
Peer-To-Peer

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Apr 18, 2025

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PEER-TO-PEER

1.1 peer module

class peer.Peer(*peer_id, port, files, filename, is_origin=False*)

Bases: object

Class representing a peer

create_chunks()

Create 20 chunks for the origin peer from file1

get_local_ip()

Get local IP address

Returns

IP address

get_peers_for_file(*filename, chunk_id*)

Ask tracker for available peers with the requested file chunk

Parameters

- **filename** – filename to request chunks from
- **chunk_id** – ID of chunk to request

Returns

peers that have chunks of the desired file

handle_client(*client_socket*)

Handle incoming peer requests for file chunks

Parameters

client_socket – socket to receive requests at

register()

Register this peer with the tracker

request_chunk(*peer_ip, peer_port, filename, chunk_id*)

Request a file chunk from another peer

Parameters

- **peer_ip** – IP address of other peer
- **peer_port** – port number of other peer
- **filename** – filename to request chunk of

- **chunk_id** – ID of chunk to request

request_chunks()

Request chunks from peers until all chunks downloaded

start_server()

Start TCP server to serve file chunks

update_chunk_availability()

Notify the tracker about the chunks this peer has

update_files_from_tracker(*peers*)

Update local files based on available peers

Parameters

peers – available peers

peer.calculate_checksum(*packet*)

Calculate the checksum for a packet

Parameters

packet – packet to create checksum for

Returns

the checksum

peer.validate_checksum(*packet*)

Calculate packet's checksum to see if it's been corrupted

Parameters

packet – packet to validate

Returns

True if packet hasn't been corrupted, False otherwise

1.2 server module

server.deregister()

Remove a peer from the tracker

Returns

message reporting that peer was deregistered

server.get_peers()

Get a list of peers that have any chunks of the specified file

Returns

the peers

server.register()

Register a peer with the tracker

server.update()

Update a peer's chunk list

Returns

message reporting whether update was successful or not

PYTHON MODULE INDEX

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