.738336 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redirecting RPC call 12 to service
        BuiltinType.Map with inputs -> 7
81 2022/11/25 03:25:56.738336 service.go:110: RPC
    service -> Call: RPC service BuiltinType.Map
        finished RPC call with input 7 and output map[7:7]
82 2022/11/25 03:25:56.738336 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac000 received
        response from call 0xc0002a00f0 with input 7 and
        output -> &map[7:7]
83 === RUN   TestClient/TimeoutCheckingCalls.Handling.
    Client-Side
84 2022/11/25 03:25:56.739398 client.go:290: RPC client
    -> Call: RPC client 0xc0002c6000 invoking RPC
        request on function Timeout.SleepForTimeout with
        inputs -> 7
85 2022/11/25 03:25:56.744693 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redirecting RPC call 1 to service
        Timeout.SleepForTimeout with inputs -> 7
86 2022/11/25 03:25:57.732538 unit_test_utility.go:155
    : RPC client -> Call: RPC client fail to finish the
        RPC request within the timeout period due to error:
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86 context deadline exceeded
87 === RUN    TestClient/TimeoutCheckingCalls.Handling.
    Server-Side
88 2022/11/25 03:25:57.734026 client.go:290: RPC client
    -> Call: RPC client 0xc0001c4000 invoking RPC
        request on function Timeout.SleepForTimeout with
        inputs -> 7
89 2022/11/25 03:25:57.734026 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11125 is
        handling and redirecting RPC call 1 to service
        Timeout.SleepForTimeout with inputs -> 7
90 2022/11/25 03:25:58.735644 unit_test_utility.go:155
    : RPC server -> request_handle error: expect to
        handle RPC request within 1s, but failed and timeout
91 === RUN    TestClient/TimeoutCheckingDials.Connection
    .1_Sec_Limit
92 2022/11/25 03:25:58.737281 server.go:103: RPC server
    -> ServeConnection error: Fail to decode
        connectionInfo due to EOF
93 === RUN    TestClient/TimeoutCheckingDials.Connection
    .No_Limit
94 2022/11/25 03:25:59.751509 server.go:103: RPC server
    -> ServeConnection error: Fail to decode
        connectionInfo due to EOF
95 2022/11/25 03:26:01.758557 service.go:110: RPC
    service -> Call: RPC service Timeout.SleepForTimeout
        finished RPC call with input 7 and output 0
96 === RUN    TestClient/WindowsXDial
97 2022/11/25 03:26:01.759752 server.go:58: RPC server
    -> CreateServer: Created RPC server on address tcp
        @[::]:11149
98 2022/11/25 03:26:01.759752 server.go:313: RPC server
    -> LaunchAndServe: RPC server initializing an HTTP
        multiplexer (handler) for debug...
99 2022/11/25 03:26:01.759752 server.go:317: RPC server
    -> LaunchAndServe: RPC server finished initializing
        the HTTP multiplexer (handler) for debug, and it is
        serving on URL path: http://localhost:11149/debug/
        srpc
100 === RUN   TestClient/LinuxXDial
101 2022/11/25 03:26:01.762297 client_unit_test.go:191:
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101 LinuxXDial: current GO OS is not linux,  
    corresponding sub tests has been dumped  
102 --- PASS: TestClient (5.06s)  
103     --- PASS: TestClient/SynchronousCalls.Arithmetic  
.Addition (0.00s)  
104     --- PASS: TestClient/SynchronousCalls.Arithmetic  
.Subtraction (0.00s)  
105     --- PASS: TestClient/SynchronousCalls.Arithmetic  
.Multiplication (0.00s)  
106     --- PASS: TestClient/SynchronousCalls.Arithmetic  
.Division (0.00s)  
107     --- PASS: TestClient/AsynchronousCalls.  
Arithmetic.Addition (0.00s)  
108     --- PASS: TestClient/AsynchronousCalls.  
Arithmetic.Subtraction (0.00s)  
109     --- PASS: TestClient/AsynchronousCalls.  
Arithmetic.Multiplication (0.00s)  
110     --- PASS: TestClient/AsynchronousCalls.  
Arithmetic.Division (0.00s)  
111     --- PASS: TestClient/TypeCheckingCalls.  
BuiltinType.Pointer (0.00s)  
112     --- PASS: TestClient/TypeCheckingCalls.  
BuiltinType.Slice (0.00s)  
113     --- PASS: TestClient/TypeCheckingCalls.  
BuiltinType.Array (0.00s)  
114     --- PASS: TestClient/TypeCheckingCalls.  
BuiltinType.Map (0.00s)  
115     --- PASS: TestClient/TimeoutCheckingCalls.  
Handling.Client-Side (0.99s)  
116     --- PASS: TestClient/TimeoutCheckingCalls.  
Handling.Server-Side (1.00s)  
117     --- PASS: TestClient/TimeoutCheckingDials.  
Connection.1_Sec_Limit (1.02s)  
118     --- PASS: TestClient/TimeoutCheckingDials.  
Connection.No_Limit (2.01s)  
119     --- PASS: TestClient/WindowsXDial (0.00s)  
120     --- PASS: TestClient/LinuxXDial (0.00s)  
121 === RUN TestCoder  
122 === RUN TestCoder/CoderInitialization  
123 --- PASS: TestCoder (0.00s)  
124     --- PASS: TestCoder/CoderInitialization (0.00s)
```

```
125 === RUN    TestJsonCoder
126 2022/11/25 03:26:01.762297 unit_test_utility.go:219
: Test utility -> createServer: RPC server
initialization routine start...
127 2022/11/25 03:26:01.762883 server.go:58: RPC server
-> CreateServer: Created RPC server on address tcp
@[:]:11151
128 2022/11/25 03:26:01.762883 service.go:97: RPC
service -> createMethod: RPC service Test.Echo
created and registered
129 2022/11/25 03:26:01.762883 server.go:84: RPC server
-> ServerRegister: RPC server 0xc0000a8730
registerd service &{ServiceName:Test serviceType:
0x7b7a20 serviceValue:{typ:0x7b7a20 ptr:0xc0000908f8
flag:22} ServiceMethod:map[Echo:0xc00009c480]} and
hosting on address tcp@[:]:11151
130 2022/11/25 03:26:01.763417 unit_test_utility.go:236
: Test utility -> createServer: RPC server
initialization routine end, now launched and
accepting...
131 2022/11/25 03:26:01.763529 json_coder_unit_test.go:
29: TestJsonCoder -> main: Server address fetched
from serverChannel: tcp@[:]:11151
132 === RUN    TestJsonCoder/NewJsonCoder
133 === RUN    TestJsonCoder/EncodeMessageHeaderAndBody
134 2022/11/25 03:26:01.764702 server.go:260: RPC server
-> requestHandle: RPC server tcp@[:]:11151 is
handling and redircting RPC call 666 to service Test
.Echo with inputs -> Hello there!
135 2022/11/25 03:26:01.764702 service.go:110: RPC
service -> Call: RPC service Test.Echo finished RPC
call with input Hello there! and output Hello there
!
136 === RUN    TestJsonCoder/DecodeMessageHeader
137 2022/11/25 03:26:01.764702 server.go:260: RPC server
-> requestHandle: RPC server tcp@[:]:11151 is
handling and redircting RPC call 666 to service Test
.Echo with inputs -> Hello there!
138 2022/11/25 03:26:01.765219 service.go:110: RPC
service -> Call: RPC service Test.Echo finished RPC
call with input Hello there! and output Hello there
```

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138 !
139 === RUN    TestJsonCoder/DecodeMessageBody
140 2022/11/25 03:26:01.765219 server.go:260: RPC server
      -> requestHandle: RPC server tcp@[::]:11151 is
          handling and redirecting RPC call 666 to service Test
          .Echo with inputs -> Hello there!
141 2022/11/25 03:26:01.765219 service.go:110: RPC
      service -> Call: RPC service Test.Echo finished RPC
      call with input Hello there! and output Hello there
      !
142 --- PASS: TestJsonCoder (0.00s)
143     --- PASS: TestJsonCoder/NewJsonCoder (0.00s)
144     --- PASS: TestJsonCoder/
      EncodeMessageHeaderAndBody (0.00s)
145     --- PASS: TestJsonCoder/DecodeMessageHeader (0.
      00s)
146     --- PASS: TestJsonCoder/DecodeMessageBody (0.00s
      )
147 === RUN    TestLoadBalancer
148 2022/11/25 03:26:02.743340 service.go:110: RPC
      service -> Call: RPC service Timeout.SleepForTimeout
      finished RPC call with input 7 and output 0
149 2022/11/25 03:26:02.774862 unit_test_utility.go:219
      : Test utility -> createServer: RPC server
      initialization routine start...
150 2022/11/25 03:26:02.775388 server.go:58: RPC server
      -> CreateServer: Created RPC server on address tcp
      @[::]:11153
151 2022/11/25 03:26:02.775388 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Addition created and registered
152 2022/11/25 03:26:02.775388 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Division created and registered
153 2022/11/25 03:26:02.775388 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Multiplication created and registered
154 2022/11/25 03:26:02.775388 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Subtraction created and registered
155 2022/11/25 03:26:02.775950 server.go:84: RPC server
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155 -> ServerRegister: RPC server 0xc00006aa50
      registerd service &{ServiceName:Arithmetic
      serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:
      0xc000090ad0 flag:22} ServiceMethod:map[Addition:
      0xc00015c1b0 Division:0xc00015c240 Multiplication:
      0xc00015c2d0 Subtraction:0xc00015c360]} and hosting
      on address tcp@[::]:11153
156 2022/11/25 03:26:02.776011 unit_test_utility.go:236
      : Test utility -> createServer: RPC server
      initialization routine end, now launched and
      accepting...
157 2022/11/25 03:26:02.776011 load_balancer_unit_test.
      go:32: Load balancer unit -> main: Server A address
      fetched from serverChannelA: tcp@[::]:11153
158 2022/11/25 03:26:02.776011 unit_test_utility.go:219
      : Test utility -> createServer: RPC server
      initialization routine start...
159 2022/11/25 03:26:02.776537 server.go:58: RPC server
      -> CreateServer: Created RPC server on address tcp
      @[::]:11154
160 2022/11/25 03:26:02.776537 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Addition created and registered
161 2022/11/25 03:26:02.776537 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Division created and registered
162 2022/11/25 03:26:02.776537 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Multiplication created and registered
163 2022/11/25 03:26:02.776537 service.go:97: RPC
      service -> createMethod: RPC service Arithmetic.
      Subtraction created and registered
164 2022/11/25 03:26:02.776537 server.go:84: RPC server
      -> ServerRegister: RPC server 0xc0000a8820
      registerd service &{ServiceName:Arithmetic
      serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:
      0xc000090ad0 flag:22} ServiceMethod:map[Addition:
      0xc00009c510 Division:0xc00009c5a0 Multiplication:
      0xc00009c630 Subtraction:0xc00009c6c0]} and hosting
      on address tcp@[::]:11154
165 2022/11/25 03:26:02.776537 unit_test_utility.go:236

```

```
165 : Test utility -> createServer: RPC server
      initialization routine end, now launched and
      accepting...
166 2022/11/25 03:26:02.776537 load_balancer_unit_test.
      go:35: Load balancer unit -> main: Server B address
      fetched from serverChannelA: tcp@[:]:11154
167 2022/11/25 03:26:02.777097 unit_test_utility.go:269
      : Test utility -> createRegistry: RPC registry
      initialization routine start...
168 2022/11/25 03:26:02.777097 registry.go:42: RPC
      registry -> CreateRegistry: creating RPC registry on
      port [:]:11155...
169 2022/11/25 03:26:02.777670 registry.go:48: RPC
      registry -> CreateRegistry: created RPC registry on
      HTTP end-point http://localhost:11155/_srpc_/
      registry...
170 2022/11/25 03:26:02.777670 unit_test_utility.go:280
      : Test utility -> createRegistry: RPC registry
      initialization routine end, now launched and serving
      ...
171 2022/11/25 03:26:02.777670 registry.go:115: RPC
      registry -> LaunchAndServe: RPC registry
      initializing an HTTP multiplexer (handler) for
      message receiving/sending...
172 2022/11/25 03:26:02.777723 registry.go:118: RPC
      registry -> LaunchAndServe: RPC registry finished
      initializing the HTTP multiplexer (handler), and it
      is serving on URL path: http://localhost:11155/
      _srpc_/registry
173 2022/11/25 03:26:02.777723 load_balancer_unit_test.
      go:49: Load balancer unit -> main: Registry address
      fetched: http://localhost:11155/_srpc_/registry
174 2022/11/25 03:26:02.777723 server.go:329: RPC server
      -> Heartbeat: RPC server tcp@[:]:11153 launched
      auto heartbeat sending service, and its heartbeat
      will be send to the RPC registry http://localhost:
      11155/_srpc_/registry per 4m0s...
175 2022/11/25 03:26:02.777723 server.go:342: RPC Server
      -> sendHeartbeat: RPC server tcp@[:]:11153 sends
      heart beat to RPC registry http://localhost:11155/
      _srpc_/registry...
```

```
176 2022/11/25 03:26:02.784835 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
    POST request...
177 2022/11/25 03:26:02.784835 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
178 2022/11/25 03:26:02.784835 server.go:329: RPC server
    -> Heartbeat: RPC server tcp@[::]:11154 launched
    auto heartbeat sending service, and its heartbeat
    will be send to the RPC registry http://localhost:
    11155/_srpc_/registry per 4m0s...
179 2022/11/25 03:26:02.784835 server.go:342: RPC Server
    -> sendHeartbeat: RPC server tcp@[::]:11154 sends
    heart beat to RPC registry http://localhost:11155/
    _srpc_/registry...
180 2022/11/25 03:26:02.785372 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
    POST request...
181 2022/11/25 03:26:02.785372 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
182 2022/11/25 03:26:02.785372
    load_balancer_registry_side.go:20: RPC Load Balancer
    (Registry Side) -> CreateLoadBalancerRegistrySide:
    creating RPC load balancer(registryURL side)...
183 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Addition
184 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Subtraction
185 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Multiplication
186 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Division
187 2022/11/25 03:26:02.785906 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
    0xc0000ac0e0 invoking RPC request to RPC server tcp
    @[::]:11154 on function Arithmetic.Addition with
    inputs -> &{8 2}
188 2022/11/25 03:26:02.785906 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac0e0 invoking RPC
    request on function Arithmetic.Addition with inputs
```

```
188 -> &{8 2}
189 2022/11/25 03:26:02.785906 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redirecting RPC call 1 to service
        Arithmetic.Addition with inputs -> &{8 2}
190 2022/11/25 03:26:02.785906 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
191 2022/11/25 03:26:02.785906 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
        response from call 0xc0000a8b40 with input &{A:8 B:2
    } and output -> &{C:10}
192 2022/11/25 03:26:02.786443 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0000ac150 invoking RPC request to RPC server tcp
        @[::]:11153 on function Arithmetic.Multiplication
        with inputs -> &{6 4}
193 2022/11/25 03:26:02.786443 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac150 invoking RPC
        request on function Arithmetic.Multiplication with
        inputs -> &{6 4}
194 2022/11/25 03:26:02.786443 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0000ac0e0 invoking RPC request to RPC server tcp
        @[::]:11154 on function Arithmetic.Division with
        inputs -> &{5 5}
195 2022/11/25 03:26:02.786443 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac0e0 invoking RPC
        request on function Arithmetic.Division with inputs
        -> &{5 5}
196 2022/11/25 03:26:02.786443 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0000ac150 invoking RPC request to RPC server tcp
        @[::]:11153 on function Arithmetic.Subtraction with
        inputs -> &{7 3}
197 2022/11/25 03:26:02.786443 client.go:290: RPC client
    -> Call: RPC client 0xc0000ac150 invoking RPC
        request on function Arithmetic.Subtraction with
        inputs -> &{7 3}
198 2022/11/25 03:26:02.786443 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
```

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198 handling and redircting RPC call 1 to service
    Arithmetic.Multiplication with inputs -> &{6 4}
199 2022/11/25 03:26:02.786443 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
    Multiplication finished RPC call with input &{6 4}
    and output {24}
200 2022/11/25 03:26:02.786443 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
    handling and redircting RPC call 2 to service
    Arithmetic.Subtraction with inputs -> &{7 3}
201 2022/11/25 03:26:02.786443 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
    response from call 0xc0000a8d70 with input &{A:6 B:4}
    } and output -> &{C:24}
202 2022/11/25 03:26:02.786443 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
    finished RPC call with input &{7 3} and output {4}
203 2022/11/25 03:26:02.786969 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
    handling and redircting RPC call 2 to service
    Arithmetic.Division with inputs -> &{5 5}
204 2022/11/25 03:26:02.786969 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
    finished RPC call with input &{5 5} and output {1}
205 2022/11/25 03:26:02.786969 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
    response from call 0xc0001a8be0 with input &{A:7 B:3}
    } and output -> &{C:4}
206 2022/11/25 03:26:02.786969 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
    response from call 0xc0002a0690 with input &{A:5 B:5}
    } and output -> &{C:1}
207 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.BroadcastCalls.Arithmetic.Addition
208 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.BroadcastCalls.Arithmetic.Subtraction
209 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.BroadcastCalls.Arithmetic.
    Multiplication
210 === RUN   TestLoadBalancer/ClientSideBalanced.
    Asynchronous.BroadcastCalls.Arithmetic.Division

```

```
211 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
        0xc0000ac0e0 invoking RPC request to RPC server tcp  
        @[::]:11154 on function Arithmetic.Subtraction with  
        inputs -> &{7 3}  
212 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac0e0 invoking RPC  
        request on function Arithmetic.Subtraction with  
        inputs -> &{7 3}  
213 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
        0xc0000ac0e0 invoking RPC request to RPC server tcp  
        @[::]:11154 on function Arithmetic.Division with  
        inputs -> &{5 5}  
214 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
        0xc0000ac0e0 invoking RPC request to RPC server tcp  
        @[::]:11154 on function Arithmetic.Addition with  
        inputs -> &{8 2}  
215 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac0e0 invoking RPC  
        request on function Arithmetic.Division with inputs  
        -> &{5 5}  
216 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac0e0 invoking RPC  
        request on function Arithmetic.Addition with inputs  
        -> &{8 2}  
217 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
        0xc0000ac150 invoking RPC request to RPC server tcp  
        @[::]:11153 on function Arithmetic.Division with  
        inputs -> &{5 5}  
218 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac150 invoking RPC  
        request on function Arithmetic.Division with inputs  
        -> &{5 5}  
219 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
        0xc0000ac0e0 invoking RPC request to RPC server tcp  
        @[::]:11154 on function Arithmetic.Multiplication  
        with inputs -> &{6 4}
```

```
220 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
    0xc0000ac150 invoking RPC request to RPC server tcp  
    @[::]:11153 on function Arithmetic.Multiplication  
    with inputs -> &{6 4}  
221 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
    0xc0000ac150 invoking RPC request to RPC server tcp  
    @[::]:11153 on function Arithmetic.Subtraction with  
    inputs -> &{7 3}  
222 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac150 invoking RPC  
    request on function Arithmetic.Multiplication with  
    inputs -> &{6 4}  
223 2022/11/25 03:26:02.786969 load_balanced_client.go:  
    68: RPC loadBalancedClient -> Call: RPC client  
    0xc0000ac150 invoking RPC request to RPC server tcp  
    @[::]:11153 on function Arithmetic.Addition with  
    inputs -> &{8 2}  
224 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac150 invoking RPC  
    request on function Arithmetic.Addition with inputs  
    -> &{8 2}  
225 2022/11/25 03:26:02.788557 server.go:260: RPC server  
    -> requestHandle: RPC server tcp@[::]:11154 is  
    handling and redircting RPC call 4 to service  
    Arithmetic.Division with inputs -> &{5 5}  
226 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac150 invoking RPC  
    request on function Arithmetic.Subtraction with  
    inputs -> &{7 3}  
227 2022/11/25 03:26:02.788557 server.go:260: RPC server  
    -> requestHandle: RPC server tcp@[::]:11154 is  
    handling and redircting RPC call 3 to service  
    Arithmetic.Subtraction with inputs -> &{7 3}  
228 2022/11/25 03:26:02.788557 service.go:110: RPC  
    service -> Call: RPC service Arithmetic.Division  
    finished RPC call with input &{5 5} and output {1}  
229 2022/11/25 03:26:02.788557 client.go:290: RPC client  
    -> Call: RPC client 0xc0000ac0e0 invoking RPC  
    request on function Arithmetic.Multiplication with
```

```
229 inputs -> &{6 4}
230 2022/11/25 03:26:02.788557 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
    finished RPC call with input &{7 3} and output {4}
231 2022/11/25 03:26:02.788557 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redircting RPC call 3 to service
        Arithmetic.Division with inputs -> &{5 5}
232 2022/11/25 03:26:02.788557 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
    finished RPC call with input &{5 5} and output {1}
233 2022/11/25 03:26:02.789091 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
        response from call 0xc00006ac80 with input &{A:5 B:5
    } and output -> &{C:1}
234 2022/11/25 03:26:02.789091 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redircting RPC call 6 to service
        Arithmetic.Multiplication with inputs -> &{6 4}
235 2022/11/25 03:26:02.789091 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
        response from call 0xc0001a8c80 with input &{A:5 B:5
    } and output -> &{C:1}
236 2022/11/25 03:26:02.796567 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
    Multiplication finished RPC call with input &{6 4}
    and output {24}
237 2022/11/25 03:26:02.789091 load_balanced_client.go:
    106: RPC loadBalancedClient -> BroadcastCall:
    LoadBalancedClient 0xc000180d20 recieved RPC
    response from RPC server tcp@[::]:11154 first for
    RPC request invoking function Arithmetic.Division
    with inputs -> &{5 5}
238 2022/11/25 03:26:02.789091 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redircting RPC call 5 to service
        Arithmetic.Addition with inputs -> &{8 2}
239 2022/11/25 03:26:02.789091 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
        response from call 0xc0000a8e60 with input &{A:7 B:3
    } and output -> &{C:4}
```

```
240 2022/11/25 03:26:02.789091 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redircting RPC call 4 to service
        Arithmetic.Multiplication with inputs -> &{6 4}
241 2022/11/25 03:26:02.796567 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
242 2022/11/25 03:26:02.796567 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
        Multiplication finished RPC call with input &{6 4}
        and output {24}
243 2022/11/25 03:26:02.789091 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redircting RPC call 5 to service
        Arithmetic.Addition with inputs -> &{8 2}
244 2022/11/25 03:26:02.796567 load_balanced_client.go:
    106: RPC loadBalancedClient -> BroadcastCall:
        LoadBalancedClient 0xc000180d20 recieved RPC
        response from RPC server tcp@[::]:11154 first for
        RPC request invoking function Arithmetic.Subtraction
        with inputs -> &{7 3}
245 2022/11/25 03:26:02.789091 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redircting RPC call 6 to service
        Arithmetic.Subtraction with inputs -> &{7 3}
246 2022/11/25 03:26:02.796567 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
247 2022/11/25 03:26:02.796567 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
        response from call 0xc00022c460 with input &{A:6 B:4
    } and output -> &{C:24}
248 2022/11/25 03:26:02.796567 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
        finished RPC call with input &{7 3} and output {4}
249 2022/11/25 03:26:02.796567 load_balanced_client.go:
    106: RPC loadBalancedClient -> BroadcastCall:
        LoadBalancedClient 0xc000180d20 recieved RPC
        response from RPC server tcp@[::]:11154 first for
        RPC request invoking function Arithmetic.
        Multiplication with inputs -> &{6 4}
```

```

250 2022/11/25 03:26:02.796567 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
        response from call 0xc0002a0730 with input &{A:6 B:4
    } and output -> &{C:24}
251 2022/11/25 03:26:02.796567 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac0e0 received
        response from call 0xc0002a06e0 with input &{A:8 B:2
    } and output -> &{C:10}
252 2022/11/25 03:26:02.796567 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
        response from call 0xc00022c410 with input &{A:8 B:2
    } and output -> &{C:10}
253 2022/11/25 03:26:02.796567 load_balanced_client.go:
    106: RPC loadBalancedClient -> BroadcastCall:
        LoadBalancedClient 0xc000180d20 recieved RPC
        response from RPC server tcp@[::]:11154 first for
        RPC request invoking function Arithmetic.Addition
        with inputs -> &{8 2}
254 2022/11/25 03:26:02.796567 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0000ac150 received
        response from call 0xc000504000 with input &{A:7 B:3
    } and output -> &{C:4}
255 === RUN   TestLoadBalancer/RegistrySideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Addition
256 === RUN   TestLoadBalancer/RegistrySideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Subtraction
257 === RUN   TestLoadBalancer/RegistrySideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Multiplication
258
259 2022/11/25 03:26:02.797106 registry.go:94: RPC
    registry -> ServeHTTP: RPC registry serving HTTP GET
    request...
260 2022/11/25 03:26:02.800789 registry.go:71: RPC
    registry -> getAliveServerList: RPC registry return
    list of aliveServerList server instance (and delete
    any expire server instances)...
261 === RUN   TestLoadBalancer/RegistrySideBalanced.
    Asynchronous.NormalCalls.Arithmetic.Division
262 2022/11/25 03:26:02.801847 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
    0xc0005dc000 invoking RPC request to RPC server tcp

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```
262 @[::]:11154 on function Arithmetic.Addition with
    inputs -> &{8 2}
263 2022/11/25 03:26:02.801847 client.go:290: RPC client
    -> Call: RPC client 0xc0005dc000 invoking RPC
        request on function Arithmetic.Addition with inputs
        -> &{8 2}
264 2022/11/25 03:26:02.801847 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redirecting RPC call 1 to service
        Arithmetic.Addition with inputs -> &{8 2}
265 2022/11/25 03:26:02.801847 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
266 2022/11/25 03:26:02.801847 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0005dc000 received
        response from call 0xc0005c03c0 with input &{A:8 B:2
    } and output -> &{C:10}
267 2022/11/25 03:26:02.802381 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc00053a000 invoking RPC request to RPC server tcp
        @[::]:11153 on function Arithmetic.Subtraction with
        inputs -> &{7 3}
268 2022/11/25 03:26:02.802381 client.go:290: RPC client
    -> Call: RPC client 0xc00053a000 invoking RPC
        request on function Arithmetic.Subtraction with
        inputs -> &{7 3}
269 2022/11/25 03:26:02.802381 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0005dc000 invoking RPC request to RPC server tcp
        @[::]:11154 on function Arithmetic.Multiplication
        with inputs -> &{6 4}
270 2022/11/25 03:26:02.802381 client.go:290: RPC client
    -> Call: RPC client 0xc0005dc000 invoking RPC
        request on function Arithmetic.Multiplication with
        inputs -> &{6 4}
271 2022/11/25 03:26:02.802381 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc00053a000 invoking RPC request to RPC server tcp
        @[::]:11153 on function Arithmetic.Division with
        inputs -> &{5 5}
272 2022/11/25 03:26:02.802381 client.go:290: RPC client
```

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272 -> Call: RPC client 0xc00053a000 invoking RPC
      request on function Arithmetic.Division with inputs
      -> &{5 5}
273 2022/11/25 03:26:02.802381 server.go:260: RPC server
      -> requestHandle: RPC server tcp@[::]:11153 is
          handling and redirecting RPC call 1 to service
          Arithmetic.Subtraction with inputs -> &{7 3}
274 2022/11/25 03:26:02.802381 service.go:110: RPC
      service -> Call: RPC service Arithmetic.Subtraction
          finished RPC call with input &{7 3} and output {4}
275 2022/11/25 03:26:02.802381 server.go:260: RPC server
      -> requestHandle: RPC server tcp@[::]:11154 is
          handling and redirecting RPC call 2 to service
          Arithmetic.Multiplication with inputs -> &{6 4}
276 2022/11/25 03:26:02.802381 server.go:260: RPC server
      -> requestHandle: RPC server tcp@[::]:11153 is
          handling and redirecting RPC call 2 to service
          Arithmetic.Division with inputs -> &{5 5}
277 2022/11/25 03:26:02.802381 service.go:110: RPC
      service -> Call: RPC service Arithmetic.
          Multiplication finished RPC call with input &{6 4}
          and output {24}
278 2022/11/25 03:26:02.802381 service.go:110: RPC
      service -> Call: RPC service Arithmetic.Division
          finished RPC call with input &{5 5} and output {1}
279 2022/11/25 03:26:02.802381 client.go:371: RPC client
      -> receiveCall: RPC client 0xc00053a000 received
          response from call 0xc000504280 with input &{A:7 B:3}
          and output -> &{C:4}
280 2022/11/25 03:26:02.802381 client.go:371: RPC client
      -> receiveCall: RPC client 0xc0005dc000 received
          response from call 0xc00022c550 with input &{A:6 B:4}
          and output -> &{C:24}
281 2022/11/25 03:26:02.802381 client.go:371: RPC client
      -> receiveCall: RPC client 0xc00053a000 received
          response from call 0xc0005c0460 with input &{A:5 B:5}
          and output -> &{C:1}
282 === RUN TestLoadBalancer/RegistrySideBalanced.
      Asynchronous.BroadcastCalls.Arithmetic.Addition
283 === RUN TestLoadBalancer/RegistrySideBalanced.
      Asynchronous.BroadcastCalls.Arithmetic.Subtraction

```

```
284
285 2022/11/25 03:26:02.802381 load_balanced_client.go:
68: RPC loadBalancedClient -> Call: RPC client
0xc0005dc000 invoking RPC request to RPC server tcp
@[::]:11154 on function Arithmetic.Addition with
inputs -> &{8 2}
286 2022/11/25 03:26:02.814163 client.go:290: RPC client
-> Call: RPC client 0xc0005dc000 invoking RPC
request on function Arithmetic.Addition with inputs
-> &{8 2}
287 2022/11/25 03:26:02.802381 load_balanced_client.go:
68: RPC loadBalancedClient -> Call: RPC client
0xc00053a000 invoking RPC request to RPC server tcp
@[::]:11153 on function Arithmetic.Addition with
inputs -> &{8 2}
288 2022/11/25 03:26:02.814163 client.go:290: RPC client
-> Call: RPC client 0xc00053a000 invoking RPC
request on function Arithmetic.Addition with inputs
-> &{8 2}
289 === RUN TestLoadBalancer/RegistrySideBalanced.
Asynchronous.BroadcastCalls.Arithmetic.
Multiplication
290 2022/11/25 03:26:02.814163 load_balanced_client.go:
68: RPC loadBalancedClient -> Call: RPC client
0xc00053a000 invoking RPC request to RPC server tcp
@[::]:11153 on function Arithmetic.Subtraction with
inputs -> &{7 3}
291 2022/11/25 03:26:02.814163 client.go:290: RPC client
-> Call: RPC client 0xc00053a000 invoking RPC
request on function Arithmetic.Subtraction with
inputs -> &{7 3}
292 === RUN TestLoadBalancer/RegistrySideBalanced.
Asynchronous.BroadcastCalls.Arithmetic.Division
293 2022/11/25 03:26:02.814163 load_balanced_client.go:
68: RPC loadBalancedClient -> Call: RPC client
0xc0005dc000 invoking RPC request to RPC server tcp
@[::]:11154 on function Arithmetic.Multiplication
with inputs -> &{6 4}
294 2022/11/25 03:26:02.814163 load_balanced_client.go:
68: RPC loadBalancedClient -> Call: RPC client
0xc00053a000 invoking RPC request to RPC server tcp
```

```
294 @[::]:11153 on function Arithmetic.Multiplication
    with inputs -> &{6 4}
295 2022/11/25 03:26:02.814163 client.go:290: RPC client
    -> Call: RPC client 0xc0005dc000 invoking RPC
        request on function Arithmetic.Multiplication with
        inputs -> &{6 4}
296 2022/11/25 03:26:02.814163 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0005dc000 invoking RPC request to RPC server tcp
        @[::]:11154 on function Arithmetic.Division with
        inputs -> &{5 5}
297 2022/11/25 03:26:02.814163 client.go:290: RPC client
    -> Call: RPC client 0xc0005dc000 invoking RPC
        request on function Arithmetic.Division with inputs
        -> &{5 5}
298 2022/11/25 03:26:02.814163 client.go:290: RPC client
    -> Call: RPC client 0xc00053a000 invoking RPC
        request on function Arithmetic.Multiplication with
        inputs -> &{6 4}
299
300 2022/11/25 03:26:02.814163 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc0005dc000 invoking RPC request to RPC server tcp
        @[::]:11154 on function Arithmetic.Subtraction with
        inputs -> &{7 3}
301 2022/11/25 03:26:02.814163 client.go:290: RPC client
    -> Call: RPC client 0xc0005dc000 invoking RPC
        request on function Arithmetic.Subtraction with
        inputs -> &{7 3}
302 2022/11/25 03:26:02.814163 load_balanced_client.go:
    68: RPC loadBalancedClient -> Call: RPC client
        0xc00053a000 invoking RPC request to RPC server tcp
        @[::]:11153 on function Arithmetic.Division with
        inputs -> &{5 5}
303 2022/11/25 03:26:02.814163 client.go:290: RPC client
    -> Call: RPC client 0xc00053a000 invoking RPC
        request on function Arithmetic.Division with inputs
        -> &{5 5}
304 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redircting RPC call 3 to service
```

```
304 Arithmetic.Addition with inputs -> &{8 2}
305 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redirecting RPC call 6 to service
        Arithmetic.Division with inputs -> &{5 5}
306 2022/11/25 03:26:02.814722 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
307 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redirecting RPC call 5 to service
        Arithmetic.Division with inputs -> &{5 5}
308 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redirecting RPC call 3 to service
        Arithmetic.Addition with inputs -> &{8 2}
309 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redirecting RPC call 4 to service
        Arithmetic.Subtraction with inputs -> &{7 3}
310 2022/11/25 03:26:02.828692 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Addition
        finished RPC call with input &{8 2} and output {10}
311 2022/11/25 03:26:02.814722 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
        finished RPC call with input &{5 5} and output {1}
312 2022/11/25 03:26:02.828692 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
        finished RPC call with input &{7 3} and output {4}
313 2022/11/25 03:26:02.814722 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Division
        finished RPC call with input &{5 5} and output {1}
314 2022/11/25 03:26:02.814722 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0005dc000 received
        response from call 0xc0001a8e60 with input &{A:8 B:2
    } and output -> &{C:10}
315 2022/11/25 03:26:02.829224 load_balanced_client.go:
    106: RPC loadBalancedClient -> BroadcastCall:
        LoadBalancedClient 0xc000181380 received RPC
        response from RPC server tcp@[::]:11154 first for
        RPC request invoking function Arithmetic.Addition
```

```
315 with inputs -> &{8 2}
316 2022/11/25 03:26:02.815230 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redirecting RPC call 6 to service
        Arithmetic.Subtraction with inputs -> &{7 3}
317 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11153 is
        handling and redirecting RPC call 5 to service
        Arithmetic.Multiplication with inputs -> &{6 4}
318 2022/11/25 03:26:02.829224 service.go:110: RPC
    service -> Call: RPC service Arithmetic.Subtraction
        finished RPC call with input &{7 3} and output {4}
319 2022/11/25 03:26:02.814722 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11154 is
        handling and redirecting RPC call 4 to service
        Arithmetic.Multiplication with inputs -> &{6 4}
320 2022/11/25 03:26:02.829224 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
        Multiplication finished RPC call with input &{6 4}
        and output {24}
321 2022/11/25 03:26:02.829224 service.go:110: RPC
    service -> Call: RPC service Arithmetic.
        Multiplication finished RPC call with input &{6 4}
        and output {24}
322 2022/11/25 03:26:02.829343 client.go:371: RPC client
    -> receiveCall: RPC client 0xc00053a000 received
        response from call 0xc0005c0500 with input &{A:8 B:2
    } and output -> &{C:10}
323 2022/11/25 03:26:02.829343 client.go:371: RPC client
    -> receiveCall: RPC client 0xc00053a000 received
        response from call 0xc00022c690 with input &{A:7 B:3
    } and output -> &{C:4}
324 2022/11/25 03:26:02.829343 client.go:371: RPC client
    -> receiveCall: RPC client 0xc0005dc000 received
        response from call 0xc0001a8f00 with input &{A:5 B:5
    } and output -> &{C:1}
325 2022/11/25 03:26:02.829343 client.go:371: RPC client
    -> receiveCall: RPC client 0xc00053a000 received
        response from call 0xc0001a8ff0 with input &{A:5 B:5
    } and output -> &{C:1}
326 2022/11/25 03:26:02.829343 client.go:371: RPC client
```

```
326 -> receiveCall: RPC client 0xc0005dc000 received
      response from call 0xc0001a8fa0 with input &{A:7 B:3
      } and output -> &{C:4}
327 2022/11/25 03:26:02.829343 client.go:371: RPC client
      -> receiveCall: RPC client 0xc00053a000 received
      response from call 0xc0001a8f50 with input &{A:6 B:4
      } and output -> &{C:24}
328 2022/11/25 03:26:02.829343 load_balanced_client.go:
      106: RPC loadBalancedClient -> BroadcastCall:
      LoadBalancedClient 0xc000181380 recieived RPC
      response from RPC server tcp@[::]:11153 first for
      RPC request invoking function Arithmetic.
      Multiplication with inputs -> &{6 4}
329 2022/11/25 03:26:02.829343 client.go:371: RPC client
      -> receiveCall: RPC client 0xc0005dc000 received
      response from call 0xc0002a0910 with input &{A:6 B:4
      } and output -> &{C:24}
330 2022/11/25 03:26:02.829343 load_balanced_client.go:
      106: RPC loadBalancedClient -> BroadcastCall:
      LoadBalancedClient 0xc000181380 recieived RPC
      response from RPC server tcp@[::]:11154 first for
      RPC request invoking function Arithmetic.Subtraction
      with inputs -> &{7 3}
331 2022/11/25 03:26:02.829343 load_balanced_client.go:
      106: RPC loadBalancedClient -> BroadcastCall:
      LoadBalancedClient 0xc000181380 recieived RPC
      response from RPC server tcp@[::]:11154 first for
      RPC request invoking function Arithmetic.Division
      with inputs -> &{5 5}
332 --- PASS: TestLoadBalancer (1.07s)
333     --- PASS: TestLoadBalancer/ClientSideBalanced.
      Asynchronous.NormalCalls.Arithmetic.Addition (0.00s)
334     --- PASS: TestLoadBalancer/ClientSideBalanced.
      Asynchronous.NormalCalls.Arithmetic.Subtraction (0.
      00s)
335     --- PASS: TestLoadBalancer/ClientSideBalanced.
      Asynchronous.NormalCalls.Arithmetic.Multiplication (
      0.00s)
336     --- PASS: TestLoadBalancer/ClientSideBalanced.
      Asynchronous.NormalCalls.Arithmetic.Division (0.00s)
337     --- PASS: TestLoadBalancer/ClientSideBalanced.
```

```
337 Asynchronous.BroadcastCalls.Arithmetic.Addition (0.  
00s)  
338     --- PASS: TestLoadBalancer/ClientSideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.Subtraction (  
0.00s)  
339     --- PASS: TestLoadBalancer/ClientSideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.  
Multiplication (0.00s)  
340     --- PASS: TestLoadBalancer/ClientSideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.Division (0.  
00s)  
341     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.NormalCalls.Arithmetic.Addition (0.00s)  
342  
343     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.NormalCalls.Arithmetic.Subtraction (0.  
00s)  
344     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.NormalCalls.Arithmetic.Multiplication (  
0.00s)  
345     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.NormalCalls.Arithmetic.Division (0.00s)  
346  
347     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.Addition (0.  
00s)  
348     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.Subtraction (  
0.00s)  
349     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.  
Multiplication (0.00s)  
350     --- PASS: TestLoadBalancer/RegistrySideBalanced.  
Asynchronous.BroadcastCalls.Arithmetic.Division (0.  
00s)  
351 === RUN   TestRegistry  
352 2022/11/25 03:26:02.834707 unit_test_utility.go:269  
: Test utility -> createRegistry: RPC registry  
initialization routine start...  
353 2022/11/25 03:26:02.835238 registry.go:42: RPC  
registry -> CreateRegistry: creating RPC registry on
```

```
353 port [::]:11161...
354 2022/11/25 03:26:02.835238 registry.go:48: RPC
    registry -> CreateRegistry: created RPC registry on
    HTTP end-point http://localhost:11161/_srpc_/
    registry...
355 2022/11/25 03:26:02.835238 unit_test_utility.go:280
    : Test utility -> createRegistry: RPC registry
    initialization routine end, now launched and serving
    ...
356 2022/11/25 03:26:02.835238 registry.go:115: RPC
    registry -> LaunchAndServe: RPC registry
    initializing an HTTP multiplexer (handler) for
    message receiving/sending...
357 2022/11/25 03:26:02.835238 registry_unit_test.go:30
    : Registry unit -> main: Registry address fetched:
    http://localhost:11161/_srpc_/registry
358 2022/11/25 03:26:02.835238 registry.go:118: RPC
    registry -> LaunchAndServe: RPC registry finished
    initializing the HTTP multiplexer (handler), and it
    is serving on URL path: http://localhost:11161/
    _srpc_/registry
359 === RUN   TestRegistry/CreateRegistry
360 === RUN   TestRegistry/LaunchAndServe
361 2022/11/25 03:26:02.836988 registry.go:94: RPC
    registry -> ServeHTTP: RPC registry serving HTTP GET
    request...
362 2022/11/25 03:26:02.836988 registry.go:71: RPC
    registry -> getAliveServerList: RPC registry return
    list of aliveServerList server instance (and delete
    any expire server instances)...
363 === RUN   TestRegistry/ServeHTTP.POST
364 2022/11/25 03:26:03.838896 unit_test_utility.go:219
    : Test utility -> createServer: RPC server
    initialization routine start...
365 2022/11/25 03:26:03.839402 server.go:58: RPC server
    -> CreateServer: Created RPC server on address tcp
    @[::]:11163
366 2022/11/25 03:26:03.839402 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Addition created and registered
367 2022/11/25 03:26:03.839402 service.go:97: RPC
```

```
367 service -> createMethod: RPC service Arithmetic.  
    Division created and registered  
368 2022/11/25 03:26:03.839402 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Multiplication created and registered  
369 2022/11/25 03:26:03.839402 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Subtraction created and registered  
370 2022/11/25 03:26:03.839402 server.go:84: RPC server  
    -> ServerRegister: RPC server 0xc0005c08c0  
    registered service &{ServiceName:Arithmetic  
    serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:  
    0xc00050e240 flag:22} ServiceMethod:map[Addition:  
    0xc0005d4240 Division:0xc0005d42d0 Multiplication:  
    0xc0005d4360 Subtraction:0xc0005d43f0]} and hosting  
    on address tcp@[::]:11163  
371 2022/11/25 03:26:03.839402 unit_test_utility.go:236  
    : Test utility -> createServer: RPC server  
    initialization routine end, now launched and  
    accepting...  
372 2022/11/25 03:26:03.839402 registry_unit_test.go:75  
    : ServeHTTP.POST -> main: Server A address fetched  
    from serverChannelA: tcp@[::]:11163  
373 2022/11/25 03:26:03.839402 unit_test_utility.go:219  
    : Test utility -> createServer: RPC server  
    initialization routine start...  
374 2022/11/25 03:26:03.839933 server.go:58: RPC server  
    -> CreateServer: Created RPC server on address tcp  
    @[:]:11164  
375 2022/11/25 03:26:03.839933 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Addition created and registered  
376 2022/11/25 03:26:03.839933 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Division created and registered  
377 2022/11/25 03:26:03.839933 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Multiplication created and registered  
378 2022/11/25 03:26:03.839933 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Subtraction created and registered
```

```
379 2022/11/25 03:26:03.839933 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc00022c870
        registered service &{ServiceName:Arithmetic
        serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:
        0xc00050e240 flag:22} ServiceMethod:map[Addition:
        0xc00025c7e0 Division:0xc00025c870 Multiplication:
        0xc00025c900 Subtraction:0xc00025c990]} and hosting
        on address tcp@[::]:11164
380 2022/11/25 03:26:03.839933 unit_test_utility.go:236
    : Test utility -> createServer: RPC server
    initialization routine end, now launched and
    accepting...
381 2022/11/25 03:26:03.839933 registry_unit_test.go:78
    : ServeHTTP.POST -> main: Server B address fetched
    from serverChannelB: tcp@[::]:11164
382 2022/11/25 03:26:03.839933 server.go:329: RPC server
    -> Heartbeat: RPC server tcp@[::]:11163 launched
    auto heartbeat sending service, and its heartbeat
    will be send to the RPC registry http://localhost:
    11161/_srpc_/registry per 4m0s...
383 2022/11/25 03:26:03.839933 server.go:342: RPC Server
    -> sendHeartbeat: RPC server tcp@[::]:11163 sends
    heart beat to RPC registry http://localhost:11161/
    _srpc_/registry...
384 2022/11/25 03:26:03.839933 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
    POST request...
385 2022/11/25 03:26:03.839933 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
386 2022/11/25 03:26:03.840472 server.go:329: RPC server
    -> Heartbeat: RPC server tcp@[::]:11164 launched
    auto heartbeat sending service, and its heartbeat
    will be send to the RPC registry http://localhost:
    11161/_srpc_/registry per 4m0s...
387 2022/11/25 03:26:03.840472 server.go:342: RPC Server
    -> sendHeartbeat: RPC server tcp@[::]:11164 sends
    heart beat to RPC registry http://localhost:11161/
    _srpc_/registry...
388 2022/11/25 03:26:03.840472 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
```

```
388 POST request...
389 2022/11/25 03:26:03.840472 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
390 === RUN   TestRegistry/ServeHTTP.GET
391 2022/11/25 03:26:03.840472
    load_balancer_registry_side.go:20: RPC Load Balancer
    (Registry Side) -> CreateLoadBalancerRegistrySide:
    creating RPC load balancer(registryURL side)...
392 2022/11/25 03:26:03.841008 registry.go:94: RPC
    registry -> ServeHTTP: RPC registry serving HTTP GET
    request...
393 2022/11/25 03:26:03.841008 registry.go:71: RPC
    registry -> getAliveServerList: RPC registry return
    list of aliveServerList server instance (and delete
    any expire server instances)...
394 2022/11/25 03:26:04.842333 unit_test_utility.go:219
    : Test utility -> createServer: RPC server
    initialization routine start...
395 2022/11/25 03:26:04.842333 server.go:58: RPC server
    -> CreateServer: Created RPC server on address tcp
    @[::]:11165
396 2022/11/25 03:26:04.842333 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Addition created and registered
397 2022/11/25 03:26:04.842333 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Division created and registered
398 2022/11/25 03:26:04.842333 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Multiplication created and registered
399 2022/11/25 03:26:04.842890 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Subtraction created and registered
400 2022/11/25 03:26:04.842890 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc000504460
    registered service &{ServiceName:Arithmetic
    serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:
    0xc00050e240 flag:22} ServiceMethod:map[Addition:
    0xc000520510 Division:0xc0005205a0 Multiplication:
    0xc000520630 Subtraction:0xc0005206c0]} and hosting
```

```
400 on address tcp@[::]:11165
401 2022/11/25 03:26:04.842890 unit_test_utility.go:236
    : Test utility -> createServer: RPC server
    initialization routine end, now launched and
    accepting...
402 2022/11/25 03:26:04.842890 registry_unit_test.go:123
    : ServeHTTP.GET -> main: Server A address fetched
    from serverChannelA: tcp@[::]:11165
403 2022/11/25 03:26:04.842890 unit_test_utility.go:219
    : Test utility -> createServer: RPC server
    initialization routine start...
404 2022/11/25 03:26:04.843504 server.go:58: RPC server
    -> CreateServer: Created RPC server on address tcp
        @[::]:11166
405 2022/11/25 03:26:04.843504 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Addition created and registered
406 2022/11/25 03:26:04.843504 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Division created and registered
407 2022/11/25 03:26:04.843504 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Multiplication created and registered
408 2022/11/25 03:26:04.843504 service.go:97: RPC
    service -> createMethod: RPC service Arithmetic.
    Subtraction created and registered
409 2022/11/25 03:26:04.843504 server.go:84: RPC server
    -> ServerRegister: RPC server 0xc00022c910
    registerd service &{ServiceName:Arithmetic
    serviceType:0x7d5fe0 serviceValue:{typ:0x7d5fe0 ptr:
    0xc00050e240 flag:22} ServiceMethod:map[Addition:
    0xc00025cab0 Division:0xc00025cb40 Multiplication:
    0xc00025cbd0 Subtraction:0xc00025cc60}] and hosting
    on address tcp@[::]:11166
410 2022/11/25 03:26:04.843504 unit_test_utility.go:236
    : Test utility -> createServer: RPC server
    initialization routine end, now launched and
    accepting...
411 2022/11/25 03:26:04.843504 registry_unit_test.go:126
    : ServeHTTP.GET -> main: Server B address fetched
    from serverChannelB: tcp@[::]:11166
```

```
412 2022/11/25 03:26:04.843504 server.go:329: RPC server
    -> Heartbeat: RPC server tcp@[::]:11165 launched
    auto heartbeat sending service, and its heartbeat
    will be send to the RPC registry http://localhost:
    11161/_srpc_/registry per 4m0s...
413
414 2022/11/25 03:26:04.843504 server.go:342: RPC Server
    -> sendHeartbeat: RPC server tcp@[::]:11165 sends
    heart beat to RPC registry http://localhost:11161/
    _srpc_/registry...
415 2022/11/25 03:26:04.844152 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
    POST request...
416 2022/11/25 03:26:04.844152 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
417 2022/11/25 03:26:04.844152 server.go:329: RPC server
    -> Heartbeat: RPC server tcp@[::]:11166 launched
    auto heartbeat sending service, and its heartbeat
    will be send to the RPC registry http://localhost:
    11161/_srpc_/registry per 4m0s...
418
419 2022/11/25 03:26:04.844152 server.go:342: RPC Server
    -> sendHeartbeat: RPC server tcp@[::]:11166 sends
    heart beat to RPC registry http://localhost:11161/
    _srpc_/registry...
420 2022/11/25 03:26:04.844722 registry.go:100: RPC
    registry -> ServeHTTP: RPC registry serving HTTP
    POST request...
421 2022/11/25 03:26:04.844722 registry.go:58: RPC
    registry -> registerServer: RPC registry registering
    server instance...
422 2022/11/25 03:26:04.845290
    load_balancer_registry_side.go:20: RPC Load Balancer
    (Registry Side) -> CreateLoadBalancerRegistrySide:
    creating RPC load balancer(registryURL side)...
423 2022/11/25 03:26:04.845290 registry.go:94: RPC
    registry -> ServeHTTP: RPC registry serving HTTP GET
    request...
424 2022/11/25 03:26:04.845290 registry.go:71: RPC
    registry -> getAliveServerList: RPC registry return
```

```
424 list of aliveServerList server instance (and delete  
any expire server instances)...  
425 --- PASS: TestRegistry (2.01s)  
426     --- PASS: TestRegistry/CreateRegistry (0.00s)  
427     --- PASS: TestRegistry/LaunchAndServe (0.00s)  
428     --- PASS: TestRegistry/ServeHTTP.POST (1.00s)  
429     --- PASS: TestRegistry/ServeHTTP.GET (1.01s)  
430 === RUN   TestServer  
431 2022/11/25 03:26:04.845800 unit_test_utility.go:219  
: Test utility -> createServer: RPC server  
initialization routine start...  
432 2022/11/25 03:26:04.845800 server.go:58: RPC server  
-> CreateServer: Created RPC server on address tcp  
@[::]:11167  
433 2022/11/25 03:26:04.845800 service.go:97: RPC  
service -> createMethod: RPC service Test.Echo  
created and registered  
434 2022/11/25 03:26:04.846346 server.go:84: RPC server  
-> ServerRegister: RPC server 0xc00022c960  
registerd service &{ServiceName:Test serviceType:  
0x7b7a20 serviceValue:{typ:0x7b7a20 ptr:0xc00020f940  
flag:22} ServiceMethod:map[Echo:0xc00025cea0]} and  
hosting on address tcp@[::]:11167  
435 2022/11/25 03:26:04.846346 unit_test_utility.go:236  
: Test utility -> createServer: RPC server  
initialization routine end, now launched and  
accepting...  
436 2022/11/25 03:26:04.846346 server_unit_test.go:29:  
TestServer -> main: Server address fetched from  
addressChannel: tcp@[::]:11167  
437 2022/11/25 03:26:04.846887 server_unit_test.go:45:  
Request: RPC Sequence Number 0  
438 2022/11/25 03:26:04.846887 server.go:260: RPC server  
-> requestHandle: RPC server tcp@[::]:11167 is  
handling and redircting RPC call 0 to service Test.  
Echo with inputs -> RPC Sequence Number 0  
439 2022/11/25 03:26:04.846887 service.go:110: RPC  
service -> Call: RPC service Test.Echo finished RPC  
call with input RPC Sequence Number 0 and output RPC  
Sequence Number 0  
440 2022/11/25 03:26:04.846887 server_unit_test.go:51:
```

```
440 Response: RPC Sequence Number 0
441 2022/11/25 03:26:04.846887 server_unit_test.go:45:
    Request: RPC Sequence Number 1
442 2022/11/25 03:26:04.846887 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11167 is
        handling and redircting RPC call 1 to service Test.
        Echo with inputs -> RPC Sequence Number 1
443 2022/11/25 03:26:04.846887 service.go:110: RPC
    service -> Call: RPC service Test.Echo finished RPC
    call with input RPC Sequence Number 1 and output RPC
    Sequence Number 1
444 2022/11/25 03:26:04.846887 server_unit_test.go:51:
    Response: RPC Sequence Number 1
445 2022/11/25 03:26:04.846887 server_unit_test.go:45:
    Request: RPC Sequence Number 2
446 2022/11/25 03:26:04.847447 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11167 is
        handling and redircting RPC call 2 to service Test.
        Echo with inputs -> RPC Sequence Number 2
447 2022/11/25 03:26:04.847447 service.go:110: RPC
    service -> Call: RPC service Test.Echo finished RPC
    call with input RPC Sequence Number 2 and output RPC
    Sequence Number 2
448 2022/11/25 03:26:04.847447 server_unit_test.go:51:
    Response: RPC Sequence Number 2
449 2022/11/25 03:26:04.847447 server_unit_test.go:45:
    Request: RPC Sequence Number 3
450 2022/11/25 03:26:04.847447 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11167 is
        handling and redircting RPC call 3 to service Test.
        Echo with inputs -> RPC Sequence Number 3
451 2022/11/25 03:26:04.847447 service.go:110: RPC
    service -> Call: RPC service Test.Echo finished RPC
    call with input RPC Sequence Number 3 and output RPC
    Sequence Number 3
452 2022/11/25 03:26:04.847447 server_unit_test.go:51:
    Response: RPC Sequence Number 3
453 2022/11/25 03:26:04.847447 server_unit_test.go:45:
    Request: RPC Sequence Number 4
454 2022/11/25 03:26:04.847447 server.go:260: RPC server
    -> requestHandle: RPC server tcp@[::]:11167 is
```

```
454 handling and redircting RPC call 4 to service Test.  
    Echo with inputs -> RPC Sequence Number 4  
455 2022/11/25 03:26:04.847447 service.go:110: RPC  
    service -> Call: RPC service Test.Echo finished RPC  
    call with input RPC Sequence Number 4 and output RPC  
    Sequence Number 4  
456 2022/11/25 03:26:04.847447 server_unit_test.go:51:  
    Response: RPC Sequence Number 4  
457 --- PASS: TestServer (0.00s)  
458 === RUN   TestService  
459 === RUN   TestService/CreateService  
460 2022/11/25 03:26:04.847990 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Addition created and registered  
461 2022/11/25 03:26:04.847990 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Division created and registered  
462 2022/11/25 03:26:04.847990 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Multiplication created and registered  
463 2022/11/25 03:26:04.847990 service.go:97: RPC  
    service -> createMethod: RPC service Arithmetic.  
    Subtraction created and registered  
464 === RUN   TestService/CreateMethod  
465 === RUN   TestService/CreateInput  
466 === RUN   TestService/CreateOutput  
467 === RUN   TestService/Call  
468 2022/11/25 03:26:04.857336 service.go:110: RPC  
    service -> Call: RPC service Arithmetic.Addition  
    finished RPC call with input &{3 4} and output {7}  
469 === RUN   TestService/CallCounts  
470 --- PASS: TestService (0.01s)  
471     --- PASS: TestService/CreateService (0.01s)  
472     --- PASS: TestService/CreateMethod (0.00s)  
473     --- PASS: TestService/CreateInput (0.00s)  
474     --- PASS: TestService/CreateOutput (0.00s)  
475     --- PASS: TestService/Call (0.00s)  
476     --- PASS: TestService/CallCounts (0.00s)  
477 PASS  
478 ok      Distributed-RPC-Framework/test/unit (cached)  
479
```

File - go unit test all

480 Process finished with the exit code 0

481