

Aplicação Cliente/Servidor usando CRH/SRH (TCP/UDP) em C

Server

```
1 void run_server(const struct context *const ctx) {
2     rh_server_ctx *server_ctx; rh_client_msg *msg;
3     int_32 result;
4
5     if (NULL == (server_ctx = rh_server_new(ctx->protocol, ctx->port)))
6         die(EXIT_FAILURE, errno, "Failed to start server");
7     else
8         log_print(INFO, "Server is running");
9
10    for (;;) {
11        if (NULL != (msg = rh_receive_from_client(server_ctx))) {
12            if (msg->data_size == sizeof(struct request)) {
13                result = calc((struct request *) msg->data);
14
15                if(!rh_send_to_client(msg->return_addr, (const byte *) &result, sizeof(result)))
16                    log_error(ERROR, errno, "Failed to send message to client");
17            } else
18                log_print(ERROR, "Wrong packet size");
19
20            rh_client_msg_destroy(msg);
21        } else
22            log_error(ERROR, errno, "Failed to receive message from client");
23    }
24 }
```

Client

```
1  uint_8 send_request(const struct context *const ctx, const struct request request) {
2      rh_conn_ctx *conn_ctx; rh_server_msg *msg;
3      int_32 result; errno = 0;
4
5      if (NULL == (conn_ctx = rh_client_new(ctx->protocol, ctx->port)))
6          die(EXIT_FAILURE, errno, "Failed to create connection");
7
8      if (rh_send_to_server(conn_ctx, (const byte *) &request, sizeof(request))) {
9          if (NULL != (msg = rh_receive_from_server(conn_ctx))) {
10             if (msg->data_size == sizeof(uint_32)) {
11                 memcpy(&result, msg->data, (usize) msg->data_size);
12
13                 /* ... */
14
15                 rh_server_msg_destroy(msg);
16                 rh_client_destroy(conn_ctx);
17
18                 return EXIT_SUCCESS;
19             } else
20                 die(EXIT_FAILURE, NOERR, "Wrong packet size");
21         } else
22             die(EXIT_FAILURE, errno, "Failed to receive message from server");
23     } else
24         die(EXIT_FAILURE, errno, "Failed to send message to server");
25 }
```

Avaliação comparativa de desempenho

