Glossary

This glossary provides quick definitions for terms you might encounter while developing on the AT Protocol. It's always open for contributions!

AT Protocol (atproto, ATP)

The AT (Authenticated Transfer) Protocol ↗ is the underlying technology that Bluesky is built on. You can read more about it here ↗.

AppView

The AppView is one of the primary components of the AT Protocol network. It is responsible for consuming data from one or more Relays and assembling a feed of data for a user to view.

It understands and interprets specific Lexicons in the context of an application. For instance, the Bluesky AppView understands the `app.bsky.feed.like` record and can map it to a like count on a post.

AT URI

An AT URI is a unique identifier for a record in a user repository. It can look like:

- `at://did:plc:ragtjsm2j2vknwkz3zp4oxrd/app.bsky.feed.post/3jvz2442yt32g` or
- `at://pfrazee.com/app.bsky.feed.post/3jvz2442yt32g` or
- `at://pfrazee.com`

An AT URI consists of up to three parts:

- A user identifier (required); either a DID, or a domain name (`did:plc:ragtjsm2j2vknwkz3zp4oxrd` or `pfrazee.com`)

- The name of the collection that the linked record belongs to (`app.bsky.feed.post`)
- The rkey of the linked record (`3jvz2442yt32g`)

You can find specifics on the AT URI syntax at the AT Protocol documentation↗.

CID

The AT Protocol uses Content Identifiers↗ (CIDs) to uniquely identify records based on their content. A CID will look something like this: `bafyreih6grmlhtho64bgpi2b6uto5efpcvpp6gag6dd3chguzg7sqsmfxy`.

While an AT URI references a record by its location in a repository, it makes no guarantees as to the contents of that record. A CID is a hash of a record's content that can be used to verify its integrity.

StrongRef

A StrongRef is an object in the form of `{ uri: string; cid: string }` that contains both an AT URI and a CID. Together, these values provide an immutable reference to a record.

DID

The AT Protocol uses Decentralized Identifiers↗ (DIDs) to uniquely identify user accounts. There are currently two types of DIDs, or DID methods, that the AT Protocol supports:

- `did:plc`↗ is a DID method developed by Bluesky that uses rotatable key pairs to give users control over their identity.
  - Example: `did:plc:uu5axsmbm2or2dngy4gwchec`
- `did:web`↗ is a DID method that uses a user's domain name to identify them.
  - Example: `did:web:retr0.id`

DID Document

All DIDs point to a DID document, which contains information about the user's identity. This document will include:

- `id`: The DID string.
- `alsoKnownAs`: An array of strings, containing at least one AT URI representing the user's handle(s) (e.g. `["at://pfrazee.com"]`). Only the first handle in the array is considered to be the user's handle.
- `verificationMethods`: A list of public keys that can be used to verify the user's identity.
- `services`: A list of services associated with the user account, such as their PDS and any labeler the account may provide.

Facet

A facet is a piece of data within a post or description that points to a range of locations within text that has special meaning, such as hashtags, mentions, or hyperlinks.

Feed Generator

A feed generator is a service that provides a list of posts based on an algorithm of the developer's choosing. A client can request a feed from a feed generator, and the feed generator will return a list of references to posts.

Jetstream

Jetstream ↗ is a service that provides a filtered feed of events on the AT Protocol network. It listens to a Relay for new events and emits a WebSocket stream based on the collections a user is interested in.

Labeler

A labeler is a service that applies labels to records. A label is a piece of metadata that describes a record. For example, a label might indicate that a post contains sensitive content. A user can subscribe to up to 10 labelers, and any labels applied by those labelers will be returned in API responses.

Lexicon

A Lexicon defines the structure of a record, including the fields it contains, the types of those fields, and any additional constraints (e.g. maximum post body length).

A Lexicon is identified by an NSID, which is a hostname in reverse domain name notation.

PDS (Personal Data Server)

The PDS is one of the primary components of the AT Protocol network. It is a server that stores & serves a user's repository, handles user authentication, and emits events when a repository is updated.

The PDS also acts as the user's proxy between clients and other AT Protocol services, such as feed generators and labelers.

Relay

The Relay (often referred to as a "firehose") is one of the primary components of the AT Protocol network. It crawls PDSes for new data and outputs a WebSocket stream ("firehose") of events across the network.

Record

A record is a piece of public content stored in a user's repository. A user profile, a post, and a follow are all examples of records. A record should follow a schema defined by a Lexicon.

Record Key (rkey)

An rkey is a unique identifier for a record within a user's repository. An rkey is unique within a particular collection in a repository.

While an rkey can be any string (provided it meets the fairly loose syntax constraints ↗), the most common form of rkey you will encounter is a TID ↗, or timestamp identifier. A TID is a 13-character base32 string that encodes a 64 bit integer representing the time at which the record was created.

Repository

A repository is a collection of signed data that stores a user's records. A repository is identified by a DID, and is stored on a PDS.

Records in a repository are organized into collections.